5-Fluorouracil + Mitomycin + Radiation Therapy (Wayne State regimen) ..............2
5-Fluorouracil: 1000 mg/m²/day IV continuous infusion on days 1–4 and 29–32
Mitomycin: 15 mg/m² IV on day 1
Radiation therapy: 200 cGy/day on days 1–5, 8–12, and 5–19 (total dose, 3000 cGy)
Chemotherapy is given concurrently with radiation therapy1,2

5-Fluorouracil + Mitomycin + Radiation Therapy (European Organization for Research and Treatment of Cancer [EORTC] regimen) ......3
5-Fluorouracil: 750 mg/m²/day IV continuous infusion on days 1–5 and 29–33
Mitomycin: 15 mg/m² IV on day 1
Radiation therapy: 180 cGy/day over 5-week period (total dose, 4500 cGy)
Chemotherapy is given concurrently with radiation therapy. If partial or complete response occurs, a boost of 1500–2000 cGy is given1–3

5-Fluorouracil + Cisplatin + Radiation Therapy (MD Anderson Regimen) ..............4
5-Fluorouracil: 250 mg/m²/day IV continuous infusion on days 1–5 of each week of radiation therapy
Cisplatin: 4 mg/m²/day IV continuous infusion on days 1–5 of each week of radiation therapy
Radiation therapy: Total dose, 5500 cGy over 6 weeks
Chemotherapy is given concurrently with radiation therapy1–4

Metastatic Disease and/or Salvage Chemotherapy

5-Fluorouracil + Cisplatin .................................................................5
5-Fluorouracil: 1000 mg/m²/day IV continuous infusion on days 1–5
Cisplatin: 100 mg/m² IV on day 2
Repeat cycle every 21–28 days1–5
5-FU + Mitomycin + Radiation Therapy (Wayne State Regimen)

Baseline laboratory tests: CBC, chemistry, and carcinoembryonic antigen (CEA)
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10 in 100 cc of normal saline (NS)
Administer: Fluorouracil _________ mg (1000 mg/m²/day) IV continuous infusion days 1–4 and 29–32
AND Mitomycin _________ mg (15 mg/m²) IV on day 1
• Available in solution as 50 mg/mL.
• No dilution required. Can be further diluted with 0.9% sodium chloride or 5% dextrose and water (D5W).

Radiation therapy: 200 cGy/day on days 1–5, 8–12, and 15–19 (total dose, 3000 cGy)
• Chemotherapy is given concurrently with radiation therapy.

Major Side Effects
• Bone Marrow Depression: Dose limiting and cumulative toxicity, with leukopenia being more common than thrombocytopenia. Nadir counts are delayed at 4–6 weeks.
• Gastrointestinal Toxicities: Nausea and vomiting usually mild to moderate. Mucositis and diarrhea can be severe and dose limiting.
• Skin: Mitomycin causes tissue necrosis and chemical thrombophlebitis if extravasated. Local tissue irritation progressing to desquamation can occur in radiation (XRT) fields.
• Pulmonary: Interstitial pneumonitis. Presents with dyspnea, non-productive cough, and interstitial infiltrates on CXR.
• Hemolytic-uremic Syndrome: Hematocrit < 25%, platelets < 100 × 10³/mm³, and renal failure (serum creatinine > 1.6 mg/dL). Rare event (< 2%).
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mild to moderately emetogenic protocol.
Supportive drugs:
• pegfilgrastim (Neulasta)
• filgrastim (Neupogen)
• epoetin alfa (Procrit)
• darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on days 1 and 29. Total cycle 32 days.

Estimated number of visits: Five visits per treatment course.

Dose Calculation by: 1. __________________________________ 2. __________________________________

Physician ____________________________ Date ____________________________

Patient Name ______________________ ID Number ______________________

Diagnosis ___________________________ Ht __________ Wt __________ M² __________
### 5-FU + Mitomycin + Radiation Therapy (EORTC Regimen)

**Baseline laboratory tests:** CBC: Chemistry and CEA  
**Baseline procedures or tests:** Central line placement  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 10 in 100 cc of NS  
**Administer:** Fluorouracil ________mg (750 mg/m²/day) IV continuous infusion days 1–5 and 29–33  
- Available in solution as 50 mg/mL.  
- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

AND  
Mitomycin ________mg (15 mg/m²) IV bolus on day 1  
- Available in 5-, 20-, and 40-mg vials for IV use.  
- **Potent vesicant**  
- Dilute with sterile water to give a final concentration of 0.5 mg/mL.  
  Reconstituted solution stable for 14 days refrigerated or 7 days at room temperature.

**Radiation therapy:** 180 cGy/day over 5 week period. Total dose, 4500 cGy over 5 weeks  
- Chemotherapy is given concurrently with radiation therapy.  
- If partial or complete response seen, a boost of 1500–2000 cGy is given.

**Major Side Effects**  
- **Bone Marrow Depression:** Dose limiting, and cumulative toxicity with leukopenia more common than thrombocytopenia. Nadir counts are delayed at 4–6 weeks.  
- **Gastrointestinal (GI) Toxicities:** Nausea and vomiting usually mild to moderate. Mucositis and diarrhea can be severe and dose limiting.  
- **Skin:** Mitomycin causes tissue necrosis if extravasated. Local tissue irritation progressing to desquamation can occur in XRT fields. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.  
- **Ocular:** Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.  
- **Pulmonary:** Interstitial pneumonitis. Presents with dyspnea, non-productive cough, and interstitial infiltrates on CXR.  
- **Hemolytic-uremic syndrome:** Hematocrit < 25%, platelets < 100 × 10³/mm³, and renal failure (serum creatinine > 1.6 mg/dL). Rare event (< 2%).  
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mild to moderately emetogenic protocol.

**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1 and 29. Total cycle 33 days.

**Estimated number of visits:** Four visits per treatment course.

### Dose Calculation

1. ___________________________ 2. ___________________________

**Physician**  
**Date**

**Patient Name**  
**ID Number**

---

**Diagnosis**  
**Ht**  
**Wt**  
**M²**
5-FU + Cisplatin + Radiation Therapy (MD Anderson Regimen)

### Baseline laboratory tests:
- CBC: Chemistry (including Mg$^{2+}$) and CEA

### Baseline procedures or tests:
- Central line placement

### Initiate IV:
- 0.9% sodium chloride

### Premedicate:
- 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS

### Administer:
- **Fluorouracil** $\text{mg}$ (250 mg/m$^2$/day) IV continuous infusion days 1–5 of each week of radiation therapy
  - Available in solution as 50 mg/mL.
  - No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.
  - **AND**
  - **Cisplatin** $\text{mg}$ (4 mg/m$^2$/day) IV continuous infusion days 1–5 of each week of radiation therapy
    - Available in solution as 1 mg/mL.
    - Do not use aluminum needles because precipitate will form.
    - Further dilute solution with 250 cc or more NS.
    - Stable for 96 hours when protected from light and only 6 hours if not protected from light.

### Radiation therapy:
- Total dose 5500 cGy over 6 weeks
  - Chemotherapy is given concurrently with radiation therapy.

### Major Side Effects
- **Hypersensitivity Reactions:** Facial edema, wheezing, bronchospasm, and hypotension possible with cisplatin.
- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
- **GI Toxicities:** Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting. Metallic taste to food.
- **Renal:** Nephrotoxicity is dose related and dose limiting with cisplatin and presents at 10–20 days. Usually reversible.
- **Electrolyte Imbalance:** Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P levels. Inappropriate secretion of antidiuretic hormone (SIADH).
- **Skin:** Alopecia. Local tissue irritation progressing to desquamation can occur in radiation field. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- **Ototoxicity:** High frequency hearing loss and tinnitus.
- **Ocular:** Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided. Azoospermia, impotence, and sterility.

### Initiate antiemetic protocol:
- Moderately to highly emetogenic protocol.

### Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

### Treatment schedule:
- Chair time 2 hours on day 1 of each week of radiation therapy.

### Estimated number of visits:
- Twelve visits per treatment course.

### Dose Calculation by:

1. __________________________________ 2. ____________________________________________

---

**Physician**

Date

**Patient Name**

ID Number

---

**Diagnosis**

Ht Wt M$^2$
Metastatic Disease and/or Salvage Chemotherapy

**5-FU and Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry (including Mg²⁺) and CEA

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

**Fluorouracil** ________mg (1000 mg/m²/day) IV continuous infusion on days 1–5
- Available in solution as 50 mg/mL.
- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**AND**

**Cisplatin** ________mg (100 mg/m²) IV on day 2
- Available in solution 1 mg/mL.
- Do not use aluminum needles because precipitate will form.
- Further dilute solution with 250 cc or more of NS.
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.

**Major Side Effects**
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
- GI Toxicities: Moderate to severe nausea and vomiting, may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
- Renal: Nephrotoxicity is dose related and dose limiting with cisplatin and presents at 10–20 days. Usually reversible.
- Electrolyte Imbalance: Decreases Mg²⁺, K⁺, Ca²⁺, Na⁺, and P levels. Inappropriate secretion of antidiuretic hormone (SIADH).
- Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ototoxicity: High frequency hearing loss and tinnitus.
- Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided. Azoospermia, impotence, and sterility.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1 and 3 hours on day 2. Repeat every 21–28 days as tolerated or until disease progression.

**Estimated number of visits:** Two visits per cycle. Ask for three cycles worth of visits.

**Dose Calculation by:** 1. ____________________ 2. ____________________

_____________________________ ________________________________
Physician Date

_____________________________ ________________________________
Patient Name ID Number

_____________________________ ________________________________
Diagnosis Ht Wt M²
BILIARY TRACT CANCER

**Gemcitabine + Cisplatin**

Gemcitabine: 1250 mg/m² IV on days 1 and 8  
Cisplatin: 75 mg/m² IV on day 1  
Repeat cycle every 21 days.¹⁻²

**Gemcitabine + Capecitabine**

Gemcitabine: 1000 mg/m² IV on days 1 and 8  
Capecitabine: 650 mg/m² PO bid on days 1–14  
Repeat cycle every 21 days.¹⁻⁷
**Gemcitabine + Cisplatin**

**Baseline laboratory tests:** CBC, Chemistry panel, LFTs, creatinine clearance, and CA 19-9

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

1. **Gemcitabine** _______ mg (1250 mg/m²) IV on days 1 and 8
   - Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
   - Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

2. **Cisplatin** _______ mg (75 mg/m²) IV on days 1 and 15
   - Available in solution 1 mg/mL.
   - Do not use aluminum needles, because precipitate will form.
   - Further dilute solution with 250 cc or more 0.9% sodium chloride.
   - Stable for 96 hours when protected from light and only 6 hours when not protected from light.

**Major Side Effects**

- Hypersensitivity Reaction: Facial edema, wheezing, bronchospasm, and hypotension possible with cisplatin.
- Hematologic: Leukopenia, thrombocytopenia, and anemia, with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) of gemcitabine is associated with higher toxicities.
- GI Symptoms: Moderate to severe nausea and vomiting; may be acute or delayed. Diarrhea and/or mucositis. Metallic taste to food.
- Flulike Syndrome: Fever in absence of infection 6–12 hours after treatment common. Fever, malaise, chills, headache, and myalgias.
- Renal: Nephrotoxicity is dose related and dose limiting with cisplatin and occurs at 10–20 days. Usually reversible.
- Neurotoxicity: Sensory neuropathy; dose related.
- Electrolyte imbalance: Decreased Mg²⁺, K, Ca²⁺, Na⁺, and P. Inappropriate secretion of antidiuretic hormone (SIADH).
- Hepatic: Elevation of serum transaminase and bilirubin levels.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.
- Ototoxicity: High frequency hearing loss and tinnitus.
- Use in Pregnancy: Embryotoxic; women of childbearing potential should avoid becoming pregnant during treatment.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on days 1 and 15, and 1 hour on day 8. Repeat cycle every 21 days. Three visits per cycle. Request three cycles worth of visits.

**Estimated number of visits:**

**Dose Calculation by:**

1. __________________________________________________________________________
2. __________________________________________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

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# Biliary Tract Cancer

## Gemcitabine + Capecitabine

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<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel, LFTs, creatinine clearance, and CA 19-9</th>
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<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
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<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
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<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine</td>
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<td><strong>OR</strong></td>
<td>5-HT₃ and dexamethasone 10 mg in 100 cc of NS</td>
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### Administer:

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<tr>
<th>Gemcitabine</th>
<th>______ mg (1000 mg/m²) IV days 1 and 8</th>
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<tbody>
<tr>
<td>• Available in 1-g or 200-mg vials, reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.</td>
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<tr>
<td>• Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.</td>
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<tr>
<th>Capecitabine</th>
<th>______ mg (650 mg/m²) PO bid on days 1–14</th>
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<tr>
<td>• Available in 150 mg and 500 mg tablets.</td>
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<tr>
<td>• Administer within 30 minutes of a meal with plenty of water.</td>
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<tr>
<td>• Monitor international normalized ratios (INRs) closely in patients taking warfarin; may increase INR</td>
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### Major Side Effects

- **Hematologic:** Leukopenia, thrombocytopenia, and anemia, with grades 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time (> 60 minutes) of gemcitabine is associated with higher toxicities.

- **GI Symptoms:** Mild-to-moderate nausea and vomiting (70%), diarrhea and/or mucositis (15%–20%). Diarrhea occurs in up to 40%, with 12% being grade 3–4. Stomatitis is common, 3% of which is severe.

- **Flulike Syndrome:** Fever in absence of infection 6–12 hours after treatment common. Fever, malaise, chills, headache, and myalgias.

- **Hepatic:** Elevation of serum transaminase and bilirubin levels. Dose modifications may be required if hyperbilirubinemia occurs.

- **Renal Insufficiency:** Capecitabine contraindicated in patients with creatinine clearance < 30 mL/min. Dose reduction to 75% should be made with baseline creatinine clearance of 30–50 mL/min.

- **Skin:** Hand-foot syndrome (15%–20%). Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.

- **Use in Pregnancy:** Embryotoxic; women of childbearing potential should avoid becoming pregnant during treatment.

### Initiate antiemetic protocol:

Mildly to moderately emetogenic protocol.

### Supportive drugs:

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

### Treatment schedule:

Chair time 1 hour days 1 and 8. Repeat cycle every 3 weeks on, 1 week off until disease progression.

### Estimated number of visits:

Three visits per cycle. Request 4 cycles worth of visits.

### Dose Calculation by:

1. ____________________________ 2. ____________________________

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**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

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Combination Regimens

**ITP** ..................................................................................................................11

Ifosfamide: 1500 mg/m² IV on days 1, 2, and 3
Paclitaxel: 200 mg/m² IV over 3 hours on day 1
Cisplatin: 70 mg/m² IV on day 1
Repeat cycle every 21 days.¹⁻⁸ Granulocyte colony stimulating factor (G-CSF) support is recommended. Regimen can also be administered every 28 days.

**Gemcitabine + Cisplatin** ..................................................................................13

Gemcitabine: 1000 mg/m² IV on days 1, 8, and 15
Cisplatin: 75 mg/m² IV on day 1
Repeat cycle every 28 days.¹⁻⁹

**MVAC** ..............................................................................................................14

Methotrexate: 30 mg/m² IV on days 1, 15, and 22
Vinblastine: 3 mg/m² IV on days 2, 15, and 22
Doxorubicin: 30 mg/m² IV on day 2
Cisplatin: 70 mg/m² IV on day 2
Repeat cycle every 28 days.¹⁻¹⁰

**CMV** ................................................................................................................16

Cisplatin: 100 mg/m² IV on day 2 (give 12 hours after methotrexate)
Methotrexate: 30 mg/m² IV on days 1 and 8
Vinblastine: 4 mg/m² IV on days 1 and 8
Repeat cycle every 21 days.¹⁻¹¹

**CISCA** ..............................................................................................................17

Cyclophosphamide: 650 mg/m² IV on day 1
Doxorubicin: 50 mg/m² IV on day 1
Cisplatin: 100 mg/m² IV on day 2
Repeat cycle every 21–28 days.¹⁻¹²
**Pacitaxel + Carboplatin**

Pacitaxel: 225 mg/m² IV over 3 hours on day 1  
Carboplatin: Area under the curve (AUC) of 6, IV on day 1, given 15 minutes after pacitaxel  
Repeat cycle every 21 days.1–13

**CAP**

Cyclophosphamide: 400 mg/m² IV on day 1  
Doxorubicin: 40 mg/m² IV on day 1  
Cisplatin: 75 mg/m² IV on day 1  
Repeat cycle every 21 days.1–14

**CMV + Radiation Therapy**

Cisplatin: 70 mg/m² IV on day 2  
Methotrexate: 30 mg/m² IV on days 1, 15, and 22  
Vinblastine: 3 mg/m² IV on days 2, 15, and 22  
Repeat cycle every 28 days for two cycles.1–15 Radiation therapy to be given after two cycles of induction chemotherapy at a total dose of 45 cGy in 180cGy fractions combined with cisplatin 70 mg/m² IV on days 1 and 2 of radiation therapy.

**Single-Agent Regimens**

**Gemcitabine**

Gemcitabine: 1200 mg/m² IV on days 1, 8, and 15  
Repeat cycle every 28 days.1–16

**Pacitaxel**

Pacitaxel: 250 mg/m² IV over 24 hours on day 1  
Repeat cycle every 21 days.1–17  
**OR**  
Pacitaxel: 80 mg/m² IV weekly for 3 weeks  
Repeat cycle every 4 weeks.1–18
Combination Regimens

**Ifosfamide + Paclitaxel + Cisplatin (ITP)**

- **Baseline laboratory tests:** CBC: Chemistry (including Mg^{2+})
- **Baseline procedures or tests:** N/A
- **Initiate IV:** 0.9% sodium chloride
- **Premedicate:** Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)

**Administer:**

- Ifosfamide ________mg (1500 mg/m^2) IV on days 1, 2, and 3
  - Available as powder in 1- and 3-mg single dose vials.
  - Reconstitute powder with sterile water for injection. Discard unused portion after 8 hours.
  - May further dilute in D5W or 0.9% sodium chloride.

- Paclitaxel ________mg (200 mg/m^2) IV over 3 hours on day 1
  - Available in solution 6 mg/mL.
  - Final concentration is ≤ 1.2 mg/mL.
  - Use non-PVC tubing and containers and 0.22-micron inline filter to administer.

- Cisplatin ________mg (70 mg/m^2) IV on day 1
  - Available in solution 1 mg/mL.
  - Do not use aluminum needles because precipitate will form.
  - Further dilute solution with 250 cc or more of NS.
  - Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.

**Major Side Effects**

- **Hypersensitivity Reaction:** Paclitaxel: Usually seen in the first 2–3 minutes of infusion. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea and/or bronchospasm. Premedicate as described. Cisplatin: Facial edema, wheezing, bronchospasm, and hypotension is possible.

- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended. Give paclitaxel before cisplatin to decrease severity of myelosuppression.

- **GI Toxicities:** Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea common.

- **Renal:** Nephrotoxicity is dose related and dose limiting with cisplatin and presents at 10–20 days. Hemorrhagic cystitis dysuria and increased urinary frequency occurs with ifosfamide. Uroprotection with mesna and hydration mandatory.

- **Electrolyte Imbalance:** Decreases Mg^{2+}, K^+, Ca^{2+}, Na^+, and P. Inappropriate secretion of antidiuretic hormone (SIADH).

- **Neurotoxicity:** Sensory neuropathy with numbness and paresthesias. Is dose-related and dose limiting.

- **Central Nervous System (CNS):** Somnolence, confusion, depressive psychosis, or hallucinations.

- **Alopecia:** Total loss of body hair occurs in nearly all patients.

- **Ototoxicity:** High frequency hearing loss and tinnitus.

- **Reproduction:** Ifosfamide is mutagenic, teratogenic, carcinogenic, and excreted in breast milk. Also causes amenorrhea, oligospermia, and infertility. Paclitaxel is embryotoxic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 7 hours on day 1, and 3 hours on days 2 and 3. Repeat cycle every 28 days.

**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits.
12 Bladder Cancer

**Dose Calculation by:**  
1. ____________________________  2. ____________________________

______________________________  ________________________________
Physician  Date

______________________________  ________________________________
Patient Name  ID Number

______________________________
Diagnosis

______________________________
Ht  Wt  M²
**Gemcitabine + Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry panel (including Mg\(^{2+}\)) and liver function tests (LFTs)

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

1. **Gemcitabine** ________mg (1000 mg/m\(^2\)) IV on days 1, 8, and 15
   - Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
   - Reconstituted solution is stable 24 hours at room temperature. Do not refrigerate, because precipitate will form.

2. **Cisplatin** ________mg (75 mg/m\(^2\)) IV on day 1. Do not use aluminum needles, because precipitate will form.
   - Available in solution 1 mg/mL.
   - Further dilute solution with 250 cc or more of 0.9% sodium chloride.
   - Stable for 96 hours when protected from light and only 6 hours when not protected from light.

**Major Side Effects**

- Hypersensitivity Reaction: Facial edema, wheezing, bronchospasm, and hypotension is possible with cisplatin.
- Hematologic: Leukopenia, thrombocytopenia and anemia, with grade 3 and 4 thrombocytopenia being more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities from Gemcitabine.
- GI Symptoms: Moderate-to-severe nausea and vomiting, may be acute or delayed. Diarrhea and/or mucositis. Metallic taste.
- Flulike Syndrome: Fever in absence of infection 6–12 hours after treatment common. Fever, malaise, chills, headache, and myalgias.
- Renal: Nephrotoxicity is dose related and dose limiting with cisplatin and occurs at 10–20 days.
- Neurotoxicity: Sensory neuropathy, dose related. Usually reversible.
- Electrolyte Imbalance: Decreases serum values of magnesium, potassium, calcium, sodium, and phosphorus. Inappropriate secretion of antidiuretic hormone (SIADH).
- Hepatic: Elevation levels of serum transaminases and bilirubin.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema is seen in 30% of patients. Alopecia.
- Ototoxicity: High frequency hearing loss and tinnitus.
- Use in Pregnancy: Embryotoxic, women of child-bearing potential should avoid becoming pregnant during treatment.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:**

- Chair time 3 hours on day 1, and 1 hour on days 8 and 15. Repeat cycle every 28 days.
- Four visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

**Physician Date**

**Patient Name ID Number**

**Diagnosis Ht Wt M 2**
### Methotrexate + Vinblastine + Doxorubicin + Cisplatin (MVAC)

**Baseline laboratory tests:** CBC: Chemistry (including Mg₂⁺)

**Baseline procedures or tests:** Multigated angiogram (MUGA) scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 20 mg in 100 cc of NS.

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>IV Administration</th>
<th>Specific Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methotrexate</td>
<td>30 mg/m²</td>
<td>Days 1, 15, and 22</td>
<td>Available as solution in 5-, 50-, 100-, and 200-mg vials. May further dilute in 0.9% sodium chloride. Reconstituted solution stable 24 hours at room temperature. Use with caution in patients on warfarin due to increased anticoagulation effects. Have patients discontinue folic acid supplements while taking drug.</td>
</tr>
<tr>
<td>Vinblastine</td>
<td>3 mg/m²</td>
<td>Days 2, 15, and 22</td>
<td>Potent vesicant. Available in 10-mg, 1-mg/mL vials. Store in refrigerator until use.</td>
</tr>
<tr>
<td>Doxorubicin</td>
<td>30 mg/m²</td>
<td>Day 2</td>
<td>Potent vesicant. Available as a 2-mg/mL solution. Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td>Cisplatin</td>
<td>70 mg/m²</td>
<td>Day 2</td>
<td>Available in solution as 1 mg/mL. Do not use aluminum needles, because precipitate will form. Further dilute solution with 250–1000 cc of NS. Stable for 24 hours at room temperature.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Hypersensitivity Reaction: Facial edema, wheezing, bronchospasm, and hypotension is possible with cisplatin.
- Bone Marrow Toxicity: Myelosuppression can be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Mucositis can be severe. Constipation, abdominal pain, or paralytic ileus. Metallic taste.
- Cardiovascular: Cardiomyopathy can occur with cumulative doses of doxorubicin. Hypertension, stroke, myocardial infarction, and Raynaud's syndrome seen with vinblastine.
- Electrolyte Imbalance: Decreased Mg²⁺, K⁺, Ca²⁺, Na⁺, and P. Inappropriate secretion of antidiuretic hormone (SIADH).
- Pulmonary: Pneumonitis.
- Hepatic: Dose reduction of doxorubicin necessary in presence of liver dysfunction.
- Skin: Extravasation of vesicants causes severe tissue destruction. Rash, hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- Neurotoxicity: Peripheral sensory neuropathy, paresthesias.
- Ototoxicity: High-frequency hearing loss and tinnitus with cisplatin.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- Pegfilgrastim (Neulasta)
- Filgrastim (Neupogen)
- Epoetin alfa (Procrit)
- Darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1, 15, and 22, and 3 hours on day 2. Repeat cycle every 28 days.

**Estimated number of visits:** Four visits per cycle. Request four cycles worth of visits.¹⁹–²⁰
<table>
<thead>
<tr>
<th>Dose Calculation by:</th>
<th>1. ____________________________</th>
<th>2. ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td></td>
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<td>Date</td>
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<td>M²</td>
</tr>
</tbody>
</table>
Cisplatin + Methotrexate + Vinblastine (CMV)

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$)
Baseline procedures or tests: None
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 20 mg in 100 cc of NS.
Administer: Cisplatin ________mg (100 mg/m$^2$) IV on day 2 (give 12 hours after methotrexate)
  • Available in solution 1 mg/mL.
  • Do not use aluminum needles, because precipitate will form.
  • Available in solution as 1 mg/mL.
  • Further dilute solution in 250 cc or more of NS.
  • Stable for 96 hours when protected from light and only 6 hours when not protected from light.
Methotrexate ________mg (30 mg/m$^2$) IV on days 1 and 8
  • Available as solution in 5-, 50-, 100-, and 200-mg vials.
  • May further dilute in 0.9% sodium chloride.
  • Use with caution in patients taking warfarin due to increased anticoagulation effects.
  • Have patients discontinue folic acid supplements while taking drug.
Vinblastine ________mg (4 mg/m$^2$) IV on days 1 and 8
  • Potent vesicant
  • Available in 10-mg vials; store in refrigerator until use.

Major Side Effects
• Hypersensitivity Reaction: Facial edema, wheezing, bronchospasm, and hypotension is possible with cisplatin.
• Bone Marrow Depression: Myelosuppression can be severe.
• GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Mucositis can be severe. Constipation, abdominal pain, or paralytic ileus. Metallic taste.
• Renal: Acute renal failure, azotemia, urinary retention, and uric acid nephropathy.
• Electrolyte Imbalance: Decreased Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P. Inappropriate secretion of antidiuretic hormone (SIADH).
• Pulmonary: Pneumonitis.
• Skin: Extravasation of vesicants causes severe tissue destruction. Rash, hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
• Neurotoxicity: Peripheral sensory neuropathy, paresthesias.
• Ototoxicity: High-frequency hearing loss and tinnitus with cisplatin.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
Moderately to highly emetogenic protocol.
Supportive drugs:
☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)
Treatment schedule:
Chair time 1 hour on days 1 and 8, and 3 hours on day 2. Repeat cycle every 21 days.
Estimated number of visits:
Three visits per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. ______________________ 2. ______________________

Physician ______________________ Date ______________________
Patient Name ______________________ ID Number ______________________
Diagnosis Ht Wt M$^2$ ______________________ ______________________ ______________________
Cyclophosphamide + Doxorubicin + Cisplatin (CISCA)

Baseline laboratory tests: CBC, Chemistry (including Mg\(^{2+}\))
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 20 mg in 100 cc of NS.
Administer: 

**Cyclophosphamide** \(\text{mg}\) (650 mg/m\(^2\)) IV on day 1
- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
- Dilute with sterile water and shake well to ensure that solution is completely dissolved.
- Reconstituted solution stable for 24 hours at room temperature, 6 days refrigerated.

**Doxorubicin** \(\text{mg}\) (50 mg/m\(^2\)) IV on day 1
- Potent vesicant
- Available as a 2 mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Cisplatin** \(\text{mg}\) (100 mg/m\(^2\)) IV on day 2
- Do not use aluminum needles, because precipitate will form.
- Available in solution as 1 mg/mL.
- Further dilute solution with 250 cc or more of NS.
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.

**Major Side Effects**
- Hypersensitivity Reaction: Facial edema, wheezing, bronchospasm, and hypotension is possible with cisplatin. Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis occurs in some patients but is not dose limiting. Metallic taste.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses of doxorubicin (> 550 mg/m\(^2\)), cardiomyopathy may occur.
- Renal/bladder toxicities: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Hemorrhagic cystitis, dysuria, and urinary frequency.
- Hepatic: With cyclophosphamide, dose reduction of doxorubicin necessary in presence of liver dysfunction.
- Electrolyte Imbalance: Decreased Mg\(^{2+}\), K\(^{+}\), Ca\(^{2+}\), Na\(^{+}\), and P. Inappropriate secretion of antidiuretic hormone (SIADH).
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity and radiation recall occur. Complete alopecia.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking-glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus with cisplatin.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to severely emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1 and 3 hours on day 2. Repeat cycle every 21–28 days.

**Estimated number of visits:** Three visits per cycle. Request four cycles worth of visits.
Bladder Cancer

Dose Calculation by: 1. __________________________ 2. _____________________________

_________________________________________ ______________________________________________________

Physician Date

_________________________________________ ______________________________________________________

Patient Name ID Number

_________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
Paclitaxel and Carboplatin

Baseline laboratory tests: CBC: Chemistry (including Mg^{2+})
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer:

Paclitaxel __________mg (225 mg/m^2) IV over 3 hours on day 1
- Available in solution as 6 mg/mL.
- Final concentration is ≤ 1.2 mg/mL.
- Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
- Use non-PVC containers and tubing with 0.22-micron inline filter to administer.

Carboplatin __________mg (AUC of 6) IV on day 1 (give 15 minutes after paclitaxel)
- Available in solution as 10 mg/mL or as lyopholized powder.
- Reconstitute sterile water for injection, 5% dextrose of 0.99 sodium chloride solution.
- Do not use aluminum needles, because precipitate will form.
- Reconstituted solution stable for 8 hours at room temperature.
- Give carboplatin after paclitaxel to decrease toxicities.

Major Side Effects
- Hypersensitivity Reaction: Paclitaxel, usually seen in the first 2–3 minutes of infusion. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- GI Toxicities: Nausea and vomiting are moderate to severe and may be acute or delayed. Mucositis and/or diarrhea common.
- Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic. Dose reduction required in presence of renal dysfunction.
- Electrolyte Imbalance: Decreases Mg^{2+}, K^+, Ca^{2+}, and Na^+.
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related. Can be dose limiting.
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Amenorrhea, azoospermia, impotence, and sterility.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 5 hours on day 1. Repeat cycle every 21 days until progression.
Estimated number of visits: Two visits per cycle. Request six cycles worth of visits.

Dose Calculation by:

1. ____________________________ 2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ _______________/ ________________/ ________________

Patient Name ID Number

Diagnosis Ht Wt M^2
**Cyclophosphamide + Doxorubicin + Cisplatin (CAP)**

**Baseline laboratory tests:**
CBC: Chemistry (including Mg\(^{2+}\))

**Baseline procedures or tests:**
MUGA scan

**Initiate IV:**
0.9% sodium chloride

**Premedicate:**
5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

**Cyclophosphamide**
- **Available in:** 100-, 200-, 500-, 1000-, and 2000-mg vials.
- **Dilute with sterile water. Shake well to ensure that all particles completely dissolve.**
- **Reconstituted solution is stable for 24 hours at room temperature and for 6 days refrigerated.**

**Doxorubicin**
- **Potent vesicant**
- **Available as a 2 mg/mL solution.**
- **Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.**

**Cisplatin**
- **Available in solution as 1 mg/mL.**
- **Do not use aluminum needles, because precipitate will form.**
- **Further dilute solution with 250 cc or more of NS.**
- **Stable for 96 hours when protected from light and only 6 hours when not protected from light.**

**Major Side Effects**
- **Hypersensitivity Reaction:** Facial edema, wheezing, bronchospasm, and hypotension possible with cisplatin. Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia occur equally in many patients. Leukopenia and thrombocytopenia are dose related.
- **GI Toxicities:** Nausea and vomiting are moderate to severe. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis. Metallic taste.
- **GU:** Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Bladder toxicity in the form of hemorrhagic cystitis, dysuria, and increased urinary frequency.
- **Electrolyte Imbalance:** Decreases Mg\(^{2+}\), K\(^{+}\), Ca\(^{2+}\), Na\(^{+}\), and P.
- **Cardiotoxicity:** Acutely, pericarditis or myocarditis can occur. Later, cardiomyopathy in the form of congestive heart failure may occur.
- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking-glove” pattern.
- **Ototoxicity:** High-frequency hearing loss and tinnitus.
- **Skin:** Extravasation of doxorubicin causes severe tissue damage. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided. Azoospermia, impotence, and sterility.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:**
Chair time 4 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:**
Two visits per cycle. Request six cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ __________________________/ __________________________/ __________________________

Diagnosis Ht Wt M²
Bladder Cancer

Cisplatin + Methotrexate + Vinblastine + XRT (CMV + Radiation Therapy)

Baseline laboratory tests: CBC: Chemistry (including Mg²⁺)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃, and dexamethasone 20 mg in 100 cc of NS
Administer: Cisplatin ________mg (70 mg/m²) IV on day 2
- Available in solution as 1 mg/mL
- Do not use aluminum needles, because precipitate will form.
- Further dilute solution in 250 cc or more of NS.
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.

Methotrexate ________mg (30 mg/m²) IV on days 1, 15, and 22
- Available as solution in 5-, 50-, 100- and 200-mg vials.
- May further dilute in 0.9% sodium chloride.
- Use with caution in patients taking warfarin due to increased anticoagulation effects.
- Have patients discontinue taking folic acid supplements while taking drug.

Vinblastine __________mg (3 mg/m²) IV on days 2, 15, and 22
- Potent vesicant
- Available in 10-mg vials; store in refrigerator until use.

Repeat cycle every 28 days for two cycles. Radiation therapy to be given after two cycles of induction chemotherapy at a dose of 45 cGy in 180 cGy fractions combined with cisplatin 70 mg/m² on days 1 and 2 of radiation therapy.

Major Side Effects
- Hypersensitivity Reaction: Facial edema, wheezing, bronchospasm, and hypotension possible with cisplatin.
- Bone Marrow Depression: Myelosuppression can be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Mucositis can be severe. Constipation, abdominal pain, or paralytic ileus. Metallic taste.
- Renal: Acute renal failure, azotemia, urinary retention, and uric acid nephropathy.
- Fluid/electrolyte Imbalance: Decreased Mg²⁺, K⁺, Ca²⁺, Na⁺, and P. Inappropriate secretion of antidiuretic hormone (SIADH).
- Pulmonary: Pneumonitis.
- Skin: Extravasation of vesicants causes severe tissue destruction. Rash, hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia. Local tissue irritation to desquamation can occur in radiation trials. Do not use oil-based lotions or creams in radiation field.
- Neurotoxicity: Peripheral sensory neuropathy, paresthesia.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Azoospermia, impotence, and sterility.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on days 1, 15, and 22, and 3 hours on day 2. Repeat cycle every 28 days for 2 cycles, then begin radiation therapy as described above.
Estimated number of visits: Five visits per cycle. Request four cycles worth of visits.
Bladder Cancer

Dose Calculation by: 1. __________________________ 2. __________________________

__________________________  __________________________
Physician                      Date

__________________________  __________________________
Patient Name                  ID Number

__________________________
Diagnosis

__________________________
Ht  Wt  M²
Single-Agent Regimens

**Gemcitabine**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel, and LFTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine OR 5-HT3 and dexamethasone 10 mg in 100 cc of NS</td>
</tr>
</tbody>
</table>

**Administer:** Gemcitabine \( \text{mg} (1200 \text{ mg/m}^2) \) IV on days 1, 8, and 15

- Available in 1-g or 200-mg vials, reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable 24 hours at room temperature. Do not refrigerate, because precipitate will form.

**Major Side Effects**

- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grades 3 and 4 thrombocytopenia being more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.
- GI Symptoms: Mild-to-moderate nausea and vomiting (70%), diarrhea, and/or mucositis (15%–20%).
- Flulike Syndrome (20%): Fever in absence of infection 6–12 hours after treatment (40%). Fever, malaise, chills, headache, and myalgias.
- Pulmonary: Mild dyspnea and drug induced pneumonitis.
- Hepatic: Transient elevation of serum transaminases and bilirubin.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1, 8, and 15. Repeat cycle every 28 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

\( \text{Ht} / \text{Wt} / \text{M}^2 \)
**Paclitaxel**

**Baseline laboratory tests:** CBC: Chemistry

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** Paclitaxel __________mg (250 mg/m²) IV over 24 hours on day 1

- Available in solution as 6 mg/mL.
- Final concentration is ≤ 1.2 mg/mL.
- Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
- Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

**Major Side Effects**

- **Hypersensitivity reaction:** Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.

- **Bone Marrow Depression:** Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.

- **GI Toxicity:** Mucositis and/or diarrhea seen in 30–40% of patients. Mucositis more common with 24-hour schedule. Mild to moderate nausea and vomiting, usually of brief duration.

- **Neurotoxicity:** Sensory neuropathy with numbness and paresthesias; dose related and dose limiting. More frequent with longer infusions and at doses > 175 mg/m².

- **Hepatic:** Transient elevations in serum transaminases, bilirubin, and alkaline phosphatase.

- **Skin:** Onycholysis with weekly dosing. Alopecia, total loss of body hair in nearly all patients.

- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour. Repeat every 21 days as tolerated or until disease progression.

**Estimated number of visits:** Three visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. ______________________________ 2. ______________________________

______________ ________________ ________________

Physician Date

______________ ________________ ________________

Patient Name ID Number

______________ ________________ ________________

Diagnosis Ht Wt M²

**OR**
Paclitaxel

Baseline laboratory tests: CBC: Chemistry
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
               Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: **Paclitaxel** ________mg (80 mg/m²) IV over 24 hours on day 1
   • Available in solution as 6 mg/mL.
   • Final concentration is ≤ 1.2 mg/mL.
   • Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
   • Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

**Major Side Effects**
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• GI Toxicity: Mucositis and/or diarrhea seen in 30–40% of patients. Mucositis more common with 24-hour schedule. Mild to moderate nausea and vomiting, usually of brief duration.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related and dose limiting. More frequent with longer infusions and at doses ≥ 175 mg/m².
• Hepatic: Transient elevations in serum transaminases, bilirubin, and alkaline phosphatase.
• Skin: Onycholysis with weekly dosing. Alopecia, is complete in nearly all patients.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
   □ pegfilgrastim (Neulasta)   □ filgrastim (Neupogen)
   □ epoetin alfa (Procrit)    □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour. Repeat every 21 days as tolerated or until disease progression.
Estimated number of visits: Three visits per cycle. Request four cycles worth of visits.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________

__________________________  ______________________________
Physician                   Date

__________________________  ______________________________
Patient Name                ID Number

__________________________  ______________________________
Diagnosis                  Ht                Wt                M²
BONE METASTASIS

Zometa

Zometa 4-mg dose adjusted for baseline creatinine clearance on day 1
Repeat cycle every 21–28 days.¹ 21-25

Pamidronate

Pamidronate 90 mg IV on day 1
Repeat cycle every 21–28 days.¹ 27
**Zometa**

**Baseline laboratory tests:** CBC: serum creatinine (check before each dose)
Calculate baseline creatinine clearance.

**Baseline procedures or tests:** N/A

**Initiate IV:** Normal saline

**Premedicate:**
- Calcium supplement 300 mg and vitamin D 400 IU PO daily
  - DO NOT give when treating hypercalcemia

**Administer:** **Zometa** ______mg (4 mg adjusted for baseline creatinine clearance)
In 100 cc of NS over a minimum of 15 minutes day 1
- Available in 4-mg vials (reconstitute with 5 mL of sterile water for injection) or in 5 mL solution.
- Further dilute in 100 cc of D5W or NS.

**Patient’s baseline creatinine clearance ____________.** (Cockcroft-Gault formula)

### Dosing Adjustments for Creatinine Clearance

<table>
<thead>
<tr>
<th>Baseline creatinine clearance (mL/min)</th>
<th>Zoledronic acid (Zometa) dose (mg)</th>
<th>Volume of 5-mL zoledronic acid concentrate (mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 60</td>
<td>4.0</td>
<td>5.0</td>
</tr>
<tr>
<td>50–60</td>
<td>3.5</td>
<td>4.4</td>
</tr>
<tr>
<td>40–49</td>
<td>3.3</td>
<td>4.1</td>
</tr>
<tr>
<td>30–39</td>
<td>3.0</td>
<td>3.8</td>
</tr>
</tbody>
</table>

**Major Side Effects**
- Renal Toxicity: Deterioration of renal function (increase of 0.5 mg/dL for patients with normal baseline creatinine or increase of 1.0 mg/dL for patients with an abnormal baseline creatinine). **Treatment should be held for renal deterioration.** Treatment may be resumed at the same dose when the creatinine returns to within 10% of baseline value.
- Flu-like Symptoms: Fever occurs in 44% of patients. Chills, bone pain, and/or arthralgias and myalgias also occur.
- GI Toxicities: Nausea and vomiting are usually mild. Diarrhea, constipation, abdominal pain, and anorexia reported.
- Bone Marrow Toxicity: Anemia can occur but not significant.
- Fluid/electrolyte Balance: Hypocalcemia, hypophosphatemia, hypomagnesemia, or increased blood urea nitrogen (BUN) and serum creatinine.
- Osteonecrosis of the Jaw: Most reported cases are in cancer patients attendant to a dental procedure. It is prudent to avoid dental surgery because recovery may be prolonged. Discontinue therapy if osteonecrosis occurs.
- Reproduction: Do not use in pregnancy.

**Initiate antiemetic protocol:**
Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- oprelvekin (Neumega)
- filgrastim (Neupogen)
- pegfilgrastim (Neulasta)
- Other ______

**Treatment schedule:**
Chair time 1 hour. Repeat cycle every 3–4 weeks in patients with multiple myeloma and metastatic bone lesions from solid tumors.

Hypercalcemia of malignancy may give every 7 days prn.

**Estimated number of visits:**
One visit per cycle. Request 12 cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

__________________________  ______________________________________________
Physician Date

__________________________  ______________________________________________
Patient Name ID Number

__________________________ / __________________/ ______________
Diagnosis Ht Wt M²
Pamidronate

Baseline laboratory tests: CBC: Chemistry panel (including Mg\(^{2+}\))
Baseline procedures or tests: N/A
Initiate IV: Normal saline
Premedicate: None required
Administer: Pamidronate 90 mg in 250 cc of NS or D5W IV over 2 hours
Repeat cycle every 3–4 weeks.
OR
Multiple Myeloma
Pamidronate 90 mg in 500 cc of NS or D5W over 4 hours
Repeat cycle every 4 weeks.
• Available in 90-mg vial (as powder for reconstitution or in 10mL solution).
• Reconstitute powder with 10 mL of sterile water for injection.
• Reconstituted solution stable for 24 hours at room temperature.
• Store reconstituted drug in refrigerator.

Major Side Effects
• Flulike Symptoms: Fever occurs in 44% of patients. Chills, bone pain, and/or arthralgias and myalgias also occur.
• GI Toxicities: Nausea, vomiting, abdominal discomfort, constipation, and anorexia may occur rarely. GI hemorrhage rare.
• Bone Marrow Toxicity: Myelosuppression occurs but not significant.
• Fluid/electrolyte Balance: Hypocalcemia, hypercalcemia, hypokalemia, hypophosphatemia, hypomagnesemia, or increased BUN and serum creatinine levels.
• Renal: Renal dysfunction, renal failure. Use with extreme caution in patients with renal impairment.
• CV Toxicities: Atrial fibrillation, tachycardia, hypertension, fluid overload.
• Skin: Infusion-site reaction, pain at infusion site.
• Reproduction: Do not use in pregnancy.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: 
- □ epoetin alfa (Procrit)       □ darbepoetin alfa (Aranesp)
- □ oprelvekin (Neumega)       □ filgrastim (Neupogen)
- □ pegfilgrastim (Neulasta)   □ Other ______

Treatment schedule: Chair time 2 hours. Repeat cycle every 3–4 weeks.
OR
Chair time 4 hours. Repeat cycle every 4 weeks.

Estimated number of visits: One visit per cycle. Request 12 cycles worth of visits.\(^{10–20}\)

Dose Calculation by:

1. __________________________________ 2. __________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________/ ________________/ ________________

Patient Name ID Number

_____________________________________________

Diagnosis Ht Wt M\(^{2}\)
ADJUVANT THERAPY

Combination Regimens

Temozolomide + Radiation Therapy

Radiation therapy: 200 cGy/day for 5 days per week for total of 6 weeks
Temozolomide: 75 mg/m² PO for 6 weeks with radiation therapy, followed
by 150 mg/m² PO on days 1–5
Repeat cycle every 28 days. If drug is well tolerated, dose can be
increased to 200 mg/m².²¹,²⁷

PCV

Procarbazine: 60 mg/m² PO on days 8–21
Lomustine: 130 mg/m² PO on day 1
Vincristine: 1.4 mg/m² IV on days 8 and 29
Repeat cycle every 8 weeks for six cycles.¹,²⁸

Single-Agent Regimens

BCNU

BCNU: 220 mg/m² IV on day 1
Repeat cycle every 6–8 weeks for 1 year.¹,²⁰
OR
BCNU: 75–100 mg/m² IV on days 1 and 2
Repeat cycle every 6–8 weeks.¹,²⁹

ADVANCED DISEASE

Combination Regimens

PCV

Procarbazine: 75 mg/m² PO on days 8–21
Lomustine: 130 mg/m² PO on day 1
Vincristine: 1.4 mg/m² IV on days 8 and 29
Repeat cycle every 8 weeks.¹,³⁰
Single-Agent Regimens

**BCNU**

BCNU: 200 mg/m² IV on day 1
Repeat cycle every 6–8 weeks.¹,³⁰

**Procarbazine**

Procarbazine: 150 mg/m² PO daily divided into 3 doses
Repeat daily.¹,³¹

**Temozolomide**

Temozolomide: 150 mg/m² PO on days 1–5
Repeat cycle every 28 days.²⁰ If drug is well tolerated, dose can be increased to 200 mg/m².²¹,³²

**Irinotecan**

Irinotecan: 350 mg/m² IV over 90 minutes on day 1
Repeat cycle every 3 weeks.¹,³³

OR

Irinotecan: 125 mg/m² IV weekly for 4 weeks
Repeat cycle every 6 weeks.¹,³⁴
ADJUVANT THERAPY
Combination Regimens

**Temozolomide + Radiation Therapy**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and LFTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT₃</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Temozolomide</strong>: 75 mg/m² PO for 6 weeks with radiation therapy, followed by 150 mg/m² PO on days 1–5. Repeat cycle every 28 days.</td>
</tr>
<tr>
<td></td>
<td>• If well tolerated, can increase dose to 200 mg/m² on days 1–5 (after radiation therapy).</td>
</tr>
<tr>
<td></td>
<td>• Available in 5-, 20-, 100-, and 250-mg capsules for oral use.</td>
</tr>
<tr>
<td></td>
<td>• Store at room temperature; protect from light and moisture.</td>
</tr>
<tr>
<td></td>
<td>• Take with full glass of water on an empty stomach.</td>
</tr>
<tr>
<td>Radiation therapy:</td>
<td>200 cGy/day for 5 days per week for total of 6 weeks.</td>
</tr>
<tr>
<td><strong>Major Side Effects</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bone Marrow Depression: Myelosuppression is dose-limiting toxicity, with leukopenia more frequent than thrombocytopenia. Elderly patients are at increased risk for myelosuppression. Nadir day 28–29. Anemia may also occur. Does not usually require G-CSF administration.</td>
</tr>
<tr>
<td></td>
<td>• GI Toxicities: Nausea and vomiting occur in 75% of patients, usually mild to moderate and occurring on day 1. Diarrhea, constipation, and/or anorexia may affect up to 40% of patients.</td>
</tr>
<tr>
<td></td>
<td>• Skin: Rash, itching, and alopecia may occur and are mild.</td>
</tr>
<tr>
<td></td>
<td>• Central Nervous System Effects: Fatigue, headache, ataxia, and dizziness.</td>
</tr>
<tr>
<td></td>
<td>• Reproductive: Pregnancy category D. Breast feeding should be avoided.</td>
</tr>
<tr>
<td>Initiate antiemetic protocol:</td>
<td>Mildly to moderately emetogenic protocol.</td>
</tr>
<tr>
<td>Supportive drugs:</td>
<td>□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)</td>
</tr>
<tr>
<td></td>
<td>□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)</td>
</tr>
<tr>
<td></td>
<td>□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)</td>
</tr>
<tr>
<td>Treatment schedule:</td>
<td>No chair time. Repeat every 28 days as tolerated or until disease progression.</td>
</tr>
<tr>
<td>Estimated number of visits:</td>
<td>One to four visits per month.</td>
</tr>
</tbody>
</table>

Dose Calculation by: 1. _____________________________ 2. _____________________________

_______________________________ ______________________________
Physician Date

______________________________ ______________________________
Patient Name ID Number

______________________________ ______________________________
Diagnosis Ht Wt M²
Procarbazine + Lomustine + Vincristine (PCV)

Baseline laboratory tests: CBC: Chemistry and LFTs
Baseline procedures or tests: N/A
Initiate IV: Normal saline prior to vincristine.
Premedicate: Oral 5-HT₃
Administer:

**Procarbazine** __________mg (60 mg/m²) PO on days 8–21
- Available in 50-mg capsules
- Avoid exposure to moisture.

**Lomustine** __________mg (130 mg/m²) PO on day 1
- Available in 10-, 30-, and 100-mg capsules
- Administer on an empty stomach at bedtime.

**Vincristine** __________mg (1.4 mg/m²) IV on days 8 and 29
- Vesicant
- Available in 1-, 2-, and 5-mg vials; refrigerate until use.

**Major Side Effects**

**Food and Drug Interactions:** Alcohol. Antabuse-like reaction may result if alcohol is consumed. **Tyramines:** Foods containing high amounts of tyramine should be avoided (dark beer, wine, cheese, bananas, yogurt, and pickled and smoked foods). **CNS depressants:** Synergistic effect. **Tricyclic antidepressants:** May result in CNS excitation.

- Bone Marrow Suppression with Procarbazine: Myelosuppression is the major dose-limiting toxicity. Nadir is delayed, occurs at 4–6 weeks, and persists for 1–3 weeks.
- GI Toxicities: Nausea and vomiting may be a dose-limiting toxicity. Severe nausea may occur 2–6 hours after lomustine is taken. Constipation, abdominal pain, and paralytic ileus.
- CNS: 10%–30% of patients experience lethargy, depression, frequent nightmares, insomnia, nervousness, or hallucinations. Tremors and convulsions are less common. Crosses blood-brain barrier.
- Neurotoxicities. Peripheral neuropathies occur as a result of toxicity to nerve fibers. Absent deep-tendon reflexes, numbness, weakness, myalgias, cramping, and late, severe motor difficulties.
- Respiratory: Interstitial pneumonitis.
- Flulike Syndrome: Fever chills, sweating, lethargy, myalgias, and arthralgias commonly occur.
- Skin Toxicities: Rarely occurs as alopecia, pruritus, rash, and hyperpigmentation.
- Reproduction: Impotence, amenorrhea, azoospermia. Pregnancy category D.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 8 and 29. Repeat cycle every 8 weeks for 6 cycles.

**Estimated number of visits:** Every 2 weeks for 1 year.

Note: Preauthorize as oral chemotherapy under prescription benefits or as chemotherapy under major medical coverage.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

Physician

Patient Name

ID Number

Diagnosis

Ht Wt M²
Single-Agent Regimens

**BCNU (Carmustine)**

Baseline laboratory tests: CBC: Chemistry and LFTs
Baseline procedures or tests: Pulmonary function tests
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: BCNU ___________mg (220 mg/m²) IV over 1–2 hours on day 1
OR
BCNU ___________mg (75–100 mg/m²) over 1–2 hours on days 1 and 2

- Each package contains 100 mg of carmustine and a 3-mL vial of sterile diluent.
- Add sterile alcohol (provided with drug) to vial, then sterile water as directed.
- Reconstituted solution stable for 8 hours at room temperature or 24 hours refrigerated.
- Further dilute in 100–250 cc of D5W or NS.

**Major Side Effects**

- Bone Marrow Depression: Myelosuppression involving all blood elements is delayed and cumulative. Nadir typically occurs at 4–6 weeks and lasts 1–3 weeks. Cimetidine may increase myelosuppression, avoid if possible.
- GI Toxicities: Severe nausea and vomiting may occur 2 hours after administration and last 4–6 hours.
- Pulmonary Toxicities: Uncommon at low doses. Interstitial lung disease and pulmonary fibrosis in the form of an insidious cough, dyspnea, pulmonary infiltrates, and/or respiratory failure may develop in cumulative doses > 1400 mg/m² or in patients with a prior history of lung disease.
- Renal Toxicity: Increase in BUN occurs in 10% of patients and is usually reversible. Decreased kidney size, progressive azotemia, and renal failure have occurred in larger cumulative doses over long periods.
- Hepatic Toxicities: Transient elevations in serum transaminase levels in up to 90% of patients within 1 week of therapy.
- Skin: Facial flushing and a burning sensation at the IV injection site. Skin contact with drug may cause brownish discoloration and pain. Drug is an irritant, avoid extravasation.
- Ocular Toxicities: Infarcts of optic nerve fiber, retinal hemorrhage, and neuroretinitis have been associated with high-dose therapy.
- Reproduction: Pregnancy category D. Impotence, sterility, and infertility seen.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1 OR 3 hours on days 1 and 2. Repeat cycle every 6–8 weeks for 1 year.

Estimated number of visits: One visit per cycle. Request 6 months worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician

________________________________________
Date

Patient Name

________________________________________
ID Number

________________________________________
Diagnosis

Ht Wt M²
ADVANCED DISEASE

Combination Regimens

Procarbazine + Lomustine + Vincristine (PCV)

Baseline laboratory tests: CBC: Chemistry and LFTs
Baseline procedures or tests: N/A
Initiate IV: N/A
Premedicate: Oral 5-HT<sub>3</sub>

Administer:

- **Procarbazine** __________mg (75 mg/m<sup>2</sup>) PO on days 8–21
  - Available in 50-mg capsules
  - Avoid exposure to moisture.

- **Lomustine** __________mg (130 mg/m<sup>2</sup>) PO on day 1
  - Available in 10-, 30-, and 100-mg capsules
  - Administer on an empty stomach at bedtime.

- **Vincristine** __________mg (1.4 mg/m<sup>2</sup>) IV on days 8 and 29
  - Vesicant
  - Available in 1-, 2-, and 5-mg vials; refrigerate until use.

**Major Side Effects**

- Drug and Food Interactions with Procarbazine: Alcohol: Antabuse-like reaction may result if alcohol consumed. Tyramines: Foods containing high amounts of tyramine should be avoided (dark beer, wine, cheese, yogurt, and pickled and smoked foods). CNS depressants: Synergistic effect. Tricyclic antidepressants: May result in CNS excitation.

  - Bone Marrow Suppression: Myelosuppression is the major dose-limiting toxicity. Nadir is delayed, occurs at 4–6 weeks, and persists for 1–3 weeks.

  - GI Toxicities: Nausea and vomiting may be a dose-limiting toxicity. Severe nausea may occur 2–6 hours after taking lomustine. Constipation, abdominal pain, and paralytic ileus.

  - CNS: Some patients experience lethargy, depression, frequent nightmares, insomnia, nervousness, or hallucinations. Tremors and convulsions are less common. Crosses blood-brain barrier.

  - Neurotoxicities. Peripheral neuropathies occur as a result of toxicity to nerve fibers. Absent deep tendon reflexes, numbness, weakness, myalgias, cramping, and later, severe motor difficulties.

  - Flulike Syndrome: Fever, chills, sweating, lethargy, myalgias, and arthralgias commonly occur.

  - Skin Toxicities: Rarely occurs as alopecia, pruritus, rash, and hyperpigmentation.

  - Reproduction: Impotence, amenorrhea, azoosperma. Pregnancy category D.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 8 and 29. Repeat cycle every 8 weeks.

**Estimated number of visits:** Every 2 weeks for 1 year.

**Dose Calculation by:**

1. __________________________________________________________________________
2. __________________________________________________________________________

Physician ___________________________ Date ___________________________

Patient Name ________________________ ID Number ______________________

_________________________ / _____________ / _____________

Ht Wt M<sup>2</sup>

Diagnosis
Single-Agent Regimens

**BCNU (Carmustine)**

**Baseline laboratory tests:** CBC: Chemistry and LFTs

**Baseline procedures or tests:** Pulmonary function tests

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** BCNU _________mg (200 mg/m²) IV over 1–2 hours on day 1

- Each package contains carmustine 100 mg and a 3-mL vial of sterile diluent.
- Add sterile alcohol (provided with drug) to vial, then sterile water as directed.
- Reconstituted solution stable for 8 hours at room temperature or 24 hours refrigerated.
- Further dilute in 100–250 cc of D5W or NS

**Major Side Effects**

- **Bone Marrow Depression:** Myelosuppression involving all blood elements is delayed and cumulative. Nadir typically occurs at 4–6 weeks and lasts 1–3 weeks. Cimetidine may increase myelosuppression, avoid if possible.
- **GI toxicities:** Severe nausea and vomiting may occur 2 hours after administration and last 4–6 hours.
- **Pulmonary toxicities:** Uncommon at low doses. Interstitial lung disease and pulmonary fibrosis in the form of an insidious cough, dyspnea, pulmonary infiltrates, and/or respiratory failure may develop at cumulative doses > 1400 mg/m² or in patients with a prior history of lung disease.
- **Renal Toxicity:** Increase in BUN occurs in 10% of patients and is usually reversible. Decreased kidney size, progressive azotemia, and renal failure have occurred in larger cumulative doses over long periods.
- **Hepatic Toxicities:** Transient elevations in serum transaminase levels in up to 90% of patients within 1 week of therapy.
- **Skin:** Facial flushing and a burning sensation at the IV injection site. Skin contact with drug may cause brownish discoloration and pain. Drug is irritant, avoid extravasation.
- **Ocular Toxicities:** Infarcts of optic nerve fiber, retinal hemorrhage, and neuroretinitis have been associated with high-dose therapy.
- **Reproduction:** Impotence, amenorrhea, and azoospermia. Pregnancy category D.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- Pegfilgrastim (Neulasta)
- Filgrastim (Neupogen)
- Epoetin alfa (Procrit)
- Darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 6–8 weeks.

**Estimated number of visits:** Four visits per cycle. Request 6 months worth of visits.

**Dose Calculation by:** 1. ___________________________ 2. ___________________________

Physician | Date
--- | ---

Patient Name | ID Number
--- | ---

Diagnosis | Ht | Wt | M²
--- | --- | --- | ---
**Procarbazine**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and LFTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral 5-HT$_3$</td>
</tr>
<tr>
<td>Administer:</td>
<td>Procarbazine ___________mg (150 mg/m$^2$) PO daily divided into three doses</td>
</tr>
</tbody>
</table>
  - Available in 50-mg capsules.
  - Avoid exposure to moisture.

**Major Side Effects**

- Drug and Food Interactions: Alcohol. Antabuse-like reaction may result if alcohol is consumed. **Tyramines**: Foods containing high amounts of tyramine should be avoided (e.g., beer, wine, cheese, brewer's yeast, chicken livers, and bananas). **CNS depressants**: Synergistic effect with barbiturates, antihistamines, narcotics, hypotensive agents, and phenothiazines. **Tricyclic antidepressants**: May result in CNS excitation, hypertension, tremors, palpitations, and, in severe cases, hypertensive crisis and/or angina.
- Bone Marrow Suppression: Myelosuppression is the major dose-limiting toxicity. Thrombocytopenia occurs in 50% of patients, with nadir occurring in 4 weeks and recovery in 4–6 weeks. Leukopenia usually occurs after thrombocytopenia. Anemias may be due to bone marrow depression or hemolysis.
- GI Toxicities: Nausea and vomiting occur in 70% of patients and may be a dose-limiting toxicity. Diarrhea is uncommon but rarely may be protracted and thus would be an indication for dose reduction.
- CNS: 10%–30% of patients experience lethargy, depression, frequent nightmares, insomnia, nervousness, or hallucinations. Tremors and convulsions are less common. Crosses blood-brain barrier.
- Neurotoxicities: 10% of patients exhibit paresthesias, decrease in deep tendon reflexes. Foot drop and ataxia occasionally reported. Reversible when drug is discontinued.
- Flulike Syndrome: Fever, chills, sweating, lethargy, myalgias, and arthralgias commonly occur.
- Skin Toxicities: Rarely occurs as alopecia, pruritus, rash, hyperpigmentation.
- Reproduction: Drug is teratogenic. Causes azoospermia. Causes cessation of menses, although may be reversible. Pregnancy category D.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- darbepoetin alfa (Aranesp)
- epoetin alfa (Procrit)
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**
- No chair time. Repeat daily as tolerated or until disease progression.

**Estimated number of visits:**
- One visit per month.

**Dose Calculation by:**

| 1. | 2. |

<table>
<thead>
<tr>
<th>Physician</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>ID Number</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Ht</th>
<th>Wt</th>
<th>M$^2$</th>
</tr>
</thead>
</table>
**Temozolomide**

**Baseline laboratory tests:** CBC: Chemistry and LFTs  
**Baseline procedures or tests:** N/A  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃  
**Administer:** Temozolomide __________mg (150 mg/m²) PO on days 1–5  
  • If well tolerated, can increase dose to 200 mg/m² on days 1–5  
  • Available in 5-, 20-, 100-, and 250-mg capsules for oral use  
  • Store at room temperature; protect from light and moisture.  
  • Take with full glass of water on an empty stomach.

**Major Side Effects**  
• Bone Marrow Depression: Myelosuppression is dose-limiting toxicity, with leukopenia more frequent than thrombocytopenia. Elderly patients are at increased risk for myelosuppression. Nadir day 28–29. Anemia may also occur. Does not usually require G-CSF administration.  
• GI Toxicities: Nausea and vomiting occur in 75% of patients, usually mild to moderate and occurring on day 1. Diarrhea, constipation, and/or anorexia may affect up to 40% of patients.  
• Skin: Rash, itching, and alopecia may occur and are mild.  
• Central Nervous System Effects: Fatigue, lethargy, headache, ataxia, and dizziness.  
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
- □ loperamide (Imodium)  
- □ diphenoxylate/atropine sulfate (Lomotil)  

**Treatment schedule:** No chair time. Repeat every 28 days as tolerated or until disease progression.  
**Estimated number of visits:** One visit per month.

**Dose Calculation by:**  
1. __________________________  
2. __________________________  

**Physician**  
Date

**Patient Name**  
ID Number

**Diagnosis**  
Ht  Wt  M²
### Irinotecan

**Baseline laboratory tests:** CBC: Chemistry panel  
**Baseline procedures or tests:** N/A  
**Initiate IV:** D5W  
**Premedicate:** 5-HT₃ and 20 mg of dexamethasone in 100 cc of D5W  
    - Atropine 0.25–1.0 mg IV unless contraindicated  
**Administer:**  
- **Irinotecan** ________mg (125 mg/m²) IV in 500 cc of D5W weekly for 4 weeks  
- **Irinotecan** ________mg (350 mg/m²) IV in 500 cc of D5W over 90 minutes day 1  
  - Available in 100-mg/5 mL single-use vials.  
  - Store unopened vials at room temperature and protect from light.  
  - Dilute and mix drug in D5W (preferred) or 0.9% sodium chloride to a final concentration of 0.12–1.1 mg/mL.  
  - The drug is commonly diluted in 500 cc of D5W.  
  - Reconstituted drug is stable for 24 hours at room temperature. When diluted in D5W, it is stable for 48 hours when refrigerated and protected from light.

**Major Side Effects**  
- **Bone Marrow Depression:** Dose limiting, grade 3–4 neutropenia in 17%. Nadir in 6–9 days.  
- **GI Toxicities:** Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 22% of patients can be severe and should be treated aggressively with loperamide. Nausea and vomiting occurs in 33%–60% of patients, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.  
- **Pulmonary Toxicities:** Range from transient dyspnea to pulmonary infiltrates, fever, increased cough, and decreased DLCO in a small number of patients.  
- **Hepatic:** Transient elevations in serum transaminases, alkaline phosphatase, and bilirubin.  
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.  
- **Alopecia:** Mild.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- loperamide (Imodium)  
- diphenoxylate/atropine sulfate (Lomotil)  
**Treatment schedule:**  
- Chair time 3 hours weekly for 4 weeks. Repeat cycle every 6 weeks. Repeat one cycle every 3 weeks for 350 mg/m² OR weekly for 125 mg/m² dose.  
**Estimated number of visits:** Four visits per cycle OR two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**  
1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________  
Physician Date

_____________________________________________ ________________/ ________________/ ________________  
Patient Name ID Number

_____________________________________________ ______________________________________________________  
Diagnosis Ht Wt M²
## NEOADJUVANT THERAPY

### Combination Regimens

**ACT**

- Doxorubicin: 60 mg/m² IV on day 1
- Cyclophosphamide: 600 mg/m² IV on day 1
- Docetaxel: 100 mg/m² IV on day 1

Repeat cycle every 21 days for a total of four cycles, followed by surgery.¹,³⁵

**AC**

- Doxorubicin: 60 mg/m² IV on day 1
- Cyclophosphamide: 600 mg/m² IV on day 1

Repeat cycle every 21 days for a total of four cycles.¹,³⁶

**AC followed by T**

- Doxorubicin: 60 mg/m² IV on day 1
- Cyclophosphamide: 600 mg/m² IV on day 1

Repeat cycle every 21 days for a total of four cycles, followed by

- Paclitaxel: 175 mg/m² IV on day 1

Repeat cycle every 21 days for a total of four cycles.¹,³⁷

**AC followed by T + Trastuzumab**

- Doxorubicin: 60 mg/m² IV on day 1
- Cyclophosphamide: 600 mg/m² IV on day 1

Repeat cycle every 21 days for a total of four cycles, followed by

- Paclitaxel: 80 mg/m² IV on day 1
- Trastuzumab: 4 mg/kg IV loading dose, then 2mg/kg IV weekly

Repeat cycle weekly for a total of 12 weeks, followed by

- Trastuzumab: 2mg/kg IV weekly

Repeat for 40 weeks.¹,³⁸
A followed by T followed by C (Dose-Dense Therapy) ............................................51
Doxorubicin: 60 mg/m² IV on day 1
Repeat cycle every 2 weeks for four cycles, followed by
Paclitaxel: 175 mg/m² IV on day 1
Repeat cycle every 2 weeks for four cycles, followed by
Cyclophosphamide: 600 mg/m² IV on day 1
Repeat cycle every 2 weeks for four cycles.
Administer Filgrastim 5 µg/kg SC on days 3–10 of each weekly cycle.1,39

CAF ..................................................................................................................53
Cyclophosphamide: 600 mg/m² IV on day 1
Doxorubicin: 60 mg/m² IV on day 1
5-Fluorouracil: 600 mg/m² IV on day 1
Repeat cycle every 21 days for a total of six cycles.1,40
OR
Cyclophosphamide: 100 mg/m² PO on days 1–14
Doxorubicin: 30 mg/m² IV on days 1 and 8
5-Fluorouracil: 500 mg/m² IV on days 1 and 8
Repeat cycle every 28 days for a total of six cycles.1,41

CMF (Bonadonna Regimen) ................................................................................57
Cyclophosphamide: 100 mg/m²/day PO on days 1–14
Methotrexate: 40 mg/m² IV on days 1 and 8
5-Fluorouracil: 600 mg/m² IV on days 1 and 8
Repeat cycle every 28 days for a total of six cycles.1,42

CMF (IV Regimen) ............................................................................................59
Cyclophosphamide: 600 mg/m² IV on day 1
Methotrexate: 40 mg/m² IV on day 1
5-Fluorouracil: 600 mg/m² IV on day 1
Repeat cycle every 21 days for a total of six cycles.1,43

Doxorubicin + CMF .............................................................................................61
Doxorubicin: 75 mg/m² IV on day 1
Repeat cycle every 21 days for a total of four cycles.
THEN
Cyclophosphamide: 600 mg/m² IV on day 1
Methotrexate: 40 mg/m² IV on day 1
5-Fluorouracil: 600 mg/m² IV on day 1
Repeat cycle every 21 days for a total of eight cycles.1,44
FEC

5-Fluorouracil: 500 mg/m² IV on day 1
Epirubicin: 100 mg/m² IV on day 1
Cyclophosphamide: 500 mg/m² IV on day 1
Repeat cycle every 21 days for a total of six cycles.¹,⁴⁵

CMFP

Cyclophosphamide: 100 mg/m² PO on days 1–14
Methotrexate: 40 mg/m² IV on days 1 and 8
5-Fluorouracil: 600 mg/m² IV on days 1 and 8
Prednisone: 20 mg PO qid on days 1–7
Repeat cycle every 28 days.¹,⁴⁶

Single-Agent Regimens

Tamoxifen

Tamoxifen: 20 mg PO daily for 5 years in patients with estrogen receptor positive tumors or estrogen receptor status unknown
Repeat daily for 5 years.¹,⁴⁷

Anastrozole (Arimidex)

Anastrozole: 1 mg PO daily. Repeat daily for 5 years in patients with ER+ tumors or ER status unknown.¹,⁴⁸

Tamoxifen + Letrozole

Tamoxifen: 20 mg PO daily for 5 years in patients with ER+ tumors, followed by
Letrozole: 2.5 mg PO daily for 5 years.¹,⁴⁹

Tamoxifen + Exemestane

Tamoxifen: 20 mg PO daily for 2–3 years in patients with ER+ tumors, followed by
Exemestane: 25 mg PO daily for the remainder of 5 years.¹,⁵⁰
NEOADJUVANT THERAPY

Combination Regimens

**Doxorubicin + Cyclophosphamide + Docetaxel (ACT)**

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Doxorubicin 8 mg bid for 3 days, starting the day before treatment

5-HT3 and dexamethasone 10–20 mg in 100 cc of NS

Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Administer:**

- **Doxorubicin** __________mg (60 mg/m²) IV on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

- **Cyclophosphamide** __________mg (600 mg/m²) IV on day 1
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Dilute with sterile water and shake well to ensure that solution is completely dissolved.
  - Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

- **Docetaxel** __________mg (100 mg/m²) IV on day 1
  - Comes in 20- or 80-mg packs with own diluent. Do not shake.
  - Reconstituted vials stable at room temperature or for 8 hours refrigerated.
  - Further dilute in 250 cc of D5W or NS.
  - Use non-PVC containers and tubing to administer.

**Major Side Effects**

- Hypersensitivity Reactions: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Premedication with dexamethasone recommended. Cyclophosphamide can cause rhinitis and irritation of nose and throat.

- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen; may be severe and dose limiting.

- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea occur in some patients but is not dose limiting.

- Cardiac: Acutely, pericarditis-myoarditis syndrome may occur. With high cumulative doses > 550 mg/m² of doxorubicin cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.

- Hepatic: Use doxorubicin and docetaxel with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.

- Neuropathy: Peripheral neuropathy with sensory alterations are paresthesias in a glove and stocking distribution, and numbness.

- Fluid Balance: Fluid retention syndrome: weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Premedication with dexamethasone effective in preventing or minimizing occurrences.

- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency. Red-orange discoloration of urine; resolves by 24–48 hours.


- Reproduction: Amenorrhea with ovarian failure. Pregnancy category D.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3–4 hours on day 1. Repeat cycle every 21 days for four cycles followed by surgery.
Estimated number of visits: Two visits per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. ___________________________ 2. _____________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht / Wt / M³
ADJUVANT THERAPY

Combination Regimens

Doxorubicin + Cyclophosphamide (AC)

Baseline laboratory tests: CBC: Chemistry, LFTs, and CA 27-29
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 20 mg in 100 cc of NS.
Administer:

Doxorubicin __________mg (60 mg/m²) IV on day 1
- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

Cyclophosphamide __________mg (600 mg/m²) IV on day 1
- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
- Dilute with sterile water and shake well to ensure that solution is completely dissolved.
- Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.
- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea occur in some patients but is not dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m² of doxorubicin cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Red-orange discoloration of urine; resolves by 24–48 hours.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproduction: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D.

Initiate antiemetic protocol:
- Moderately to mildly emetogenic protocol.

Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Treatment schedule:
- Chair time 2 hours on day 1. Repeat cycle every 21 days.

Estimated number of visits:
- Two per cycle. Request four cycles worth of visits.

Dose Calculation by:

1. ______________________________ 2. ______________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht __________________________ Wt __________________________ M² __________________________
**Doxorubicin + Cyclophosphamide Followed by Paclitaxel (AC followed by T)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, LFTs, and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>MUGA scan</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₃ and dexamethasone 20 mg in 100 cc of NS.</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Doxorubicin</strong> _________mg (60 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available as a 2-mg/mL solution.</td>
</tr>
<tr>
<td></td>
<td>• Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td></td>
<td><strong>Cyclophosphamide</strong> _________mg (600 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.</td>
</tr>
<tr>
<td></td>
<td>• Dilute with sterile water and shake well to ensure that solution is completely dissolved.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.</td>
</tr>
<tr>
<td></td>
<td><strong>Repeat cycle every 21 days for a total of four cycles, followed by four cycles paclitaxel.</strong></td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS.</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Paclitaxel</strong> _________mg (175 mg/m²) IV over 3 hours on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in solution as 6 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Final concentration is ≤ 1.2 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.</td>
</tr>
<tr>
<td></td>
<td>• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Hypersensitivity Reaction:** With paclitaxel occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described. Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- **Bone Marrow Depression:** Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
- **Neurotoxicity:** Dose-related sensory neuropathy with numbness and paresthesias. More frequent with longer infusions and at doses > 175 mg/m².
- **GI Toxicities:** Nausea and vomiting are moderate to severe and can be acute or delayed. Mucositis and diarrhea occur in 10% of patients but is not dose limiting.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m² of doxorubicin cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- **Hepatic:** Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- **Bladder Toxicities:** Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Red-orange discoloration of urine; resolves by 24–48 hours.
- **Inappropriate secretion of antidiuretic hormone (SIADH).**
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia.
- **Secondary Malignancies:** Increased risk with cyclophosphamide.
- **Reproduction:** Amenorrhea and ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1 for AC. 4–5 hours day 1 for paclitaxel. Repeat AC cycle every 21 days for a total of four cycles, followed by paclitaxel every 21 days for four cycles.
48 Breast Cancer

**Estimated number of visits:** Two visits per cycle. Request eight cycles worth of visits

**Dose Calculation by:**

1. 

2. 

____________________________  ______________________________________________________

Physician                          Date

____________________________  ________________________

Patient Name                      ID Number 

____________________________  __________/__________/__________

Diagnosis                         Ht   Wt    M$^3$
**Doxorubicin + Cyclophosphamide Followed by Paclitaxel + Trastuzumab**

(AC followed by T + Trastuzumab)

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29

**Baseline procedures or tests:** MUGA scan, FISH for HER2

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 20 mg in 100 cc of NS.

**Administer:**

**Doxorubicin** __________ mg (60 mg/m²) IV on day 1

- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Cyclophosphamide** __________ mg (600 mg/m²) IV on day 1

- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
- Dilute with sterile water and shake well to ensure that solution is completely dissolved.
- Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

Repeat cycle every 21 days for a total of four cycles, followed by four cycles paclitaxel + trastuzumab.

**Premedicate:** 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS.

Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS.

**Administer:**

**Paclitaxel** __________ mg (80 mg/m²) IV over 1 hour on day 1

- Final concentration is ± 1.2 mg/mL.
- Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

**Trastuzumab** __________ mg (4 mg/kg) loading dose IV in 250 cc of NS over 90 minutes day 1 week 1 only. Then,

**Trastuzumab** __________ mg (2 mg/kg) IV in 250 cc of NS over 30 minutes weekly week 2–12 followed by:

**Trastuzumab** __________ mg (2 mg/kg) IV in 250 cc of NS over 30 minutes weekly × 40 weeks

- Available as a lyophilized, sterile powder in 440-mg multiuse vials for IV use.
- Requires refrigeration. DO NOT FREEZE.
- Reconstitute with 20 mL of bacteriostatic water for injection, USP, containing 1.1% benzyl alcohol, which is supplied with each vial. DO NOT SHAKE.
- Reconstituted solution contains 21 mg/mL. Stable 28 days refrigerated.
- Further dilute desired dose in 250 cc of NS.

**Major Side Effects**

- Hypersensitivity Reaction: With paclitaxel occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described. Trastuzumab: Fever, chills, viremia, flushing, fatigue, headache, bronchospasm, dyspnea, angioedema, and hypotension seen in 40–50% of patients. Usually mild to moderate and most often in first dose only.
- Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 13–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
- Neurotoxicity: Dose-related sensory neuropathy with numbness and paresthesias. More frequent with longer infusions and at doses > 175 mg/m².
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Mucositis and diarrhea occur in 10% of patients but is not dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m² of doxorubicin cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity. Risk to cardiotoxicity with trastuzumab significantly increased when used in combination with anthracycline/cyclophosphamide regimen.
• Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
• Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Red-orange discoloration of urine; resolves by 24–48 hours.
• Inappropriate secretion of antidiuretic hormone (SIADH).
• Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia, loss of total body hair, occurs in nearly all patients. Hair may return when on trastuzumab alone.
• Secondary Malignancies: Increased risk with cyclophosphamide.
• Reproduction: Amenorrhea and ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 2 hours on day 1 for AC. 3 hours day 1 for paclitaxel and trastuzumab, 1 hour for trastuzumab alone. Repeat AC cycle every 21 days for a total of four cycles, followed by paclitaxel and trastuzumab weekly for 12 weeks; followed by trastuzumab weekly × 40 weeks.

Estimated number of visits: Two visits per cycle. Request eight cycles worth of visits.

Dose Calculation by:

1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

_________________________ / ____________________________ / ______

Diagnosis ____________________________ Ht ____________________________ Wt ____________________________ M² ____________________________
## Doxorubicin → Paclitaxel → Cyclophosphamide A → T → C (Dose-Dense Therapy)

### Baseline laboratory tests:
- CBC: Chemistry and CA 27-29

### Baseline procedures or tests:
- MUGA scan

### Initiate IV:
- 0.9% sodium chloride

### Premedicate:
- 5-HT_{3} and dexamethasone 10–20 mg in 100 cc of NS.

### Administer:
- **Doxorubicin** __________mg (60 mg/m²) IV on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

Repeat cycle every 2 weeks for four cycles, followed by

### Premedicate:
- 5-HT_{3} and dexamethasone 10–20 mg in 100 cc of NS.

### Administer:
- **Paclitaxel** __________mg (175 mg/m²) IV over 3 hours on day 1
  - Available in solution as 6 mg/mL.
  - Final concentration is ≤ 1.2 mg/mL.
  - Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
  - Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Repeat cycle every 2 weeks for four cycles. Followed by:

### Premedicate:
- 5-HT_{3} and dexamethasone 10–20 mg in 100 cc of NS.

### Administer:
- **Cyclophosphamide** __________600 mg/m² IV day 1. Repeat cycle every 2 weeks for four cycles
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Dilute with sterile water and shake well to ensure that solution is completely dissolved.
  - Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

### Administer:
- **Filgastrim** __________5 µg/kg SC on days 3–10 of each 2-week cycle

### Major Side Effects
- **Hypersensitivity Reaction:** Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described. Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- **Bone Marrow Depression:** Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
- **GI Toxicities:** Nausea and vomiting are moderate to severe with doxorubicin and cyclophosphamide. May be acute or delayed with cyclophosphamide. Usually mild to moderate with paclitaxel. Mucositis and diarrhea seen.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m² of doxorubicin cardiomyopathy may occur. Cyclophosphamide may increase risk of doxorubicin-induced cardiotoxicity.
- **Hepatic:** Use with caution in patients with abnormal liver function. Dose reduction required in the presence of liver dysfunction.
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia.
- **Neurotoxicity:** Dose-related sensory neuropathy with numbness and paresthesias. More frequent with longer infusions and at doses > 175 mg/m².
- **Bladder Toxicities:** Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Can be prevented with adequate hydration. Red-orange discoloration of urine; resolves by 24–48 hours.
- **Secondary Malignancies:** Increased risk with cyclophosphamide.
- **Reproductive:** Amenorrhea and ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

### Initiate antiemetic protocol:
- Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen) □ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time for AC 1 hour every 2 weeks. Repeat cycle every 2 weeks for four cycles. Follow with: Paclitaxel 3–4 hours day 1 every 2 weeks for 4 weeks; followed by cyclophosphamide 2 hours every 2 weeks for 4 weeks.

Estimated number of visits: One visit per cycle. Request 12 cycles worth of visits.

Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis

Ht Wt M²
## Cyclophosphamide + Doxorubicin + 5-Flourouracil (CAF)

**Baseline laboratory tests:** CBC, Chemistry, LFTs, and CA 27-29  
**Baseline procedures or tests:** MUGA scan  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 20 mg in 100 cc of NS.  
**Administer:**

### Cyclophosphamide
- **mg (600 mg/m²) IV on day 1**
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Dilute with sterile water and shake well to ensure that solution is completely dissolved.
  - Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

### Doxorubicin
- **mg (60 mg/m²) IV on day 1**
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

### 5-Flourouracil
- **mg (600 mg/m²) IV on day 1**
  - Available in solution as 50 mg/mL.
  - No dilution required.
  - May further dilute with NS or D5W.

**Major Side Effects**
- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea can be severe and dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m², cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Red-orange discoloration of urine; resolves by 24–48 hours.
- Inappropriate secretion of antidiuretic hormone (SIADH).
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, nail changes, and radiation recall occur. Complete alopecia. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproduction: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days for a total of six cycles.  
**Estimated number of visits:** Two visits per cycle. Request six cycles worth of visits.
Breast Cancer

Dose Calculation by: 1. __________________________  2. __________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
Cyclophosphamide + Doxorubicin + 5-Flourouracil (CAF–Oral)

Baseline laboratory tests: CBC: Chemistry, LFTs, and CA 27-29
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone 20 mg in 100 cc of NS.
Administer: Cyclophosphamide _________mg (100 mg/m²/day) PO on days 1–14
• Available in 25- and 50-mg tablets
• Administer in morning or early afternoon to allow adequate excretion time.
• Take with meals.
Doxorubicin _________mg (30 mg/m²) IV on days 1 and 8
• Potent vesicant
• Available as a 2-mg/mL solution.
• Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.
5-Flourouracil _________mg (500 mg/m²) IV on days 1 and 8
• Available in solution as 50 mg/mL.
• No dilution required.
• May further dilute with NS or D5W.

Major Side Effects
• Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
• Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia; may be severe.
• GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea can be severe and dose limiting.
• Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m², cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
• Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
• Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Red-orange discoloration of urine; resolves by 24–48 hours.
• Inappropriate secretion of antidiuretic hormone (SIADH).
• Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, nail changes, and radiation recall occur. Complete alopecia. Hand-foot syndrome can be dose limiting.
• Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
• Secondary Malignancies: Increased risk with cyclophosphamide.
• Reproduction: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on days 1 and 8. Repeat cycle every 28 days for a total of six cycles.
Estimated number of visits: Three visits per cycle. Request six cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________  _______________________________
Physician                          Date

_____________________________  _______________________________
Patient Name                      ID Number

_____________________________  ________________/ ________________/ ________________
Diagnosis                         Ht  Wt  M²
**Cyclophosphamide + Methotrexate + 5-Flourouracil (CMF-Bonadonna Regimen)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, LFTs, and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>None</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
</tbody>
</table>
| Premedicate: | 5-HT3 and dexamethasone 20 mg in 100 cc of NS on days 1 and 8  
Oral 5-HT3 or phenothiazine days 2–7 and 9–14 |
| Administer: | **Cyclophosphamide** __________mg (100 mg/m²/day) PO on days 1–14  
- Available in 25- and 50-mg tablets.  
- Administer in morning or early afternoon to allow adequate excretion time.  
- Administer with meals.  
**Methotrexate** __________mg (40 mg/m²) IV on days 1 and 8  
- Available in 50-, 100-, 200-, and 1000-mg single-use reconstituted vials.  
- May dilute further in NS.  
- Reconstituted solution is stable for 24 hours at room temperature.  
**5-Flourouracil** __________mg (600 mg/m²) IV on days 1 and 8  
- Available in solution as 50 mg/mL.  
- No dilution required.  
- Can be further diluted with NS or D5W |

**Major Side Effects**

- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia can be severe, thrombocytopenia is less frequent, and anemia is mild.
- GI Toxicities: Nausea and vomiting are moderate to severe and occur within 24 hours of administration. Mucositis and diarrhea can be severe; dose dependent.
- Renal: Acute renal failure, azotemia, urinary retention, and uric acid nephropathy have been observed with methotrexate.
- Hepatic: Hepatotoxicity is rare.
- Pulmonary Toxicity: Rare; onset is insidious (fever, cough) and appears as interstitial pneumonitis, which may progress to fibrosis. May respond to steroids.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide.
- Hormonal: SIADH
- Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- Skin: Complete alopecia in 50% of patients, diffuse thinning in others. Hyperpigmentation of nails and skin, banding of nails, and radiation recall may occur. Photosensitivity, sunburn-like rash. Hand-foot syndrome can be dose limiting.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1 and 8. Repeat cycle every 28 days for six cycles.

**Estimated number of visits:** Three visits per cycle. Request six cycles worth of visits.
58  Breast Cancer

**Dose Calculation by:**  1. ____________________________  2. ____________________________

_____________________________  ______________________________
Physician  Date

_____________________________  ______________________________
Patient Name  ID Number

_____________________________
Diagnosis

__________________________  ____________  ____________  ____________
Ht  Wt  M$^2$
Cyclophosphamide + Methotrexate + 5-Flourouracil (CMF-IV Regimen)

Baseline laboratory tests: CBC, Chemistry, LFTs, and CA 27-29
Baseline procedures or tests: None
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 20 mg in 100 cc of NS.
Administer:
- Cyclophosphamide _________mg (600 mg/m²) IV on day 1
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Dilute with sterile water and shake well to ensure that solution is completely dissolved.
  - Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.
- Methotrexate _________mg (40 mg/m²) IV on day 1
  - Available in 50-, 100-, 200-, and 1000-mg single-use reconstituted vials.
  - May dilute further in NS.
  - Reconstituted solution is stable for 24 hours at room temperature.
- 5-Flourouracil _________mg (600 mg/m²) IV on day 1
  - Available in solution as 50 mg/mL.
  - No dilution required.
  - Can be further diluted with NS or D5W

Major Side Effects
- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia can be severe, thrombocytopenia is less frequent, and anemia is mild.
- GI Toxicities: Nausea and vomiting are moderate to severe and occur within 24 hours of administration. Mucositis and diarrhea can be severe; dose dependent.
- Renal: Acute renal failure, azotemia, urinary retention, and uric acid nephropathy have been observed with methotrexate.
- Hepatic: Hepatotoxicity is rare.
- Pulmonary Toxicity: Rare; onset is insidious (fever, cough) and appears as interstitial pneumonitis, which may progress to fibrosis. May respond to steroids.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide.
- Hormonal: SIADH
- Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- Skin: Complete alopecia in 50% of patients, diffuse thinning in others. Hyperpigmentation of nails and skin, banding of nails, and radiation recall may occur. Photosensitivity, sunburn-like rash. Hand-foot syndrome can be dose limiting.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days for six cycles.
Estimated number of visits: Two visits per cycle. Request six cycles worth of visits.
<table>
<thead>
<tr>
<th>Dose Calculation by:</th>
<th>1. ___________________________ 2. __________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>Date</td>
</tr>
<tr>
<td>Patient Name</td>
<td>ID Number</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Ht     Wt     M^2</td>
</tr>
</tbody>
</table>
### Doxorubicin + CMF

<table>
<thead>
<tr>
<th><strong>Baseline laboratory tests:</strong></th>
<th>CBC: Chemistry and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline procedures or tests:</strong></td>
<td>MUGA scan</td>
</tr>
<tr>
<td><strong>Initiate IV:</strong></td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td><strong>Premedicate:</strong></td>
<td>5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS.</td>
</tr>
<tr>
<td><strong>Administer:</strong></td>
<td><strong>Doxorubicin</strong> ________mg (75 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available as a 2-mg/mL solution.</td>
</tr>
<tr>
<td></td>
<td>• Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
</tbody>
</table>

Repeat cycle every 21 days for four cycles; follow by:

| **Premedicate:** | 5-HT₃ and dexamethasone 20 mg in 100 cc of NS. |
| **Administer:** | **Cyclophosphamide** ________mg (600 mg/m²) IV on day 1 |
| | • Available in 100-, 200-, 500-, 1000-, and 2000-mg vials. |
| | • Dilute with sterile water and shake well to ensure that solution is completely dissolved. |
| | • Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated. |
| **Methotrexate** ________mg (40 mg/m²) IV on day 1 |
| | • Available in 50-, 100-, 200-, and 1000-mg single-use reconstituted vials. |
| | • May dilute further in NS. |
| | • Reconstituted solution is stable for 24 hours at room temperature. |
| **5-Flourouracil** ________mg (600 mg/m²) IV on day 1 |
| | • Available in solution as 50 mg/mL. |
| | • No dilution required. |
| | • Can be further diluted with NS or D5W. |

### Major Side Effects

- **Hypersensitivity Reaction:** Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- **Bone Marrow Depression:** WBC and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe but is less severe with weekly dosing.
- **GI Toxicities:** Nausea and vomiting are moderate to severe and can occur within 24 hours of administration. Mucositis and diarrhea can be severe; dose dependent.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m², cardiomyopathy may occur. Increased risk of cardiotoxicity when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- **Renal:** Acute renal failure, azotemia, urinary retention, and uric acid nephropathy have been observed with methotrexate.
- **Hepatic:** Hepatotoxicity is rare.
- **Pulmonary Toxicity:** Rare; onset is insidious (fever, cough) and appears as interstitial pneumonitis, which may progress to fibrosis. May respond to steroids.
- **Bladder Toxicities:** Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide.
- **Hormonal:** SIADH.
- **Ocular:** Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur with doxorubicin. Complete alopecia occurs with doses > 50 mg/m². Hyperpigmentation of nails and skin, banding of nails, and radiation recall may occur with 5-Fluorouracil. Photosensitivity with a sunburn-like rash. Hand-foot syndrome can be dose limiting.
- **Secondary Malignancies:** Increased risk with cyclophosphamide.
- **Reproductive:** Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.
Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on day 1 for doxorubicin. Repeat cycle every 21 days for four cycles; followed by chair time 2 hours for CMF every 21 days for a total of eight cycles.
Estimated number of visits: Two visits per cycle. Request twelve cycles worth of visits.
Dose Calculation by: 1. ____________________________ 2. ____________________________

_________________________ ____________________________
Physician Date

_________________________ ____________________________
Patient Name ID Number

_________________________ ____________________________
Diagnosis Ht Wt M²
### 5-Fluorouracil + Epirubicin + Cyclophosphamide (FEC)

**Baseline laboratory tests:**  
CBC: Chemistry, LFTs, and CA 27-29

**Baseline procedures or tests:**  
MUGA scan

**Initiate IV:**  
0.9% sodium chloride

**Premedicate:**  
5-HT$_3$ and dexamethasone 20 mg in 100 cc of NS.

**Administer:**

<table>
<thead>
<tr>
<th>Compound</th>
<th>Dose (mg/m$^2$)</th>
<th>Administration</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5-Fluorouracil</strong></td>
<td></td>
<td>IV on day 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Available in solution as 50 mg/mL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No dilution required.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May further dilute with NS or D5W</td>
</tr>
<tr>
<td><strong>Epirubicin</strong></td>
<td></td>
<td>IV on day 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vesicant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drug is provided as a preservative-free, ready-to-use solution (2 mg/mL).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Use within 24 hours of penetration of rubber stopper; discard unused portion.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Store unopened vials in refrigerator.</td>
</tr>
<tr>
<td><strong>Cyclophosphamide</strong></td>
<td></td>
<td>IV on day 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dilute with sterile water and shake well to ensure that solution is completely dissolved.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Hypersensitivity Reaction:** Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- **Bone Marrow Depression:** Leukopenia, thrombocytopenia, and anemia all seen; may be severe.
- **GI Toxicities:** Nausea and vomiting are moderate to severe. Mucositis and diarrhea can be severe and dose limiting.
- **Cardiac:** Cardiotoxicity is dose related, is cumulative, and may occur during or months to years after cessation of therapy. Cyclophosphamide may increase the risk of cardiotoxicity.
- **Hepatic:** Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- **Bladder Toxicities:** Hemorrhagic cystitis, dysuria, and urinary frequency, preventable with adequate hydration. Red-orange discoloration of urine; resolves by 24-48 hours.
- **Skin:** Extravasation of epirubicin causes severe tissue destruction. Epirubicin may cause “flare” reaction or streaking along vein during peripheral administration. If this occurs, slow drug administration time and flush more. Hyperpigmentation, photosensitivity, nail changes, and radiation recall occur. Complete alopecia. Hand-foot syndrome can be dose limiting.
- **Inappropriate secretion of antidiuretic hormone (SIADH).**
- **Ocular:** Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- **Secondary Malignancies:** Increased risk with cyclophosphamide.
- **Reproductive:** Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days for a total of six cycles.

**Estimated number of visits:** Two visits per cycle. Request six cycles worth of visits.
Breast Cancer

**Dose Calculation by:**

1. ____________________________
2. ____________________________

______________________________  ________________________________
Physician Date

______________________________  ________________________________
Patient Name ID Number

______________________________
Diagnosis

Ht Wt M²
Breast Cancer

CMFP

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29

**Baseline procedures or tests:** None

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 20 mg in 100 cc of NS on days 1 and 8

Oral 5-HT₃ or phenothiazine days 2–7 and 9–14

**Administer:**

- **Cyclophosphamide** __________ mg (100 mg/m²/day) PO on days 1–14
  - Available in 25- and 50-mg tablets
  - Administer in morning or early afternoon to allow adequate excretion time.
  - Administer with meals.

- **Methotrexate** __________ mg (40 mg/m²) IV on days 1 and 8
  - Available in 50-, 100-, 200-, and 1000-mg single-use reconstituted vials.
  - May dilute further in NS.
  - Reconstituted solution is stable for 24 hours at room temperature.

- **5-Flourouracil** __________ mg (600 mg/m²) IV on days 1 and 8
  - Available in solution as 50 mg/mL.
  - No dilution required.
  - Can be further diluted with NS or D5W.

- **Prednisone:** 20 mg PO qid on days 1–7

**Major Side Effects**

- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia can be severe, thrombocytopenia is less frequent, and anemia is mild.
- GI Toxicities: Nausea and vomiting are moderate to severe and occur within 24 hours of administration. Mucositis and diarrhea can be severe; dose dependent.
- Renal: Acute renal failure, azotemia, urinary retention, and uric acid nephropathy have been observed with methotrexate.
- Hepatic: Hepatotoxicity is rare.
- Pulmonary Toxicity: Rare; onset is insidious (fever, cough) and appears as interstitial pneumonitis, which may progress to fibrosis. May respond to steroids.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency. Preventable with adequate hydration with cyclophosphamide.
- Hormonal: SIADH.
- Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision
- Skin: Complete alopecia in 50% of patients, diffuse thinning in others. Hyperpigmentation of nails and skin, banding of nails, and radiation recall may occur. Photosensitivity; sunburn-like rash. Hand-foot syndrome can be dose limiting.
- Steroid Effects: Hyperglycemia, insomnia, emotional lability, agitation, fluid retention, and perceptual alterations related to cataracts or glaucoma with long-term use.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol

**Supportive drugs:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>pegfilgrastim (Neulasta)</td>
<td></td>
</tr>
<tr>
<td>filgrastim (Neupogen)</td>
<td></td>
</tr>
<tr>
<td>epoetin alfa (Procrit)</td>
<td></td>
</tr>
<tr>
<td>darbepoetin alfa (Aranesp)</td>
<td></td>
</tr>
</tbody>
</table>

**Treatment schedule:** Chair time 1 hour on days 1 and 8. Repeat cycle every 28 days for six cycles.

**Estimated number of visits:** Three visits per cycle. Request six cycles worth of visits.
66 Breast Cancer

Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
Single-Agent Regimens

Tamoxifen (Nolvadex)

Baseline laboratory tests: CBC, Chemistry, LFTs, and CA 27-29
Baseline procedures or tests: ER/PR testing
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT₃ if nausea occurs
Administer: Tamoxifen 20 mg PO daily
  • Available in 10- and 20-mg tablets
  • Monitor (prothrombin time) PT/INR closely in patients taking warfarin; increases PT/INR

Major Side Effects
  • GI Toxicities: Nausea and vomiting rarely observed.
  • Tumor Flare: Usually occurs within the first 2 weeks of beginning of therapy. May observe increased bone pain, urinary retention, back pain with spinal cord compression and/or hypercalcemia.
  • CV Toxicities: Deep vein thrombosis, pulmonary embolism, and superficial phlebitis are rare cardiovascular complications of tamoxifen therapy. Incidence of thromboembolic events may be increased when tamoxifen is given concomitantly with chemotherapy.
  • Fluid/electrolyte Imbalance: Fluid retention and peripheral edema observed in about 30% of patients.
  • Hormonal Effects: Menstrual irregularity, hot flashes, milk production in breasts, vaginal discharge, and bleeding. Usually not severe enough to discontinue therapy.
  • Gynecological: Increased incidence of endometrial hyperplasia, polyps, and endometrial cancer.
  • Sensory/perception Alteration: Headache, lethargy, and dizziness occur rarely. Visual disturbances, including cataract, retinopathy, and decreased visual acuity, have been described.
  • Myelosuppression: Mild, transient leukopenia and thrombocytopenia occur rarely.
  • Laboratory Values: Elevations in serum triglyceride levels.
  • Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Treatment schedule: No chair time. Daily dosing for 5 years.
Estimated number of visits: One visit every 2–3 months first year, then every 6–12 months for remaining 4 years. Request 12 months worth of visits at a time.

Dose Calculation by:

1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht / Wt / M²
# Anastrozole (Arimidex)

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 27-29  
**Baseline procedures or tests:** ER/PR testing  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs  
**Administer:** Anastrozole 1 mg PO daily  
- Available as a 1-mg, white, film-coated tablet for oral use.  
- Take orally with or without food, at approximately the same time daily.  

**Major Side Effects**  
- **Hormonal:** Hot flashes, and vaginal dryness may occur.  
- **CV Toxicities:** Thrombophlebitis may occur but is uncommon. Mild swelling of arms or legs may occur.  
- **GI Toxicities:** Mild nausea and vomiting. Mild constipation or diarrhea can also occur.  
- **Skin:** Dry, scaling skin rash.  
- **Flulike Syndrome:** Presents in the form of fever, malaise, and myalgias.  
- **Musculoskeletal:** Arthralgias occur in 10%–15% of patients and involve hands, knees, hips, lower back, and shoulders. Early morning stiffness is usual presentation.  
- **CNS Toxicity:** Headaches are mild and occur in about 13% of patients. Decreased energy and weakness are common.  
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Treatment schedule:** No chair time. Daily dosing for 5 years with ER+ tumors or with ER status unknown. One visit every 2–3 months first year, then every 6–12 months for remaining 4 years. Request 12 months worth of visits at a time.

**Dose Calculation by:**  
1. __________________________  
2. __________________________  
__________________________________________________________________________  

**Physician**  
Date  
___________________________  

**Patient Name**  
ID Number  
___________________________/_________________________  

**Diagnosis**  
Ht  Wt  M²
## Tamoxifen + Letrozole

### Tamoxifen (First Five Years)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, LFTs, and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>ER/PR testing</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT₃ if nausea occurs</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Tamoxifen</strong> 20 mg PO daily for 5 years.</td>
</tr>
</tbody>
</table>

- Available in 10- and 20-mg tablets
- Monitor PT/INR closely in patients taking warfarin; increases PT/INR

Followed by letrozole 2.5 mg PO daily for 5 years

### Major Side Effects

- **GI Toxicities:** Nausea and vomiting rarely observed.
- **Tumor Flare:** Usually occurs within the first 2 weeks of beginning of therapy. May observe increased bone pain, urinary retention, back pain with spinal cord compression and/or hypercalcemia.
- **CV Toxicities:** Deep vein thrombosis, pulmonary embolism, and superficial phlebitis are rare cardiovascular complications of tamoxifen therapy. Incidence of thromboembolic events may be increased when tamoxifen is given concomitantly with chemotherapy.
- **Fluid/electrolyte Imbalance:** Fluid retention and peripheral edema observed in about 30% of patients.
- **Hormonal Effects:** Menstrual irregularity, hot flashes, milk production in breasts, vaginal discharge, and bleeding. Usually not severe enough to discontinue therapy.
- **Gynecological:** Increased incidence of endometrial hyperplasia, polyps, and endometrial cancer.
- **Sensory/perception Alteration:** Headache, lethargy, and dizziness occur rarely. Visual disturbances, including cataract, retinopathy, and decreased visual acuity, have been described.
- **Myelosuppression:** Mild, transient leukopenia and thrombocytopenia occur rarely.
- **Laboratory Values:** Elevations in serum triglyceride levels.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

### Initiate antiemetic protocol:

Mildly emetogenic protocol.

### Treatment schedule:

No chair time. Daily dosing for 5 years followed by letrozole 2.5 mg PO daily for 5 years.

### Estimated number of visits:

One visit every 2–3 months first year, then every 6–12 months remaining 4 years. Request 12 months worth of visits at a time.

### Dose Calculation by:

1. __________________________ 2. __________________________

<table>
<thead>
<tr>
<th>Physician</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name</td>
<td>ID Number</td>
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<tr>
<td>Diagnosis</td>
<td>Ht</td>
</tr>
</tbody>
</table>

36392_001_072aa.qxd 10/16/06 11:34 AM Page 69
## Lemtral (Second Five Years) (Femara)

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 27-29

**Baseline procedures or tests:** ER/PR testing (already done prior to starting tamoxifen)

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs

**Administer:** Letrozole 2.5 mg PO daily
- Available as a 2.5-mg tablet for oral use.
- Food does not interfere with oral absorption.

### Major Side Effects
- **Musculoskeletal:** Most common side effects. Musculoskeletal pain (back, arms, legs) and arthralgias.
- **Hormonal:** Hot flashes occur in approximately 6% of patients.
- **CV Toxicities:** Thromboembolic events are rare and less common than with megestrol acetate. Chest pain reported in some patients.
- **GI Toxicities:** Mild nausea with vomiting and anorexia occurring less frequently. Mild constipation or diarrhea can also occur.
- **Hepatic:** Mild elevation in serum transaminase and serum bilirubin levels. Most often seen in patients with known metastatic disease in the liver.
- **CNS Toxicity:** Headaches and fatigue are mild.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Treatment schedule:** No chair time. Daily dosing for 5 years.

**Estimated number of visits:** One visit every 6–12 months during treatment. Request 12 months worth of visits at a time.

**Dose Calculation by:**

1. ____________________________
2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

Patient Name ID Number

_____________________________________________ _________________________/ _______________________/ __________

Diagnosis Ht Wt M²
**Tamoxifen + Exemestane**

**Tamoxifen (First 2–3 Years)**

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29

**Baseline procedures or tests:** ER/PR testing

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT3 if nausea occurs

**Administer:** **Tamoxifen** 20 mg PO daily

- Available in 10- and 20-mg tablets
- Monitor PT/INR closely in patients taking warfarin; increases PT/INR

Followed by exemestane 25 mg PO daily for remainder of 5 years.

**Major Side Effects**

- **GI Toxicities:** Nausea and vomiting rarely observed.
- **Tumor Flare:** Usually occurs within the first 2 weeks of beginning of therapy. May observe increased bone pain, urinary retention, back pain with spinal cord compression and/or hypercalcemia.
- **CV Toxicities:** Deep vein thrombosis, pulmonary embolism, and superficial phlebitis are rare cardiovascular complications of tamoxifen therapy. Incidence of thromboembolic events may be increased when tamoxifen is given concomitantly with chemotherapy.
- **Fluid/electrolyte Imbalance:** Fluid retention and peripheral edema observed in about 30% of patients.
- **Hormonal Effects:** Menstrual irregularity, hot flashes, milk production in breasts, vaginal discharge, and bleeding. Usually not severe enough to discontinue therapy.
- **Gynecological:** Increased incidence of endometrial hyperplasia, polyps, and endometrial cancer.
- **Sensory/perception Alteration:** Headache, lethargy, and dizziness occur rarely. Visual disturbances, including cataract, retinopathy, and decreased visual acuity, have been described.
- **Myelosuppression:** Mild, transient leukopenia and thrombocytopenia occur rarely.
- **Laboratory Values:** Elevations in serum triglyceride levels.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Treatment schedule:** No chair time. Daily dosing for 2–3 years in ER+ tumors, followed by exemestane 25 mg PO daily for remainder of 5 years.

**Estimated number of visits:** One visit every 2–3 months first year, every 6–12 months thereafter. Request 12 months worth of visits at a time.

**Dose Calculation by:** 1. __________________________________ 2. __________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

________________________/ ______________________/ ________________________

Diagnosis Ht Wt M²
### Exemestane (Remainder of 5 years) (Aromasin)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel, LFTs, and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>ER/PR testing (already done prior to tamoxifen)</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT₃ if nausea occurs</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Exemestane</strong> 25 mg PO daily</td>
</tr>
<tr>
<td></td>
<td>• Available as a 25-mg tablet for oral use.</td>
</tr>
<tr>
<td></td>
<td>• Take once daily after a meal.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Hot Flashes: Hot flashes, increased sweating, and pain reported.
- GI Toxicities: Mild-to-moderate nausea, increased appetite, and weight gain reported.
- CNS Toxicity: Depression and insomnia occurred in 13% and 11%, respectively. Headache and fatigue also seen.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Treatment schedule:** No chair time. Daily dosing for remainder of 5 years.

**Estimated number of visits:** One visit every 6–12 months during treatment.

**Dose Calculation by:** 

1. __________________________ 2. ____________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht / Wt / M²
Combination Regimens

AC ..................................................................................................................79
Doxorubicin: 60 mg/m² IV on day 1
Cyclophosphamide: 600 mg/m² IV on day 1
Repeat cycle every 21 days.36

AT....................................................................................................................80
Doxorubicin: 50 mg/m² IV on day 1
Paclitaxel: 150 mg/m² IV over 24 hours on day 1
Repeat cycle every 21 days.51
OR
Doxorubicin: 60 mg/m² IV on day 1
Repeat cycle every 21 days up to a maximum of eight cycles, followed by
Paclitaxel: 175 mg/m² IV on day 1
Repeat cycle every 21 days until disease progression.51
OR
Paclitaxel: 175 mg/m² IV on day 1
Repeat cycle every 21 days until disease progression, followed by
Doxorubicin: 60 mg/m² IV on day 1
Repeat cycle every 21 days up to a maximum of eight cycles.51

CAF..................................................................................................................82
Cyclophosphamide: 600 mg/m² IV on day 1
Doxorubicin: 60 mg/m² IV on day 1
5-Fluorouracil: 600 mg/m² IV on day 1
Repeat cycle every 21 days.40

CEF ..................................................................................................................84
Cyclophosphamide: 75 mg/m²/day PO on days 1–14
Epirubicin: 60 mg/m² IV on days 1 and 8
5-Fluorouracil: 500 mg/m² IV on days 1 and 8
Repeat cycle every 28 days.52
CMF (Bonadonna Regimen) ................................................................. 86
Cyclophosphamide: 100 mg/m²/day PO on days 1–14
Methotrexate: 40 mg/m² IV on days 1 and 8
5-Fluorouracil: 500 mg/m² IV on days 1 and 8
Repeat cycle every 28 days.42

CMF (IV Bolus) .................................................................................. 88
Cyclophosphamide: 600 mg/m² IV on day 1
Methotrexate: 40 mg/m² IV on day 1
5-Fluorouracil: 600 mg/m² IV on day 1
Repeat cycle every 21 days.43

Capecitabine + Docetaxel (XT) ............................................................ 90
Capecitabine: 1250 mg/m² PO bid on days 1–14
Docetaxel: 75 mg/m² IV on day 1
Repeat cycle every 21 days.53
May decrease dose of capecitabine to 850–1000 mg/m² PO bid on days 1–14 to reduce the risk of toxicity without compromising clinical efficacy.

Capecitabine + Paclitaxel (XP) ............................................................... 92
Capecitabine: 825 mg/m² PO bid on days 1–14
Paclitaxel: 175 mg/m² IV on day 1
Repeat cycle every 21 days.54

Capecitabine + Navelbine (XN) .......................................................... 93
Capecitabine: 1000 mg/m² PO bid on days 1–14
Navelbine: 25 mg/m² IV on days 1 and 8
Repeat cycle every 21 days.54

Docetaxel + Doxorubicin ................................................................. 94
Docetaxel: 75 mg/m² IV on day 1
Doxorubicin: 50 mg/m² IV on day 1
Repeat cycle every 21 days.55

FEC-100 ......................................................................................... 95
5-Fluorouracil: 500 mg/m² IV on day 1
Epirubicin: 100 mg/m² IV on day 1
Cyclophosphamide: 500 mg/m² IV on day 1
Repeat cycle every 21 days.56
<table>
<thead>
<tr>
<th>Combination</th>
<th>Paclitaxel Dose</th>
<th>Vinorelbine Dose</th>
<th>Doxorubicin Dose</th>
<th>Trastuzumab Dose</th>
<th>Docetaxel Dose</th>
<th>Gemcitabine Dose</th>
<th>Carboplatin Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paclitaxel + Vinorelbine</strong></td>
<td>135 mg/m² IV over 3 hours</td>
<td>30 mg/m² IV over 20 mins</td>
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<td>on day 1, starting 1 hour after</td>
<td>1 and 8</td>
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<td>vinorelbine</td>
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<td></td>
<td>Repeat cycle every 28 days.</td>
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<tr>
<td><strong>Vinorelbine + Doxorubicin</strong></td>
<td>25 mg/m² IV on days 1 and 8</td>
<td>50 mg/m² IV on day 1</td>
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<td></td>
<td>Repeat cycle every 21 days.</td>
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<tr>
<td><strong>Trastuzumab + Paclitaxel</strong></td>
<td>4 mg/kg IV loading dose, then 2</td>
<td>175 mg/m² IV over 3 hours</td>
<td></td>
<td>2 mg/kg weekly</td>
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<td>mg/kg weekly</td>
<td>on day 1</td>
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<td>Repeat cycle every 21 days.</td>
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<td>4 mg/kg IV loading dose, then 2</td>
<td>80 mg/m² IV weekly</td>
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<td>2 mg/kg weekly</td>
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<td>mg/kg weekly</td>
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<td>Repeat cycle every 4 weeks.</td>
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<tr>
<td><strong>Trastuzumab + Docetaxel</strong></td>
<td>4 mg/kg IV loading dose, then 2</td>
<td>35 mg/m² IV on days 1, 8,</td>
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<td>2 mg/kg IV weekly</td>
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<td>mg/kg weekly</td>
<td>and 15</td>
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<td>The first cycle is administered</td>
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<td>weekly for 3 weeks, with 1 week</td>
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<td>subsequent cycles,</td>
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<td>2 mg/kg IV weekly</td>
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<td>35 mg/m² IV weekly</td>
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<td>Repeat cycle every 4 weeks.</td>
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<tr>
<td><strong>Gemcitabine + Paclitaxel</strong></td>
<td>1250 mg/m² IV on days 1 and 8</td>
<td>175 mg/m² IV on day 1</td>
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<td></td>
<td>Repeat cycle every 21 days.</td>
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<tr>
<td><strong>Carboplatin + Paclitaxel</strong></td>
<td>AUC of 6, IV on day 1</td>
<td>200 mg/m² over 3 hours IV</td>
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<td></td>
<td>Repeat cycle every 21 days.</td>
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<tr>
<td>Drug Combinations</td>
<td>Dose/Medication</td>
<td>Repeat Cycle/Intervals</td>
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<tr>
<td>Carboplatin + Docetaxel</td>
<td>Carboplatin: AUC of 6, IV on day 1&lt;br&gt;Docetaxel: 75 mg/m² IV on day 1&lt;br&gt;Repeat cycle every 21 days.</td>
<td>105</td>
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<tr>
<td>Mitomycin + Vinblastine</td>
<td>Mitomycin: 20 mg/m² IV on day 1&lt;br&gt;Vinblastine: 1.4–2 mg/m² IV continuous infusion on days 1–5&lt;br&gt;Repeat cycle every 6–8 weeks.</td>
<td>106</td>
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<td><strong>Single-Agent Regimens</strong></td>
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<tr>
<td>Tamoxifen (Nolvadex)</td>
<td>Tamoxifen: 20 mg PO daily</td>
<td>107</td>
<td></td>
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<tr>
<td>Toremifene Citrate (Fareston)</td>
<td>Toremifene: 60 mg PO daily</td>
<td>108</td>
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<tr>
<td>Exemestane (Aromasin)</td>
<td>Exemestane: 25 mg PO daily</td>
<td>109</td>
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<tr>
<td>Anastrozole (Arimidex)</td>
<td>Anastrozole: 1 mg PO daily</td>
<td>110</td>
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<tr>
<td>Letrozole (Femara)</td>
<td>Letrozole: 2.5 mg PO daily</td>
<td>111</td>
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<td></td>
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<tr>
<td>Fulvestrant (Faslodex)</td>
<td>Fulvestrant: 250 mg IM on day 1&lt;br&gt;Repeat injection every month.</td>
<td>112</td>
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<tr>
<td>Megestrol (Megace)</td>
<td>Megestrol: 40 mg PO qid</td>
<td>113</td>
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</tr>
</tbody>
</table>
Trastuzumab (Herceptin) ................................................................................114

Trastuzumab: 4 mg/kg IV loading dose, then 2 mg/kg IV weekly
Repeat cycle weekly for a total of 10 weeks. In the absence of disease
progression, continue weekly maintenance dose of 2 mg/kg.73

OR

Trastuzumab (Herceptin) ................................................................................115

Trastuzumab: 8 mg/kg IV loading dose, then 6 mg/kg IV every 3 weeks
until disease progression.73a

Capecitabine ..................................................................................................116

Capecitabine: 1250 mg/m² PO bid for 2 weeks, followed by 1 week rest period
Repeat cycle every 21 days.74 May decrease dose to 850–1000 mg/m² PO bid on days 1–14 to reduce the risk of toxicity without compromising clinical efficacy.

Docetaxel ......................................................................................................117

Docetaxel: 100 mg/m² IV on day 1
Repeat cycle every 21 days.75

OR

Docetaxel: 35–40 mg/m² IV weekly for 6 weeks
Repeat cycle every 8 weeks.76

Paclitaxel ......................................................................................................118

Paclitaxel: 175 mg/m² IV over 3 hours on day 1
Repeat cycle every 21 days.77

OR

Paclitaxel: 80–100 mg/m² IV weekly for 3 weeks
Repeat cycle every 4 weeks.78

Vinorelbine ....................................................................................................119

Vinorelbine: 30 mg/m² IV on day 1
Repeat cycle every 7 days.79

Doxorubicin ..................................................................................................120

Doxorubicin: 20 mg/m² IV on day 1
Repeat cycle every 7 days.80
Gemcitabine: 725 mg/m² IV weekly for 3 weeks
Repeat cycle every 28 days.\textsuperscript{81}

Liposomal Doxorubicin (Doxil): 45–60 mg/m² IV on day 1
Repeat cycle every 21–28 days.\textsuperscript{82}

Paclitaxel Protein-bound Particles for Injectable Suspension (Abraxane): 260mg/m² IV day 1.
Repeat cycle every 3 weeks.\textsuperscript{83}

OR
Paclitaxel protein-bound particles for injectable suspension: 100 mg/m² IV weekly for 3 weeks or weekly.
Repeat cycle every 4 weeks or weekly.\textsuperscript{84}
Combination Regimens

**Doxorubicin + Cyclophosphamide (AC)**

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\textsubscript{3} and dexamethasone 20 mg in 100 cc of NS.

**Administer:**

**Doxorubicin** ________mg (60 mg/m\textsuperscript{2}) IV on day 1

- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Cyclophosphamide** ________mg (600 mg/m\textsuperscript{2}) IV on day 1

- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials
- Dilute with sterile water and shake well to ensure that solution is completely dissolved.
- Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

**Major Side Effects**

- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea occur in some patients but is not dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m\textsuperscript{2} of doxorubicin, cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Red-orange discoloration of urine; resolves by 24–48 hours.
- Inappropriate secretion of antidiuretic hormone (SIADH).
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- [ ] pegfilgrastim (Neulasta)
- [ ] filgrastim (Neupogen)
- [ ] epoetin alfa (Procrit)
- [ ] darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days until progression of disease.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

Physician Date

Patient Name ID Number

_________________________ / __________/ ____________

Diagnosis Ht Wt M\textsuperscript{2}
**Doxorubicin + Paclitaxel (AT)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Central line placement for continuous infusion and MUGA scan</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT3 and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS</td>
<td></td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Doxorubicin</strong> ________mg (50 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td><strong>Paclitaxel</strong> ________mg (150 mg/m²) IV over 24 hours on day 1</td>
</tr>
<tr>
<td>Repeat cycle every 21 days.</td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td><strong>Doxorubicin</strong> ________mg (60 mg/m²) IV on day 1</td>
</tr>
<tr>
<td>Repeat cycle every 21 days up to a maximum of eight cycles, followed by</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Paclitaxel</strong> ________mg (175 mg/m²) IV on day 1</td>
</tr>
<tr>
<td>Repeat cycle every 21 days until disease progression.</td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td><strong>Paclitaxel</strong> ________mg (175 mg/m²) IV on day 1</td>
</tr>
<tr>
<td>• Available in solution as 6 mg/mL.</td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td>• Final concentration is ≤ 1.2 mg/mL.</td>
<td>• Available as a 2-mg/mL solution.</td>
</tr>
<tr>
<td>• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.</td>
<td>• Doxorubicin will form precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td>• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.</td>
<td>Repeat cycle every 21 days up to a maximum of eight cycles.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Hypersensitivity Reaction: Occurs in 20%–40% of patients receiving paclitaxel. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
- Bone Marrow Depression: Dose-limiting neutropenia. Use G-CSF support. Thrombocytopenia and anemia also seen.
- GI Toxicities: Nausea and vomiting are mild to moderate. Stomatitis can occur but is not dose limiting.
- Hepatic: Use with caution in patients with impaired liver function, dose reduct.
- Cardiotoxicities: Acutely, pericarditis-myocarditis. Later, cardiomyopathy.
- Neurotoxicity: Sensory neuropathy with numbness/paresthesias; dose related and dose limiting.
- Bladder Toxicities: Red-orange discoloration of urine; resolves by 24–48 hours.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoeitin alfa (Aranesp)

**Treatment schedule:**
Chair time: 1. 1 hour on day 1; repeat every 21 days. 2. 1 hour on day 1; repeat every 21 days up to maximum of 8. Then 4 hours on day 1; repeat every 21 days until disease progression. 3. 4 hours on day 1; repeat every 21 days until disease progression, then chair time 1 hour on day 1, repeated every 21 days up to a maximum of eight cycles.
Estimated number of visits: 1. Two visits per cycle. Request four cycles worth of visits. 2. Two visits per cycle. Request eight cycles worth of visits. 3. Two visits per cycle. Request eight cycles worth of visits.

Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________________________

Patient Name ID Number

___________________________________________ ________________________________

Diagnosis Ht Wt M²
### Metastatic Breast Cancer

**Cyclophosphamide + Doxorubicin + 5-Flourouracil (CAF)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, LFTs, and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>MUGA scan</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT3 and dexamethasone 20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Cyclophosphamide</strong> _________mg (600 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-, 200-, 500-, 1000-, and 2000-mg vials</td>
</tr>
<tr>
<td></td>
<td>• Dilute with sterile water and shake well to ensure that solution is completely dissolved.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated</td>
</tr>
<tr>
<td></td>
<td><strong>Doxorubicin</strong> _________mg (60 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available as a 2-mg/mL solution.</td>
</tr>
<tr>
<td></td>
<td>• Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td></td>
<td><strong>5-Flourouracil</strong> _________mg (600 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in solution as 50 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• No dilution required.</td>
</tr>
<tr>
<td></td>
<td>• May further dilute with NS or D5W.</td>
</tr>
</tbody>
</table>

#### Major Side Effects

- **Hypersensitivity Reaction:** Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- **Bone Marrow Depression:** Leukopenia, thrombocytopenia, and anemia; may be severe.
- **GI Toxicities:** Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea can be severe and dose limiting.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m² of doxorubicin, cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- **Hepatic:** Use with caution in patients with abnormal liver function. Dose reduction of doxorubicin is required in the presence of liver dysfunction.
- **Bladder Toxicities:** Hemorrhagic cystitis, dysuria, and urinary frequency. Red-orange discoloration of urine; resolves by 24–48 hours.
- **Inappropriate secretion of antidiuretic hormone (SIADH).**
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, nail changes, and radiation recall occur. Complete alopecia. Hand-foot syndrome can be dose limiting.
- **Ocular:** Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- **Secondary Malignancies:** Increased risk with cyclophosphamide.
- **Reproductive:** Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- ☐ pegfilgrastim (Neulasta)
- ☐ filgrastim (Neupogen)
- ☐ epoetin alfa (Procrit)
- ☐ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days until disease progression.

**Estimated number of visits:** Two visits per cycle. Request six cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

_________________________ __________________________
Physician Date

_________________________ __________________________
Patient Name ID Number

_________________________
Diagnosis

_________________________ / __________/ __________
Ht Wt M²
Cyclophosphamide + Epirubicin + 5-Fluorouracil (CEF)

Baseline laboratory tests: CBC: Chemistry, LFTs, and CA 27-29
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone 20 mg in 100 cc of NS. Oral 5-HT₃ or phenoethazine before taking cyclophosphamide days 2–7 and 9–14

Administer:
- Cyclophosphamide __________ mg (75 mg/m²/day) PO days 1–14
  • Available in 25- and 50-mg tablets
  • Administer in morning or early afternoon to allow adequate excretion time.
  • Administer with meals.
- Epirubicin __________ mg (60 mg/m²) IV on days 1 and 8
  • Vesicant
  • Drug is provided as a preservative-free solution (2 mg/mL)
  • Use within 24 hours of penetration of rubber stopper; discard unused portion.
  • Store unopened vials in refrigerator.
- 5-Flourouracil __________ mg (500 mg/m²) IV on days 1 and 8
  • Available in solution as 50 mg/mL.
  • No dilution required.
  • May further dilute with NS or D5W.

Major Side Effects

- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe. Mucositis and diarrhea can be severe and dose limiting.
- Cardiac: Cardiotoxicity is dose related, is cumulative, and may occur during months to years after cessation of therapy. Cyclophosphamide may increase the risk of cardiotoxicity.
- Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency. Red-orange discoloration of urine; resolves by 24–48 hours.
- Skin: Extravasation of epirubicin causes severe tissue destruction. Epirubicin may cause “flare” reaction or streaking along vein during peripheral administration. If occurs, slow drug administration time and flush more. Hyperpigmentation, photosensitivity, nail changes, and radiation recall occur. Complete alopecia. Hand-foot syndrome can be dose limiting.
- Inappropriate secretion of antidiuretic hormone (SIADH).
- Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on days 1 and 8. Repeat cycle every 28 days.
Estimated number of visits: Three visits per cycle. Request four cycles worth of visits.
Dose Calculation by: 1. _____________________________  2. _____________________________

__________________________________________________________________________

Physician  Date

__________________________________________________________________________

Patient Name  ID Number

__________________________________________________________________________

Diagnosis  Ht    Wt    M^2

__________________________________________________________________________
### Metastatic Breast Cancer

#### Cyclophosphamide + Methotrexate + 5-Flourouracil (CMF-Bonadonna Regimen)

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29  
**Baseline procedures or tests:** None  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT₃ and dexamethasone 20 mg in 100 cc of NS on days 1 and 8  
Oral 5-HT₃ or phenothiazine days 2–7 and 9–14  
**Administer:**  
- **Cyclophosphamide** _________mg (100 mg/m²/day) PO on days 1–14  
  - Available in 25- and 50-mg tablets  
  - Administer in morning or early afternoon to allow adequate excretion time.  
  - Administer with meals.  
- **Methotrexate** _________mg (40 mg/m²) IV on days 1 and 8  
  - Available in 50-, 100-, 200-, and 1000-mg single-use reconstituted vials  
  - May dilute further in NS  
  - Reconstituted solution is stable for 24 hours at room temperature.  
- **5-Flourouracil** _________mg (500 mg/m²) IV on days 1 and 8  
  - Available in solution as 50 mg/mL.  
  - No dilution required.  
  - Can be further diluted with NS or D5W.

#### Major Side Effects
- **Hypersensitivity Reaction:** Cyclophosphamide can cause rhinitis and irritation of nose and throat.  
- **Bone Marrow Depression:** Leukopenia can be severe, thrombocytopenia is less frequent, and anemia is mild.  
- **GI Toxicities:** Nausea and vomiting are moderate to severe and occur within 24 hours of administration. Mucositis and diarrhea can be severe; dose dependent.  
- **Renal:** Acute renal failure, azotemia, urinary retention, and uric acid nephropathy have been observed with methotrexate.  
- **Hepatic:** Hepatotoxicity is rare.  
- **Pulmonary Toxicity:** Rare; onset is insidious (fever, cough) and appears as interstitial pneumonitis, which may progress to fibrosis. May respond to steroids.  
- **Bladder Toxicities:** Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide.  
- **Hormonal:** SIADH.  
- **Ocular:** Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.  
- **Skin:** Complete alopecia in 50% of patients, diffuse thinning in others. Hyperpigmentation of nails and skin, banding of nails, and radiation recall may occur. Photosensitivity; sunburn-like rash. Hand-foot syndrome can be dose limiting.  
- **Secondary Malignancies:** Increased risk with cyclophosphamide.  
- **Reproductive:** Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
**Treatment schedule:** Chair time 1 hour on days 1 and 8. Repeat cycle every 28 days until disease progression.  
**Estimated number of visits:** Three visits per cycle. Request six cycles worth of visits.
Dose Calculation by: 1. ______________________________ 2. ______________________________

Physician _______________________________________________________________________________________________________________________

Date

Patient Name __________________________________ ID Number ________________/ ________________/ ________________

Diagnosis

Ht Wt M²
Cyclophosphamide + Methotrexate + 5-Flourouracil (IV Bolus)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, LFTs, and CA 27-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>None</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₂ and dexamethasone 20 mg in 100 cc of NS.</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Cyclophosphamide</strong> __________mg (600 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.</td>
</tr>
<tr>
<td></td>
<td>• Dilute with sterile water and shake well to ensure that solution is completely dissolved.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.</td>
</tr>
<tr>
<td></td>
<td><strong>Methotrexate</strong> __________mg (40 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in 50-, 100-, 200-, and 1000-mg single-use reconstituted vials.</td>
</tr>
<tr>
<td></td>
<td>• May dilute further in NS.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution is stable for 24 hours at room temperature.</td>
</tr>
<tr>
<td></td>
<td><strong>5-Flourouracil</strong> __________mg (600 mg/m²) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in solution as 50 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• No dilution required.</td>
</tr>
<tr>
<td></td>
<td>• Can be further diluted with NS or D5W.</td>
</tr>
</tbody>
</table>

**Major Side Effects**
- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia can be severe, thrombocytopenia is less frequent, and anemia is mild.
- GI Toxicities: Nausea and vomiting are moderate to severe and occur within 24 hours of administration. Mucositis and diarrhea can be severe; dose dependent.
- Renal: Acute renal failure, azotemia, urinary retention, and uric acid nephropathy have been observed with methotrexate.
- Hepatic: Hepatotoxicity is rare.
- Pulmonary Toxicity: Rare; onset is insidious (fever, cough) and appears as interstitial pneumonitis, which may progress to fibrosis. May respond to steroids.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide.
- Hormonal: SIADH.
- Ocular: Photophobia, increased lacrimation, acute and chronic conjunctivitis, blepharitis, and blurred vision.
- Skin: Complete alopecia in 50% of patients, diffuse thinning in others. Hyperpigmentation of nails and skin, banding of nails, and radiation recall may occur. Photosensitivity, sunburn-like rash. Hand-foot syndrome, can be dose limiting.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days until disease progression.

**Estimated number of visits:** Two visits per cycle. Request six cycles worth of visits.
Dose Calculation by:

1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis

Ht Wt M²
Capecitabine + Docetaxel (XT)

Baseline laboratory tests: CBC, Chemistry, bilirubin, LFTs, creatinine clearance, and CA 27-29
Baseline procedures or tests: N/A
Initiate IV: Normal saline.
Premedicate: Dexamethasone 8 mg bid for 3 days, starting the day before treatment. Oral phenothiazine or 5-HT₃
Administer:

- **Capecitabine** _________mg (1250 mg/m²) PO bid on days 1–14
  - May decrease dose to 850–1000 mg/m² PO bid on days 1–14 to reduce the risk of toxicity without compromising efficacy.
  - Available in 150- and 500-mg tablets.
  - Administer within 30 minutes of a meal with plenty of water.
  - Monitor international normalized ratios (INRs) closely in patients taking warfarin; may increase INR.

- **Docetaxel** _________mg (75 mg/m²) IV on day 1
  - Available in 20- or 80-mg packs with own diluent. Do not shake.
  - Reconstituted vials stable at room temperature or refrigerated for 8 hours.
  - Further dilute in 250 cc of D5W or NS.
  - Use non-PVC containers and tubing to administer.

**Major Side Effects**

- Hypersensitivity Reactions: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Premedication with dexamethasone recommended.
- Bone Marrow Depression: Neutropenia is dose limiting. Thrombocytopenia and anemia also occur.
- GI Toxicities: Nausea and vomiting are usually mild to moderate. Diarrhea is common, can be severe. Stomatitis is common, can be severe.
- Neuropathy: Peripheral neuropathy with sensory alterations are paresthesias in a glove and stocking distribution, and numbness.
- Fluid Balance: Fluid retention syndrome: weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Premedication with dexamethasone effective in preventing or minimizing occurrences.
- Renal Insufficiency: Capecitabine is contraindicated in patients with baseline creatinine clearance < 30 mL/min. A dose reduction to 75% of capecitabine should be made with baseline creatinine clearance of 30–50 mL/min.
- Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses. Nail changes, rash, dry, pruritic skin seen. Alopecia common.
- Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
- Hepatic: Elevations in serum bilirubin, alkaline phosphatase, and hepatic transaminase (aspartate transaminase, alanine transaminase) levels. Dose modifications may be required if hyperbilirubinemia occurs.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.

Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days until disease progression.

Estimated number of visits: Two visits per cycle. Request four cycles worth of visits.
Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________________/ ________________________/ ________________________

Diagnosis

Ht Wt M²
Capecitabine + Paclitaxel (XP)

Baseline laboratory tests: CBC, Chemistry, bilirubin, LFTs, creatinine clearance, and CA 27-29
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Oral phenothiazine or 5-HT₃ before capecitabine on days 2–14
Administer: Capecitabine ___________mg (825 mg/m²) PO bid on days 1–14
• Available in 150- and 500-mg tablets.
• Administer within 30 minutes of a meal with plenty of water.
• Monitor INRs closely in patients taking warfarin; may increase INR.
Paclitaxel ___________mg (175 mg/m²) IV over 3 hours on day 1
• Available in solution as 6 mg/mL.
• Final concentration is ≤ 1.2 mg/mL.
• Stable for up to 27 hours at room temperature in 0.3–1.2 solutions.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Major Side Effects
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of paclitaxel infusion and almost always within the first 10 minutes. Premedicate as described.
• GI Toxicities: Nausea and vomiting, usually mild to moderate and of short duration. Diarrhea and stomatitis can be severe.
• Hepatic: Elevations in serum bilirubin, alkaline phosphatase, and hepatic transaminase levels. Dose modifications may be required for hyperbilirubinemia.
• Renal Insufficiency: Capecitabine is contraindicated in patients with baseline creatinine clearance < 30 mL/min. A dose reduction to 75% of capecitabine should be made with baseline creatinine clearance of 30–50 mL/min.
• Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet.
• Bone Marrow Depression: Dose-limiting neutropenia. Use G-CSF support.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related. More frequent with longer paclitaxel infusions and at doses > 175 mg/m².
• Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
• Alopecia: Loss of total body hair occurs in nearly all patients.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 4 hours on day 1. Repeat every 21 days as tolerated or until disease progression.
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

_____________________________________/ __________________________/

Diagnosis __________________________ Ht ________ Wt ________ M² ________
### Capecitabine + Navelbine (XN)

**Baseline laboratory tests:** CBC, Chemistry, bilirubin, LFTs, creatinine clearance, and CA 27-29

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Oral phenothiazine or 5-HT3

**Administer:**
- **Capecitabine** __________mg (1000 mg/m2) PO bid on days 1–14
  - Available in 150- or 500-mg tablets
  - Administer within 30 minutes of a meal with plenty of water.
  - Monitor INRs closely in patients taking warfarin; may increase INR.

- **Navelbine** __________mg (25 mg/m2) IV on days 1 and 8
  - Vesicant
  - Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
  - Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL.
  - Reconstituted solution is stable for 24 hours refrigerated.

**Major Side Effects**
- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia is dose-limiting toxicity. Nadir at 7–10 days. Severe thrombocytopenia and anemia are uncommon.
- GI Toxicities: Nausea and vomiting are mild to moderate. Stomatitis and diarrhea can be severe.
- Hepatic: Elevations in LFT results. Dose modifications may be required if hyperbilirubinemia occurs.
- Renal Insufficiency: Capecitabine is contraindicated in patients with baseline creatinine clearance < 30 mL/min. A dose reduction to 75% of capecitabine should be made with baseline creatinine clearance of 30–50 mL/min.
- Hormonal: SIADH.
- Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Hand-foot syndrome can be dose limiting. Alopecia observed in some patients.
- Neurotoxicity: Usually mild and occurs much less frequently than with other vinca alkaloids.
- Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1 and 8. Repeat cycle every 21 days until disease progression.

**Estimated number of visits:** Three visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:** 1. ________________________________ 2. ________________________________

**Physician** __________________________________________ Date ____________________________

**Patient Name** __________________________________________ ID Number __________________________

**Diagnosis** ____________________________ Ht ____________ Wt ____________ M2 ____________
Metastatic Breast Cancer

**Docetaxel + Doxorubicin**

**Baseline laboratory tests:** CBC: Chemistry and CA 27-29

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:**
- Dexamethasone 8 mg bid for 3 days, starting the day before treatment
- HT3 and dexamethasone 10–20 mg in 100 cc of NS
- Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Administer:**

- **Docetaxel** ________mg (75 mg/m²) IV on day 1
  - Comes in 20- or 80-mg packs with own diluent. Do not shake.
  - Reconstituted vials stable at room temperature or for 8 hours refrigerated.
  - Further dilute in 250 cc of D5W or NS.
  - Use non-PVC containers and tubing to administer.
- **Doxorubicin** ________mg (50 mg/m²) IV on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Major Side Effects**
- **Hypersensitivity Reaction:** Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Premedication with dexamethasone recommended.
- **Bone Marrow Depression:** Dose-limiting neutropenia. Use G-CSF support. Thrombocytopenia and anemia also occur.
- **GI Toxicities:** Nausea and vomiting are moderate to severe. Stomatitis can occur but is not dose limiting.
- **Cardiotoxicities:** Acutely, pericarditis-myocarditis syndrome may occur; later, with high cumulative doses (> 550 mg/m²) cardiomyopathy may occur.
- **Neurotoxicity:** Peripheral neuropathy—sensory alterations are paresthesias in a glove and stocking distribution and numbness.
- **Fluid Balance:** Fluid retention syndrome: weight gain, edema, pleural effusion, and ascites. Premedication with dexamethasone effective in preventing or minimizing occurrences.
- **Hepatic:** Use doxorubicin with caution in patients with liver dysfunction. Dose reduction necessary.
- **Bladder Toxicities:** Red-orange discoloration of urine; resolves by 24–48 hours.
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, nail changes, rash, dry, pruritic skin, photosensitivity, and radiation recall occur. Alopecia.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours. Repeat cycle every 21 days until disease progression.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:** 1. ___________________________ 2. ___________________________

**Physician** ___________________________ **Date** ___________________________

**Patient Name** ___________________________ **ID Number** ___________________________

**Diagnosis** __________________________/

Ht ___________ Wt ___________ M²
5-Fluorouracil + Epirubicin + Cyclophosphamide (FEC-100)

Baseline laboratory tests: CBC: Chemistry, LFTs, and CA 27-29
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 20 mg in 100 cc of NS.
Administer:

5-Fluroouracil ___________mg (500 mg/m²) IV on day 1
- Available in solution as 50 mg/mL.
- No dilution required.
- May further dilute with NS or D5W

Epirubicin ___________mg (100 mg/m²) IV on day 1
- Vesicant
- Drug is provided as a preservative-free solution (2 mg/mL).
- Use within 24 hours of penetration of rubber stopper; discard unused portion.
- Store unopened vials in refrigerator.

Cyclophosphamide ___________mg (500 mg/m²) IV on day 1
- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials
- Dilute with sterile water and shake well to ensure that solution is completely dissolved.
- Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

Major Side Effects
- Hypersensitivity Reaction: Cyclophosphamide can cause rhinitis and irritation of nose and throat.
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all occur; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe. Mucositis and diarrhea can be severe and dose limiting.
- Cardiac: Cardiotoxicity is dose related, is cumulative, and may occur during months to years after cessation of therapy. Cyclophosphamide may increase the risk of cardiotoxicity.
- Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency with cyclophosphamide. Red-orange discoloration of urine; resolves by 24–48 hours.
- Skin: Extravasation of epirubicin causes severe tissue destruction. Epirubicin may cause “flare” reaction or streaking along vein during peripheral administration. If this occurs, slow drug administration time and flush more. Hyperpigmentation, photosensitivity, nail changes, and radiation recall occur. Complete alopecia. Hand-foot syndrome can be dose limiting.
- Inappropriate secretion of antidiuretic hormone (SIADH).
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Secondary Malignancies: Increased risk with cyclophosphamide.
- Reproductive: Amenorrhea with ovarian failure. Sterility may be permanent. Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days until disease progression.

Estimated number of visits: Two visits per cycle. Request six cycles worth of visits.
Metastatic Breast Cancer

Dose Calculation by: 1. ___________________________ 2. ___________________________

_________________________________________ ______________________________________________________

Physician Date

_________________________________________ ______________________________________________________

Patient Name ID Number

_________________________________________ __________________________/ __________________________/ ___________

Diagnosis

Ht Wt M²
**Paclitaxel + Vinorelbine**

**Baseline laboratory tests:** CBC: Chemistry and CA 27-29

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:**
- 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
- Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Administer:**
- **Vinorelbine** __________ mg (30 mg/m²) IV over 20 minutes on days 1 and 8
  - Vesicant
  - Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
  - Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL.
  - Reconstituted solution is stable for 24 hours refrigerated.
- **Paclitaxel** __________ mg (135 mg/m²) IV over 3 hours on day 1; start 1 hour after vinorelbine
  - Available in solution as 6 mg/mL.
  - Final concentration is ≤ 1.2 mg/mL.
  - Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
  - Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

**Major Side Effects**
- Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of paclitaxel infusion and almost always within the first 10 minutes. Premedicate as described. Hypersensitivity reaction to vinorelbine presents as dyspnea and bronchospasm.
- Bone Marrow Depression: Dose-limiting neutropenia. G-CSF support recommended. Thrombocytopenia and anemia also occur.
- GI Toxicities: Nausea and vomiting are mild. Stomatitis, constipation, diarrhea, and anorexia also occur.
- Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia.
- Inappropriate secretion of antidiuretic hormone (SIADH).
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1 and 1 hour on day 8. Repeat cycle every 28 days until disease progression.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**
1. __________________________________ 2. ____________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht Wt M²
Metastatic Breast Cancer

**Vinorelbine + Doxorubicin**

**Baseline laboratory tests:** CBC: Chemistry panel and CA 27-29
**Baseline procedures or tests:** MUGA scan
**Initiate IV:** 0.9% sodium chloride
**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS.
**Administer:**

- **Vinorelbine** __________mg (25 mg/m²) IV on days 1 and 8
  - Vesicant
  - Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
  - Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL.
  - Reconstituted solution is stable for 24 hours refrigerated.

- **Doxorubicin** __________mg (50 mg/m²) IV on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Major Side Effects**

- **Hypersensitivity Reaction:** Presents as dyspnea and bronchospasm with vinorelbine.
- **Bone Marrow Depression:** WBC and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe but is less severe with weekly dosing.
- **GI Toxicities:** Nausea and vomiting are moderate to severe. Stomatitis is mild to moderate. Constipation, diarrhea, and anorexia also occur.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m² of doxorubicin, cardiomyopathy may occur. Increased risk of cardiotoxicity when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- **Neurotoxicity:** Usually mild and occurs much less frequently than with other vinca alkaloids.
- **Skin:** Extravasation of vesicants causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia likely.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.
**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1 and 8. Repeat cycle every 21 days.
**Estimated number of visits:** Three visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. ______________________________________________________________________________________
2. ______________________________________________________________________________________

__Physician__
__Date__

__Patient Name__
__ID Number__

__Ht__ __Wt__ __M²__

__Diagnosis__
**Trastuzumab + Paclitaxel**

**Baseline laboratory tests:** CBC: Chemistry panel and CA 27-29  
**Baseline procedures or tests:** Her-2 testing of tumor using fluorescence in situ hybridization (FISH; preferred) or immunohistochemical (IHC) analysis, and MUGA scan

**Initiate IV:** NS  
**Premedicate:**  
5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS  
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Administer:**  
Trastuzumab _________mg (4 mg/kg) IV in 250 cc of NS over 90-minute loading dose, then  
Trastuzumab _________mg (2 mg/kg) IV in 250 cc of NS over 30 minutes weekly  
Paclitaxel _________mg (175 mg/m²) IV over 3 hours on day 1  
Repeat cycle every 21 days.  
**OR**  
Trastuzumab _________mg (4 mg/kg) IV in 250 cc of NS over 90-minute loading dose, then  
Trastuzumab _________mg (2mg/kg) IV in 250 cc of NS over 30 minutes weekly  
• Available as a lyophilized, sterile powder in 440-mg multiuse vials for IV use.  
• Requires refrigeration. DO NOT FREEZE.  
• Reconstitute with 20 mL of bacteriostatic water for injection, USP, containing 1.1% benzyl alcohol, which is supplied with each vial. DO NOT SHAKE.  
• Reconstituted solution contains 21 mg/mL. Stable 28 days refrigerated.  
• Further dilute desired dose in 250 cc of NS.  
**Paclitaxel __________mg (80 mg/m²) IV weekly**  
• Available in 6-mg/mL solution for IV use.  
• Final concentration is ≤ 1.2 mg/mL.  
• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.  
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

**Major Side Effects**  
• Infusion-related Symptoms: Fever, chills, urticaria, flushing, fatigue, headache, bronchospasm, dyspnea, angioedema, and hypotension. Usually mild to moderate and observed most commonly with initial dose of either drug. Symptoms usually resolve quickly when infusion is slowed or stopped. Premed as described.  
• GI Toxicities: Nausea and vomiting, mucositis, and diarrhea—generally mild.  
• Cardiotoxicity: Dyspnea, edema, and reduced left ventricular function seen with trastuzumab. Increased risk when used with paclitaxel.  
• Pulmonary: Cough, dyspnea, pulmonary infiltrates, and/or pleural effusions.  
• Myelosuppression: Leukopenia is dose-limiting toxicity. Use G-CSF support.  
• Neurotoxicity: Dose-related sensory neuropathy with numbness and paresthesia. Can be dose limiting.  
• Skin: Alopecia. Onycholysis seen in those receiving more than 6 courses of weekly paclitaxel.  
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**  
Mildly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- loperamide (Imodium)  
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**  
Chair time 5 hours on day 1 cycle 1 only, 4 hours day 1 subsequent cycles: 1 hour weeks 2 and 3. Repeat cycle every 21 days.  
**OR**  
Chair time 4 hours on day 1, 3 hours weekly thereafter. Repeat cycle every 4 weeks.

**Estimated number of visits:**  
Three visits per cycle OR four visits per cycle. Request six cycles worth of treatments.
Dose Calculation by: 1. __________________________ 2. __________________________

__________________________  __________________________
Physician  Date

__________________________  __________________________
Patient Name  ID Number

__________________________  ____________/ ____________/ ____________
Diagnosis  Ht  Wt  M²
**Trastuzumab + Docetaxel**

**Baseline laboratory tests:** CBC: Chemistry panel and CA 27-29
**Baseline procedures or tests:** Her-2 testing of tumor using FISH (preferred) or IHC, and MUGA scan

**Initiate IV:** NS

**Premedicate:** Dexamethasone 8 mg bid for 3 days, starting the day before treatment
5-HT3 and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**
- Trastuzumab _________mg (4 mg/kg) IV in 250 cc of NS over 90-minute loading dose day 1 first cycle only, then
- Trastuzumab _________mg (2 mg/kg) IV in 250 cc of NS over 30 minutes on days 1, 8, and 15
- Docetaxel _________mg (35 mg/m²) IV in 250 cc of NS over 1 hour on days 1, 8, and 15

The first cycle is administered weekly for 3 weeks, with 1 week rest.

For subsequent cycles:
- Trastuzumab _________mg (2 mg/kg) IV in 250 cc of NS over 30 minutes weekly
- Available as a lyophilized, sterile powder in 440-mg multiuse vials for IV use.
- Requires refrigeration. DO NOT FREEZE.
- Reconstitute with 20 mL of bacteriostatic water for injection, USP, containing 1.1% benzyl alcohol, which is supplied with each vial. DO NOT SHAKE.
- Reconstituted solution contains 21 mg/mL. Stable 28 days refrigerated.
- Further dilute desired dose in 250 cc of NS.

- Docetaxel _________mg (35 mg/m²) IV in 250 cc of NS weekly
- Available in 20- or 80-mg packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or refrigerated for 8 hours.
- Further dilute in 250 cc of D5W or NS.
- Use non-PVC containers and tubing to administer.

**Major Side Effects**

- Infusion-related Symptoms: Fever, chills, urticaria, flushing, fatigue, headache, bronchospasm, dyspnea, angioedema, and hypotension. Usually mild to moderate. Most common with initial dose of either drug. Symptoms usually resolve quickly when infusion is stopped. Premed with dexamethasone.
- GI Toxicities: Nausea and vomiting are mild to moderate. Mucositis and diarrhea can occur.
- Cardiotoxicity: Dyspnea, edema, and reduced left ventricular function seen with trastuzumab.
- Pulmonary: Cough, dyspnea, pulmonary infiltrates, and/or pleural effusions.
- Myelosuppression: Leukopenia is dose-limiting toxicity. Thrombocytopenia and anemia are also seen.
- Neurotoxicity: Dose-related sensory neuropathy with numbness and paresthesia.
- Fluid Balance: Fluid retention syndrome. Edema, pleural effusion, and ascites. Premedication with dexamethasone effective in preventing or minimizing fluid retention syndrome.
- Skin: Alopecia. Nail changes, rash, and dry, pruritic skin. Hand-foot syndrome has also been reported.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ loperamide (Imodium)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**
Chair time 3 hours on day 1, 2 hours on days 8 and 15, and 2 hours weekly thereafter. Repeat cycle every 4 weeks.

**Estimated number of visits:**
Four visits per cycle. Request six cycles worth of treatments.
Dose Calculation by: 1. ___________________________ 2. ___________________________

__________________________________________ ______________________________________________________
Physician Date

__________________________________________ ______________________________________________________
Patient Name ID Number

__________________________________________ ________________/ ________________/ ________________
Diagnosis Ht Wt M²
**Gemcitabine + Paclitaxel**

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<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel, LFTs, and CA 27-29</th>
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<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
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<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
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</table>
| Premedicate: | 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS  
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS |
| Administer: | **Gemcitabine** ________ mg (1250 mg/m²) IV on days 1 and 8 |
|  | • Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g).  
• Further dilute in 0.9% sodium chloride.  
• Reconstituted solution is stable for 24 hours at room temperature.  
• DO NOT refrigerate, because precipitate will form. |
|  | **Paclitaxel** _________ mg (175 mg/m²) IV on day 1 |
|  | • Available in solution as 6 mg/mL.  
• Final concentration is < 1.2 mg/mL.  
• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.  
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration. |

**Major Side Effects**

- Hypersensitivity Reaction: Occurs in 20%–40% of patients receiving paclitaxel. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.  
- Hematologic: Myelosuppression is dose limiting. G-CSF support recommended.  
- Pulmonary: Mild dyspnea and drug induced pneumonitis.  
- GI Symptoms: Mild-to-moderate nausea and vomiting, diarrhea, and mucositis.  
- Neuropathy: Sensory neuropathy with numbness and paresthesias; dose related and dose limiting.  
- Hepatic: Transient elevation of serum transaminase and bilirubin levels.  
- Skin: Hand-foot syndrome. Rash and nail changes. Edema occurs in some patients. Alopecia is common, loss of total body hair likely.  
- Reproductive: Pregnancy category D. Breast feeding should be avoided.  

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
**Treatment schedule:** Chair time 4 hours on day 1, 1 hour on day 8. Repeat cycle every 21 days until disease progression.  
**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:** 1. __________________________ 2. ____________________________

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<th>Physician</th>
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<th>Diagnosis</th>
<th>Ht</th>
<th>Wt</th>
<th>M²</th>
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</table>
Metastatic Breast Cancer

Carboplatin + Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg^{2+}) and CA 27-29
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel _________ mg (200 mg/m²) IV over 3 hours on day 1
  • Available in solution as 6 mg/mL.
  • Final concentration is ≤ 1.2 mg/mL.
  • Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
  • Use non-PVC containers and tubing with 0.22-micron inline filter to administer.
Carboplatin __________ mg (AUC 6) IV on day 1
  • Available in solution as 10 mg/mL or as lyopholized powder.
  • Reconstitute with sterile water for injection, 5% dextrose or 0.9% sodium.
  • Reconstituted solution stable for 8 hours at room temperature.
  • Do not use aluminum needles, because precipitate will form.
  • Give carboplatin after paclitaxel to decrease toxicities.

Major Side Effects
  • Hypersensitivity Reaction: Paclitaxel is usually seen with initial dose. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always in the first 10 minutes. Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy.
  • Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
  • GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea seen in some patients.
  • Hepatic: Transient elevations in serum transaminases, bilirubin and alkaline phosphatase.
  • Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
  • Electrolyte Imbalance: Decreases Mg^{2+}, K⁺, Ca^{2+}, and Na⁺.
  • Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related and can be dose limiting.
  • Alopecia: Loss of total body hair occurs in nearly all patients.
  • Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 5 hours on day 1. Repeat cycle every 21 days until disease progression.
Estimated number of visits: Two visits per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________
Patient Name ___________________________ ID Number ___________________________
Diagnosis ___________________________ Ht ___________ Wt ___________ M² ___________
Carboplatin + Docetaxel

**Baseline laboratory tests:** CBC: Chemistry (including Mg^{2+}) and CA 27-29

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Dexamethasone 8 mg PO bid for 3 days, starting the day before treatment

5-HT_{3} and dexamethasone 10–20 mg in 100 cc of NS on the day of treatment

**Administer:**

- **Docetaxel** __________ mg (75 mg/m^{2}) IV on day 1
  - Available in 20- or 80-mg doses; comes with own diluent. Do not shake.
  - Reconstituted vials stable at room temperature or for 8 hours refrigerated.
  - Further dilute in 250 cc of D5W or 0.9% sodium chloride.
  - Use non-PVC containers and tubings to administer.

- **Carboplatin** __________ mg (AUC 6) IV on day 1
  - Available in solution as 10 mg/mL or as lyophilized powder.
  - Reconstitute with sterile water for injection, 5% dextrose or 0.9% sodium.
  - Reconstituted solution is stable for 8 hours at room temperature.
  - Do not use aluminum needle, because precipitate will form.
  - Available in powder or solution. Discard reconstituted powder after 8 hours.

**Major Side Effects**

- **Hypersensitivity Reaction:** Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Premedication with dexamethasone recommended. Carboplatin can cause rash, urticaria, erythema, and pruritus. Bronchospasm and hypotension are uncommon, but risk increases from 1% to 27% in patients receiving more than seven courses of carboplatin-based therapy.

- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.

- **GI Toxicities:** Moderate to severe nausea and vomiting within first 24 hours.

- **Renal:** Nephrotoxicity less common than with cisplatin and rarely symptomatic.

- **Electrolyte Imbalance:** Decreases Mg^{2+}, K^{+}, Ca^{2+}, and Na^{+}.

- **Neuropathy:** Neurologic dysfunction is infrequent, but there is increased risk in patients > 65 years of age or in those previously treated with cisplatin and receiving prolonged carboplatin treatment.

- **Skin:** Alopecia is common.

- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 21 days until progression.

**Estimated number of visits:** Two visits per cycle. Request six months worth.

**Dose Calculation by:**

1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

__________________________ / _____________ / _____________

Diagnosis Ht Wt M^{2}
Mitomycin + Vinblastine

**Baseline laboratory tests:** CBC: Chemistry and CA 27-29
**Baseline procedures or tests:** Central line placement

**Initiate IV:**
- 0.9% sodium chloride

**Premedicate:**
- 5-HT3 and dexamethasone 10 in 100 cc of NS

**Administer:**
- **Mitomycin** ______ mg (20 mg/m²) IV bolus day 1
  - Potent vesicant
  - Dilute with sterile water to give a final concentration of 0.5 mg/mL.
  - Reconstituted solution stable for 14 days refrigerated or 7 days at room temperature.
- **Vinblastine** ______ mg (1.4–2 mg/m²) IV continuous infusion days 1–5
  - Vesicant
  - Available in 10-mg vials for IV use.
  - Solution containing 1 mg/mL should be prepared by adding 10 mL of bacteriostatic 0.9% sodium chloride preserved with benzyl alcohol.
  - Also available in premixed solution to be stored in refrigerator.
  - Reconstituted solution should be clear and free of particulate matter.

**Major Side Effects**
- **Bone Marrow Depression:** Dose limiting and cumulative toxicity, with leukopenia being more common than thrombocytopenia. Nadir counts are delayed at 4–6 weeks with mitomycin and at 4–6 days with vinblastine.
- **GI Toxicities:** Nausea and vomiting usually mild to moderate. Mucositis occurs. Constipation, abdominal pain, and paralytic ileus possible. Anorexia and fatigue common.
- **Neurotoxicity:** Occurs much less frequently than with vincristine. Presents with peripheral neuropathy (paresthesias, paralysis, loss of deep tendon reflexes, and constipation) and autonomic nervous system dysfunction (orthostatic hypotension, paralytic ileus, and urinary retention). Less commonly, cranial nerve paralysis, ataxia, cortical blindness, seizures, and coma may occur.
- **CV Toxicities:** Hypertension is most common cardiovascular side effect. Vascular events, such as stroke, myocardial infarction, and Raynaud’s syndrome seen.
- **Inappropriate secretion of antidiuretic hormone (SIADH).**
- **Hemolytic-uremic Syndrome:** Hematocrit < 25%, platelets < 100 × 10³/mm³, and renal failure (serum creatinine > 1.6 mg/dL). Rare event (< 2%).
- **Pulmonary:** Acute pulmonary edema, bronchospasm, acute respiratory distress, interstitial pulmonary infiltrates, and dyspnea have been reported on rare occasion.
- **Skin:** Mitomycin causes severe tissue necrosis if extravasated; vinblastine causes local skin damage if extravasated. Alopecia occurs frequently.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day. Repeat cycle every 6–8 weeks.

**Estimated number of visits:** Six visits per treatment course.

**Dose Calculation by:** 1. ____________________________ 2. ____________________________

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Single-Agent Regimens

**Tamoxifen**

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29
**Baseline procedures or tests:** ER/PR testing
**Initiate IV:** N/A
**Premedicate:** Oral phenothiazine or 5-HT3 if nausea occurs
**Administer:** Tamoxifen 20 mg PO daily
- Available in 10- and 20-mg tablets.
- Monitor PT/INR closely in patients taking warfarin; increases PT/INR.

**Major Side Effects**
- **GI Toxicities:** Nausea and vomiting rarely observed.
- **Tumor Flare:** Usually occurs within the first 2 weeks of beginning of therapy. May observe increased bone pain, urinary retention, back pain with spinal cord compression and/or hypercalcemia.
- **CV Toxicities:** Deep vein thrombosis, pulmonary embolism, and superficial phlebitis are rare cardiovascular complications of tamoxifen therapy. Incidence of thromboembolic events may be increased when tamoxifen is given concomitantly with chemotherapy.
- **Fluid/electrolyte Imbalance:** Fluid retention and peripheral edema observed in about 30% of patients.
- **Hormonal Effects:** Menstrual irregularity, hot flashes, milk production in breasts, vaginal discharge, and bleeding. Usually not severe enough to discontinue therapy.
- **Gynecological:** Increased incidence of endometrial hyperplasia, polyps, and endometrial cancer.
- **Sensory/perception Alteration:** Headache, lethargy, and dizziness occur rarely. Visual disturbances, including cataract, retinopathy, and decreased visual acuity, have been described.
- **Myelosuppression:** Mild, transient leukopenia and thrombocytopenia occur rarely.
- **Laboratory Values:** Elevations in serum triglyceride levels.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.
**Treatment schedule:** No chair time. Daily dosing until disease progression.
**Estimated number of visits:** One visit every 2–3 months. Request 12 months worth of visits.

**Dose Calculation by:** 1. ______________________ 2. ______________________

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Physician Date

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Patient Name ID Number

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Diagnosis Ht Wt M^2
**Toremifene Citrate (Fareston)**

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 27-29

**Baseline procedures or tests:** ER/PR testing, eye exam.

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT<sub>3</sub> if nausea occurs

**Administer:**

- Toremifene citrate 60 mg PO daily
  - Available as toremifene citrate (88.5 mg of toremifene citrate is equivalent to 60 mg of toremifene) for oral use.
  - Well absorbed after oral administration. Food does not interfere with absorption.
  - Monitor PT/INR closely in patients taking warfarin.

**Major Side Effects**

- **Tumor Flare:** May cause flare reaction initially (bone and/or muscular pain, erythema, tumor pain, and transient increase in tumor size). Use with caution in the setting of brain and/or vertebral metastases.

- **CV Toxicities:** Toremifene is thrombogenic. Use with caution in patients with a prior history of thromboembolic events.

- **GI Toxicities:** Nausea, vomiting, and anorexia have occurred.

- **Hormonal Effects:** Menstrual irregularity, hot flashes, sweating, milk production in breasts, vaginal discharge and bleeding. Usually not severe enough to discontinue therapy.

- **Myelosuppression:** Mild, transient leukopenia and thrombocytopenia occur rarely.

- **GU Toxicities:** Increased risk of endometrial cancer associated with therapy.

- **Ocular:** Cataract formation and xerophthalmia. Baseline and biannual eye exams are recommended.

- **Skin Toxicity:** Rare. Presents as rash alopecia and peripheral edema.

- **Reproductive:** Pregnancy category D. Not known if excreted in breast milk.

**Initiate antiemetic protocol:**

**Treatment schedule:** Mildly emetogenic protocol.

**Estimated number of visits:** No chair time. Daily dosing until disease progression.

**One visit every 2–3 months during treatment.**

**Dose Calculation by:**

1. __________________________ 2. __________________________

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**Physician Date**

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**Patient Name ID Number**

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**Diagnosis Ht Wt M**

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### Exemestane (Aromasin)

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 27-29  
**Baseline procedures or tests:** ER/PR testing  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs  
**Administer:** Exemestane 25 mg PO daily  
- Available as a 25-mg tablet for oral use.  
- Take once daily after a meal.  

**Major Side Effects**  
- Hot Flashes: Hot flashes, increased sweating, and pain reported.  
- GI Toxicities: Mild-to-moderate nausea, increased appetite, and weight gain reported.  
- CNS Toxicity: Depression and insomnia occurred in 13% and 11%, respectively.  
  Headache and fatigue also seen.  
- Reproductive: Pregnancy category D. Breast feeding should be avoided.  

**Initiate antiemetic protocol:** Mildly emetogenic protocol  
**Treatment schedule:** No chair time. Daily dosing until disease progression.  
**Estimated number of visits:** One visit every 2–3 months during treatment.  

**Dose Calculation by:**  
1.  
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**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht Wt M²
Anastrozole (Arimidex)

Baseline laboratory tests: CBC: Chemistry panel, LFTs, and CA 27-29
Baseline procedures or tests: ER/PR testing
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT₃ if nausea occurs
Administer: Anastrozole 1 mg PO daily

- Available as a 1-mg, white, film-coated tablet for oral use.
- Take orally with or without food, at approximately the same time daily.

Major Side Effects
- Hormonal: Hot flashes, and vaginal dryness may occur.
- CV Toxicities: Thrombophlebitis may occur but is uncommon. Mild swelling of arms or legs may occur.
- GI Toxicities: Mild nausea and vomiting. Mild constipation or diarrhea can also occur.
- Skin: Dry, scaling skin rash.
- Flulike Syndrome: Presents in the form of fever, malaise, and myalgias.
- Musculoskeletal: Arthralgias occur in 10%–15% of patients and involve hands, knees, hips, lower back, and shoulders. Early morning stiffness is usual presentation.
- CNS Toxicity: Headaches are mild and occur in about 13% of patients. Decreased energy and weakness are common.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol
Treatment schedule: No chair time. Daily dosing until disease progression.
Estimated number of visits: One visit every 2–3 months during treatment.

Dose Calculation by: 1. __________________________________ 2. __________________________________________

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Physician Date

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Patient Name ID Number

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Diagnosis Ht Wt M²
Letrozole (Femara)

Baseline laboratory tests: CBC, Chemistry panel, LFTs, and CA 27-29
Baseline procedures or tests: ER/PR testing
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT₃ if nausea occurs
Administer: Letrozole 2.5 mg PO daily
• Available as a 2.5-mg tablet for oral use
• Food does not interfere with oral absorption.

Major Side Effects
• Musculoskeletal: Most common side effects. Musculoskeletal pain (back, arms, legs) and arthralgias.
• Hormonal: Hot flashes occur in approximately 6% of patients.
• CV Toxicities: Thromboembolic events are rare and less common than with megestrol acetate. Chest pain reported in some patients.
• GI Toxicities: Mild nausea with vomiting and anorexia occurring less frequently. Mild constipation or diarrhea can also occur.
• Hepatic: Mild elevation in serum transaminase and serum bilirubin levels. Most often seen in patients with known metastatic disease in the liver.
• CNS Toxicity: Headaches and fatigue are mild.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol
Treatment schedule: No chair time. Daily dosing until disease progression.
Estimated number of visits: One visit every 2–3 months during treatment.

Dose Calculation by: ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

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Diagnosis Ht Wt M²
Fulvestrant (Faslodex)

Baseline laboratory tests: CBC: Chemistry panel, LFTs, and CA 27-29
Baseline procedures or tests: ER/PR testing
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT₃ if nausea occurs
Administer: Fulvestrant 250 mg IM on day 1

- Available as 250-mg/5mL and 125-mg/2.5mL prefilled syringes; concentration is 50 mg/mL.
- Unopened vials should be stored in the refrigerator.
- Drug can be left at room temperature for a short period before injection to increase patient comfort.
- Administer slowly by IM injection in one buttock (5 mL) or each buttock (2.5 mL) because drug is viscous.
- Use Z-track technique to prevent drug leakage into subcutaneous tissue.

Major Side Effects
- Musculoskeletal: Back and bone pain, arthralgias.
- Hormonal: Hot flashes occur in approximately 20% of patients.
- GI Toxicities: Mild nausea, vomiting, and anorexia. Abdominal pain, constipation, and/or diarrhea can also occur.
- CNS Toxicity: Mild headaches reported.
- Flulike Syndrome: Fever, malaise, and myalgias occur in 10% of patients.
- Skin: Injection site reactions with mild pain and inflammation that is usually transient. Occurs more frequently in 2.5-mL injections (28%) versus 5-mL injections (7%). Dry, scaling skin rash.
- Reproduction: Contraindicated in pregnancy and breastfeeding.

Initiate antiemetic protocol: Mildly emetogenic protocol
Treatment schedule: Monthly injection until disease progression.
Estimated number of visits: One visit every month during treatment. Request 12 months worth of visits.

Dose Calculation by: 

1. __________________________________ 2. ____________________________________________

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Physician Date

Patient Name ID Number

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Diagnosis Ht Wt M²
Metastatic Breast Cancer

### Megestrol (Megace)

**Baseline laboratory tests:** CBC, Chemistry, LFTs, and CA 27-29  
**Baseline procedures or tests:** ER/PR testing  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT3 if nausea occurs  
**Administer:** Megestrol 40 mg PO qid  
- Available in 20- and 40-mg tablets as well as a 40-mg/mL suspension

### Major Side Effects
- **GI Toxicities:** Nausea and vomiting rarely observed. Increased appetite with accompanying weight gain.  
- **CV Toxicities:** Use with caution in patients with a history of either thromboembolic or hypercoagulable disorders. Megestrol acetate has been associated with an increased incidence of thromboembolic events.  
- **Fluid/electrolyte Imbalance:** Fluid retention.  
- **Endocrine:** Hyperglycemia. Use with caution in patients with diabetes mellitus because megestrol may exacerbate this condition.  
- **Hepatic:** Abnormal LFT results. Dose reduction recommended in patients with abnormal liver function.  
- **Hormonal:** Breakthrough menstrual bleeding, hot flashes, sweating, and mood changes.  
- **Tumor flare.**  
- **Reproduction:** Pregnancy category D.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Treatment schedule:** No chair time. Daily dosing as tolerated or until disease progression.  
**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:**  
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Trastuzumab (Herceptin Weekly Dosing)

**Baseline laboratory tests:** CBC: Chemistry panel and CA 27-29

**Baseline procedures or tests:** Her-2 testing of tumor using FISH (preferred) or IHC, and MUGA scan

**Initiate IV:** NS

**Premedicate:** No premedication recommended

**Administer:**
- **Trastuzumab** __________ mg (4 mg/kg) IV in 250 cc of NS over 90-minute loading dose
- **Then**
  - **Trastuzumab** __________ mg (2 mg/kg) IV in 250 cc of NS over 30 minutes weekly

- Available as a lyophilized, sterile powder in 440-mg multiuse vials for IV use.
- Require refrigeration. DO NOT FREEZE.
- Reconstitute with 20 mL of bacteriostatic water for injection, USP, containing 1.1% benzyl alcohol, which is supplied with each vial. DO NOT SHAKE.
- Reconstituted solution contains 22 mg/mL. Stable 28 days refrigerated.
- Further dilute desired dose in 250 cc of NS.

**Major Side Effects**
- Infusion-related Symptoms: Fever, chills, urticaria, flushing, fatigue, headache, bronchospasm, dyspnea, angioedema, and hypotension. Occurs in 40%–50% of patients. Usually mild to moderate in severity and observed most commonly with initial dose. Symptoms usually resolve quickly if infusion slowed or stopped.
- GI Toxicities: Nausea and vomiting, diarrhea—generally mild.
- Cardiotoxicity: Dyspnea, peripheral edema, and reduced left ventricular function. Significantly increased risk when used in combination with anthracycline/cyclophosphamide regimen. In most instances, cardiac dysfunction is readily reversible.
- Pulmonary: Toxicities in the form of increased cough, dyspnea, rhinitis, sinusitis, pulmonary infiltrates, and/or pleural effusions.
- Myelosuppression: Not significant. Increased risk and severity when trastuzumab is administered with chemotherapy.
- CNS Toxicities: Generalized pain, asthenia, and headache.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:**
Chair time 2 hours on day 1, 1 hour weekly thereafter.
In the absence of disease progression, continue weekly maintenance dose of 2 mg/kg.

**Estimated number of visits:**
One visit per week. Request 6 month worth of visits.

**Dose Calculation by:**
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Physician Date

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Patient Name ID Number

______________________________ ________________________________  ________________________________ ________________________________
Diagnosis Ht Wt M²
Trastuzumab (Herceptin Every 3 Weeks)

Baseline laboratory tests: CBC: Chemistry panel and CEA
Baseline procedures or tests: Her-2 testing of tumor using FISH (preferred) or IHC, and MUGA scan
Initiate IV: NS
Premedicate: No premedication recommended
Administer: Trastuzumab __________ mg (8 mg/kg) IV in 250 cc of NS over 90-minute loading dose (if patient has been on weekly trastuzumab without a break the loading dose is not necessary. Start with the 6mg/kg dose).

Then
Trastuzumab __________ mg (6 mg/kg) IV in 250 cc of NS over 30 minutes every three weeks.

• Available as a lyophilized, sterile powder in 440-mg multiuse vials for IV use.
• Require refrigeration. DO NOT FREEZE.
• Reconstitute with 20 mL of bacteriostatic water for injection, USP, containing 1.1% benzyl alcohol, which is supplied with each vial. DO NOT SHAKE.
• Reconstituted solution contains 22 mg/mL. Stable 28 days refrigerated.
• Further dilute desired dose in 250 cc of NS.

Major Side Effects
• Infusion-related Symptoms: Fever, chills, urticaria, flushing, fatigue, headache, bronchospasm, dyspnea, angioedema, and hypotension. Seen in 40%–50% of patients. Usually mild to moderate in severity and observed most commonly with initial dose. Symptoms usually resolve quickly if infusion is slowed or stopped.
• GI Toxicities: Nausea and vomiting, diarrhea—generally mild.
• Cardiotoxicity: Dyspnea, peripheral edema, and reduced left ventricular function. Significantly increased risk when used in combination with anthracycline/cyclophosphamide regimen. In most instances, cardiac dysfunction is readily reversible.
• Pulmonary: Toxicities seen in the form of increased cough, dyspnea, rhinitis, sinusitis, pulmonary infiltrates, and/or pleural effusions.
• Myelosuppression: Not significant. Increased risk and severity when trastuzumab is administered with chemotherapy.
• CNS Toxicities: Generalized pain, asthenia, and headache.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
Mildly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)

Treatment schedule:
Chair time 2 hours on day 1, 1 hour every 3 weeks thereafter. Repeat cycle every 3 weeks.
Estimated number of visits:
One visit every 3 weeks.

Dose Calculation by:
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Diagnosis Ht Wt M 2
Capecitabine (Xeloda)

Baseline laboratory tests: CBC: Chemistry, bilirubin, LFTs, creatinine clearance, and CA 27-29
Baseline procedures or tests: N/A
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT₃
Administer: Capecitabine ___________ mg (1250 mg/m²) PO bid for 2 weeks followed by 1 week rest period.

- Dose may be decreased to 850–1000 mg/m² PO bid on days 1–14. This may reduce the risk of toxicity without compromising efficacy.
- Available in 150- and 500-mg tablets for oral use.
- Administer within 30 minutes of a meal with plenty of water.
- Monitor INRs closely in patients taking warfarin; may increase INR.

Major Side Effects

- Myelosuppression: Seen less frequently than with IV SFU. Leukopenia more common than thrombocytopenia.
- GI Toxicities: Nausea and vomiting, occurring in 30%-50% of patients, is usually mild to moderate. Diarrhea occurs in up to 40%, with 15% being grade 3–4. Stomatitis is common, 3% of which is severe.
- Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) occurs in 15%-20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.
- Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
- Hepatic: Elevations in serum bilirubin (20%-40%), alkaline phosphatase, and hepatic transaminases (aspartate transaminase, alanine transaminase) levels. Dose modifications may be required if hyperbilirubinemia occurs.
- Cardiac: Chest pain, EKG changes, and serum enzyme elevation occur rarely. Increased risk in patients with prior history of ischemic heart disease.
- Renal Insufficiency: Capecitabine is contraindicated in patients with baseline creatinine clearance < 30 mL/min. A dose reduction to 75% of capecitabine should be made with baseline creatinine clearance of 30–50 mL/min.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: No chair time. Repeat cycle every 21 days until disease progression.
Estimated number of visits: One visit per cycle. Request six cycles worth of visits.

Dose Calculation by: __________________________ 2. __________________________

Physician __________________________ Date __________________________
Patient Name __________________________ ID Number __________________________
Diagnosis __________________________ Ht / ___________ / ___________ Wt / ___________ / ___________ M²
**Docetaxel**

**Baseline laboratory tests:** CBC, Chemistry and CA 27-29

**Baseline procedures or tests:** None

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Dexamethasone 8 mg bid for 3 days, starting the day before treatment; Oral phenothiazine or 5-HT₃

**Administer:**

- **Docetaxel** ______ mg (100 mg/m²) IV on day 1
  
  Repeat cycle every 21 days

  OR

- **Docetaxel** ______ mg (35–40 mg/m²) IV weekly for 6 weeks
  
  Repeat every 8 weeks

  - Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or refrigerated for 8 hours.
  
  - Further dilute in 250 cc of D5W or 0.9% sodium chloride.
  
  - Use non-PVC containers and tubing to administer.

**Major Side Effects**

- Hypersensitivity Reactions: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Premedication with dexamethasone recommended.

- Bone Marrow Depression: Neutropenia is dose-limiting with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia also occur.

- GI Toxicities: Nausea and vomiting are mild to moderate. Mucositis and diarrhea occur in 40% of patients.

- Neuropathy: Peripheral neuropathy may affect up to 49% of patients. Sensory alterations are paresthesias in a glove-and-stocking distribution, and numbness.

- Fluid Balance: Fluid retention syndrome. Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Occurs in about 50% of patients. Premedication with dexamethasone effective in preventing or minimizing occurrences.

- Skin: Alopecia occurs in 80% of patients. Nail changes, rash, and dry, pruritic skin seen. Hand-foot syndrome has also been reported.

- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days.

**OR**

Chair time 2 hours on day 1 for 6 weeks. Repeat cycle every 8 weeks.

**Estimated number of visits:** Two visits per cycle OR six visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. ____________________________________________ 2. ____________________________________________

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Physician Date

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Patient Name ID Number

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Diagnosis Ht Wt M²
Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and CA 27-29
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: \(\text{Paclitaxel} \quad \text{mg} \quad (175 \text{ mg/m}^2)\) IV over 3 hours on day 1
Repeat cycle every 21 days.
OR \(\text{Paclitaxel} \quad \text{mg} \quad (80–100 \text{ mg/m}^2)\) IV weekly for 3 weeks
Repeat cycle every 4 weeks
• Available in solution as 6 mg/mL.
• Final concentration is \(\leq 1.2 \text{ mg/mL}\).
• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Major Side Effects
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related. More frequent with longer infusions and at doses > 175 mg/m\(^2\).
• Hepatic: Transient elevations in serum transaminases, bilirubin, and alkaline phosphatase.
• Skin: Onycholysis with weekly dosing. Alopecia total in nearly all patients on every 3 week schedule.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours on day 1. Repeat every 21 days until disease progression
OR Chair time 2 hours on day 1 for 3 weeks. Repeat every 4 weeks until disease progression.

Estimated number of visits: Two visits per cycle. Request three cycles worth of visits OR three visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis Ht: ______ Wt: ______ M\(^2\): ______
Vinorelbine

Baseline laboratory tests: CBC: Chemistry and CA 27-29
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT3
Administer: Vinorelbine __________ mg (30 mg/m²) IV on day 1
  • Vesicant
  • Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
  • Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL.
  • Reconstituted solution is stable for 24 hours refrigerated.

Major Side Effects
  • Hypersensitivity Reaction: Presents as dyspnea and bronchospasm.
  • Bone Marrow Depression: Leukopenia is dose-limiting toxicity. Nadir at 7–10 days. Severe thrombocytopenia and anemia are uncommon.
  • GI Toxicities: Nausea and vomiting are mild in IV dosing (44% incidence). Stomatitis is mild to moderate (< 20% incidence). Constipation (33%), diarrhea (17%), and anorexia (< 20%) also seen.
  • Hepatic: Use with caution in patients with abnormal liver function as toxicity may be significantly enhanced.
  • Hormonal: SIADH.
  • Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia observed in 10%–15% of patients.
  • Neurotoxicity: Usually mild in severity and occurs much less frequently than with other vinca alkaloids.
  • Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
  □ pegfilgrastim (Neulasta)
  □ filgrastim (Neupogen)
  □ epoetin alfa (Procrit)
  □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on day 1. Repeat cycle weekly until disease progression.
Estimated number of visits: One visit per cycle. Request 12 cycles worth of visits.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

________________________/____________________/________________

Diagnosis Ht Wt M²
Doxorubicin

Baseline laboratory tests: CBC: Chemistry and CA 27-29
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT<sub>3</sub> and dexamethasone 10–20 mg in 100 cc of NS.
Administer: Doxorubicin __________ mg (20 mg/m<sup>2</sup>) IV on day 1 weekly

- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

Major Side Effects
- Bone Marrow Depression: WBC and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe but is less severe with weekly dosing.
- GI Toxicities: Nausea and vomiting are moderate to severe and occur in 44% of patients. Stomatitis occurs in 10% of patients but is not dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m<sup>2</sup> cardiomyopathy may occur. Increased risk of cardiotoxicity when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- Bladder Toxicities: Red-orange discoloration of urine; resolves by 24–48 hours.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses > 50 mg/m<sup>2</sup>.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: 
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on day 1. Repeat cycle weekly until progression.
Estimated number of visits: One visit per cycle. Request eight cycles worth of visits.

Dose Calculation by:

1. ____________________________
2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis: ____________________________ Ht ______ Wt ______ M<sup>2</sup> ______
**Gemcitabine**

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 27-29  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** Oral phenothiazine  
**OR**  
5-HT₃ and Dexamethasone 10 mg in 100 cc of NS  

**Administer:** Gemcitabine ________ mg (725 mg/m²) IV weekly for 3 weeks  
- Available in 1-g or 200-mg vials, reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.  
- Reconstituted solution is stable 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

**Major Side Effects**

- **Hematologic:** Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.
- **GI Symptoms:** Mild-to-moderate nausea and vomiting (70%), diarrhea, and/or mucositis (15%–20%).
- **Flulike Syndrome:** Fever, malaise, chills, headache, and myalgias (20%). Fever in absence of infection 6–12 hours after treatment (40%).
- **Pulmonary:** Mild dyspnea and drug induced pneumonitis.
- **Hepatic:** Transient elevation of serum transaminase and bilirubin levels.
- **Skin:** Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour weekly for 3 weeks. Repeat cycle every 28 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**  
1. ________________________________ 2. ________________________________

_____________________________ _______________________________  
**Physician**  
**Date**

_____________________________ _______________________________  
**Patient Name**  
**ID Number**

_____________________________ _______________________________ _______________________________  
**Diagnosis**  
Ht  Wt  M²
**Liposomal Doxorubicin (Doxil)**

**Baseline laboratory tests:** CBC: Chemistry and CA 27-29

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS.

**Administer:** Liposomal doxorubicin __________ mg (45–60 mg/m$^2$) IV on day 1
- Available as a 2-mg/mL solution in 20- or 50-mg vials.
- Further dilute drug (doses up to 90 mg) in 250 cc of D5W
- Diluted drug may be stored for 24 hours refrigerated.

**Major Side Effects**
- **Infusion Reaction:** Flushing, dyspnea, facial swelling, headache, back pain, tightness in the chest and throat, and/or hypotension. Usually occurs during first treatment and occurs in 5%–10% of patients. Resolves quickly after infusion stopped.
- **Bone Marrow Depression:** Dose-limiting toxicity in the treatment of patients infected with the human immunodeficiency virus. Leukopenia occurs in 91% of patients, with anemia and thrombocytopenia being less common.
- **GI Toxicities:** Nausea and vomiting are usually mild to moderate. Stomatitis occurs in 7% of patients and diarrhea in 8%; both are usually mild.
- **Cardiac:** Acutely, pericarditis and/or myocarditis, electrocardiographic changes or arrhythmias. Not dose related. With high cumulative doses > 550 mg/m$^2$, cardiomyopathy may occur. Increased risk of cardiotoxicity when liposomal doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- **GU Toxicity:** Red-orange discoloration of urine.
- **Skin:** Skin toxicity manifested as hand-foot syndrome with skin rash, swelling, erythema, pain, and/or desquamation. Occurs in 3.4% of patients and is dose related. Hyperpigmentation of nails, skin rash, urticaria, and radiation recall occur. Alopecia occurs in 9% of patients with Kaposi's sarcoma.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21–28 days.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

---

**Physician**

---

**Date**

---

**Patient Name**

---

**ID Number**

---

**Diagnosis**

---

Ht Wt M$^2$
Paclitaxel Protein-bound Particles for Injectable Suspension (Abraxane)

Baseline laboratory tests: CBC: Chemistry and CA 27-29
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 in 100 cc of NS
Administer: **Paclitaxel protein-bound particles for injectable suspension** __________mg
(260 mg/m²) IV over 30 minutes every 3 weeks
OR
**Paclitaxel protein-bound particles for injectable suspension** __________mg (100 mg/m²)
IV over 30 minutes weekly for 3 weeks

- Available as a lypholized powder in 100-mg single dose vial.
- Reconstitute with 20 mL 0.9% sodium chloride. Inject over 1 minute down the inside wall of the vial to prevent foaming. Allow vial to sit for a minimum of 5 minutes to ensure proper wetting of cake. Gently swirl vial for at least 2 minutes until complete dissolution of cake/powder occurs.
- Reconstituted solution contains 5 mg/mL paclitaxel. Solution should be milky and homogenous without visible particulates.
- Inject dose into empty sterile PVC type IV bag.
- Use of non-PVC tubing not needed, use of in-line filter not recommended.
- Use reconstituted solution immediately, discard unused portion. May be stored in refrigerator for maximum of 8 hours if needed.

Major Side Effects

- Hypersensitivity Reactions: Mild symptoms reported in 1% of patients studied.
- Hematologic: Bone marrow suppression (primarily neutropenia) is dose dependent and dose limiting toxicity.
- Neurotoxicity: Sensory neuropathy occurs frequently and is not a cumulative effect. If grade 3 sensory neuropathy develops, treatment should be withheld until resolution to grade 1 or 2 followed by a dose reduction. Symptoms improve in about 22 days.
- Ocular: Visual disturbances seen in 13%, 1% severe (keratitis and blurred vision).
- Respiratory: Dyspnea and cough reported in some cases. Rare reports of interstitial pneumonia, lung fibrosis, and radiation pneumonitis.
- Cardiovascular: ECG changes common usually asymptomatic.
- Musculoskeletal: Arthralgias/Myalgias common.
- Gastrointestinal: Mild to moderate nausea, vomiting, and diarrhea. Mucositis occasionally reported.
- Skin: Alopecia.
- Reproduction: Pregnancy category D.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on day 1 for 3 weeks. Repeat cycle every 4 weeks OR chair time 1 hour on day 1. Repeat every 21 days until disease progression.

Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.
OR
Two visits per cycle. Request three cycles worth of visits.
124  Metastatic Breast Cancer

**Dose Calculation by:**  1. ___________________________  2. ___________________________

______________________________________________________________________________

Physician  Date

______________________________________________________________________________

Patient Name  ID Number

______________________________________________________________________________

Diagnosis  Ht  Wt  M$^2$


**CANCER OF UNKNOWN PRIMARY**

**PCE**
- Paclitaxel: 200 mg/m² IV over 1 hour on day 1
- Carboplatin: AUC of 6, IV on day 1
- Etoposide: 50 mg alternating with 100 mg PO on days 1–10
- Repeat cycle every 21 days. Paclitaxel must be administered first before carboplatin

**EP**
- Etoposide: 100 mg/m² IV on days 1–5
- Cisplatin: 100 mg/m² IV on day 1
- Repeat cycle every 21 days.

**PEB**
- Cisplatin: 20 mg/m² IV on days 1–5
- Etoposide: 100 mg/m² IV on days 1–5
- Bleomycin: 30 units IV on days 1, 8, and 15
- Repeat cycle every 21 days.

**GCP**
- Gemcitabine: 1000 mg/m² IV on days 1 and 8
- Carboplatin: AUC 5, IV on day 1
- Paclitaxel: 200 mg/m² IV on day 1
- Repeat cycle every 21 days for four cycles. This is to be followed by paclitaxel at 70 mg/m² IV every week for 6 weeks with a 2-week rest.
- Repeat for a total of three cycles.
Paclitaxel + Carboplatin + Etoposide (PCE)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT3 and dexamethasone 10–20 mg in 100 cc of NS on day 1</td>
</tr>
<tr>
<td></td>
<td>Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS on day 1</td>
</tr>
<tr>
<td>Oral phenothiazine or 5-HT3, 30–60 minutes before etoposide on days 2–10</td>
<td></td>
</tr>
<tr>
<td>Administer:</td>
<td>Paclitaxel __________ mg (200 mg/m²) IV over 1 hour on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in solution as 6 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Final concentration is ≤ 1.2 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.</td>
</tr>
<tr>
<td></td>
<td>• Use non-PVC containers and tubing with 0.22-micron inline filter to administer.</td>
</tr>
<tr>
<td></td>
<td>Carboplatin __________ mg (AUC 6) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in solution as 10 mg/mL or as lyopholized powder.</td>
</tr>
<tr>
<td></td>
<td>• Reconstitute with sterile water for injection, 5% dextrose or 0.9% sodium chloride.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution stable for 8 hours at room temperature.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Give carboplatin after paclitaxel to decrease toxicities.</td>
</tr>
<tr>
<td>Etoposide</td>
<td>50 mg alternating with 100 mg PO days 1–10</td>
</tr>
<tr>
<td></td>
<td>• Oral capsules are available in 50- and 100-mg capsules and should be stored in the refrigerator.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Hypersensitivity Reaction: Paclitaxel (30%–40%). Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always in the first 10 minutes. Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Oral dosing of etoposide has higher incidence of nausea/vomiting. Mucositis and/or diarrhea occur in 30%–40% of patients.
- Hepatic: Transient elevations in serum transaminases, bilirubin, and alkaline phosphatase.
- Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
- Electrolyte Imbalance: Decreases Mg²⁺, K⁺, Ca²⁺, and Na⁺.
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related and can be dose limiting.
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproductive: Pregnancy category D. Amenorrhea, azoospermia, impotence, and sterility.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 5 hours on day 1. Repeat cycle every 21 days until progression.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.
Dose Calculation by:  

1. __________________________________ 2. ____________________________________________

_________________________ ________________________________
Physician Date

_________________________ ________________________________
Patient Name ID Number

_________________________ ________________________________
Diagnosis Ht Wt M^2
Cancer of Unknown Primary

Etoposide + Cisplatin (EP)

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
Administer: 

**Etoposide** ________ mg (100 mg/m$^2$) IV on days 1–5
- Available in 100-mg vials, when reconstituted with 5 or 10 mL of NS, D5W, or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
- May be further diluted in NS or D5W to a final concentration of 0.1 mg/mL.

**Cisplatin** __________ mg (100 mg/m$^2$) IV on day 1
- Available in solution as 1 mg/mL.
- Do not use aluminum needles, because precipitate will form.
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.
- Further dilute solution with 250 cc or more of NS.

**Major Side Effects**
- Hypersensitivity Reaction: Etoposide, bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion. Anaphylaxis may occur, but is rare. Cisplatin: facial edema, wheezing, bronchospasm, and hypotension.
- Bone Marrow Depression: Myelosuppression can be a dose-limiting toxicity.
- GI Toxicities: Moderate to severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare. Metallic taste and anorexia.
- Renal: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days.
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P.
- Inappropriate secretion of antidiuretic hormone (SIADH).
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Secondary Malignancies: Increased risk with etoposide (especially with AML).
- Skin: Alopecia
- Reproductive: Azoospermia, impotence, and sterility. Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1, and 1 hour days 2–5. Repeat cycle every 21 days.
Estimated number of visits: Six visits per cycle. Request three cycles worth of visits.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________

Physician
Date

Patient Name
ID Number

__________________________ / ____________/ ____________

Diagnosis
Ht  Wt  M$^2$
### Cisplatin + Etoposide + Bleomycin (PEB)

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\))

**Baseline procedures or tests:** Pulmonary function tests and chest x-ray studies at baseline and before each cycle of therapy.

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Acetaminophen** 30 minutes before bleomycin

**Administer:**

- **Cisplatin** _________ mg (20 mg/m\(^2\)) IV on days 1–5
  - Available in solution as 1 mg/mL.
  - Do not use aluminum needles, because precipitate will form.
  - Further dilute solution with 250 cc or more of NS.
  - Stable for 96 hours when protected from light and only 6 hours when not protected from light.

- **Etoposide** _________ mg (100 mg/m\(^2\)) IV on days 1–5
  - Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W, or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
  - May be further diluted in NS or D5W to a final concentration of 0.1 mg/mL.

- **Bleomycin** 30 units IV on days 1, 8, and 15
  - A test dose of 2 units is recommended before the first dose to detect hypersensitivity
  - Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water to maximum concentration 3 μ/mL.
  - Reconstituted solution is stable for 24 hours at room temperature and 35 days if refrigerated and protected from light.

### Major Side Effects

- **Hypersensitivity Reaction:** With bleomycin, fever and chills observed in up to 25% of patients. True anaphylactoid reactions are rare. With etoposide, bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion. Anaphylaxis may occur, but is rare. Cisplatin causes facial edema, wheezing, bronchospasm, and hypotension.

- **Bone Marrow Depression:** Myelosuppression can be a dose-limiting toxicity.

- **GI Toxicities:** Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare. Metallic taste and anorexia.

- **Pulmonary Toxicities:** Pulmonary toxicity is dose limiting in bleomycin. Usually presents as pneumonitis with cough, dyspnea, dry inspiratory crackles, and infiltrates on CXR.

- **Renal:** Nephrotoxicity is dose related with cisplatin, presents at 10–20 days.

- **Electrolyte Imbalance:** Decreases Mg\(^{2+}\), K\(^{+}\), Ca\(^{2+}\), Na\(^{+}\), and P.

- **Inappropriate secretion of antidiuretic hormone (SIADH).**

- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.

- **Ototoxicity:** High-frequency hearing loss and tinnitus.

- **Secondary Malignancies:** Increased risk with etoposide (especially AML).

- **Skin:** Alopecia

- **Reproductive:** Azoospermia, impotence, and sterility. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1, 1 hour days 2–5, 8, and 15. Repeat cycle every 21 days.

**Estimated number of visits:** Seven visits per cycle. Request three cycles worth of visits.
Dose Calculation by: 1. _____________________________ 2. _____________________________

_____________________________ _______________________________
Physician Date

_____________________________ _______________________________
Patient Name ID Number

_____________________________ / / M²
Diagnosis Ht Wt
**Gemcitabine + Carboplatin + Paclitaxel (GCP)**

**Baseline laboratory tests:** CBC: Chemistry panel (including Mg\(^{2+}\), LFTs)

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** 5-HT\(_3\) and dexamethasone 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Carboplatin** ________ mg (AUC 5) IV on day 1

- Available in solution as 10 mg/mL or as lyopholized powder.
- Reconstitute with sterile water for injection, 5% dextrose or 0.9% sodium chloride.
- Reconstituted solution stable for 8 hours at room temperature.
- Do not use aluminum needles, because precipitate will form.
- Give carboplatin after paclitaxel to decrease toxicities.

**Gemcitabine** ________ mg (1000 mg/m\(^2\)) IV on days 1 and 8

- Available in 1-g or 200-mg vials, reconstitute with 0.9% sodium chloride (5 cc for 200 mg and 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable for 24 hours at room temperature.
- DO NOT refrigerate, because precipitate will form.

**Paclitaxel** ________ mg (200 mg/m\(^2\)) IV over 3 hours on day 1

Repeat cycle every 21 days for four cycles. Followed by:

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** Paclitaxel ________ mg (70 mg/m\(^2\)) IV weekly for 6 weeks with a 2-week rest.

- Available in solution as 6 mg/mL.
- Final concentration is ≤ 1.2 mg/mL.
- Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
- Use non-PVC containers and tubing with 0.22-micron inline filter to administer.

Repeat for a total of three cycles.

**Major Side Effects**

- **Hypersensitivity Reaction:** Paclitaxel (30%–40%). Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always in the first 10 minutes. Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy.

- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF recommended.

- **GI Toxicities:** Moderate to severe nausea and vomiting, acute or delayed. Mucositis and diarrhea. Elevation of serum transaminase and bilirubin levels.

- **Flulike Syndrome:** Fever, malaise, chills, headache, and myalgias. Fever in absence of infection 6–12 hours after treatment.

- **Hepatic:** Transient elevations of serum transaminases and bilirubin.

- **Renal:** Nephrotoxicity less common than with cisplatin and rarely symptomatic.

- **Electrolyte Imbalance:** Decreases Mg\(^{2+}\), K\(^{+}\), Ca\(^{2+}\), Na\(^{+}\), and P.

- **Inappropriate secretion of antidiuretic hormone (SIADH).**

- **Neurotoxicity:** Sensory neuropathy with numbness and paresthesias dose related or can be dose limiting.

- **Skin:** Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.

- **Reproductive:** Amenorrhea, azoosperma, impotence, and sterility. Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.
Cancer of Unknown Primary

Supportive drugs:  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)

Treatment schedule:  
Chair time 3 hours on day 1, and 1 hour on day 8. Repeat cycle every 21 days for four cycles. Then 2 hours weekly for 6 weeks. Repeat every 8 weeks for three cycles.

Estimated number of visits:  
Three visits per cycle; 12 visits first course. Then, 18 visits last course of treatment.

Dose Calculation by:  
1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

_____________________________________________ ______________________________________________________

_____________________________________________ ________________/ ________________/ ________________

Physician  
Date

Patient Name  
ID Number

_____________________________________________  
Diagnosis  
Ht  Wt  M²
Combination Regimens

5-Fluorouracil + Streptozocin
5-Fluorouracil: 400 mg/m²/day IV on days 1–5
Streptozocin: 500 mg/m²/day IV on days 1–5
Repeat cycle every 6 weeks.1,89

Doxorubicin + Streptozocin
Doxorubicin: 50 mg/m² IV on days 1 and 22
Streptozocin: 500 mg/m²/day IV on days 1–5
Repeat cycle every 6 weeks.1,89

Cisplatin + Etoposide
Cisplatin: 45 mg/m²/day IV continuous infusion on days 2 and 3
Etoposide: 130 mg/m²/day IV continuous infusion on days 1–3
Repeat cycle every 21 days.1,90

Single-Agent Regimens

Octreotide: Sandostatin LAR
Octreotide: 150–250 µg SC tid or
Sandostatin LAR: 20–40 mg IM every 4 weeks
Continue until disease progression1,91–93
Combination Regimens

5-Fluorouracil + Streptozocin

**Baseline laboratory tests:** CBC: Chemistry and CA 19-9, creatinine clearance

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 10–20 mg in 100 cc of normal saline (NS)

**Administer:**

- **Fluorouracil** __________mg (400 mg/m²/day) IV on days 1–5
  - Available 10 mg/mL. No dilution required. Can be further diluted with 0.9% sodium chloride or 5% dextrose and water (D5W).

- **Streptozocin** __________mg (500 mg/m²) IV over 1 hour on days 1–5 omit if CrC < 60 mL/min
  - 1 gm vial, reconstitute with sterile water or 0.9% sodium chloride
  - Reconstituted solution is stable for 48 hours at room temperature, and 96 hours refrigerated.
  - Irritant; avoid contact with skin and extravasation
  - Administer with 1–2 L of hydration to avoid renal toxicity.

**Major Side Effects**

- Renal: Renal toxicity is dose limiting. Renal dysfunction occurs in 60% of patients receiving streptozocin. Usually transient proteinuria and azotemia, but may progress to permanent renal failure.

- Bone Marrow Depression: Myelosuppression occurs in about 9%–20% of patients with nadir at 7–14 days. Occasionally, severe leucopenia and thrombocytopenia occur. Mild anemia may occur.

- Gastrointestinal (GI) Toxicities: Nausea and vomiting occur in up to 90% of patients beginning 1–4 hours after administration. May worsen during 5-consecutive-day therapy.

- Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.

- Blood Glucose Levels: Hypoglycemia (20%) or hyperglycemia may occur.

- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on days 1–5. Repeat cycle every 6 weeks as tolerated.

**Estimated number of visits:** Five visits per treatment cycle. Request six cycles for complete treatment.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

_____________________________ ______________________________
Physician Date

_____________________________
Patient Name ID Number

______________________________/ ________________/ ________________
Diagnosis Ht Wt M²
**Doxorubicin + Streptozocin**

**Baseline laboratory tests:** CBC: Chemistry, creatinine clearance

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS.

**Administer:**

**Doxorubicin** ___________ mg (50 mg/m²) IV push on days 1 and 22

- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Streptozocin** ___________ mg (500 mg/m²/day) IV days 1–5 omit if CrC < 60 mL/min

- 1-g vial; reconstitute with sterile water or NS.
- Reconstituted solution is stable for 48 hours at room temperature, and 96 hours refrigerated.
- Irritant: Avoid contact with skin or extravasation.
- Administer with 1–2 L of hydration to avoid renal toxicity.

**Major Side Effects**

- **Bone Marrow Depression:** White blood cell (WBC) and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe.
- **Renal:** Renal toxicity is dose limiting. Renal dysfunction occurs in 60% of patients receiving streptozocin. Usually transient proteinuria and azotemia, but may progress to permanent renal failure.
- **GI Toxicities:** Nausea and vomiting is moderate to severe with doxorubicin. May worsen during 3-consecutive-day therapy of streptozocin. Stomatitis occurs in 10% of patients but is not dose limiting.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses < 450 mg/m², cardiomyopathy may occur.
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction; irritation of tissue if streptozocin is extravasated. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doxorubicin doses < 50 mg/m².
- **Blood Glucose Levels:** Hypoglycemia (20%) or hyperglycemia may occur.
- **Reproduction:** Doxorubicin is teratogenic, mutagenic, and carcinogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on days 1–5, and 1 hour on day 22. Repeat cycle every 6 weeks.

**Estimated number of visits:** One visit per cycle. Request four cycles for complete treatment.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

Physician Date

Patient Name ID Number

Diagnosis Ht Wt M²
Carcinoid Tumors

### Cisplatin + Etoposide

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\))

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

- **Etoposide** ________mg (130 mg/m\(^2\)/day) IV continuous infusion on days 1–3
  - Stable for 96 hours at concentration 0.2 mg/mL.
  - Available in 100-mg vials, when reconstituted with 5 or 10 mL of NS, D5W, or sterile water with benzyl alcohol, makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
  - May be further diluted in NS or D5W to a final concentration of 0.1 mg/mL.

- **Cisplatin** ________mg (45 mg/m\(^2\)/day) IV continuous infusion on days 2 and 3
  - Stable for 96 hours when protected from light and only 6 hours if not protected from light.
  - Do not use aluminum needles, as precipitate will form.
  - Available in solution as 1 mg/mL.
  - Further dilute solution with 250 cc or more of NS.

**Major Side Effects**

- **Allergic Reaction:** Bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion of etoposide. Anaphylaxis may occur but is rare.
- **Bone Marrow Depression:** Myelosuppression can be a dose-limiting toxicity.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare.
- **Renal:** Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
- **Electrolyte Imbalance:** Decreases Mg\(^{2+}\), K, Ca\(^{2+}\), Na, and P.
- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- **Ototoxicity:** High-frequency hearing loss and tinnitus.
- **Skin:** Alopecia
- **Reproduction:** Drugs are mutagenic and teratogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1–3. Discontinue pump day 4. Repeat cycle every 21 days.

**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits. May require extra days for hydration.

**Dose Calculation by:**

1. ___________________________________________________________________
2. ___________________________________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

---

**Diagnosis**

Ht / Wt / M\(^2\)
Single-Agent Regimens

Octreotide or Sandostatin LAR Depot (Octreotide acetate injectable suspension)

**Baseline laboratory tests:** CBC: Chemistry, liver function tests (LFTs), thyroid function, 5–HIAA (urinary 5-hydroxyindole acetic acid) GH and IGF–1

**Baseline procedures or tests:** CAT scan, PET scan

**Initiate IV:** N/A

**Premedicate:** None required

**Administer:**

- **Octreotide** 150–250 mcg SC tid
  - Available in 1- or 5-mL multidose vials. 50 mcg → 5000 mcg/mL.
  - Patient may develop pain, stinging, tingling, or burning sensation at injection site, with redness and swelling.
  - May change to long-acting depot if condition is already controlled on immediate-release preparation, or in a new patient, after response is assessed after 2 weeks of immediate-release dosing.

**Or Administer:**

- **Sandostatin** LAR 20–30 mg IM in gluteal muscle once per month
  - Available in 10-, 20-, or 30-mg single dose kits.
  - Closely follow mixing instructions, change the needle after mixing, administer immediately after changing the needle.
  - Must be given deep IM in gluteal muscle, never given IV or SC.
  - Patients should receive an initial trial of octreotide acetate subcutaneously to develop tolerability before starting Sandostatin LAR.
  - Starting dose of 20 mg deep IM monthly for 3 months.
  - Dose adjustment after 3 months based on the following criteria
    - GH < 2.5 ng/ml, IGF–1 normal and clinical symptoms controlled: maintain Sandostatin LAR at 20 mg every 4 weeks.
    - GH > 2.5 ng/ml, IGF–1 elevated and clinical symptoms uncontrolled: increase Sandostatin LAR to 30 mg every 4 weeks.
    - GH < 1 ng/ml, IGF–1 normal and clinical symptoms controlled: reduce Sandostatin LAR at 20 mg every 4 weeks.
    - Patients whose GH, IGF-1 and symptoms are not adequately controlled at a dose of 30 mg may increase to 40 mg every 4 weeks. Doses higher than 40 mg are not recommended.

**Major Side Effects**

- Nutrition: Transient hypoglycemia or hyperglycemia due to altered balance between hormones regulating serum glucose (insulin, glucagons, growth hormone); occurs rarely.
- Hypothyroidism has been reported. Baseline and periodic assessment of thyroid function is recommended.
- GI Toxicities: Nausea, vomiting, diarrhea, flatulence, and abdominal pain or discomfort occur in 27%–38% of patients.
- Other: Rarely, a patient may experience lightheadedness, dizziness, fatigue, pedal edema, headache, flushing of the face, weakness.
- Pain at injection site with Sandostatin LAR depot.

**Initiate antiemetic protocol:** Mildly emetogenic protocol prn.

**Supportive drugs:**
- Loperamide (Imodium)
- Diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** No chair time. Self administration of injections TID as tolerated. For patients receiving Sandostatin LAR: every 4-week appointments for injection

**Estimated number of visits:** Monthly during treatment.
138  Carcinoid Tumors

**Dose Calculation by:** 1. ____________________________ 2. ____________________________

_____________________________________________  ______________________________________________________

Physician  Date

_____________________________________________  ______________________________________________________

Patient Name  ID Number

_____________________________________________  ________________________  ________________________

Diagnosis  Ht  Wt  M²
**Combination Regimens**

**Cisplatin + Radiation Therapy** ................................................. 142
Radiation therapy: 1.8 to 2 Gy per fraction (total dose, 45 Gy)
Cisplatin: 40 mg/m² IV weekly (maximal dose, 70 mg/wk)
Cisplatin is given 4 hours before radiation therapy on weeks 1–6.¹⁹⁴

**Paclitaxel + Cisplatin** ........................................................... 143
Paclitaxel: 135 mg/m² IV over 24 hours on day 1
Cisplatin: 75 mg/m² IV on day 2
Repeat cycle every 21 days.¹⁹⁵

**Cisplatin + Topotecan** .......................................................... 144
Cisplatin: 50 mg/m² IV on day 1
Topotecan: 0.75 mg/m²/day IV on days 1–3
Repeat cycle every 21 days.¹⁹⁵

**BIP** ................................................................................. 145
Bleomycin: 30 U IV over 24 hours on day 1
Ifosfamide: 5000 mg/m² IV over 24 hours on day 2
Mesna: 6000 mg/m² IV over 36 hours on day 2
Cisplatin: 50 mg/m² IV on day 2
Repeat cycle every 21 days.¹⁹⁶

**BIC** ................................................................................. 147
Bleomycin: 30 U IV on day 1
Ifosfamide: 2000 mg/m² IV on days 1–3
Mesna: 400 mg/m² IV, 15 minutes before ifosfamide dose,
then 400 mg/m² IV at 4 and 8 hours after ifosfamide
Carboplatin: 200 mg/m² IV on day 1
Repeat cycle every 21 days.¹⁹⁷

**Cisplatin + 5-Fluorouracil** ................................................... 149
Cisplatin: 75 mg/m² IV on day 1
5-Fluorouracil: 1000 mg/m² IV continuous infusion on days 2–5
Repeat cycle every 21 days.¹⁹⁸
<table>
<thead>
<tr>
<th>Regimen</th>
<th>Dose Description</th>
<th>Repeat Cycle</th>
</tr>
</thead>
</table>
| **Cisplatin + Vinorelbine** | Cisplatin: 80 mg/m² IV on day 1  
Vinorelbine: 25 mg/m² IV on days 1 and 8  
Repeat cycle every 21 days. | 150            |
| **Cisplatin + Irinotecan** | Cisplatin: 60 mg/m² IV on day 1  
Irinotecan: 60 mg/m² IV on days 1, 8, and 15  
Repeat cycle every 28 days. | 151            |
| **MOBP**                | Mitomycin: 10 mg/m² IV on day 1  
Vincristine: 0.5 mg/m² IV on days 1 and 4  
Bleomycin: 30 U/day IV continuous infusion on days 1–4  
Cisplatin: 50 mg/m² IV on days 1 and 22  
Repeat cycle every 6 weeks. | 152            |
| **Single-Agent Regimens** |                                                                                   |                |
| **Cisplatin**           | Cisplatin: 50–100 mg/m² IV on day 1  
Repeat cycle every 21 days. | 154            |
| **Docetaxel**           | Docetaxel: 100 mg/m² IV on day 1  
Repeat cycle every 21 days. | 155            |
| **Paclitaxel**          | Paclitaxel: 175 mg/m² IV over 3 hours on day 1  
Repeat cycle every 21 days. | 156            |
| **Irinotecan**          | Irinotecan: 125 mg/m² IV weekly for 4 weeks  
Repeat cycle every 6 weeks. | 157            |
**Vinorelbine** .............................................................. 158

Vinorelbine: 30 mg/m² IV weekly
Repeat cycle every week up to 12 cycles, to be followed by surgery or radiation therapy.¹,¹⁰⁶

**Topotecan** .............................................................. 159

Topotecan: 1.5 mg/m²/day on days 1–5
Repeat cycle every 21 days.¹,¹⁰⁷
Combination Regimens

**Cisplatin + Radiation Therapy**

**Baseline laboratory tests:** CBC: Chemistry panel (including Mg$^{2+}$)  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS before cisplatin therapy  
**Administer:** Radiation therapy: 1.8 to 2 Gy per fraction (total dose, 45 Gy)  
- **Cisplatin** _______ mg (40 mg/m²) IV weekly (maximal dose is 70 mg/wk)  
  - Available in 100-mg vials, 1 mg/mL.  
  - Do not use aluminum needles, because precipitate will form.  
  - Further dilute solution with 250–1000 cc NS.  
  - Stable for 24 hours at room temperature.  
  - Cisplatin is given 4 hours before radiation therapy on weeks 1–6.

**Major Side Effects**
- Bone Marrow Toxicity: WBCs, platelets, and red blood cells equally affected at lower doses.  
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Diarrhea can be severe.  
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Vigorous hydration before and after treatment required.  
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.  
- Skin: Local tissue irritation progressing to desquamation can occur in radiation field. Do not use oil-based lotions or creams in radiation field. Alopecia.  
- Neurotoxicity: Peripheral sensory neuropathy; increased risk with cumulative doses.  
- Ototoxicity: High-frequency hearing loss and tinnitus.

**Initiate antiemetic protocol:** Moderately emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time: 1–4 hours weekly for 6 weeks  
**Estimated number of visits:** Six visits per treatment course. May need more visits if patient needs hydration for nausea and vomiting.

**Dose Calculation by:**  
1. ____________________________  
2. ____________________________

---

**Physician**  
**Date**

**Patient Name**  
**ID Number**  
_________ / __________ / __________

**Diagnosis**  
Ht    Wt    M²
Paclitaxel + Cisplatin

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$)
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$\text{3}$ and dexamethasone 10–20 mg in 100 cc of NS (days 1 and 2)
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)
Administer: Paclitaxel __________mg (135 mg/m$^2$) IV over 24 hours on day 1
- Available in 30- and 300-mg vials 6m/mL and 100-mg vial 16.7 mg/mL.
- Further dilute in NS or D5W for final concentration < 1.2 mg/mL.
- Use non-PVC containers and tubing with 0.22-micron inline filter for administration.
- Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
Cisplatin __________mg (75 mg/m$^2$) IV on day 2
- Available in 1-mg/mL concentrations.
- Further dilute solution with 250 cc or more of NS.
- Do not use aluminum needles, because precipitate will form.
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.

Major Side Effects
- Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related.
- Alopecia: Total loss of body hair occurs in nearly all patients.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on day 1, and 3 hours on day 2. Repeat every 21 days as tolerated or until disease progression.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. ________________________________ 2. ________________________________

Physician ________________________________ Date ________________________________

Patient Name ________________________________ ID Number ________________________________

Diagnosis ________________________________ Ht __________/ Wt __________/ M$^2$ __________
Cervical Cancer

Cisplatin + Topotecan

Baseline laboratory tests: CBC: Chemistry (including Mg²⁺)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: Cisplatin _________mg (50 mg/m²) IV over 1–3 hours on day 1
• Do not use aluminum needles, because precipitate will form.
• Available in solution as 1 mg/mL.
• Further dilute solution with 250 cc or more of NS.
• Stable for 96 hours when protected from light and only 6 hours when not protected from light.
Topotecan _________mg (0.75 mg/m²/day) IV on days 1–3
• Available as a 4-mg vial.
• Reconstitute vial with 4 mL of sterile water for injection.
• Further dilute in NS or D5W.
• Use immediately.

Major Side Effects
• Bone Marrow Depression: Myelosuppression can be severe, dose-limiting toxicity. May need dose reductions for severe neutropenia.
• GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Diarrhea or constipation possible. Abdominal pain not unusual.
• Hepatic Toxicities: Evidence of increased drug toxicity in patients with low protein and hepatic dysfunction. Dose reductions may be necessary.
• Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting.
• Electrolyte Imbalance: Decreases Mg²⁺, K, Ca²⁺, Na, and P.
• Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
• Ototoxicity: High-frequency hearing loss and tinnitus.
• Skin: Alopecia.
• Reproduction: Cisplatin is mutagenic and probably teratogenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1, and 1 hour on days 2 and 3. Repeat cycle every 21 days.
CBC weekly.

Estimated number of visits: Four visits per cycle. Request six cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht __________ Wt __________ M² __________
**Bleomycin + Ifosfamide + Mesna + Cisplatin (BIP)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg^{2+})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Central line placement, pulmonary function tests (PFTs), chest x-ray study (CXR)</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Acetaminophen 325–500 mg^2 PO before bleomycin 5-HT\textsubscript{3} and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Bleomycin</strong> 30 units IV over 24 hours on day 1</td>
</tr>
<tr>
<td></td>
<td>• Test dose of 2 units SC or IM before first dose.</td>
</tr>
<tr>
<td></td>
<td>• Stable at room temperature for 24 hours and 35 days if refrigerated and protected from light. Maximum concentration 3 \mu/mL.</td>
</tr>
<tr>
<td></td>
<td>• Available powder in 15- or 30-unit doses.</td>
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<tr>
<td></td>
<td>• Reconstitute powder with 0.9% sodium chloride or sterile water 3–10 mls.</td>
</tr>
<tr>
<td></td>
<td>• Do not reconstitute with dextrose-containing solutions.</td>
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<tr>
<td></td>
<td><strong>Ifosfamide</strong> ____mg (5000 mg/m\textsuperscript{2}) IV over 24 hours on day 2</td>
</tr>
<tr>
<td></td>
<td>• Reconstitute powder with sterile water for injection; discard unused portion after 8 hours. 50 mg/mL final concentration.</td>
</tr>
<tr>
<td></td>
<td>• May further dilute in D5W or 0.9% sodium chloride.</td>
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<tr>
<td></td>
<td><strong>Mesna</strong> ____mg (6000 mg/m\textsuperscript{2}) IV over 36 hours on day 2</td>
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<tr>
<td></td>
<td>• Diluted solution is stable for 24 hours at room temperature.</td>
</tr>
<tr>
<td></td>
<td><strong>Cisplatin</strong> ______mg (50 mg/m\textsuperscript{2}) IV infusion on day 2</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-mL vials. 1-mg/1-mL concentration.</td>
</tr>
<tr>
<td></td>
<td>• Stable for 96 hours when protected from light and only 6 hours when not protected from light.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute solution with 250–1000 cc or more of NS.</td>
</tr>
<tr>
<td><strong>Major Side Effects</strong></td>
<td>Hypersensitivity Reaction: Fever and chills in 25% of patients. True anaphylactoid reactions are rare; more common in lymphoma patients.</td>
</tr>
<tr>
<td></td>
<td>Bone Marrow Depression: Myelosuppression cumulative and dose limiting.</td>
</tr>
<tr>
<td></td>
<td>GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea occurs in 30%–40% of patients.</td>
</tr>
<tr>
<td></td>
<td>Pulmonary Toxicities: Pneumonitis seen in 10% of patients with cough, rales, dyspnea, and infiltrates on CXR. May progress to irreversible pulmonary fibrosis in 1% of patients.</td>
</tr>
<tr>
<td></td>
<td>Renal: Nephrotoxicity and/or hemorrhagic cystitis may be dose limiting.</td>
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<tr>
<td></td>
<td>Electrolyte Imbalance: Decreases Mg^{2+}, K, Ca^{2+}, Na, and P.</td>
</tr>
<tr>
<td></td>
<td>Neurotoxicity: Sensory neuropathy with numbness and paresthesias.</td>
</tr>
<tr>
<td></td>
<td>CNS: Somnolence, confusion, depressive psychosis, or hallucinations. Incidence may be higher in patients with decreased renal function.</td>
</tr>
<tr>
<td></td>
<td>Skin: Erythema, rash, striae, hyperpigmentation, vesiculation, hyperkeratosis, nail changes, skin peeling, macular rash, and urticaria. Alopecia.</td>
</tr>
</tbody>
</table>

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- \( \square \) pegfilgrastim (Neulasta)
- \( \square \) filgrastim (Neupogen)
- \( \square \) epoetin alfa (Procrit)
- \( \square \) darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1, and 3 hours on day 2. Repeat cycle every 21 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.
Cervical Cancer

Dose Calculation by: 1. ____________________________ 2. ____________________________

_________________________  ___________________________
Physician                          Date

_________________________  ___________________________
Patient Name                          ID Number

_________________________
Diagnosis

Ht      Wt      M²
Bleomycin + Ifosfamide + Mesna + Carboplatin (BIC)

Baseline laboratory tests: CBC: Chemistry (including Mg2+)
Baseline procedures or tests: Pulmonary Function Tests (PFTs), CXR
Initiate IV: 0.9% sodium chloride
Premedicate: Acetaminophen 325–500 mg PO before bleomycin
5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: Bleomycin 30 units IV over 10 minutes on day 1
• Test dose of 2 units SC or IM before first dose.
• Stable at room temperature for 24 hours and 35 days if refrigerated and protected from light. Maximum concentration 3 µ/mL.
• Available powder in 15- or 30-unit doses.
• Reconstitute powder with 0.9% sodium chloride or sterile water.
• Do not reconstitute with dextrose-containing solutions.
Ifosfamide ________mg (2000 mg/m2) IV on days 1–3
• Reconstitute powder with dextrose-containing solutions.
• Diluted solution is stable for 24 hours at room temperature. Refrigerate and use reconstituted solution within 6 hours.
Mesna ________mg (400 mg/m2) IV 15 minutes before and 4 and 8 hours after ifosfamide.
• Diluted solution is stable for 24 hours at room temperature. Refrigerate and use reconstituted solution within 6 hours.
Carboplatin ________mg (200 mg/m2) IV infusion over 30–60 minutes on day 1
• Available as powder in 50-, 150-, and 450-mg vial or as solution. 10 mg/mL.
• Reconstitute powder with sterile water, D5W, or NS for injection.
• Reconstituted solution stable at room temperature for 8 hours.

Major Side Effects
• Hypersensitivity Reaction: Fever and chills in 25% of patients. True anaphylactic reactions with bleomycin are rare; more common in lymphoma patients. Increased risk of reaction with carboplatin after ≥ 7 doses are received.
• Bone Marrow Depression: Myelosuppression cumulative and dose limiting.
• GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mild diarrhea may occur.
• Pulmonary Toxicities: Pneumonitis seen in 10% of patients with cough, rales, dyspnea, and infiltrates on CXR. May progress to irreversible pulmonary fibrosis in 1% of patients. Increased incidence in patients > 70 and with cumulative doses > 400 units.
• Renal: Nephrotoxicity and/or hemorrhagic cystitis possible.
• Electrolyte Imbalance: Decreases Mg2+, K, Ca2+, and Na.
• Neurotoxicity: Sensory neuropathy with numbness and SIADH paresthesias (< 10%)
• CNS: Somnolence, confusion, depressive psychosis, or hallucinations. Incidence may be higher in patients with decreased renal function.
• Skin: Erythema, rash, striae, hyperpigmentation, vesiculation, hyperkeratosis, nail changes, skin peeling, macular rash, urticaria, Alopecia.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours on day 1, and 3 hours on days 2 and 3. Repeat cycle every 21 days.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.
148 Cervical Cancer

**Dose Calculation by:** 1. ___________________________ 2. ___________________________

_____________________________ ________________________________________________

Physician Date

_____________________________ ______________________________

Patient Name ID Number

_____________________________ ________________________

Diagnosis Ht Wt M²
Cervical Cancer

Cisplatin + 5-Fluorouracil

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$)
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
Administer: Cisplatin $\underline{\quad\quad}$ mg (75 mg/m$^2$) IV infusion on day 1
  • Stable for 96 hours when protected from light and only 6 hours when not protected from light.
  • Do not use aluminum needles, because precipitate will form.
  • Further dilute solution with 250–1000 cc of NS.
5-Fluorouracil $\underline{\quad\quad}$ mg (1000 mg/m$^2$) IV continuous infusion days 2–5
  • No dilution required.
  • May be further diluted with NS or D5W.

Major Side Effects

  • Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related.
  • GI Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
  • Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
  • Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.
  • Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
  • Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1, and 1 hour on day 2. Repeat cycle every 21 days.
Estimated number of visits: Two visits per cycle. Ask for three cycles worth of visits.

Dose Calculation by: 1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

________________ / ___________ / ___________
Diagnosis Ht Wt M$^2$
Cisplatin + Vinorelbine

Baseline laboratory tests: CBC, Chemistry (including Mg2+)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: Cisplatin _________ mg (80 mg/m²) IV on day 1
  - Stable for 96 hours when protected from light and only 6 hours when not protected from light.
  - Do not use aluminum needles, because precipitate will form.
  - Available as 1-mg/mL solution.
  - Further dilute in 250–1000 cc 0.9% sodium chloride.
Vinorelbine _________ mg (25 mg/m²) IV on days 1 and 8
  - Vesicant
  - Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
  - Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL.
  - Infuse over 6–10 minutes into sidearm port of freely flowing IV infusion, either peripherally or via central line. Use port CLOSEST TO THE IV BAG, not to the patient.
  - Flush vein with at least 75–125 mL of IV fluid after drug infusion.
  - Reconstituted solution is stable for 24 hours refrigerated.

Major Side Effects
  - Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.
  - GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Constipation, diarrhea, stomatitis, and anorexia may be seen.
  - Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
  - Electrolyte Imbalance: Decreases Mg2+, K, Ca2+, Na, and P.
  - Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia likely.
  - Musculoskeletal: Jaw pain, myalgia, and arthralgia.
  - Respiratory: Dyspnea and hypersensitivity reaction.
  - Neurotoxicity: Usually mild paresthesia and hypesthesia in severity and occurs much less frequently than with other vinca alkaloids.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: ■ pegfilgrastim (Neulasta)   ■ filgrastim (Neupogen)
  ■ epoetin alfa (Procrit)   ■ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 3 hours on day 1, and 1 hour on day 8. Repeat cycle every 21 days.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. __________________________________
_____________________________________________ ______________________________________________________
Physician Date
_____________________________________________ ______________________________________________________
Patient Name ID Number
_____________________________________________ ________________________/ ________________________/ ________________________
Diagnosis Ht Wt M²
Cisplatin + Irinotecan

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\))
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS
Administer: Cisplatin _________mg (60 mg/m\(^2\)) IV over 1–3 hours on day 1
  • Stable for 96 hours when protected from light and only 6 hours when not protected from light.
  • Do not use aluminum needles, because precipitate will form.
  • Available in solution as 1 mg/mL.
  • Further dilute solution with 250–1000 cc NS.
Irinotecan _________mg (60 mg/m\(^2\)) IV on days 1, 8, and 15
  • Available in 2- and 5-ml vials (20 mg/ml).
  • Store at room temperature and protect from light.
  • Dilute and mix drug in D5W (preferred) or NS, final concentration 0.12–2.8 mg/mL.
  • Diluted drug is stable 24 hours at room temperature or, if diluted in D5W, stable for 48 hours if refrigerated and protected form light.

Major Side Effects
  • Bone Marrow Depression: Myelosuppression can be severe, dose-limiting toxicity. May need dose reductions for severe neutropenia.
  • GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Diarrhea or constipation possible. Abdominal pain not unusual. Early diarrhea, most likely a cholinergic reaction, can be managed with atropine before administration of irinotecan. Late diarrhea observed in 22% of patients, can be severe, and should be treated aggressively. Consider lomotil, immodium, tincture of opium, and hydration.
  • Hepatic Toxicities: Evidence of increased drug toxicity in patients with low protein and hepatic dysfunction. Dose reductions may be necessary.
  • Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting.
  • Electrolyte Imbalance: Decreases Mg\(^{2+}\), K, Ca\(^{2+}\), Na, and P.
  • Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
  • Ototoxicity: High-frequency hearing loss and tinnitus.
  • Skin: Alopecia
  • Reproduction: Cisplatin is mutagenic and probably teratogenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
  □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
  □ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours on day 1, and 2 hours on days 2 and 3. Repeat cycle every 28 days.
Estimated number of visits: Four visits per cycle. Request six cycles worth of visits.
Dose Calculation by:

Physician
Date

Patient Name
ID Number

Diagnosis
Ht  Wt  M\(^2\)
**Mitomycin + Vincristine + Bleomycin + Cisplatin (MOBP)**

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\))

**Baseline procedures or tests:** PFTs and CXR baseline and before each cycle of therapy.

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

- **Mitomycin** _______mg (10 mg/m\(^2\)) IV push or infusion through side arm of running infusion on day 1
  - Potent vesicant
  - Available in 5-, 20-, and 40-mg vials. Dilute with sterile water to 0.5 mg/mL.
  - Reconstituted solution is stable for 12 days refrigerated or 7 days at room temperature.

- **Vincristine** _______mg (1 mg/m\(^2\)) IV push on days 1, 8, 22, and 29. **Total dose should not exceed 2 mg.**
  - Vesicant
  - Available in 1-, 2-, and 5-mg vials (1 mg/mL).
  - Refrigerate until use.

- **Bleomycin** 10 units IV on days 1, 8, and 15, and 22
  - A test dose of 2 units is recommended before the first dose to detect hypersensitivity.
  - Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water, 3–10 mL.
  - Reconstituted solution is stable for 24 hours at room temperature.

- **Cisplatin** _______mg (50 mg/m\(^2\)) IV on days 1 and 22
  - Stable for 96 hours when protected from light and only 6 hours when not protected from light.
  - Do not use aluminum needles, because precipitate will form.
  - Further dilute solution with 250–1000 cc of NS.

**Major Side Effects**

- Allergic Reaction: Bleomycin—fever and chills observed in up to 25% of patients. True anaphylactic reactions are rare except in patients with lymphoma.

- Bone Marrow Depression: Myelosuppression can be a dose-limiting toxicity.

- GI Toxicities: Moderate-to-severe nausea and vomiting, acute or delayed. Mucositis is common. Constipation, abdominal pain, and paralytic ileus may occur with vincristine.

- Pulmonary Toxicities: Interstitial pneumonitis with bleomycin and mitomycin. Characterized by cough, dyspnea, pneumonia, pulmonary infiltrates on CXR.

- Renal: Nephrotoxicity secondary to cisplatin. Hemolytic-uremic syndrome, creatinine > 1.6, Hct < 25%, and platelet count < 100 × 10\(^3\)/mm\(^3\) occurs with mitomycin.

- Electrolyte Imbalance: Decreases Mg\(^{2+}\), K, Ca\(^{2+}\), Na, and P.


- Skin: Tissue necrosis if vesicants extravasated. Alopecia, skin rash, and fever.

- Reproduction: Drugs are mutagenic and teratogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1, 1 hour on days 8 and 15, and 3 hours on day 22. Repeat cycle every 6 weeks.

**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits.
Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M^2
Single-Agent Regimens

Cisplatin

Baseline labs: CBC: Chemistry (including Mg^{++})
Baseline procedures of tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5HT<sub>3</sub> and dexamethasone 10–20 mg in 100 cc normal saline
Administer: Cisplatin _______mg (50–100 mg/m<sup>2</sup>) IV over 1–3 hours on day 1

- Stable for 96 hours when protected from light and only 6 hours when not protected from light.
- Do not use aluminum needles, as precipitate will form.
- Available in solution as 1 mg/ml.
- Further dilute solution with 250 cc or more normal saline.

Major Side Effects

- Bone Marrow Depression: Myelosuppression can be severe, dose-limiting toxicity. May need dose reductions for severe neutropenia.
- GI Toxicities: Nausea and vomiting moderate to severe. May be acute (first 24 hours) or delayed (> 24 hours). Diarrhea or constipation possible. Abdominal pain not unusual.
- Hepatic Toxicities: Evidence of increased drug toxicity in patients with low protein and hepatic dysfunction. Dose reductions may be necessary.
- Renal: Nephrotoxicity is dose related with cisplatin, presents at 10–20 days. Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting.
- Electrolyte Imbalance: Decreases Mg<sup>++</sup>, K, Ca<sup>++</sup>, Na, and P.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking-glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Skin: Alopecia.
- Reproduction: Cisplatin is mutagenic and probably teratogenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours day 1. Repeat cycle every 21 days.
Estimated number of visits: Two visits per cycle, request six cycles worth of visits.

Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________________________ ______________________________________________________
Physician Date

_____________________________________________ ________________________________/ ________________________________/ ________________________________
Patient Name ID Number

_____________________________________________ ________________________________/ ________________________________/ ________________________________
Diagnosis Ht Wt M<sup>2</sup>
Docetaxel

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and CEA

Baseline procedures or tests: Central line placement

Initiate IV: 0.9% sodium chloride

Premedicate: Dexamethasone 8 mg bid for 3 days, starting the day before treatment or 5HT\(_3\) and dexamethasone 10–20 mg in 100 cc NS

Administer: Docetaxel \[\text{_______mg (100 mg/m}^2\text{)}\] IV on day 1

- Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or refrigerated for 8 hours.
- Further dilute in 250 cc D5W or 0.9% sodium chloride, final concentration 0.3–0.74 mg/mL.
- Use non-PVC containers and tubing to administer.
- Use within 24 hours of preparation.

Major Side Effects

- Hypersensitivity Reactions: Severe hypersensitivity reactions with docetaxel characterized by hypotension, bronchospasm, generalized rash and erythema, chest tightness, back pain, dyspnea, dry fever, or chills in 2%–3% of patients. Premedication with dexamethasone recommended.
- Bone Marrow Depression: Neutropenia is dose limiting, with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia also occur.
- GI Toxicities: Nausea and vomiting is mild to moderate. Mucositis and diarrhea occur in 40% of patients.
- Neuropathy: Peripheral neuropathy may affect up to 49% of patients. Sensory alterations are paresthesias in a “glove and stocking” distribution and numbness.
- Fluid Balance: Fluid retention syndrome. Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Occurs in about 50% of patients. Premedication with dexamethasone effective in preventing or minimizing occurrences.
- Skin: Alopecia occurs in 80% of patients. Nail changes, rash, dry and pruritic skin occurs. Hand-foot syndrome has also been reported.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.

Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days.

Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________

Physician ________________________________ Date ________________________________

Patient Name ___________________________ ID Number ____________________________

_______________________________ / _________________________ / ____________

Diagnosis Ht Wt M \[\text{______________/__________/__________/} \]

M²
Paclitaxel

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\)) and CEA
**Baseline procedures of tests:** N/A

**Initiate IV:**
0.9% sodium chloride

**Premedicate:**
5HT\(_3\) and dexamethasone 10–20 mg in 100 cc NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc NS

**Administer:** Paclitaxel __________mg (175 mg/m\(^2\)) IV over 3 hours day 1
- Available in 30- and 300-mg vials 6 mL/mg and 100-mg vial 16.7 mg/mL.
- Further dilute in NS or D5W for final concentration < 1.2 mg/mL.
- Use non-PVC containers and tubing with 0.22 micron inline filter for administration.

**Major Side Effects**
- Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspneas, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
- Bone Marrow Depression: Dose-limiting neutropenia with nadir at day 8–10 and recovery by day 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared to 24-hour schedule. G-CSF support recommended.
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias, dose related. More frequent with longer infusions and at doses < 175 mg/m\(^2\).
- Musculoskeletal: Arthralgias and myalgias up to 1 week after treatment.
- Alopecia: Loss of total body hair occurs in nearly all patients.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:**
Chair time 4–5 hours day 1. Repeat every 21 days as tolerated or until progression.

**Estimated number of visits:**
Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**
1. __________________________ 2. __________________________

_________________________

Physician

_________________________

Date

_________________________

Patient Name

_________________________ ___________ / ___________/ ___________

Ht Wt M\(^2\)

_________________________

Diagnosis
Irinotecan (weekly)

**Baseline laboratory tests:** CBC: Chemistry panel and CEA  
**Baseline procedures or tests:** N/A  
**Initiate IV:** D5W 100 cc  
**Premedicate:** 5HT₃ and dexamethasone 20 mg in 100 cc of D5W  
Atropine 0.25–1.0 mg IV unless contraindicated  
**Administer:** Irinotecan ___________ mg (125 mg/m²) IV in 500 cc of D5W over 90 minutes  
• Available in 2- and 5-ml vials (20 mg/ml).  
• Store at room temperature and protect from light.  
• Dilute and mix drug in D5W (preferred) or NS. 0.12–2.8 mg/mL.  
• Diluted drug is stable for 24 hours at room temperature or, if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.  

**Major Side Effects**  
• GI Toxicities: Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 22% of patients can be severe and should be treated aggressively. Consider Lomotil, Imodium, tincture of opium, and hydration. Nausea and vomiting occurs in 35%–60% of patients, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.  
• Bone Marrow Depression: Dose-limiting, grade 3–4 neutropenia in 17%. Nadir in 6–9 days.  
• Alopecia: Mild.  

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)  
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)  
☐ loperamide (Imodium) ☐ diphenoxylate/atropine sulfate (Lomotil)  

**Treatment schedule:** Chair time 3 hours weekly × 4 weeks. May need additional days for hydration if patient has diarrhea. Repeat cycle every 6 weeks.  

**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits.  

**Dose Calculation by:**  
1. __________________________________  
   2. ____________________________________________  
   _______________________________________________ ____________________________________________________  
   _______________________________________________ _______________________________________________________  

Physician Date  

Patient Name ID Number  

________________________/ ____________________/ ____________________  

Diagnosis Ht Wt M²
Vinorelbine

Baseline laboratory tests: CBC: Chemistry
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT$_3$
Administer: Vinorelbine ________mg (30 mg/m$^2$) IV weekly
  • Vesicant
  • Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
  • Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL.
  • Infuse over 6–10 minutes into sidearm port of freely flowing IV infusion, either peripherally or via central line. Use port CLOSEST TO THE IV BAG, not to the patient.
  • Flush vein with at least 75–125 mL of IV fluid after drug infusion.
  • Reconstituted solution is stable for 24 hours refrigerated.

Major Side Effects
  • Bone Marrow Depression: Leukopenia is dose-limiting toxicity. Nadir at 7–10 days. Severe thrombocytopenia and anemia are uncommon.
  • GI Toxicities: Nausea and vomiting are mild in IV dosing with an incidence of 44%. Stomatitis is mild to moderate (< 20% incidence). Constipation (35%), diarrhea (17%), and anorexia (< 20%) also occur.
  • Hormonal: Syndrome of inappropriate secretion of antidiuretic hormone.
  • Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia observed in 10%–15% of patients.
  • Neurotoxicity: Usually mild and occurs much less frequently than with other vinca alkaloids.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour weekly. Repeat cycle weekly up to 12 cycles, to be followed by surgery or radiation therapy.
Estimated number of visits: One per week up to 12 weeks. Request 12 cycles worth of visits.

Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________
Patient Name ___________________________ ID Number ___________________________
Diagnosis ___________________________ Ht ________ Wt ________ M$^2$ ________
## Topotecan

**Baseline laboratory tests:** CBC: Chemistry panel  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 10 mg in 100 cc of NS  
**Administer:** Topotecan ________mg (1.5 mg/m²/day) IV days 1–5

- Available as a 4-mg vial.
- Reconstitute vial with 4 mL of sterile water for injection.
- Further dilute in 0.9% sodium chloride or D5W.
- Use immediately.

### Major Side Effects

- **Hematologic:** Severe grade 4 myelosuppression occurs during the first course of therapy in 60% of patients. Dose-limiting toxicity. Typical nadir occurs at days 7–10 with full recovery by days 21–28. If severe neutropenia occurs, reduce dose by 0.25 mg/m² for subsequent doses or may use granulocyte colony stimulating factor (G-CSF) to prevent neutropenia 24 hours after last day of topotecan.
- **GI Toxicities:** Nausea and vomiting, mild to moderate and dose related. Occurs in 60%–80% of patients. Diarrhea occurs in 42% of patients, and constipation occurs in 39%. Abdominal pain may occur in 33% of patients.
- **Hepatic Toxicity:** Evidence of increased drug toxicity in patients with low protein and hepatic dysfunction. Dose reductions may be necessary.
- **Renal:** Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting. Microscopic hematuria occurs in 10% of patients.
- **Skin:** Alopecia.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- [ ] pegfilgrastim (Neulasta)
- [ ] filgrastim (Neupogen)
- [ ] epoetin alfa (Procrit)
- [ ] darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1–5. Repeat every 21 days until disease progression.

**Estimated number of visits:** Three visits per course. Request three courses.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis Ht: ______ Wt: ______ M²: ______
COLORECTAL CANCER

NEOADJUVANT COMBINED MODALITY THERAPY
FOR RECTAL CANCER
Combination Regimens

5-Fluorouracil + Radiation Therapy (German AIO regimen) ........................................161

5-Flurouracil: 1000 mg/m²/day IV continuous infusion on days 1–5
Repeat infusional 5-FU on weeks 1 and 5.
Radiation therapy: 180 cGy/day for 5 days per week (total dose, 5040 cGy)
Followed by surgical resection and then adjuvant chemotherapy with 5-FU at 500 mg/m² IV for 5 days every 28 days for a total of 4 cycles.108

Capecitabine + Radiation Therapy..............................................................................162

Capecitabine: 825 mg/m² PO bid throughout the entire course of radiation therapy or
900–1000 mg/m² PO bid on days 1–5 of each week of radiation therapy
Radiation therapy: 180 cGy/day for 5 days per week (total dose, 5040 cGy)
Followed by surgical resection and then adjuvant chemotherapy with 5-FU or 5-FU/LV for a total of 4 cycles.109
## NEOADJUVANT COMBINED MODALITY THERAPY FOR RECTAL CANCER
### Combination Regimens

### 5-Fluorouracil + Radiation Therapy (German AIO Regimen)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Central line placement</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT3</td>
</tr>
<tr>
<td><strong>Administer:</strong></td>
<td><strong>Fluorouracil</strong> ( mg (1000 \text{ mg/m}^2/\text{day}) ) IV continuous infusion Monday–Friday (days 1–5). Repeat infusional 5-FU on weeks 1 and 5.</td>
</tr>
<tr>
<td></td>
<td>• No dilution required. Concentration 50 mg/mL</td>
</tr>
<tr>
<td></td>
<td>• Can be further diluted with 0.9% sodium chloride or D5W.</td>
</tr>
<tr>
<td><strong>Radiation</strong></td>
<td>180 cGy/day for 5 days per week (total dose 5040 cGy)</td>
</tr>
<tr>
<td></td>
<td>Followed by surgical resection and then adjuvant chemotherapy with 5-FU at 500 mg/m²/day IV for 5 days every 28 days for a total of 4 cycles.</td>
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### Major Side Effects

- **Bone Marrow Depression:** Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily or weekly regimens.
- **GI Toxicities:** Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- **Skin:** Local tissue irritation progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- **Ocular:** Photophobia, increased lacrimation, conjunctivitis, and blurred vision.

### Initiate antiemetic protocol:
Mildly emetogenic protocol.

### Supportive drugs:
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
- □ loperamide (Imodium)  
- □ diphenoxylate/atropine sulfate (Lomotil)

### Treatment schedule:
Chair time 1 hour 2 days per week, weeks 1 and 5.
During adjuvant therapy, 2 visits per week every 28 days for 4 cycles.

### Estimated number of visits:
12 to 14 visits per treatment course.

### Dose Calculation by:
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2.  

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## Capecitabine + Radiation Therapy

### Baseline laboratory tests:
CBC: Chemistry, bilirubin, LFTs, CEA, and creatinine clearance

### Baseline procedures or tests:
N/A

### Initiate IV:
N/A

### Premedicate:
Oral phenothiazine or 5-HT₃

### Administer:

- **Capecitabine** __________mg (825 mg/m²/day) PO daily throughout the entire course of radiation therapy
  
  OR
  
  - **Capecitabine** ______mg (900–1000 mg/m²) PO bid Monday–Friday of each week of radiation therapy.
    - Administer within 30 minutes of a meal with plenty of water.
    - Monitor INRs closely in patients taking warfarin; may increase INR.
    - Stop therapy at first sign of hand-foot syndrome or diarrhea.
    - Available in 150 mg and 500 mg tablets.

### Radiation:
Radiation 35 cGy (palliative) over 14 fractions (3 weeks)

OR

- Radiation 45–50.4 cGy (definitive) over 20 fractions (5 weeks)
  
  Followed by surgical resection and then adjuvant chemotherapy with 5-FU or 5-FU/LV for a total of 4 cycles.

### Major Side Effects
- **GI Toxicities:** Nausea and vomiting, in 30%–50% of patients, is usually mild to moderate. Diarrhea occurs in up to 40%, with 15% being grade 3–4. Stomatitis is common, 3% of which is severe.
- **Skin:** Local tissue irritation progressing to desquamation in radiation field. Do not use oil-based lotions or creams in radiation field. Hand-foot syndrome (palmar-plantar erythrodysesthesia) occurs in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet.
- **Renal Insufficiency:** Xeloda contraindicated in patients with creatinine clearance < 30 mL/min, with creatinine clearance of 30–50 mL/min at baseline a dose reduction to 75% of capecitabine should be made.
- **Ocular:** Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
- **Hepatic:** Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminase (SGOT, SGPT) levels. Dose modifications may be required if hyperbilirubinemia occurs.

### Initiate antiemetic protocol:
Mildly to moderately emetogenic protocol.

### Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- loperamide (Imodium)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/atropine sulfate (Lomotil)

### Treatment schedule:
Daily during radiation therapy

### Estimated number of visits:
One visit per week for 3 or 5 weeks.

### Dose Calculation by:
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### ADJUVANT THERAPY

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<tr>
<td><strong>5-Fluorouracil + Leucovorin (Mayo Clinic Regimen)</strong></td>
<td>164</td>
</tr>
<tr>
<td>5-Fluorouracil: 425 mg/m² IV on days 1–5</td>
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<tr>
<td>Leucovorin: 20 mg/m² IV on days 1–5, administered before 5-Fluorouracil</td>
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<tr>
<td>Repeat cycle every 4–5 weeks for a total of six cycles.</td>
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<tr>
<td><strong>5-Fluorouracil + Leucovorin (Weekly Schedule/High Dose)</strong></td>
<td>165</td>
</tr>
<tr>
<td>5-Fluorouracil: 500 mg/m² IV weekly for 6 weeks</td>
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<tr>
<td>Leucovorin: 500 mg/m² IV over 2 hours weekly for 6 weeks, administered before 5-Fluorouracil</td>
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<tr>
<td>Repeat cycle every 8 weeks for a total of four cycles (32 weeks total).</td>
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<tr>
<td><strong>5-Fluorouracil + Leucovorin (Weekly Schedule/Low Dose)</strong></td>
<td>166</td>
</tr>
<tr>
<td>5-Fluorouracil: 500 mg/m² IV weekly for 6 weeks</td>
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<tr>
<td>Leucovorin: 20 mg/m² IV weekly for 6 weeks, administered before 5-Fluorouracil</td>
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<tr>
<td>Repeat cycle every 8 weeks for a total of four or six cycles (32 or 48 weeks total).</td>
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<tr>
<td><strong>Oxaliplatin + 5-Fluorouracil + Leucovorin (FOLFOX4)</strong></td>
<td>167</td>
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<tr>
<td>Oxaliplatin: 85 mg/m² IV on day 1</td>
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<tr>
<td>5-Fluorouracil: 400 mg/m² IV bolus, followed by 600 mg/m² IV continuous infusion for 22 hours on days 1 and 2</td>
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<tr>
<td>Leucovorin: 200 mg/m² IV on days 1 and 2 as a 2-hour infusion before 5-Fluorouracil</td>
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<tr>
<td>Repeat cycle every 2 weeks for a total of 12 cycles.</td>
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<tr>
<td><strong>Capecitabine</strong></td>
<td>169</td>
</tr>
<tr>
<td>Capecitabine: 1250 mg/m² PO bid on days 1–14</td>
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<tr>
<td>Repeat cycle every 21 days for a total of 8 cycles.</td>
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<tr>
<td>Dose may be decreased to 850–1000 mg/m² PO bid on days 1–14 to reduce the risk of toxicity without compromising clinical efficacy.</td>
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**Adjuvant Therapy**

**5-Fluorouracil + Leucovorin (Mayo Clinic Regimen)**

- **Baseline laboratory tests:** CBC: Chemistry and CEA
- **Baseline procedures or tests:** N/A
- **Initiate IV:** 0.9% sodium chloride
- **Premedicate:** Oral phenothiazine or 5-HT₃
- **Administer:** Leucovorin ________mg (20 mg/m²/day) IV bolus on days 1–5
  - Available in solution or powder. Reconstitute solution with sterile water. May further dilute with 0.9% sodium chloride or D5W.
  - Do not mix in same solution with 5-FU, because a precipitate will form.

5-Fluorouracil ___________mg (425 mg/m²/day) IV bolus 1 hour after start of leucovorin, days 1–5.
  - 50 mg/mL, no dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**Major Side Effects**

- Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but is usually mild. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome characterized by tingling, numbness, erythema, dryness, rash, swelling, or increased pigmentation of hands and/or feet can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**
Chair time 1 hour, days 1–5. Nadir at day 14. Repeat cycle every 28 days for 6 cycles.

**Estimated number of visits:**
Five days per cycle, 30 per treatment course.

**Dose Calculation by:**
1. __________________________________ 2. ____________________________________________

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5-Fluorouracil + Leucovorin (Weekly Schedule/High Dose)

Baseline laboratory tests: CBC: Chemistry and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT₃
Administer: Leucovorin __________mg (500 mg/m²) IV over 2 hours, weekly for 6 weeks

- Available in solution or powder. Reconstitute solution with sterile water. May further dilute with 0.9% sodium chloride or D5W.
- Do not mix in same solution with 5-FU, because a precipitate will form.

5-Fluorouracil __________mg (500 mg/m²) IV weekly for 6 weeks

- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Major Side Effects

- Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome characterized by tingling, numbness, erythema, dryness, rash, pruritis, swelling, or increased pigmentation of hands and/or feet can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour weekly for 6 weeks. Nadir drawn between days 10 and 14. Repeat every 8 weeks for four cycles.

Estimated number of visits: Twelve visits per cycle, 24 per course.

Dose Calculation by:

1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ____________________________/ ____________________________/ ____________________________

Ht Wt M²
5-Fluorouracil + Leucovorin (Weekly Schedule/Low Dose)

Baseline laboratory tests: CBC: Chemistry and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT₃
Administer:

**5-Fluorouracil** __________mg (500 mg/m²) IV weekly for 6 weeks
- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**Leucovorin** __________mg (20 mg/m²) IV weekly for 6 weeks, administer before 5-Fluorouracil
- Available in solution or powder. Reconstitute solution with sterile water. May further dilute with 0.9% sodium chloride or D5W.
- Do not mix in same solution with 5-FU, because a precipitate will form.

**Major Side Effects**
- Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily x 5 or weekly regimens.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome characterized by tingling, numbness, erythema, dryness, rash, swelling, or increased pigmentation of hands and/or feet can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour weekly for 6 weeks. Repeat every 8 weeks for 6 cycles.
Estimated number of visits: Twelve per cycle. Nadir drawn between day 10–14, 36 per course.

Dose Calculation by: 1. __________________________________ 2. ____________________________________________

______________________  __________________________
Physician Date

______________________  __________________________
Patient Name ID Number

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Diagnosis Ht Wt M²
Oxaliplatin + 5-Fluorouracil + Leucovorin (FOLFOX 4)

Baseline laboratory tests: CBC, Chemistry panel, and CEA

Baseline procedures or tests: Central line required for continuous infusion

Initiate IV: D5W

Premedicate: 5HT3 and dexamethasone 20 mg in 100 cc of D5W

Administer:

**DAY 1**:
- Oxaliplatin __________ mg (85 mg/m²) IV in 250–500 cc of D5W over 2 hours
  - Classified as an irritant, but extravasations have resulted in induration and formation of nodule lasting 9 months or more.
  - Available in 50- and 100-mg vials. Concentration is 5 mg/ml.
  - Do not use chloride containing solutions or aluminum needles.
- Leucovorin __________ mg (200 mg/m²) IV in 250–500 cc of D5W over 2 hours (oxaliplatin and leucovorin are infused concurrently, in separate bags through a Y-site over 2 hours).
  - Available in solution or powder. Reconstitute powder with sterile water.
  - Do not mix in the same solution with 5-FU, as a precipitate will form.
- 5-Fluorouracil __________ mg (400 mg/m²) IV bolus over 2–4 minutes, then 5-Fluorouacil __________ mg (600 mg/m²) IV continuous infusion over 22 hours

**DAY 2**:
- Leucovorin __________ mg (200 mg/m²) IV in 250–500 cc D5W
- 5-Fluorouracil __________ mg (400 mg/m²) IV bolus over 2–4 minutes, then 5-Fluorouracil __________ mg (600 mg/m²) IV continuous infusion over 22 hours

**DAY 3**:
- Discontinue pump

**Major Side Effects**

- Acute Neurotoxicities: Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hypothesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dysesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe), is most frightening to patients.
- Peripheral Neuropathy: Affects about 48% of patients, usually with a cumulative dose of 800 mg/m². Symptoms include paresthesias, dysesthesias, hypoesthesias in a “stocking and glove” distribution, and altered proprioception (knowing where body parts are in relation to the whole).
- GI Toxicities: Nausea and vomiting occur in 65% of patients; can be severe. Diarrhea occurs in 80%–90% of patients.
- Bone Marrow Depression: Mild leukopenia, mild-to-moderate thrombocytopenia, and anemia are common.
- Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: May occur after 10–12 cycles. Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis / severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.

**Initiate antiemetic protocol**: Moderately to highly emetogenic protocol.

**Supportive drugs**:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule**: Chair time 3 hours on days 1 and 2, and 15 minutes on day 3. Repeat every 14 days for 12 cycles.

**Estimated number of visits**: 36 visits (6 per month for 6 months)
Colorectal Cancer

Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
Capecitabine (Xeloda)

**Baseline laboratory tests:** CBC: Chemistry, bilirubin, LFTs, CEA and creatinine clearance

**Baseline procedures or tests:** N/A

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT₃

**Administer:**

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<tr>
<th>Capecitabine</th>
<th>mg (1250 mg/m²/day) PO bid on days 1–14</th>
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<td>• Dose may be decreased to 850–1000 mg/m² PO bid on days 1–14. This may reduce the risk of toxicity without compromising efficacy.</td>
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<td>• Available in 150 mg and 500 mg tablets.</td>
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<td>• Administer within 30 minutes of a meal with plenty of water.</td>
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<td>• Monitor INRs closely in patients taking warfarin; may increase INR.</td>
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<td>• Stop therapy at first signs of hand-foot syndrome or diarrhea.</td>
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**Major Side Effects**

- **GI Toxicities:** Nausea and vomiting, in 30%–50% of patients, is usually mild to moderate. Diarrhea occurs in up to 40%, with 15% being grade 3–4. Stomatitis is common, 3% of which is severe.

- **Renal Insufficiency:** Xeloda contraindicated in patients with creatinine clearance < 30 mL/min, with creatinine clearance of 30–50 mL/min at baseline a dose reduction to 75% of capecitabine should be made.

- **Skin:** Hand-foot syndrome (palmar-plantar erythrodysesthesia) seen in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.

- **Ocular:** Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.

- **Hepatic:** Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminase (SGOT, SGPT) levels. Dose modifications may be required if hyperbilirubinemia occurs.

- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**

Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**

No chair time. Repeat cycle every 21 days for a total of 8 cycles. Dose may be decreased to 850–1000 mg/m² PO bid on days 1–14 to reduce the risk of toxicity without compromising clinical efficacy.

**Dose Calculation by:**

1. __________________________________________________________________________

2. __________________________________________________________________________

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COLORECTAL CANCER

METASTATIC DISEASE
Combination Regimens

Irinotecan + 5-Fluorouracil + Leucovorin (IFL-Saltz Regimen) ..........175

Irinotecan: 125 mg/m^2 IV over 90 minutes weekly for 4 weeks
5-Fluorouracil: 500 mg/m^2 IV weekly for 4 weeks
Leucovorin: 20 mg/m^2 IV weekly for 4 weeks
Repeat cycle every 6 weeks.\textsuperscript{1,115}

Irinotecan + 5-Fluorouracil + Leucovorin (IFL-Saltz Regimen) + Bevacizumab (BV) .................................................................176

Irinotecan: 125 mg/m^2 IV over 90 minutes weekly for 4 weeks
5-Fluorouracil: 500 mg/m^2 IV weekly for 4 weeks
Leucovorin: 20 mg/m^2 IV weekly for 4 weeks
Bevacizumab: 5 mg/kg IV every 2 weeks
Repeat cycle every 6 weeks.\textsuperscript{1,116}

Irinotecan + 5-Fluorouracil + Leucovorin (Modified IFL-Saltz Regimen) .........178

Irinotecan: 125 mg/m^2 IV over 90 minutes weekly for 2 weeks
5-Fluorouracil: 500 mg/m^2 IV weekly for 2 weeks
Leucovorin: 20 mg/m^2 IV weekly for 2 weeks
Repeat cycle every 3 weeks.\textsuperscript{1,117}

IFL-Douillard Regimen .................................................................179

Irinotecan: 180 mg/m^2 IV on day 1
5-Fluorouracil: 400 mg/m^2 IV bolus, followed by 600 mg/m^2 IV continuous infusion for 22 hours on days 1 and 2
Leucovorin: 200 mg/m^2 IV on days 1 and 2 as a 2-hour infusion before 5-Fluorouracil
Repeat cycle every 2 weeks.\textsuperscript{1,118}
**IFL FOLFIRI Regimen** .................................................................181

Irinotecan: 180 mg/m² IV on day 1
5-Fluorouracil: 400 mg/m² IV bolus on day 1, followed by 2400 mg/m² IV continuous infusion for 46 hours
Leucovorin: 200 mg/m² IV on day 1 as a 2-hour infusion before 5-Fluorouracil
Repeat cycle every 2 weeks.\(^1\)\(^{119}\)

**Oxaliplatin + 5-Fluorouracil + Leucovorin (FOLFOX4) ..................................................183**

Oxaliplatin: 85 mg/m² IV on day 1
5-Fluorouracil: 400 mg/m² IV bolus, followed by 600 mg/m² IV continuous infusion for 22 hours on days 1 and 2
Leucovorin: 200 mg/m² IV on days 1 and 2 as a 2-hour infusion before 5-Fluorouracil
Repeat cycle every 2 weeks.\(^1\)\(^{120}\)

**Oxaliplatin + 5-Fluorouracil + Leucovorin (FOLFOX6) ..................................................185**

Oxaliplatin: 100 mg/m² IV on day 1
5-Fluorouracil: 400 mg/m² IV bolus on day 1, followed by 2400 mg/m² IV continuous infusion for 46 hours
Leucovorin: 400 mg/m² IV on day 1 as a 2-hour infusion before 5-Fluorouracil
Repeat cycle every 2 weeks.\(^1\)\(^{121}\)

**Oxaliplatin + 5-Fluorouracil + Leucovorin (FOLFOX7) ..................................................187**

Oxaliplatin: 130 mg/m² IV on day 1
5-Fluorouracil: 2400 mg/m² IV continuous infusion on days 1 and 2 for 46 hours
Leucovorin: 400 mg/m² IV on day 1 as a 2-hour infusion before 5-Fluorouracil
Repeat cycle every 2 weeks.\(^1\)\(^{122}\)
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<tbody>
<tr>
<td><strong>Cetuximab + Irinotecan</strong></td>
<td>Cetuximab: 400 mg/m² IV loading dose day 1, then 250 mg/m² IV weekly &lt;br&gt; Irinotecan: 350 mg/m² IV on day 1 &lt;br&gt; Repeat cycle every 21 days.¹,¹²³</td>
</tr>
<tr>
<td><strong>Capecitabine + Oxaliplatin (XELOX)</strong></td>
<td>Capecitabine: 1000 mg/m² PO bid on days 1–14 &lt;br&gt; Oxaliplatin: 130 mg/m² IV on day 1 &lt;br&gt; Repeat cycle every 21 days.¹,¹²⁴</td>
</tr>
<tr>
<td><strong>Capecitabine + Irinotecan (XELIRI)</strong></td>
<td>Capecitabine: 1000 mg/m² PO bid on days 1–14 &lt;br&gt; Irinotecan: 250 mg/m² IV on day 1 or irinotecan 80 mg/m² days 1 and 8 &lt;br&gt; Repeat cycle every 21 days.¹,¹²⁵</td>
</tr>
<tr>
<td><strong>Oxaliplatin + Irinotecan (IROX Regimen)</strong></td>
<td>Oxaliplatin: 85 mg/m² IV on day 1 &lt;br&gt; Irinotecan: 200 mg/m² IV on day 1 &lt;br&gt; Repeat cycle every 3 weeks.¹,¹²⁶</td>
</tr>
<tr>
<td><strong>5-Fluorouracil + Leucovorin (Mayo Clinic Regimen)</strong></td>
<td>5-Fluorouracil: 425 mg/m² IV on days 1–5 &lt;br&gt; Leucovorin: 20 mg/m² IV on days 1–5, administered before 5-Fluorouracil &lt;br&gt; Repeat cycle every 4–5 weeks.¹,¹²⁷</td>
</tr>
<tr>
<td><strong>5-Fluorouracil + Leucovorin (Roswell Park Schedule, Hgh Dose)</strong></td>
<td>5-Fluorouracil: 500 mg/m² IV weekly for 6 weeks &lt;br&gt; Leucovorin: 500 mg/m² IV weekly for 6 weeks, administered before 5-Fluorouracil &lt;br&gt; Repeat cycle every 8 weeks.¹,¹²⁸</td>
</tr>
</tbody>
</table>
5-Fluorouracil + Leucovorin + Bevacizumab ..............................................................198
5-Fluorouracil: 500 mg/m² IV weekly for 6 weeks
Leucovorin: 500 mg/m² IV weekly for 6 weeks, administered before 5-Fluorouracil
Bevacizumab: 5 mg/kg IV every 2 weeks
Repeat cycle every 8 weeks.1,129

5-Fluorouracil + Leucovorin (German Schedule, Low Dose) ..............................200
5-Fluorouracil: 600 mg/m² IV weekly for 6 weeks
Leucovorin: 20 mg/m² IV weekly for 6 weeks, administered before 5-Fluorouracil
Repeat cycle every 8 weeks following a 2-week rest period.1,130

5-Fluorouracil + Leucovorin (de Gramont Regimen) ..............................................201
5-Fluorouracil: 400 mg/m² IV and then 600 mg/m² IV for 22 hours on days 1 and 2
Leucovorin: 200 mg/m² IV on days 1 and 2 as a 2-hour infusion before 5-Fluorouracil
Repeat cycle every 2 weeks.1,131

FOLFOX4 + Bevacizumab ..................................................................................202
Oxaliplatin: 85 mg/m² IV on day 1
5-Fluorouracil: 400 mg/m² IV bolus, followed by 600 mg/m² IV continuous infusion on days 1 and 2
Leucovorin: 200 mg/m² IV on days 1 and 2 as a 2-hour infusion before 5-Fluorouracil
Bevacizumab: 10 mg/kg IV every 2 weeks
Repeat cycle every 2 weeks.1,132

Capecitabine + Oxaliplatin (XELOX) + Bevacizumab..........................................204
Capecitabine: 850 mg/m² PO bid on days 1–14
Oxaliplatin: 130 mg/m² IV on day 1
Bevacizumab: 7.5 mg/kg every 3 weeks
Repeat cycle every 21 days.1,133

Trimetrexate + 5-Fluorouracil + Leucovorin .......................................................206
Trimetrexate: 110 mg/m² IV on day 1
Leucovorin: 200 mg/m² IV on day 2, 24 hours after trimetrexate dose
5-Fluorouracil: 500 mg/m² IV on day 2, immediately after leucovorin
Leucovorin: 15 mg PO every 6 hours for 7 doses, starting 6 hours after 5-Fluorouracil
Repeat on a weekly schedule for 6 weeks every 8 weeks.1,134
# Hepatic Artery Infusion (HAI)

- **Floxuridine**: 0.3 mg/kg/day HAI on days 1–14
- **Dexamethasone**: 20 mg HAI on days 1–14
- **Heparin**: 50,000 U HAI on days 1–14

Repeat cycle every 14 days.\(^1\)\(^{135}\)

## Single-Agent Regimens

### Capecitabine (Xeloda)

- **Capecitabine**: 1250 mg/m\(^2\) PO bid on days 1–14
- Repeat cycle every 21 days.\(^1\)\(^{136}\)

Dose may be decreased to 850–1000 mg/m\(^2\) PO bid on days 1–14. This dose reduction may reduce the risk of toxicity without compromising clinical efficacy.

### Irinotecan (CPT-11/Weekly Schedule)

- **CPT-11**: 125 mg/m\(^2\) IV over 90 minutes weekly for 4 weeks
- Repeat cycle every 6 weeks.\(^1\)\(^{137}\)

**OR**

- **CPT-11**: 125 mg/m\(^2\) IV over 90 minutes weekly for 2 weeks
- Repeat cycle every 3 weeks.

**OR**

- **CPT-11**: 175 mg/m\(^2\) IV on days 1 and 10
- Repeat cycle every 3 weeks.\(^1\)\(^{138}\)

### Irinotecan (CPT-11/Monthly Schedule)

- **CPT-11**: 350 mg/m\(^2\) IV on day 1
- Repeat cycle every 3 weeks.\(^1\)\(^{139}\)

### Cetuximab

- **Cetuximab**: 400 mg/m\(^2\) IV loading dose, then 250 mg/m\(^2\) IV weekly
- Repeat cycle on a weekly basis.\(^1\)\(^{140}\)

### 5-Fluorouracil (Continuous Infusion)

- **5-Fluorouracil**: 2600 mg/m\(^2\) IV over 24 hours weekly
- Repeat cycle weekly for 4 weeks.\(^1\)\(^{141}\)

**OR**

- **5-Fluorouracil**: 1000 mg/m\(^2\)/day IV continuous infusion on days 1–4
- Repeat cycle every 21–28 days.\(^1\)\(^{142}\)
Combination Regimen

Irinotecan + 5-Fluorouracil + Leucovorin (IFL-Saltz Regimen)

Baseline laboratory tests: CBC: Chemistry panel and CEA
Baseline procedures or tests: None
Initiate IV: NS or D5W
Premedicate: 5-HT3 and dexamethasone 20 mg in 100 cc of NS or D5W
Atropine 0.25–1.0 mg IV unless contraindicated
Administer:

Irinotecan _________mg (125 mg/m²) IV in 500 cc of D5W over 90 minutes weekly for 4 weeks
• Available in 2- and 5-mL vials (20 mg/mL).
• Store at room temperature; protect from light.
• Dilute and mix drug in 250–500 cc of D5W (preferred) or NS.
• Diluted drug is stable 24 hours at room temperature, if diluted in D5W, and is stable for 48 hours if refrigerated and protected from light.

Leucovorin _________mg (20 mg/m²) IV push weekly for 4 weeks
• Available in solution or powder. Reconstitute powder with sterile water. May further dilute with NS or D5W.
• Do not mix in same solution with 5-FU, because precipitate will form. 160 mg/min maximum rate. (Flush IV/port with NS before starting the 5-FU)

5-Fluorouracil _________mg (500 mg/m²) IV push weekly for 4 weeks
• No dilution required. Concentration 50 mg/mL.
• Can be further diluted with NS or D5W.

Major Side Effects
• GI Toxicities: Acute diarrhea, most likely a cholinergic effect, can be managed with atropine before or during therapy. Symptoms include diarrhea, sweating, and abdominal cramping during or after drug administration. Late diarrhea observed in 44% of patients, can be severe, and should be treated aggressively. Dose-limiting toxicity. Nausea and vomiting in 35%–60% of those treated, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.
• Bone Marrow Depression: Dose-limiting, grade 3–4 neutropenia in 29%. Nadir in 7–10 days. CBC weekly.
• Pulmonary Toxicities: Occurs in up to 22% of patients, ranging from transient dyspnea to pulmonary infiltrates, fever, and cough.
• Alopecia: Mild.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol. Initiate anti diarrheal protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol:
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 3 hours every week for 4 weeks. Repeat cycle every 6 weeks.
Estimated number of visits: Five visits per cycle. Request six cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician ________________ Date ________________

Patient Name ________________ ID Number ________________

Diagnosis __________________________ Ht ________________ Wt ________________ M² ________________
**Irinotecan + 5-Fluorouracil + Leucovorin (IFL-Saltz Regimen) + Bevacizumab (BV)**

**Baseline laboratory tests:** CBC: Chemistry panel, CEA, urine test for protein baseline and periodically throughout treatment cycles

**Baseline procedures or tests:** None

**Initiate IV:** NS or D5W

**Premedicate:**
- 5-HT	extsubscript{3} and dexamethasone 20 mg in 100 cc of NS or D5W
- Atropine 0.25–1.0 mg IV unless contraindicated
- Acetaminophen 1000 mg
- Cimetidine 300 mg and diphenhydramine 25–50 mg in 100 cc of NS
  - Premedication only necessary with prior infusion reaction with Bevacizumab

**Administer:**

- **Irinotecan**
  - mg (125 mg/m	extsuperscript{2}) IV in 500 cc of D5W over 90 minutes weekly for 4 weeks
  - Available in 100-mg/5-mL single-use vials or 20 mg/mL, 2 mL vial.
  - Store at room temperature; protect from light.
  - Dilute and mix drug in 250–500 cc of D5W (preferred) or NS.
  - Diluted drug is stable 24 hours at room temperature, if diluted in D5W, and is stable for 48 hours if refrigerated and protected from light.

- **Leucovorin**
  - mg (20 mg/m	extsuperscript{2}) IV push weekly for 4 weeks
  - Available in solution or powder. Reconstitute powder with sterile water. May further dilute with NS or D5W.
  - Do not mix in same solution with 5-FU, because precipitate will form. (Flush IV/port with NS before starting the 5-FU)

- **5-Fluorouracil**
  - mg (500 mg/m	extsuperscript{2}) IV push weekly for 4 weeks
  - No dilution required. Concentration 50 mg/mL
  - Can be further diluted with NS or D5W.

- **Bevacizumab**
  - mg (5 mg/kg) IV every 2 weeks
  - Single-use vial (10 mg/mL); use within 8 hours of opening.
  - Further dilute in NS (100–150 cc).
  - Initial infusion over 90 minutes; if well tolerated, give second dose over 60 minutes, and if well tolerated, subsequent doses over 30 minutes.
  - **DO NOT** administer perioperatively—may inhibit wound healing.
  - Infusion reaction with bevacizumab: Characterized by fever, rigors, or chills. If reaction occurs: stop infusion, and keep main line open. May require meperidine, antihistamines, or dexamethasone for rigors, as prescribed by physician. Symptoms usually last about 20 minutes. May resume infusion 30 minutes after symptoms resolve.
  - Cardiovascular: Hypertension (11%) in the form of hypertensive crisis or hypertension not controlled by current antihypertensive medications may require discontinuation of the drug (bevacizumab).
  - Hemostasis: Thrombotic events (19%), bleeding (3.1%), or thrombocytopenia may occur.
  - Renal: Nephrotic syndrome and proteinuria may occur. Check for presence of protein in urine. Dipstick or urinalyses to detect proteinuria. 24-hour urine for 4+ protein or use the protein-to-creatinine (UPC) ratio to monitor. (For UPC obtain a random urine protein and a random urine creatinine. Divide the urine protein by the urine creatinine to obtain the ratio. A ratio of <0.1 mg/dl is normal. UPC >2.5 suggests presence of nephritic range proteinuria. The clinical significance or increased proteinuria has not been determined.
  - Gastrointestinal: Acute diarrhea, most likely a cholinergic effect, can be managed with atropine before or during therapy. Symptoms include diarrhea, sweating, and abdominal cramping during or after drug administration. Late diarrhea observed in 44% of patients, can be severe, and should be treated aggressively. Dose-limiting toxicity. Nausea and vomiting in 33%–60% of those treated, with 17% experiencing grade 3–4 nausea and...
13% experiencing grade 3–4 vomiting. Gastrointestinal perforation was observed in 2% of patients.

- Bone Marrow Depression: Dose-limiting, grade 3–4 neutropenia in 29%. Nadir in 7–10 days. CBC weekly.
- Pulmonary Toxicities: Occurs in up to 22% of patients, ranging from transient dyspnea to pulmonary infiltrates, fever, and cough.
- Alopecia: Mild.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Initiate antiemetic protocol:**
- Moderately to highly emetogenic protocol. Initiate antidiarrheal protocol.

**Initiate antidiarrheal protocol:**
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**
- Chair time 4 hours every week for 4 weeks. Repeat cycle every 6 weeks. CBC weekly.

**Estimated number of visits:**
- Five visits per cycle. Request six cycles worth of visits.

**Dose Calculation by:**

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
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**Physician**

<table>
<thead>
<tr>
<th>Date</th>
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</table>

**Patient Name**

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<th>ID Number</th>
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**Diagnosis**

<table>
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<tr>
<th>Ht</th>
<th>Wt</th>
<th>M²</th>
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</thead>
</table>
## Colorectal Cancer

### Irinotecan + 5-Fluorouracil + Leucovorin (Modified IFL-Saltz Regimen)

**Baseline laboratory tests:** CBC: Chemistry panel, CEA  
**Baseline procedures or tests:** None  
**Initiate IV:** NS or D5W  
**Premedicate:** 5-HT$_3$ and dexamethasone 20 mg in 100 cc of NS or D5W  
Atropine 0.25–1.0 mg IV unless contraindicated

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Formulation</th>
<th>Time and Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Irinotecan</strong></td>
<td>500 mg (125 mg/m$^2$)</td>
<td>IV</td>
<td>90 minutes weekly for 2 weeks</td>
</tr>
<tr>
<td>Available in 100-mg/5-mL single-use vials or 20 mg/mL, 2 mL vial.</td>
<td></td>
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</tr>
<tr>
<td>Store at room temperature; protect from light.</td>
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</tr>
<tr>
<td>Dilute and mix drug in 250–500 cc of D5W (preferred) or NS.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diluted drug is stable 24 hours at room temperature, if diluted in D5W, and is stable for 48 hours if refrigerated and protected from light.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leucovorin</strong></td>
<td>20 mg/m$^2$</td>
<td>IV push</td>
<td>Weekly for 2 weeks</td>
</tr>
<tr>
<td>Available in solution or powder. Reconstitute powder with sterile water. May further dilute with NS or D5W. 160 mg/min maximum rate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not mix in same solution with 5-FU, because precipitate will form. (Flush IV/port with NS before starting the 5-FU)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5-Fluorouracil</strong></td>
<td>500 mg/m$^2$</td>
<td>IV push</td>
<td>Weekly for 2 weeks</td>
</tr>
<tr>
<td>No dilution required. Concentration 50 mg/mL.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can be further diluted with NS or D5W.</td>
<td></td>
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</tbody>
</table>

**Major Side Effects**

- **GI Toxicities:** Acute diarrhea, most likely a cholinergic effect, can be managed with atropine before or during therapy. Symptoms include diarrhea, sweating, and abdominal cramping during or after drug administration. Late diarrhea observed in 44% of patients, can be severe, and should be treated aggressively. Dose-limiting toxicity. Nausea and vomiting in 33%–60% of those treated, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.  
- **Bone Marrow Depression:** Dose-limiting, grade 3–4 neutropenia in 29%. Nadir in 7–10 days. CBC weekly.  
- **Pulmonary Toxicities:** Occur in up to 22% of patients, ranging from transient dyspnea to pulmonary infiltrates, fever, and cough.  
- **Alopecia:** Mild.  
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol. Initiate anti-diarrheal protocol.

**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

**Initiate anti-diarrheal protocol:**  
- loperamide (Imodium)  
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Chair time 3 hours every week for 2 weeks. Repeat cycle every 3 weeks.

**Estimated number of visits:** Two visits per cycle. Request six cycles worth of visits.

**Dose Calculation by:**  
1.  
2.  

**Physician**  
**Date**

**Patient Name**  
**ID Number**

**Diagnosis**  
Ht  
Wt  
M$^2$
IFL-Douillard Regimen

Baseline laboratory tests: CBC: Chemistry panel and CEA  
Baseline procedures or tests: Central line required for continuous infusion  
Initiate IV: D5W  
Premedicate: 5HT3 and dexamethasone 20 mg in 100 cc of D5W  
Atropine 0.25–1.0 mg IV unless contraindicated  
Administer:  
**DAY 1: Irinotecan**  
---mg (180 mg/m²) IV in 250–500 cc of D5W  
- Available in 2- and 5-ml vials (20 mg/ml).  
- Store at room temperature and protect from light.  
- Dilute and mix drug in D5W (preferred) or NS.  
- Diluted drug is stable for 24 hours at room temperature or, if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.  
**Leucovorin**  
---mg (200 mg/m²) IV in 250–500 cc of D5W  
- Available in solution or powder. Reconstitute powder with sterile water. May further dilute with NS or D5W.  
- Do not mix in same solution with 5-FU, because precipitate will form. Irinotecan and leucovorin are infused concurrently, in separate bags through a Y-site over 2 hours. (Flush IV/port with NS before starting the 5-FU)  
Then  
**5-Fluorouracil**  
---mg (400 mg/m²) IV bolus over 2–4 min  
- No dilution required. Concentration 50 mg/mL.  
- Can be further diluted with 0.9% sodium chloride or D5W.  
Then  
**5-Fluorouracil**  
---mg (600 mg/m²) IV continuous infusion over 22 hours  
**DAY 2: Leucovorin**  
---mg (200 mg/m²) IV in 250–500 cc of NS or D5W  
**5-Fluorouracil**  
---mg (400 mg/m²) IV bolus over 2–4 minutes, then  
**5-Fluorouracil**  
---mg (600 mg/m²) IV continuous infusion over 22 hours  
**DAY 3: Discontinue pump.**

**Major Side Effects**  
- GI Toxicities: Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 44% of patients, can be severe, and should be treated aggressively. Nausea and vomiting in 35%–60% of those treated, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.  
- Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) occurs in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.  
- Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.  
- Bone Marrow Depression: Dose-limiting, grade 3–4 neutropenia in 29%. Nadir in 7–10 days. CBC weekly.  
- Alopecia: Mild.  
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
**Initiate antidiarrheal protocol:**  
- □ loperamide (Imodium)  
- □ diphenoxylate/atropine sulfate (Lomotil)  
**Treatment schedule:** Chair time 3 hours on days 1 and 2, and 15 minutes day 3. Repeat every 2 weeks until disease progression.  
**Estimated number of visits:** Six visits per month. Request three months worth. CBC weekly.
Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________  ________________________________
Physician                        Date

_____________________________  ________________/ ________________/ ________________
Patient Name                    ID Number

_____________________________  _____________  _____________  _____________
Diagnosis                        Ht  Wt  M²
IFL FOLFIRI Regimen

Baseline laboratory tests: CBC, Chemistry panel and CEA
Baseline procedures or tests: Central line required for continuous infusion
Initiate IV: D5W
Premedicate: 5HT3 and dexamethasone 20 mg in 100 cc of D5W
Atropine 0.25–1.0 mg IV unless contraindicated
Administer:

**DAY 1:**
- **Irinotecan** _______mg (180 mg/m²) IV in 250–500 cc of D5W over 90 minutes
  - Available in 2- and 5-ml vials (20 mg/ml).
  - Store at room temperature and protect from light.
  - Dilute and mix drug in D5W (preferred) or NS.
  - Diluted drug is stable for 24 hours at room temperature or, if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.
- **Leucovorin** _______mg (200 mg/m²) IV in 250–500 cc of D5W over 2 hours. Infuse during irinotecan therapy. Prior to 5-FU infusion.
  - Available in solution or powder. Reconstitute solution with sterile water. May further dilute with NS or D5W.
  - Do not mix in same solution with 5-FU, because precipitate will form. (Flush IV/port with NS before starting the 5-FU)
- **5-Fluorouracil** _________mg (400 mg/m²) IV bolus over 2–4 minutes
  - No dilution required. Concentration 50 mg/mL.
  - Can be further diluted with 0.9% sodium chloride or D5W.

Then
- **5-Fluorouracil** ________mg (2.4 g/m²) IV continuous infusion over 46 hours

Major Side Effects
- GI Toxicities: Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 44% of patients, can be severe, and should be treated aggressively. Nausea and vomiting in 35%–60% of those treated, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.
- Bone Marrow Depression: Dose-limiting, grade 3–4 neutropenia in 29%. Nadir in 7–10 days.
- Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) occurs in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.
- Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.
- Alopecia: Mild.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Highly to moderately emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol:
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule:
Chair time three hours on day 1 and 15 minutes on day 3. Repeat every 2 weeks.

Estimated number of visits:
Two visits per cycle. Request three months worth of visits.
Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________ ________________________________
Physician Date
_____________________________ ________________________________
Patient Name ID Number
_____________________________ / / 
Diagnosis Ht Wt M²
FOLFOX4

Baseline laboratory tests: CBC: Chemistry panel and CEA

Baseline procedures or tests: Central line required for continuous infusion

Initiate IV: D5W

 Premedicate: Palonosetron (Aloxi) and dexamethasone 20 mg in 100 cc of D5W

Administer:

DAY 1: Oxaliplatin _______mg (85 mg/m²) IV in 250–500 cc of D5W over 2 hours

Classified as an irritant, but extravasations have resulted in induration and formation of nodule lasting 9 months or more.

Available in 50- and 100-mg vials. Concentration is 5 mg/ml.

Do not use chloride containing solutions or aluminum needles.

Leucovorin ________mg (200 mg/m²) IV in 250–500 cc of D5W over 2 hours

• Available in solution or powder. Reconstitute solution with sterile water. May further dilute with NS or D5W.
• Do not mix in same solution with 5-FU, because precipitate will form. (Oxaliplatin and leucovorin are infused concurrently, in separate bags through a Y-site over 2 hours).
• DO NOT USE sodium chloride-containing solutions or aluminum needles. (Flush IV/port with NS before starting the 5-FU)

5-Fluorouracil _________mg (400 mg/m²) IV bolus over 2–4 minutes

• No dilution required. Concentration 50 mg/mL.
• Can be further diluted with 0.9% sodium chloride or D5W.

Then

5-Fluorouracil _________mg (600 mg/m²) IV continuous infusion over 22 hours

DAY 2: Leucovorin ________mg (200 mg/m²) IV in 250–500 cc of NS or D5W

5-Fluorouracil _________mg (400 mg/m²) IV bolus over 2–4 minutes, then

5-Fluorouracil _________mg (600 mg/m²) IV continuous infusion over 22 hours

DAY 3: Discontinue pump.

Major Side Effects

• Acute Neurotoxicities: Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hypoesthesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dysesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe) is most frightening to patients.

• Peripheral Neuropathy: Affects about 48% of patients, usually with a cumulative dose of 800 mg/m². Symptoms include paresthesias, dysesthesias, hypoesthesias in a stocking and glove distribution, and altered proprioception (knowing where body parts are in relation to the whole).

• GI Toxicities: Nausea and vomiting in 65% of patients; can be severe. Diarrhea in 80%–90% of patients.

• Bone Marrow Depression: Mild leukopenia, mild-to-moderate thrombocytopenia, and anemia are common.

• Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.

• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Highly to moderately emetogenic protocol.

Supportive drugs:

□ pegfilgrastim (Neulasta)
□ filgrastim (Neupogen)
□ epoetin alfa (Procrit)
□ darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol:

□ loperamide (Imodium)
□ diphenoxylate/atropine sulfate (Lomotil)
Treatment schedule: Chair time 3 hours on days 1 and 2, and 15 minutes on day 3. Repeat every 2 weeks for 12 cycles.

Estimated number of visits: 36 visits (six per month for six months or until disease progression)

Dose Calculation by: 1. ______________________________ 2. ______________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________________ / ______________ / ______________

Diagnosis Ht Wt M$^2$
FOLFOX6

Baseline laboratory tests: CBC: Chemistry panel and CEA
Baseline procedures or tests: Central line required for continuous infusion
Initiate IV: D5W
Premedicate: 5HT3 and dexamethasone 10–20 mg in 100 cc of D5W
Administer:

DAY 1: Oxaliplatin _________mg (100 mg/m2) IV in 250–500 cc of D5W

Classified as an irritant, but extravasations have resulted in induration and formation of nodule lasting 9 months or more.

Available in 50- and 100-mg vials. Concentration is 5 mg/ml.

Leucovorin _________mg (400 mg/m2) IV in 250–500 cc of D5W

• Available in solution or powder. Reconstitute solution with sterile water. May further dilute with NS or D5W.
• Do not mix in same solution with 5-FU, because precipitate will form. Oxaliplatin and leucovorin are infused concurrently, in separate bags through a Y-site over 2 hours on day 1 only.
• DO NOT USE chloride-containing solutions or aluminum needles. (Flush IV/port with NS before starting the 5-FU)

5-Fluorouracil _________mg (2400–3000 mg/m2) IV continuous infusion over 46 hours

DAY 3: Discontinue pump.

Major Side Effects

• Acute Neurotoxicities: Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hypothesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dysesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe) is most frightening to patients.
• Peripheral Neuropathy: Affects about 48% of patients, usually with a cumulative dose of 800 mg/m2. Symptoms include paresthesias, dysesthesias, hypoesthesias in a “stocking and glove” distribution, and altered proprioception (knowing where body parts are in relation to the whole).
• GI Toxicities: Nausea and vomiting in 65% of patients; can be severe. Diarrhea in 80%–90% of patients.
• Bone Marrow Depression: Mild leukopenia, mild-to-moderate thrombocytopenia, and anemia are common.
• Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Highly to moderately emetogenic protocol.
Supportive drugs:

□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol:

□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time three hours on day 1, and 30 minutes on day 3. Repeat every 14 days until disease progression.

Estimated number of visits: Four visits per month. Request 3 months worth of visits.
Dose Calculation by: 1. ______________________ 2. _______________________

______________________________ ________________________________
Physician Date

______________________________ ________________________________
Patient Name ID Number

______________________________ ________________________________
Diagnosis Ht Wt M²
FOLFOX7

Baseline laboratory tests: CBC: Chemistry panel and CEA
Baseline procedures or tests: Central line required for continuous infusion
Initiate IV: D5W
Premedicate: 5HT3 and dexamethasone 20 mg in 100 cc of D5W
Administer:

DAY 1: Oxaliplatin _________mg (130 mg/m²) IV in 250–500 cc of D5W
Classified as an irritant, but extravasations have resulted in induration and formation of nodule lasting 9 months or more.
Available in 50- and 100-mg vials. Concentration is 5 mg/ml.
Do not use chloride containing solutions or aluminum needles.

Leucovorin _________mg (400 mg/m²) IV in 250–500 cc of D5W
• Available in solution or powder. Reconstitute powder with sterile water. May further dilute with NS or D5W.
• Do not mix in same solution with 5-FU, because precipitate will form. Oxaliplatin and leucovorin are infused concurrently, in separate bags through a Y-site over 2 hours on day 1 only.
• DO NOT USE chloride-containing solutions or aluminum needles. Flush IV/port with NS before starting 5-FU

5-Fluorouracil __________mg (2.4 g/m²) IV continuous infusion on days 1 and 2 over 46 hours

DAY 3: Discontinue pump.
• No dilution required. Concentration 50 mg/mL.
• Can be further diluted with 0.9% sodium chloride or D5W.

Major Side Effects
• Acute Neurotoxicities: Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hypothesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dysesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe) is most frightening to patients.
• Peripheral Neuropathy: Affects about 48% of patients, usually with a cumulative dose of 800 mg/m². Symptoms include paresthesias, dysesthesias, hypothesias in a “stocking and glove” distribution, and altered proprioception (knowing where body parts are in relation to the whole).
• GI Toxicities: Nausea and vomiting in 65% of patients; can be severe. Diarrhea in 80%–90% of patients.
• Bone Marrow Depression: Mild leukopenia, mild-to-moderate thrombocytopenia, and anemia are common.
• Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol:
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 3 hours on day 1, and 30 minutes on day 3. Repeat every 14 days until disease progression.

Estimated number of visits: Four visits per month; request 3 months worth of visits
Dose Calculation by:

1. ___________________________  2. ___________________________

_____________________________________________ ______________________________________________________

Physician                                                                                       Date

_____________________________________________ ______________________________________________________

Patient Name                                                                                     ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis                                                                                       Ht   Wt   M²
Cetuximab + Irinotecan

Baseline laboratory tests: CBC; Chemistry and CEA monitor electrolytes
Baseline procedures or tests: EGFR expression using immunohistochemistry
Initiate IV: NS
Premedicate: Diphenhydramine 50 mg in 100 cc of NS
Administer: Cetuximab ________mg (400 mg/m²) IV over 2 hours week 1 only
Cetuximab ________mg (250 mg/m²) IV over 1 hour weekly as maintenance dose.
Followed by 1 hour observation for infusion reactions.
• Maximum infusion rate 5 mL/min.
• Administer through low-protein-binding 0.22-micron in-line filter.
• Place cetuximab in sterile evacuated container, prime tubing with drug, and then piggy-back into main line infusion of NS.
• Do not shake or dilute.
• Supplied in 100-mg/50-mL vials; discard 8 hours after opening if kept at room temperature, 12 hours if refrigerated.
• Dose reductions for skin reactions from package insert:

Initiate IV: D5W
Premedicate: 5-HT3 and dexamethasone 20 mg in 100 cc of D5W
Atropine 0.25–1.0 mg IV unless contraindicated
Administer: Irinotecan ________mg (175 mg/m²) IV in 500 cc of D5W on day 1 and every 3 weeks
• Available in 2- and 5-mL vials (20 mg/mL).
• Store at room temperature and protect from light.
• Dilute and mix drug in D5W (preferred) or NS.
• Diluted drug is stable for 24 hours at room temperature or, if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.

Major Side Effects
• Infusion Reaction: Seen with eribitux. Severe allergic reactions (3%–4%) with symptoms including rapid onset of airway obstruction (bronchospasm, stidor, hoarseness), dyspnea, fever, chills, rash, itching, and/or hypotension require that treatment be stopped immediately and NOT started again. For mild or moderate (grade 1–2) infusion reactions (19%), infusion rate should be permanently reduced by 50%.
• Skin: Acneform rash (90%) can be severe and require dose modification (8%). Paronychial inflammation, especially in thumbs and great toes (14%). May be treated with topical antibiotic cream or oral antibiotics.
• Hypomagnesemia may occur in 50% of patients. Grade 3–4 in 10%–15% of patients. Electrolyte replacement may be necessary. Closely monitor magnesium, potassium, and calcium levels.
• GI Toxicities with Irinotecan: Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 22% of patients, can be severe, and should be treated aggressively. Nausea and vomiting in 33%–72% of patients, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.
• Bone Marrow Depression: Dose-limiting, grade 3–4 neutropenia in 17%. Nadir in 6–9 days.
• Alopecia: Mild.
• Cardiopulmonary Toxicity: Interstitial Pneumonitis with non-cardiogenic pulmonary edema in < 0.5%. Onset between 4–11th doses. Monitor pulmonary symptoms; if interstitial lung disease develops, erbitux should be discontinued. Cardiopulmonary arrest/and or sudden death occurred in 2% of patients. Closely monitor electrolytes including serum magnesium, potassium, and calcium.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol
Supportive drugs:
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- oprelvekin (Neumega)
- filgrastim (Neupogen)
- pegfilgrastim (Neulasta)
- Other ______

Treatment schedule: Chair time 4 hours for first treatment with cetuximab and irinotecan, 1 hour for week cetuximab, 3 hours for all other courses. Repeat cycle every 21 days.

Estimated number of visits: Four visits per month. Request three months worth of visits.

Dose Calculation by: 1. ______________________ 2. ______________________

______________________________ ________________________________
Physician Date

______________________________ ________________________________
Patient Name ID Number

______________________________ ________________________________
Diagnosis Ht Wt M²
XELOX (Capox)

Baseline laboratory tests: CBC: Chemistry, bilirubin, LFTs, CEA, and creatinine clearance
Baseline procedures or tests: N/A
Initiate IV: D3W
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of D5W
Administer: Oxaliplatin __________mg (130 mg/m²) IV in 250 cc of 5W over 2 hours on day 1
• Do not mix with chloride-containing solutions or use aluminum needles.
• Reconstitute with 10–40 mL of sterile water or D5W
• Further dilute in D5W. Stable for 24 hours at room temperature.
Capecitabine __________mg (1000 mg/m²) PO bid on days 1–14
• Available in 150- or 500-mg tablets for oral use.
• Administer within 30 minutes of a meal with plenty of water.
• Monitor international normalized ratios (INRs) closely in patients taking warfarin; may increase INR.

Major Side Effects
• Acute Neurotoxicities: Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hypoesthesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dysesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe) is most frightening to patients.
• Peripheral Neuropathy: Affects about 48% of patients, usually with a cumulative dose of 800 mg/m². Symptoms include paresthesias, dysesthesias, hypoesthesias in a stocking and glove distribution, and altered proprioception (knowing where body parts are in relation to the whole).
• GI Toxicities: Nausea and vomiting in 50%–65% of patients; can be severe. Diarrhea occurs in up to 40% with 15% being grade 3–4. Stomatitis is common, 3% of which is severe.
• Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) occurs in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.
• Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
• Hepatic: Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminases (aspartate transaminase [SGOT], alanine transaminase [SGPT]). Dose modifications may be required if hyperbilirubinemia occurs.
• Renal Insufficiency: Xeloda contraindicated in patients with creatinine clearance < 30 mL/min, with creatinine clearance of 30–50 mL/min at baseline a dose reduction to 75% of capecitabine should be made.
• Bone Marrow Toxicity: Grade 3–4 neutropenia (15%), thrombocytopenia (4%)
• Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema, bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Highly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ loperamide (Imodium) □ epoetin alfa (Procrit)
Initiate antidiarrheal protocol: □ darbepoetin alfa (Aranesp) □ diphenoxylate/atropine sulfate (Lomotil)
Treatment schedule: Chair time 3 hours. Repeat cycle every 21 days until disease progression.
Estimated number of visits: One visit per cycle. Request three cycles worth.
Dose Calculation by:

1. ______________________________  2. ______________________________

__________________________________________
Physician                                      Date

____________________________________________
Patient Name                                    ID Number

____________________________________________
Diagnosis                                      Ht       Wt       M²
Capecitabine + Irinotecan (XELIRI)

**Baseline laboratory tests:**  
CBC: Chemistry, bilirubin, LFTs, CEA, and creatinine clearance

**Baseline procedures or tests:**  
N/A

**Initiate IV:**  
NS or D5W

**Premedicate:**  
5-HT<sub>3</sub> and dexamethasone 10–20 mg in 100 cc of NS or D5W  
Atropine 0.25–1.0 mg IV unless contraindicated.

**Administer:**  
Capecitabine ___________mg (1000 mg/m<sup>2</sup>) PO bid days 1–14  
• Available in 150- and 500-mg tablets.  
• Administer within 30 minutes of a meal with plenty of water.  
• Monitor INRs closely in patients taking warfarin; may increase INR.

Irinotecan ___________mg (200–250 mg/m<sup>2</sup>) IV in 250–500 cc of D5W over 90 minutes on day 1  
OR  
Irinotecan ___________mg (80 mg/m<sup>2</sup>) IV in 250 cc of D5W over 90 minutes on days 1 and 8  
• Available in 2- and 5-ml vials (20 mg/ml).  
• Store at room temperature and protect from light.  
• Dilute and mix drug in D5W (preferred) or NS.  
• Diluted drug is stable for 24 hours at room temperature or, if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.

**Major Side Effects**

• GI Toxicities: Nausea and vomiting in 30%–50% of patients, 12% grade 3–4. Diarrhea is common, with 20% being grade 3–4. Stomatitis, 3% of which is severe.

• Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) occurs in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses. Grade 3–4 (6%) with XELIRI.

• Bone Marrow Toxicity: Grade 3–4 neutropenia, 25%.

• Renal Insufficiency: Xeloda contraindicated in patients with creatinine clearance < 30 mL/min, with creatinine clearance of 30–50 mL/min at baseline a dose reduction to 75% of capecitabine should be made.

• Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.

• Hepatic: Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminase (SGOT, SGPT) levels. Dose modifications may be required if hyperbilirubinemia occurs.

• Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**  
Moderately to highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- loperamide (Imodium)  
- epoetin alfa (Procrit)

**Initiate anti diarrheal protocol:**

- darbepoetin alfa (Aranesp)  
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**  
Chair time 2 hours. Repeat cycle every 21 days as tolerated or until disease progression.

**Estimated number of visits:**  
One visit per cycle. Request three cycles.

**Dose Calculation by:**

1. __________________________________  2. ____________________________________________

**Physician**

______________________________  _________________________________

**Date**

______________________________  _________________________________

**Patient Name**  
______________________________  ID Number  _________________________________

**Diagnosis**

______________________________  Ht  Wt  M<sup>2</sup>  _________________________________
Oxaliplatin + Irinotecan (IROX Regimen)

Baseline laboratory tests: CBC: Chemistry panel and CEA
Baseline procedures or tests: N/A
Initiate IV: D5W
Premedicate: 5-HT3 and dexamethasone 20 mg in 100 cc of D5W
Administer: Oxaliplatin ________mg (85 mg/m²) IV in 250–500 cc of D5W on day 1
• Available in 50- and 100-mg vials for IV use.
• Dilute with 10–40 mL with sterile water or D5W.
• Further dilute in a solution of 250 or 500 cc of D5W.
• Do not administer drug undiluted.
• NEVER use NS or saline-containing solutions.
• Reconstituted solution is stable for 24 hours at room temperature.
Irinotecan __________mg (200 mg/m²) IV in 500 cc of D5W day 1
• Available in 100-mg vials, 20 mg/mL.
• Store at room temperature and protect from light.
• Dilute and mix drug in D5W (preferred) or NS.
• Diluted drug is stable for 24 hours at room temperature or, if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.

Major Side Effects
• Acute Neurotoxicities: Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hypoesthesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dysesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe) is most frightening to patients.
• Peripheral Neuropathy: Affects about 48% of patients, usually with a cumulative dose of 800 mg/m². Symptoms include paresthesias, dysesthesias, hypoesthesias in a stocking and glove distribution, and altered proprioception (knowing where body parts are in relation to the whole).
• GI Toxicities: Nausea and vomiting; can be severe. Diarrhea can be dose limiting. Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea can be severe and should be treated aggressively.
• Bone Marrow Depression: Myelosuppression, dose-limiting neutropenia. CBC weekly.
• Renal: Renal toxicity is uncommon.
• Ototoxicity: Rare in contrast to cisplatin.
• Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Highly to moderately emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Initiate antidiarrheal protocol:
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)
Treatment schedule: Chair time 4 hours on day 1. Repeat cycle every 3 weeks until disease progression.
Estimated number of visits: Weekly visits. Request four cycles worth of visits.
| Dose Calculation by: 1. ___________________________ 2. ___________________________
|--------------------------------------------------
| Physician                                        | Date                                              |
| Patient Name                                     | ID Number                                         |
| Diagnosis                                        | Ht       | Wt       | M²       |
5-Fluorouracil + Leucovorin (Mayo Clinic Regimen)

Baseline laboratory tests: CBC: Chemistry and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT₃ and 10–20 mg of dexamethasone if necessary
Administer: 5-Fluorouracil ____________mg (425 mg/m²/day) IV on days 1–5
• No dilution required. Concentration 50 mg/mL.
• Can be further diluted with 0.9% sodium chloride or D5W.
Leucovorin ____________mg (20 mg/m²/day) IV on days 1–5, administered before 5-FU
• Available in solution or powder. Reconstitute solution with sterile water. May further di-
lute with 0.9% sodium chloride or D5W.
• Do not mix in same solution with 5-FU, because a precipitate will form.

Major Side Effects
• Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose
related. Can be dose limiting for daily × 5 or weekly regimens.
• GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but are usually mild.
Mucositis and diarrhea can be severe and dose limiting.
• Skin: Alopecia is more common in the 5-day course and results in diffuse thinning of
hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syn-
drome can be dose limiting.
• Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Initiate antidiarrheal protocol: □ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)
Treatment schedule: Chair time 1 hour on days 1–5. Repeat cycle every 4–5 weeks.
Estimated number of visits: 6 days per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. ________________________________ 2. ________________________________
_____________________________________________ ____________________________________________
Physician Date

Patient Name ID Number

_____________________________________________ _____________/ _____________/ _____________
Diagnosis Ht Wt M²
### 5-Fluorouracil + Leucovorin (Roswell Park Cancer Institute Regimen/High Dose)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and CEA</th>
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<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
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<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
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<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT₃ and 10–20 mg of dexamethasone if necessary</td>
</tr>
<tr>
<td>Administer:</td>
<td>5-Fluorouracil_____mg (500 mg/m²) IV bolus 1 hour after start of leucovorin weekly for 6 weeks</td>
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<td>• No dilution required. Concentration 50 mg/mL.</td>
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<td>• Can be further diluted with 0.9% sodium chloride or D5W.</td>
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<tr>
<td>Leucovorin_____mg (500 mg/m²) IV over 2 hours, weekly for 6 weeks</td>
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<td>• Available in solution or powder. Reconstitute solution with sterile water. May further dilute with 0.9% sodium chloride or D5W.</td>
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<td>• Do not mix in same solution with 5-FU, because a precipitate will form.</td>
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</tbody>
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#### Major Side Effects
- **Bone Marrow Depression:** Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
- **GI Toxicities:** Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- **Skin:** Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- **Ocular:** Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

#### Supportive drugs:
- pegfilgratim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

#### Antidiarrheal protocol:
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

#### Treatment schedule:
Chair time 1 hour weekly for 6 weeks. Repeat every 6 weeks for four cycles.

#### Estimated number of visits:
Six visits per cycle, 24 per course.

#### Dose Calculation by:
1. __________________________ 2. __________________________

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<th>Physician</th>
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<th>Diagnosis</th>
<th>Ht</th>
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### 5-Fluorouracil + Leucovorin + Bevacizumab

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and CEA and urine test for protein baseline and periodically throughout treatment cycles</th>
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<tbody>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
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<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT₃ and 10–20 mg of dexamethasone if necessary</td>
</tr>
<tr>
<td>Administer: Leucovorin</td>
<td>_________mg (500 mg/m²) IV over 2 hours, weekly for 6 weeks</td>
</tr>
<tr>
<td></td>
<td>• Available in solution or powder. Reconstitute solution with sterile water. May further dilute with 0.9% sodium chloride or D5W.</td>
</tr>
<tr>
<td></td>
<td>• Do not mix in same solution with 5-FU, because a precipitate will form.</td>
</tr>
<tr>
<td>Administer: 5-Fluorouracil</td>
<td>_________mg (500 mg/m²) IV weekly for 6 weeks</td>
</tr>
<tr>
<td></td>
<td>• No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.</td>
</tr>
<tr>
<td>Administer: Bevacizumab</td>
<td>__________mg (5 mg/kg) IV every 2 weeks</td>
</tr>
<tr>
<td></td>
<td>• Single-use vial (10 mg/mL); use within 8 hours of opening.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute in NS (100–150 cc).</td>
</tr>
<tr>
<td></td>
<td>• Initial infusion over 90 minutes; if well tolerated, give second dose over 60 minutes, and if well tolerated, subsequent doses over 30 minutes.</td>
</tr>
<tr>
<td></td>
<td>• DO NOT administer peripherally—may inhibit wound healing.</td>
</tr>
</tbody>
</table>

#### Major Side Effects

- **Infusion reaction with bevacizumab:** Characterized by fever, rigors, or chills. If reaction occurs: stop infusion, and keep main line open. May require meperidine, antihistamines, or dexamethasone for rigors, as prescribed by physician. Symptoms usually last about 20 minutes. May resume infusion 30 minutes after symptoms resolve.
- **Cardiovascular:** Hypertension (11%) in the form of hypertensive crisis or hypertension not controlled by current antihypertensive medications may require discontinuation of the drug (bevacizumab).
- **Hemostasis:** Thrombotic events (19%), bleeding (3.1%), or thrombocytopenia may occur.
- **Renal:** Nephrotic syndrome and proteinuria may occur. Check for presence of protein in urine. Dipstick or urinalyses to detect proteinuria. 24-hour urine for 4+ protein or use the protein-to-creatinine (UPC) ratio to monitor. (For UPC obtain a random urine protein and a random urine creatinine. Divide the urine protein by the urine creatinine to obtain the ratio. A ratio of < 0.1 mg/dl is normal. UPC > 2.5 suggests presence of nephritic range proteinuria. The clinical significance or increased proteinuria has not been determined.
- **Bone Marrow Depression:** Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily or weekly regimens.
- **GI Toxicities:** Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- **Skin:** Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- **Ocular:** Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

#### Initiate antiemetic protocol:
- Mildly emetogenic protocol.

#### Supportive drugs:

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

#### Initiate antidiarrheal protocol:
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

#### Treatment schedule:
- Chair time 1 hour weekly for 6 weeks. Nadir drawn between days 10 and 14. Repeat every 8 weeks for four cycles.

#### Estimated number of visits:
- Six visits per cycle, 24 visits per course.
Dose Calculation by: 1. __________________________ 2. ____________________________

_____________________________ ________________________________
Physician Date

_____________________________ ________________________________
Patient Name ID Number

_____________________________ ________________________________
Diagnosis Ht Wt M$^2$
5-Fluorouracil + Leucovorin (German Schedule/Low Dose)

Baseline laboratory tests: CBC: Chemistry and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT₃ and 10–20 mg of dexamethasone if necessary
Administer:

- **5-Fluorouracil** __________mg (600 mg/m²) IV weekly for 6 weeks
  - No dilution required. Concentration 50 mg/mL.
  - Can be further diluted with 0.9% sodium chloride or D5W.
- **Leucovorin** __________mg (20 mg/m²) IV weekly for 6 weeks; administer before
  5-Fluorouracil
  - Available in solution or powder. Reconstitute powder with sterile water. May further dilute with 0.9% sodium chloride or D5W.
  - Do not mix in same solution with 5-FU, because a precipitate will form.

**Major Side Effects**

- Bone Marrow Depression: Nadir at day 10–14. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol:

- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Chair time 1 hour weekly for 6 weeks. Repeat cycle every 8 weeks.

**Estimated number of visits:** Twelve visits per cycle. Nadir drawn between days 10–14. Request four cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________/ ________________/ ________________

Patient Name ID Number

_____________________________________________ Ht Wt M²
## 5-Fluorouracil (de Gramont Regimen)

**Baseline laboratory tests:** CBC: Chemistry and CEA

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Oral phenothiazine or 5-HT	extsubscript{3} and 10–20 mg dexamethasone if necessary

**Administer:**

- **DAYS 1 & 2:** 5-Fluorouracil \( \text{mg} \) (400 mg/m\textsuperscript{2}) IV bolus, then 5-Fluorouracil \( \text{mg} \) (600 mg/m\textsuperscript{2}) IV over 22 hours days 1 and 2
  - No dilution required. Concentration 50 mg/mL.
  - Can be further diluted with 0.9% sodium chloride or D5W.

- Leucovorin \( \text{mg} \) (200 mg/m\textsuperscript{2}) IV over 2 hours before 5-FU days 1 and 2
  - Available in solution or powder. Reconstitute powder with sterile water. May further dilute with NS or D5W.
  - Do not mix in same solution with 5-FU, because precipitate will form.

**DAY 3:** Discontinue pump.

### Major Side Effects

- **Bone Marrow Depression:** Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily \( \times \) 5 or weekly regimens.
- **GI Toxicities:** Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- **Skin:** Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- **Ocular:** Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Initiate antidiarrheal protocol:** □ loperamide (Imodium)

**Treatment schedule:** Chair time 3 hours on days 1 and 2, and 15 minutes day 3. Repeat cycle every 2 weeks.

**Estimated number of visits:** Two visits per cycle. Request three to four cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

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**Physician** ____________________________ **Date** ____________________________

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**Patient Name** ____________________________ **ID Number** ____________________________

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**Diagnosis** ____________________________ **Ht** _______ **Wt** _______ **M\textsuperscript{2}** _______
FOLFOX4 + Bevacizumab

Baseline laboratory tests: CBC, Chemistry panel, and urine test for protein baseline and periodically throughout treatment cycles.

Baseline procedures or tests: Central line required for continuous infusion

Initiate IV: D5W

Premedicate: 5 HT3 and dexamethasone 20 mg in 100 cc of D5W

Administer:
- **Day 1**: Bevacizumab __________ mg (10 mg/kg) IV every 2 weeks
  - Single-use vial (10 mg/mL); use within 8 hours of opening
  - Further dilute in NS (100–150 cc).
  - Initial infusion over 90 minutes; if well tolerated, give second dose over 60 minutes, and if well tolerated, subsequent doses over 30 minutes.
  - **DO NOT** administer perioperatively—may inhibit wound healing.

  **DAY 1**: Oxaliplatin ________ mg (85 mg/m²) IV in 250–500 cc of D5W over 2 hours
  - Classified as an irritant, but extravasations have resulted in induration and formation of nodule lasting 9 months or more.
  - Available in 50- and 100-mg vials. Concentration is 5 mg/mL.
  - Do not use chloride containing solutions or aluminum needles.

  Leucovorin _________ mg (200 mg/m²) IV in 250–500 cc of D5W over 2 hours
  - Available in solution or powder. Reconstitute solution with sterile water. May further dilute with NS or D5W.
  - Do not mix in same solution with 5-FU, because precipitate will form.

(Oxaliplatin and leucovorin are infused concurrently, in separate bags through a Y-site over 2 hours). **DO NOT USE** sodium chloride–containing solutions or aluminum needles.

- **5-Fluorouracil** _______ mg (400 mg/m²) IV bolus over 2–4 minutes,
  - No dilution required. Concentration 50 mg/mL.
  - Can be further diluted with 0.9% sodium chloride or D5W.

  then

- **5-Fluorouracil** ______ mg (600 mg/m²) IV continuous infusion over 22 hours

**DAY 2**: Leucovorin _________ mg (200 mg/m²) IV in 250–500 cc of NS or D5W

  **5-Fluorouracil** ________ mg (400 mg/m²) IV bolus over 2–4 minutes, then

  **5-Fluorouracil** ______ mg (600 mg/m²) IV continuous infusion over 22 hours

**DAY 3**: Discontinue pump.

**Major Side Effects**

- Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.

- Infusion Reaction with bevacizumab: Characterized by fever, rigors, or chills. If reaction occurs: stop infusion, and keep main line open. May require meperidine, antihistamines, or dexamethasone for rigors, as prescribed by physician. Symptoms usually last about 20 minutes. May resume infusion 30 minutes after symptoms resolve.

- Cardiovascular: Hypertension (11%) in the form of hypertensive crisis or hypertension not controlled by current antihypertensive medications may require discontinuation of the drug (bevacizumab).

- Hemostasis: Thrombotic events (19%), bleeding (3.1%), or thrombocytopenia may occur.

- Renal: Nephrotic syndrome and proteinuria may occur. Check for presence of protein in urine. Dipstick or urinalyses to detect proteinuria. 24-hour urine for 4+ protein or use the protein-to-creatinine (UPC) ratio to monitor. (For UPC obtain a random urine protein and a random urine creatinine.) Divide the urine protein by the urine creatinine to
obtain the ratio. A ratio of < 0.1 mg/dl is normal. UPC < 2.5 suggests presence of nephritic range proteinuria. The clinical significance or increased proteinuria has not been determined.

- **Acute Neurotoxicities:** Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hypoesthesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dyesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe) is most frightening to patients.

- **Peripheral Neuropathy:** Affects about 48% of patients, usually with a cumulative dose of 800 mg/m². Symptoms include paresthesias, dysesthesias, hypoesthesias in a stocking and glove distribution, and altered proprioception (knowing where body parts are in relation to the whole).

- **GI Toxicities:** Nausea and vomiting in 65% of patients; can be severe. Diarrhea in 80%–90% of patients.

- **Bone Marrow Depression:** Mild leukopenia, mild-to-moderate thrombocytopenia, and anemia are common.

- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Highly to mildly emetogenic protocol.

**Supportive drugs:**
- [ ] pegfilgrastim (Neulasta)
- [ ] filgrastim (Neupogen)
- [ ] epoetin alfa (Procrit)
- [ ] darbepoetin alfa (Aranesp)

**Initiate antidiarrheal protocol:**
- [ ] loperamide (Imodium)
- [ ] diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**
Chair time 4–5 hours on days 1, 3 hours on day 2, and 15 minutes on day 3. Repeat every 2 weeks for 12 cycles.

**Estimated number of visits:**
36 visits (6 per month for 6 months or until disease progression)

**Dose Calculation by:**
1. __________________________________ 2. ____________________________________________

Physician

Date

Patient Name

ID Number

________________________________________/ ______________________________/ ______________________

Ht Wt M²
Capecitabine + Oxaliplatin (XELOX) + Bevacizumab

**Baseline laboratory tests:** CBC: Chemistry, bilirubin, LFTs, CEA, creatinine clearance, and urine test for protein baseline and periodically throughout treatment cycles.

**Initiate IV:** D5W

**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of D5W

**Administer:**

- **Bevacizumab**
  - mg (7.5 mg/kg) IV every 2 weeks
  - Single-use vial (10 mg/mL); use within 8 hours of opening.
  - Further dilute in NS (100–150 cc).
  - Initial infusion over 90 minutes; if well tolerated, give second dose over 60 minutes, and if well tolerated, subsequent doses over 30 minutes.
  - DO NOT administer perioperatively—may inhibit wound healing.

- **Oxaliplatin**
  - mg (130 mg/m²) IV in 250 cc of D5W over 2 hours on day 1
  - Available in 50- and 100-mg vials. Concentration is 5 mg/mL.
  - Do not mix with chloride-containing solutions or use aluminum needles.
  - Reconstitute with 10–40 mL of sterile water or D5W.
  - Further dilute in D5W. Stable for 24 hours at room temperature.

- **Capecitabine**
  - mg (850 mg/m²) PO bid on days 1–14
  - Available in 150- or 500-mg tablets for oral use.
  - Administer within 30 minutes of a meal with plenty of water.
  - Monitor international normalized ratios (INRs) closely in patients taking warfarin; may increase INR.

**Major Side Effects**

- Infusion Reaction with bevacizumab: Characterized by fever, rigors, or chills. If reaction occurs: stop infusion, and keep main line open. May require meperidine, antihistamines, or dexamethasone for rigors, as prescribed by physician. Symptoms usually last about 20 minutes. May resume infusion 30 minutes after symptoms resolve.

- Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: May occur after 10–12 cycles. Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.

- Cardiovascular: Hypertension (11%) in the form of hypertensive crisis or hypertension not controlled by current antihypertensive medications may require discontinuation of the drug (bevacizumab).

- Hemostasis: Thrombotic events (19%), bleeding (3.1%), or thrombocytopenia may occur.

- Renal Insufficiency: Xeloda contraindicated in patients with creatinine clearance < 30 mL/min, with creatinine clearance of 30–50 mL/min at baseline a dose reduction to 75% of capecitabine should be made.

- Renal: Nephrotic syndrome and proteinuria may occur. Check for presence of protein in urine. Dipstick or urinalyses to detect proteinuria. 24-hour urine for 4+ protein or use the protein-to-creatinine (UPC) ratio to monitor. (For UPC obtain a random urine protein and a random urine creatinine.) Divide the urine protein by the urine creatinine to obtain the ratio. A ratio of < 0.1 mg/dl is normal. UPC < 2.5 suggests presence of nephritic range proteinuria. The clinical significance or increased proteinuria has not been determined.

- Acute neurotoxicities: Are temporary and can occur within hours of or up to 14 days after oxaliplatin. Often precipitated by exposure to cold and characterized by dysesthesias, transient paresthesias or hyposthesias of hands, feet, perioral area, and throat. Pharyngolaryngeal dysesthesia (sensation of discomfort or tightness in the back of the throat and inability to breathe) is most frightening to patients.
• Peripheral Neuropathy: Affects about 48% of patients, usually with a cumulative dose of 800 mg/m². Symptoms include paresthesias, dysesthesias, hypoesthesias in a stocking and glove distribution, and altered proprioception (knowing where body parts are in relation to the whole).

• GI Toxicities: Nausea and vomiting in 50%–65% of patients; can be severe. Diarrhea occurs in up to 40%, with 13% being grade 3–4. Stomatitis is common, 3% of which is severe.

• Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) occurs in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.

• Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.

• Hepatic: Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminases (aspartate transaminase [SGOT], alanine transaminase [SGPT]). Dose modifications may be required if hyperbilirubinemia occurs.

• Bone Marrow Toxicity: Grade 3–4 neutropenia (15%), thrombocytopenia (4%).

• Anaphylactic/anaphylactoid reactions to eloxatin have been reported. Delayed hypersensitivity: Symptoms range from mild symptoms, i.e., rash, urticaria, erythema, pruritus, or emesis to anaphylaxis/severe hypersensitivity characterized by dyspnea, angioedema bronchospasm, and hypotension. These reactions occur within minutes of administration and should be managed with appropriate supportive therapy. Drug-related deaths associated with platinum compounds from this reaction have been reported.

• Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**

**Highly to moderately emetogenic protocol.**

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ loperamide (Imodium)
- □ epoetin alfa (Procrit)

**Initiate antidiarrheal protocol:**

- □ darbepoetin alfa (Aranesp)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**

Chair time 4–5 hours first cycle, then 3 hours for other courses. Repeat cycle every 21 days until disease progression.

**Estimated number of visits:**

One visit per cycle. Request three cycles worth.

**Dose Calculation by:**

1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

______________/ ________________/ ________________

Ht Wt M²

**Diagnosis**
**Trimetrexate + 5-Fluorouracil + Leucovorin**

**Baseline laboratory tests:**  
CBC: Chemistry and CEA  

**Baseline procedures or tests:**  
N/A

**Initiate IV:**  
0.9% sodium chloride

**Premedicate:**  
Oral phenothiazine or 5-HT₃ and 10–20 mg of dexamethasone if necessary

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trimetrexate</strong></td>
<td>______________mg (110 mg/m²) IV in 250 cc of D5W on day 1</td>
<td>1</td>
</tr>
<tr>
<td>• Available as a lyophilized powder in 5- or 30-mL multidose vials for IV use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Reconstitute with 2 mL of D5W or sterile water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Filter with a 0.22-micron filter before further dilution. Inspect for cloudiness or precipitate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Further dilute in D5W to a final concentration of 0.25–2.0 mg/mL.</td>
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<td></td>
</tr>
<tr>
<td>• Stable for 24 hours at room temperature or refrigerated.</td>
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<tr>
<td>• Incompatible with chloride solutions, because precipitate forms immediately, and leucovorin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5-Fluorouracil</strong></td>
<td>______________mg (500 mg/m²) IV on day 2, immediately after leucovorin</td>
<td>2</td>
</tr>
<tr>
<td>• No dilution required. Concentration 50 mg/mL.</td>
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<td></td>
</tr>
<tr>
<td>• Can be further diluted with 0.9% sodium chloride or D5W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leucovorin</strong></td>
<td>_______________mg (200 mg/m²) IV on day 2; administer before 5-Fluorouracil</td>
<td>2</td>
</tr>
<tr>
<td>• Available in solution or powder. Reconstitute solution with sterile water. May further dilute with 0.9% sodium chloride or D5W.</td>
<td></td>
<td></td>
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<tr>
<td>• Do not mix in same solution with 5-FU, because a precipitate will form.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leucovorin</strong></td>
<td>15 mg PO every 6 hours for seven doses, starting 6 hours after 5-Fluorouracil</td>
<td>2–8</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Bone Marrow Depression: Leukopenia is dose-limiting toxicity.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- Hepatic Toxicities: Transient elevation in serum transaminase levels. Clinically asymptomatic.
- Pulmonary: Dyspnea may occur and can be severe.
- Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting. Alopecia likely.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**

Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Initiate antidiarrheal protocol:**

- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**

Chair time 1 hour weekly for 6 weeks. Repeat cycle every 8 weeks.

**Estimated number of visits:**

Six visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. ___________________________  
2. ___________________________

---

Physician  
Date

Patient Name  
ID Number

__________/__________/_________  
Ht Wt M²
## Hepatic Artery Infusion

### Floxuridine

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CEA  
**Baseline procedures or tests:** Hepatic artery line for arterial infusion.  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs  
  H₂ antagonist antihistamine (i.e., ranitidine 150 mg PO bid) administered concurrently during intra-arterial infusion to prevent development of peptic ulcer disease.  
**Administer:** Floxuridine (0.3 mg/kg/day) HAI days 1–14  
  - Available as a 500-mg vial of lyophilized powder for intra-arterial use.  
  - Dilute with 5 mL of sterile water and then further dilute with NS or D5W.  
  - Reconstituted solution is stable for up to 2 weeks under refrigeration.  
**Dexamethasone** 20 mg HAI on days 1–14  
**Heparin** 50,000 units HAI on days 1–14

### Major Side Effects

- **GI Toxicities:** Nausea and vomiting occur infrequently and are mild. Anorexia is common, as is mild mucositis. Gastritis may occur, with abdominal cramping and pain. Duodenal ulcers may occur, be painless, and lead to gastric outlet obstruction and vomiting.  
- **Hepatic:** Chemical hepatitis may be severe, with increased alkaline phosphatase, liver transaminase, and bilirubin levels. Sclerosing cholangitis is a rare event.  
- **Intra-arterial Catheter Problems:** Leakage, arterial ischemia or aneurysm, bleeding at catheter site, catheter occlusion, thrombosis or embolism of artery, vessel perforation or dislodged catheter, infection, and biliary sclerosis.  
- **Skin:** Hand-foot syndrome. Erythema, dermatitis, pruritus, or rash may occur.  
- **Neurotoxicity:** Manifested by somnolence, confusion, seizures, cerebellar ataxia, vertigo, nystagmus, depression, hemiplegia, hiccups, and lethargy. Blurred vision, and rarely encephalopathy.  
- **Bone Marrow Suppression:** Myelosuppression occurs rarely. Nadir day 9–14.  
- **Cardiac Toxicity:** Symptoms of chest pain, electrocardiographic changes, and serum enzyme elevation occur rarely. Increased risk in patients with prior history of ischemic heart disease.  
- **Ocular:** Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.  
- **Miscellaneous:** Fever malaise, catheter infections.

### Initiate antiemetic protocol:
- Mildly emetogenic protocol.

### Supportive drugs:
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

### Initiate antidiarrheal protocol:
- loperamide (Imodium)  
- diphenoxylate/atropine sulfate (Lomotil)

### Treatment schedule:
- Chair time 1 hour on days 1–14. Repeat cycle every 14 days until disease progression.  
- Estimated number of visits: 14 visits per cycle. Ask for three to four cycles worth of visits. May require hospitalization for all or part of treatment.

### Dose Calculation by:
-  
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<thead>
<tr>
<th>1.</th>
<th>2.</th>
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<tr>
<th>Physician</th>
<th>Date</th>
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<table>
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<tr>
<th>Patient Name</th>
<th>ID Number</th>
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<th>Diagnosis</th>
<th>Ht</th>
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</tr>
</thead>
</table>
## Single-Agent Regimens

### Capecitabine (Xeloda)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, bilirubin, LFTs, CEA, and creatinine clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT₃</td>
</tr>
<tr>
<td>Administer:</td>
<td>Capecitabine ( \text{mg} ) (1250 mg/m²/day) PO bid on days 1–14</td>
</tr>
</tbody>
</table>
  - Dose may be decreased to 850–1000 mg/m² PO bid on days 1–14. This may reduce the risk of toxicity without compromising efficacy.
  - Administer within 30 minutes of a meal with plenty of water.
  - Monitor INRs closely in patients taking warfarin; may increase INR.
  - Stop therapy at first signs of hand-foot syndrome or diarrhea.

### Major Side Effects

- **GI Toxicities:** Nausea and vomiting, in 30%–50% of patients, is usually mild to moderate. Diarrhea occurs in up to 40%, with 15% being grade 3–4. Stomatitis is common, 3% of which is severe.
- **Bone Marrow Suppression:** Less than 5-FU.
- **Renal Insufficiency:** Contraindicated in patients with creatinine clearance < 30 mL/min, CrCl 30–50 mL/min at baseline should have dose reduction to 75% of total dose.
- **Skin:** Hand-foot syndrome (palmar-plantar erythrodysesthesia) seen in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.
- **Ocular:** Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
- **Hepatic:** Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminase (SGOT, SGPT) levels. Dose modifications may be required if hyperbilirubinemia occurs.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

### Initiate antiemetic protocol:
Mildly to moderately emetogenic protocol.

### Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- darbepoetin alfa (Aranesp)
- diphenoxylate/atropine sulfate (Lomotil)

### Initiate diarrheal protocol:
- loperamide (Imodium)
- epoetin alfa (Procrit)

### Treatment schedule:
No chair time. Repeat cycle every 21 days.

### Estimated number of visits:
One to two visits per cycle. Request six cycles worth of visits.

### Dose Calculation by:
1. [ ]
2. [ ]

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<thead>
<tr>
<th>Physician</th>
<th>Date</th>
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<th>Patient Name</th>
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<th>Diagnosis</th>
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</tbody>
</table>
Irinotecan (CPT-11/Weekly Schedule)

Baseline laboratory tests: CBC: Chemistry panel and CEA
Baseline procedures or tests: N/A
Initiate IV: D5W
Premedicate: 5-HT₃ and dexamethasone 20 mg in 100 cc of D5W
Atropine 0.25–1.0 mg IV unless contraindicated

Administer: Irinotecan ________ mg (125 mg/m²) IV in 500 cc of D5W over 90 minutes weekly for 4 weeks, repeat every 6 weeks
OR
Irinotecan ________ mg (125 mg/m²) IV in 500 cc of D5W over 90 minutes weekly for 2 weeks, repeat every 3 weeks
OR
Irinotecan ________ mg (175 mg/m²) IV in 500 cc of D5W on days 1 and 10 every 3 weeks

• Available in 100-mg vials.
• Store at room temperature and protect from light.
• Dilute and mix drug in D5W (preferred) or NS.
• Diluted drug is stable for 24 hours at room temperature or, if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.

Major Side Effects
• GI Toxicities: Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 22% of patients, can be severe, and should be treated aggressively. Nausea and vomiting in 33%–60% of patients, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.
• Bone Marrow Depression: Dose-limiting, grade 3–4 neutropenia in 17%. Nadir in 6–9 days. Monitor CBC weekly.
• Alopecia: Mild.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)
Initiate antidiarrheal protocol:
☐ loperamide (Imodium) ☐ diphenoxylate/atropine sulfate (Lomotil)
Treatment schedule: Chair time 2 hours weekly for 4 weeks. Repeat cycle every 6 weeks until disease progression.
Estimated number of visits: Weekly for 4 weeks. Request 6 cycles worth of visits.

Dose Calculation by: 1. ____________________ 2. ____________________
_____________________________________________ ______________________________________________________
_____________________________________________ ______________________________________________________
Physician Date
_____________________________________________ ________________/ ________________/ ________________
Patient Name ID Number
Diagnosis Ht Wt M²
## Irinotecan (CPT-11/Monthly Schedule)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel and CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>D5W</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₃ and dexamethasone 20 mg in 100 cc of D5W Atropine 0.25–1.0 mg IV unless contraindicated</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Irinotecan</strong> ________ mg (350 mg/m²) IV on day 1 repeat every 3 weeks</td>
</tr>
</tbody>
</table>

- Store at room temperature; protect from light.
- Dilute and mix drug in D5W (preferred) or NS.
- Diluted drug is stable for 24 hours at room temperature; if diluted in D5W, is stable for 48 hours if refrigerated and protected from light.

### Major Side Effects

- **GI Toxicities**: Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 22% of patients, can be severe, and should be treated aggressively. Nausea and vomiting in 35%–60% of patients, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.
- **Bone Marrow Depression**: Dose-limiting, grade 3–4 neutropenia in 17%. Nadir in 6–9 days.
- **Alopecia**: Mild.

### Supportive drugs:

- **pegfilgrastim** (Neulasta)
- **filgrastim** (Neupogen)
- **epoetin alfa** (Procrit)
- **darbepoetin alfa** (Aranesp)

### Initiate antiemetic protocol:

- Moderately to highly emetogenic protocol.

### Supportive drugs:

- **loperamide** (Imodium)
- **diphenoxylate/atropine sulfate** (Lomotil)

### Estimated number of visits:

- One visit per cycle. Request four cycles worth of visits.

### Treatment schedule:

- Chair time 2 hours on day 1. Repeat cycle every 3 weeks as tolerated or until disease progression.

### Dose Calculation by:

1. _____________________________ 2. _____________________________

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### Physician

___________________________  Date

___________________________

#### Patient Name

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ID Number

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Diagnosis

___________________________ /  ___________________________ /  ___________________________

Ht  Wt  M²
Colorectal Cancer

Cetuximab (Erbitux)

Baseline laboratory tests: CBC: Chemistry and CEA, monitor electrolytes
Baseline procedures or tests: EGFR expression using immunohistochemistry
Initiate IV: NS
Premedicate: Diphenhydramine 50 mg in 100 cc of NS
Administer: Cetuximab ______mg (400 mg/m²) IV over 2 hours week 1 only
Cetuximab ______mg (250 mg/m²) IV over 1 hour weekly as maintenance dose. Followed by 1 hour observation for infusion reactions.

• Maximum infusion rate 5 mL/min.
• Administer through low-protein-binding 0.22-micron in-line filter.
• Place cetuximab in sterile evacuated container, prime tubing with drug, and then piggy-back into main line infusion of NS.
• Do not shake or dilute.
• Supplied in 100-mg/50-mL vials; discard 8 hours after opening if kept at room temperature, 12 hours if refrigerated.
• Dose reductions for skin reactions from package insert:

<table>
<thead>
<tr>
<th>Severe Acneform Rash</th>
<th>ERBITUX Outcome</th>
<th>ERBITUX Dose Modification</th>
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</thead>
<tbody>
<tr>
<td>1st occurrence</td>
<td>Delay infusion</td>
<td>Improvement</td>
</tr>
<tr>
<td></td>
<td>1 to 2 weeks</td>
<td>No Improvement</td>
</tr>
<tr>
<td>2nd occurrence</td>
<td>Delay infusion</td>
<td>Improvement</td>
</tr>
<tr>
<td></td>
<td>1 to 2 weeks</td>
<td>No Improvement</td>
</tr>
<tr>
<td>3rd occurrence</td>
<td>Delay infusion</td>
<td>Improvement</td>
</tr>
<tr>
<td></td>
<td>1 to 2 weeks</td>
<td>No Improvement</td>
</tr>
<tr>
<td>4th occurrence</td>
<td>Discontinue ERBITUX</td>
<td></td>
</tr>
</tbody>
</table>

Major Side Effects

• Infusion Reaction: Severe allergic reactions (3%–4%) with symptoms including rapid onset of airway obstruction (bronchospasm, stridor, hoarseness), dyspnea, fever, chills, rash, itching, and/or hypotension require that treatment be stopped immediately and NOT started again. For mild or moderate (grade 1–2) infusion reactions (19%), infusion rate should be permanently reduced by 50%.

• Skin: Acneform rash (90%) can be severe and require dose modification (8%). Paronychial inflammation, especially in thumbs and great toes (14%). May be treated with topical antibiotic cream or oral antibiotics.

• Hypomagnesemia may occur in 50% of patients. Grade 3–4 in 10%–15% of patients. Electrolyte replacement may be necessary. Closely monitor magnesium, potassium, and calcium levels.

• GI Symptoms: Nausea and vomiting, 25% in monotherapy and 72% in combination with irinotecan.

• Pulmonary Toxicity: Interstitial pneumonitis with non-cardiogenic pulmonary edema in < 0.5%. Onset between 4–11th doses. Monitor pulmonary symptoms; if interstitial lung disease develops, erbitux should be discontinued.

• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
Supportive drugs:
  □ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)
  □ oprelvekin (Neumega)    □ filgrastim (Neupogen)
  □ pegfilgrastim (Neulasta) □ Other ______

Treatment schedule:
Chair time 2 hours. Repeat cycle every 3–4 weeks.

Estimated number of visits:
Four visits per month. Request three months worth of visits.
Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician

Date

Patient Name

ID Number

Diagnosis

Ht Wt M²
### 5-Fluorouracil (Continuous Infusion)

**Baseline laboratory tests:** CBC: Chemistry and CEA

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride only if administering IV antiemetics

**Premedicate:** Oral phenothiazine or 5-HT\textsubscript{3}

**Administer:**

<table>
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<tr>
<th>Dose Options</th>
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<tbody>
<tr>
<td>Fluorouracil mg (2600 mg/m\textsuperscript{2}) IV over 24 hours weekly for 4 weeks</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>Fluorouracil mg (1000 mg/m\textsuperscript{2}/day) IV continuous infusion on days 1–4</td>
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</table>

- No dilution required. Concentration 50 mg/mL.
- Can be further diluted with 0.9% sodium chloride or D5W.

**Major Side Effects**

- Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily/weekly regimens.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Initiate antidiarrheal protocol:**

- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Chair time 1 hour weekly for 4 weeks. Repeat cycle every 21–28 days.

**Estimated number of visits:** Four visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

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2. 

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<tr>
<th>Physician</th>
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<tr>
<th>Diagnosis</th>
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<th>M\textsuperscript{2}</th>
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</table>
## Combination Regimens

### Paclitaxel and Carboplatin

- Paclitaxel: 175 mg/m² IV over 3 hours on day 1
- Carboplatin: area under the curve (AUC) 5–7, IV on day 1
- Repeat cycle every 28 days.\(^{1,143}\)

### AC

- Doxorubicin: 60 mg/m² IV on day 1
- Cyclophosphamide: 500 mg/m² IV on day 1
- Repeat cycle every 21 days.\(^{1,144}\)

### AP

- Doxorubicin: 50 mg/m² IV on day 1
- Cisplatin: 50 mg/m² IV on day 1
- Repeat cycle every 21 days.\(^{1,145}\)

### AT

- Doxorubicin: 50 mg/m² IV on day 1
- Paclitaxel: 150 mg/m² IV on day 1
- Repeat cycle every 21 days.\(^{1,146}\)

### Cisplatin + Doxorubicin + Paclitaxel

- Cisplatin: 50 mg/m² IV on day 1
- Doxorubicin: 45 mg/m² IV on day 1
- Paclitaxel: 160 mg/m² IV over 3 hours on day 2
- Filgrastim: 5 µg/kg SC on days 3–12
- Repeat cycle every 21 days.\(^{1,147}\)

### CAP

- Cyclophosphamide: 500 mg/m² IV on day 1
- Doxorubicin: 50 mg/m² IV on day 1
- Cisplatin: 50 mg/m² IV on day 1
- Repeat cycle every 21 days.\(^{1,148}\)
Single-Agent Regimens

**Doxorubicin**

Doxorubicin: 60 mg/m² IV on day 1
Repeat cycle every 21 days.¹,¹⁴⁹

**Megestrol**

Megestrol: 160 mg PO daily
Repeat on a daily basis.¹,¹⁵⁰

**Paclitaxel**

Paclitaxel: 200 mg/m² IV over 3 hours on day 1
Repeat cycle every 21 days.¹,¹⁵¹
Reduce dose to 175 mg/m² IV for patients with prior pelvic radiation therapy.

**Topotecan**

Topotecan: 1.0 mg/m²/day IV on days 1–5
Repeat cycle every 21 days.¹,¹⁵²
Reduce dose to 0.8 mg/m²/day IV on days 1–3 in patients with prior radiation therapy.

**Medroxyprogesterone**

Medroxyprogesterone: 200 mg PO daily
Repeat on a daily basis.¹,¹⁵³
Combination Regimens

Paclitaxel and Carboplatin

Baseline laboratory tests: CBC: Chemistry
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer:

Paclitaxel __________mg (175 mg/m²) IV over 3 hours on day 1
• Stable for up to 27 hours at room temperature, 0.3–1.2 mg/mL solutions.
• Final concentration is ≤ 1.2 mg/mL.
• Available in 50-, 100-, and 200-mg vials; 1 mg/mL.
• Use non-PVC containers and tubing with 0.22-micron inline filter to administer.

Carboplatin __________mg (AUC 5–7) IV on day 1
• Use within 24 hours of reconstitution or preparation.
• Available in 50-, 150-, and 450-mg lyophilized powder; mix with sterile water, D5W or NS for concentration of 10 mg/mL; stable for 8 hours after mixing.
• Also available in 50-, 150-, 450- and 600-mg aqueous solution 10 mg/mL multidose vial; multidose vials stable for 14 days with multiple needle sticks; once diluted stable for 8 hours.
• Do not use aluminum needles, because precipitate will form.
• Give carboplatin after paclitaxel to decrease toxicities

Major Side Effects

• Hypersensitivity Reaction: Paclitaxel (30%–40%). Premedicate as described. Characterized by generalized rash, flushing, back pain, erythema, hypotension, dyspnea, and/or bronchospasm. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy.
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
• GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea occurs in 30%–40% of patients.
• Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
• Electrolyte Imbalance: Decreases Mg²⁺, K, Ca²⁺, Na, and P.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related.
• Alopecia: Loss of total body hair occurs in nearly all patients.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to severely emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 5 hours on day 1. Repeat cycle every 28 days until disease progression.
Estimated number of visits: One visit per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. __________________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht _______ Wt _______ M² _______
**Doxorubicin + Cyclophosphamide (AC)**

**Baseline laboratory tests:** CBC: Chemistry and LFTs  
**Baseline procedures or tests:** MUGA scan  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT₃ and dexamethasone 20 mg in 100 cc of NS.  
**Administer:**

**Doxorubicin**
- mg (60 mg/m²) IV on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Cyclophosphamide**
- mg (500 mg/m²) IV on day 1
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials
  - Dilute with sterile water to make final concentration 20 mg/mL; shake well to ensure that solution is completely dissolved.
  - Reconstituted solution stable for 24 hours at room temperature, and for 6 days refrigerated.

**Major Side Effects**
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all occur; may be severe.
- GI Toxicities: Nausea and vomiting is moderate to severe and can be acute or delayed. Stomatitis and diarrhea occurs in 10% of patients but is not dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses < 450 mg/m², cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency. Usually preventable with adequate hydration.
- GU: Red-orange discoloration of urine; resolves in 24–48 hours.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia.
- Reproduction: Drugs are teratogenic and mutagenic.

**Initiate antiemetic protocol:** Moderately to severely emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**
1. __________________________  
2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht __________________________ Wt __________________________ M² __________________________
### Doxorubicin + Cisplatin (AP)

**Baseline laboratory tests:** CBC: Chemistry (including Mg^{2+})

**Baseline procedures or tests:** MUGA scan

**Initiate IV:**

0.9% sodium chloride

**Premedicate:**

5-HT_{3} and dexamethasone 20 mg in 100 cc of NS.

**Administer:**

- **Doxorubicin** ______mg (50 mg/m^2) IV push on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

- **Cisplatin** ______mg (50 mg/m^2) IV over 1–2 hours on day 1
  - Do not use aluminum needles, because precipitate will form.
  - Stable for 96 hours when protected from light and only 6 hours when not protected from light.
  - Available in solution as 1 mg/mL.

**Major Side Effects**

- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen, may be severe.
- GI Toxicities: Nausea and vomiting is moderate to severe and can be acute or delayed. Stomatitis occurs in 10% of patients but is not dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m^2, cardiomyopathy may occur. Risk of cardiotoxicity increased when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- Renal: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days.
- Electrolyte Imbalance: Decreases Mg^{2+}, K, Ca^{2+}, Na, and P.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses > 50 mg/m^2.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus with cisplatin.
- Reproduction: Drugs are teratogenic and mutagenic.

**Initiate antiemetic protocol:** Moderately to severely emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

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</table>
**Doxorubicin + Paclitaxel (AT)**

**Baseline laboratory tests:**
CBC: Chemistry (including Mg²⁺)

**Baseline procedures or tests:**
Central line placement for continuous infusion and MUGA scan

**Initiate IV:**
0.9% sodium chloride

**Premedicate:**
5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Administer:**
- **Doxorubicin** 
  
  ________mg (50 mg/m²) IV on day 1
  
  - Potent vesicant
  - Available as a 2-mg/mL solution
  - Doxorubicin will form precipitate if it is mixed with heparin or 5-FU.

- **Paclitaxel** 
  
  ________mg (150 mg/m²) IV on day 1
  
  - Stable for up to 27 hours at room temperature, 0.3–1.2 mg/mL solutions.
  - Available in 30- and 300-mg vials 6 mg/mL and 100-mg vial 16.7 mg/mL.
  - Further dilute in NS or D5W for final concentration < 1.2 mg/mL.
  - Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

**Major Side Effects**
- Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, back pain, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described—.
- Bone Marrow Depression: Dose-limiting neutropenia. Use G-CSF support.
- GI Toxicities: Nausea and vomiting is moderate to severe. Stomatitis can occur but is not dose limiting.
- GU: Red-orange discoloration of urine; resolves in 24–48 hours.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses < 450 mg/m², cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- Neurotoxicity: Sensory neuropathy with numbness/paresthesias; dose related.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- Reproduction: Teratogenic, mutagenic, and carcinogenic.

**Initiate antiemetic protocol:**
Moderately emetogenic protocol.

**Supportive drugs:**
- ☐ pegfilgrastim (Neulasta)
- ☐ filgrastim (Neupogen)
- ☐ epoetin alfa (Procrit)
- ☐ darbepoetin alfa (Aranesp)

**Treatment schedule:**
Repeat every 21 days.

**Estimated number of visits:**
Chair time 4–5 hours every 3 weeks. Nadir day 10–14.

**Dose Calculation by:**
1. ________________ 2. ________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht  Wt  M²
Cisplatin + Doxorubicin + Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg²⁺)
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT³ and dexamethasone 20 mg in 100 cc of NS.
Administer:

Cisplatin ________mg (50 mg/m²) IV on day 1
- Do not use aluminum needles, because precipitate will form.
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.
- Available in solution as 1 mg/mL.
- Further dilute solution with at least 250 cc or mm of NS

Doxorubicin _________mg (45 mg/m²) IV push on day 1
- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if mixed with heparin or 5-FU.

Paclitaxel ___________mg (160 mg/m²) IV over 3 hours on day 2
- Stable for up to 27 hours at room temperature, 0.3–1.2 mg/mL solutions.
- Available in 30- and 300-mg vials 6 mg/mL and 100-mg vial 16.7 mg/mL.
- Further dilute in NS or D5W for final concentration < 1.2 mg/mL
- Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Major Side Effects

- Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, back pain, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen, may be severe. Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
- Neurotoxicity: Sensory neuropathy. More frequent with longer infusions and at doses < 175 mg/m². Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy in a classic “stocking glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus with cisplatin.
- GI Toxicities: Nausea and vomiting is moderate to severe and can be acute or delayed. Stomatitis occurs in 10% of patients but is not dose limiting.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses < 450 mg/m², cardiomyopathy may occur. Risk of cardiotoxicity increased when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- Renal: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Red-orange discoloration of urine; resolves by 24–48 hours.
- Electrolyte Imbalance: Decreases Mg²⁺, K, Ca²⁺, Na, and P.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses < 50 mg/m².
- Reproduction: Drugs are teratogenic and mutagenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
Treatment schedule:
- Chair time 3 hours on day 1, 4 hours day 2. Repeat cycle every 21 days.
Estimated number of visits:
- Two visits per cycle. Request four cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

__________________________
Physician

__________________________
Date

__________________________
Patient Name

__________________________
ID Number

__________________________
Diagnosis

__________________________
Ht

__________________________
Wt

__________________________
M²
## Cyclophosphamide + Doxorubicin + Cisplatin (CAP)

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\))

**Baseline procedures or tests:** MUGA

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclophosphamide</td>
<td>________mg (500 mg/m(^2)) IV on day 1</td>
<td>Available in 100-, 200-, 500-, 1000-, and 2000-mg vials. Dilute with sterile water to make final concentration 20 mg/mL; shake well to ensure that solution is completely dissolved. Further dilute with 250–1000 cc NS maximum concentration for IV infusion 20 mg/mL. Reconstituted solution is stable for 24 hours at room temperature and for 6 days refrigerated.</td>
</tr>
</tbody>
</table>
| Doxorubicin           | ________mg (50 mg/m\(^2\)) IV on day 1 | Potent vesicant
|                       |        | Available as a 2-mg/mL solution. Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU. |
| Cisplatin             | _______mg (50 mg/m\(^2\)) IV over 1–3 hours on day 1 | Stable for 96 hours when protected from light and only 6 hours when not protected from light. Do not use aluminum needles, because precipitate will form. Available in solution as 1 mg/mL. Further dilute solution with 250 cc or more of NS. |

### Major Side Effects

- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia occur equally in 25%–30% of patients. Leukopenia and thrombocytopenia are dose related.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis may occur. Red-orange discoloration of urine; resolves in 24–48 hours. Adequately hydrate to decrease risk.
- **GU:** Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Bladder toxicity in the form of hemorrhagic cystitis, dysuria, and increased urinary frequency.
- **Electrolyte Imbalance:** Decreases Mg\(^{2+}\), K, Ca\(^{2+}\), Na, and P.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses < 450 mg/m\(^2\), cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- **Ototoxicity:** High-frequency hearing loss and tinnitus.
- **Skin:** Extravasation of doxorubicin causes severe tissue damage. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- **Reproduction:** Drugs are mutagenic and teratogenic.

**Initiate antiemetic protocol:** Moderately to severely emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** One visit per cycle. Request six cycles worth of visits.
Dose Calculation by:  1. ______________________________  2. ______________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht  Wt  M²
## Single-Agent Regimens

### Doxorubicin

**Baseline laboratory tests:** CBC: Chemistry  
**Baseline procedures or tests:** MUGA scan  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS.  
**Administer:** Doxorubicin _________mg (60 mg/m²) IV on day 1  
- Potent vesicant  
- Available as a 2-mg/mL solution.  
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Major Side Effects**  
- Bone Marrow Depression: WBC and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe but is less severe with weekly dosing.  
- GI Toxicities: Nausea and vomiting are moderate to severe and occur in 44% of patients. Stomatitis occurs in 10% of patients but is not dose limiting.  
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 450 mg/m², cardiomyopathy may occur.  
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses > 50 mg/m².  
- Gu: Red-orange discoloration of urine; resolves by 24–48 hours.  
- Reproduction: Doxorubicin is teratogenic, mutagenic, and carcinogenic.

**Initiate antiemetic protocol:** Moderately to severely emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1. Repeat cycle every 21 days.  
**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits. Nadir days 15–21.

**Dose Calculation by:**  
1. __________________  
2. __________________

---

Physician  
Date  
Patient Name  
ID Number  

---

Diagnosis  
Ht  
Wt  
M²
Megestrol

Baseline laboratory tests: CBC, Chemistry, and LFTs
Baseline procedures or tests: None
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT3 if nausea occurs
Administer: Megestrol 160 mg PO daily

Major Side Effects
• GI Toxicities: Nausea and vomiting rarely observed. Increased appetite with accompanying weight gain.
• CV Toxicities: Use with caution in patients with history of either thromboembolic or hypercoagulable disorders because megestrol acetate has been associated with an increased incidence of thromboembolic events.
• Fluid/electrolyte Imbalance: Fluid retention. Use with caution in patients with diabetes mellitus because megestrol may exacerbate this condition.
• Hepatic: Increased LFTs. Dose reduction recommended in patients with abnormal liver function.
• Gynecologic: Breakthrough menstrual bleeding.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: No chair time. Daily PO dosing as tolerated or until disease progression.
Estimated number of visits: Monthly during treatment.

Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________
Physician Date

_____________________________________________ ________________/ ________________/ ________________
Patient Name ID Number

_____________________________________________ ________________________________ ________________
Diagnosis Ht Wt M 2
Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel \(_________\) mg (200 mg/m\(^2\)) IV over 3 hours on day 1
• Stable for up to 27 hours at room temperature, 0.3–1.2 mg/mL solutions.
• Available in 30- and 300-mg vials 6 mg/mL and 100-mg vial 16.7 mg/mL.
• Further dilute in NS or D5W for final concentration < 1.2 mg/mL.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Major Side Effects
• Hypersensitivity reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, back pain, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related. More frequent with longer infusions and at doses > 175 mg/m\(^2\).
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours on day 1. Repeat every 21 days as tolerated or until disease progression.
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits. Nadir days 15–21.

Dose Calculation by:

1. ___________________________  2. ___________________________

______________________________ ________________________________
Physician Date

______________________________ ________________________________
Patient Name ID Number

______________________________ ________________________________
Diagnosis Ht Wt M\(^2\)
Topotecan

Baseline laboratory tests: CBC, Chemistry panel, LFTs, and CA 19-9
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10 mg in 100 cc of NS
Administer: Topotecan _________mg (0.1 mg/m²) IV on days 1–5
Reduce dose to _______0.8 mg/m² IV on days 1–3 in patients with prior radiation therapy
• Available as a 4-mg vial.
• Reconstitute vial with 4 mL of sterile water for injection.
• Further dilute in 0.9% sodium chloride or D5W.
• Use immediately.

Major Side Effects
• Hematologic: Severe grade 4 myelosuppression may occur during the first course of therapy in 60% of patients. Dose-limiting toxicity. Typical nadir occurs at days 7–10 with full recovery by days 21–28. If severe neutropenia occurs, reduce dose by 0.25 mg/m² for subsequent doses or may use G-CSF to prevent neutropenia 24 hours after last day of topotecan therapy.
• GI Toxicities: Nausea and vomiting, mild to moderate and dose related. Occur in 60%–80% of patients. Diarrhea occurs in 42% of patients, and constipation occurs in 39%. Abdominal pain may occur in 33% of patients.
• Hepatic Toxicity: Evidence of increased drug toxicity in patients with low protein and hepatic dysfunction. Dose reductions may be necessary.
• Renal: Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting. Microscopic hematuria occurs in 10% of patients.
• Skin: Alopecia.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on days 1–5. Repeat every 21 days until disease progression.
Estimated number of visits: Three to six visits per course. Request three courses. Weekly CBC.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________/ ________________/ ________________

Patient Name ID Number

Diagnosis Ht Wt M²
### Medroxyprogesterone

**Baseline laboratory tests:** CBC: Chemistry, LFTs  
**Baseline procedures or tests:** None  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs  
**Administer:** Medroxyprogesterone 200 mg PO daily  

**Major Side Effects**  
- **GI Toxicities:** Nausea and vomiting rarely observed.  
- **Cardiovascular Toxicities:** Use with caution in patients with a history of thromboembolic or hypercoagulable disorders.  
- **Fluid/electrolyte Imbalance:** Fluid retention  
- **Hepatic:** Increased LFTs.  

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  

**Treatment schedule:** No chair time. Daily dosing as tolerated or until disease progression.  
**Estimated number of visits:** Monthly during treatment.  

**Dose Calculation by:** 1. __________________________________________________________________________ 2. __________________________________________________________________________

---

Physician ___________________________ Date __________________________________________________________________________

Patient Name ___________________________ ID Number __________________________________________________________________________

Diagnosis __________________________________________________________________________ Ht ______ Wt ______ M² ______
Combination Regimens

5-FU + Cisplatin + Radiation Therapy (Herskovic Regimen) ........................................ 231

5-Fluorouracil: 1000 mg/m²/day IV continuous infusion on days 1–4
Cisplatin: 75 mg/m² IV on day 1
Repeat on weeks 1, 5, 8, and 11.1,154
Radiation therapy: 200 cGy/day for 5 days per week (total dose, 3000 cGy), followed by a boost to the field of 2000 cGy.

5-FU + Cisplatin + Paclitaxel + Radiation Therapy (Hopkins/Yale Regimen) ........... 232

Preoperative chemoradiation:
5-Fluorouracil 225 mg/m²/day IV continuous infusion on days 1–30
Cisplatin 20 mg/m²/day IV on days 1–5 and 26–30
Radiation therapy: 200 cGy/day to a total dose of 4400 cGy.
Followed by esophagectomy and then adjuvant chemotherapy in patients who had total gross removal of disease with negative margins.
Adjuvant chemotherapy:
Paclitaxel 135 mg/m² IV for 24 hours on day 1
Cisplatin 75 mg/m² IV on day 2
Chemotherapy is given concurrently with radiation therapy.
Adjuvant chemotherapy is given 8–12 weeks after esophagectomy, and each cycle is given every 21 days for a total of three cycles.1,155

Metastatic Disease

5-FU + Cisplatin ................................................................. 234

5-Fluorouracil: 1000 mg/m³/day IV continuous infusion on days 1–5
Cisplatin: 100 mg/m² IV on day 1
Repeat cycle on weeks 1, 5, 8, and 11.1,156

Irinotecan + Cisplatin ............................................................... 235

Irinotecan: 65 mg/m² IV weekly for 4 weeks
Cisplatin: 30 mg/m² IV weekly for 4 weeks
Repeat cycle every 6 weeks.1,157
**Paclitaxel + Cisplatin**

Paclitaxel: 200 mg/m² IV over 24 hours on day 1  
Cisplatin: 75 mg/m² IV on day 2  
Repeat cycle every 21 days. G-CSF support is recommended.

**5-FU + Cisplatin + Definitive Radiation Therapy**

5-FU 1000 mg/m² IV continuous infusion on days 1–4, 29–32, 50–53, and 71–74  
Cisplatin 75 mg/m² IV on days 1, 29, 50, and 71  
External-beam radiation therapy 50 cGy at 1.8 cGy per day, 5 days per week.

**Single-Agent Regimens**

**Paclitaxel**

Paclitaxel: 250 mg/m² IV over 24 hours on day 1  
Repeat cycle every 21 days. G-CSF support is recommended.
**Combination Regimens**

**5-FU + Cisplatin + Radiation Therapy (Herskovic Regimen)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg$^{2+}$) and CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Central line placement</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td>Fluorouracil ________mg (1000 mg/m$^2$/day) IV continuous infusion on days 1–4</td>
</tr>
<tr>
<td></td>
<td>• No dilution required. Can be further diluted with 0.9% sodium chloride or D5W. AND</td>
</tr>
<tr>
<td></td>
<td>Cisplatin ________mg (75 mg/m$^2$/day) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Stable for 96 hours when protected from light and only 6 hours when not protected from light.</td>
</tr>
<tr>
<td></td>
<td>• Available in 1-mg/mL concentrations.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute solution with 250 cc or more of NS.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>Repeat on weeks 1, 5, 8, and 11.</td>
</tr>
<tr>
<td>Radiation therapy</td>
<td>200 cGy/day, 5 days per week (total dose 3000 cGy), followed by a boost to the field of 2000 cGy</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.
- Skin: Local tissue irritation progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**

Moderate to severely emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:**

Chair time 2 to 3 hours on day 1. Repeat at weeks 5, 8, and 11.

**Estimated number of visits:**

Four visits per treatment course. May require extra visits for hydration.

**Dose Calculation by:**

1. __________________________________ 2. __________________________________

______________________________  ________________________________
Physician                      Date

______________________________  ________________________________
Patient Name                   ID Number

______________________________  ________________________________
Diagnosis                      Ht  Wt  M$^2$
**5-FU + Cisplatin + Paclitaxel + Radiation Therapy (Hopkins/Yale Regimen)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg(^{2+})) and CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Central line placement</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT(_3) and dexamethasone 10–20 mg in 100 cc of NS; followed by diphenhydramine 25–50 mg, and cimetidine 300 mg in 100 cc of NS (for paclitaxel only)</td>
</tr>
<tr>
<td>Administer:</td>
<td>Preoperative Chemoradiation</td>
</tr>
</tbody>
</table>

**Fluorouracil**

- **mg** (225 mg/m\(^2\)/day) IV continuous infusion on days 1–30
  - No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.
  - AND
  - Cisplatin **mg** (20 mg/m\(^2\)/day) IV on days 1–5 and 26–30
    - Stable for 96 hours when protected from light and only 6 hours when not protected from light.
    - Available in 1-mg/mL concentrations.
    - Further dilute solution with 250 cc or more of NS.
    - Do not use aluminum needles, because precipitate will form.

**Radiation therapy** 200 cGy/day to total dose of 4400 cGy, followed by esophagectomy and then adjuvant chemotherapy in patients who had total gross removal of disease with negative margins.

**ADJUVANT CHEMOTHERAPY**

**Paclitaxel**

- **mg** (135 mg/m\(^2\)) IV for 24 hours on day 1
  - Stable for up to 27 hours at room temperature, 0.3–1.2 mg/mL solutions.
  - Available in 30- and 300-mg vials 6 mg/mL and 100-mg vial 16.7 mg/mL.
  - Further dilute in NS or D5W for final concentration < 1.2 mg/mL.
  - Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

**Cisplatin**

- **mg** (75 mg/m\(^2\)) IV on day 2
  - Chemotherapy is given concurrently with radiation therapy. Adjuvant chemotherapy is given 8–12 weeks after esophagectomy. Repeat cycle every 21 days for three cycles.

**Major Side Effects**

- Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
- Electrolyte Imbalance: Decreases Mg\(^{2+}\), K, Ca\(^{2+}\), Na, and P.
- Skin: Local tissue irritation progressing to desquamation. Do not use oil-based lotions or creams in radiation field. Hand-foot syndrome can be dose limiting.
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related.
- Alopecia: Loss of total body hair occurs in nearly all patients.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderate to severely emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)  □
- filgrastim (Neupogen)  □
- epoetin alfa (Procrit)  □
- darbepoetin alfa (Aranesp)  □

**Treatment schedule:**

- Preoperative chemotherapy: Chair time 2 hours on days 1–5, 26–30
- Adjuvant therapy: Chair time 1 hour on day 1, and 2 hours on day 2. Repeat every 3 weeks for six cycles.

**Estimated number of visits:**

- Preoperative visits: 10
- Adjuvant therapy visits: two/cycle, six for total course
Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________ ________________________________
Physician Date

_____________________________ ________________________________
Patient Name ID Number

_____________________________ ________________________________
Diagnosis Ht Wt M²
Metastatic Disease

**5-FU + Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CEA

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** **Fluorouracil** $\_\_\_\_\_\_\_\_\_mg$ (1000 mg/m$^2$/day) IV continuous infusion days 1–5

- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

AND

**Cisplatin** $\_\_\_\_\_\_\_\_\_mg$ (100 mg/m$^2$) IV on day 1

- Stable for 96 hours when protected from light and only 6 hours when not protected from light.
- Available in 1-mg/mL concentrations.
- Further dilute solution with 250 cc or more of NS.
- Do not use aluminum needles, because precipitate will form.

Repeat cycle on weeks 1, 5, 8, and 11.

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related. Can be dose limiting for daily x 5 or weekly regimens.

- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.

- Renal: Nephrotoxicity is dose related and with cisplatin presents at 0–20 days. Provide adequate hydration to reduce risk.

- Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.

- Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.

- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.

- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderate to severely emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle on weeks 1, 5, 8, and 11.

**Estimated number of visits:** Four per course. May require extra visits for hydration.

**Dose Calculation by:**

1. ____________________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________/ ________________/ ________________

Patient Name ID Number

_____________________________________________ ___________________________ ___________________________

**Diagnosis**

Ht Wt M$^2$
## Irinotecan + Cisplatin

**Baseline laboratory tests:** CBC: Chemistry panel, CEA  
**Baseline procedures or tests:** N/A  
**Initiate IV:** D5W  
**Premedicate:** 5HT3 and dexamethasone 20 mg in 100 cc of D5W  
Atropine 0.25–1.0 mg IV unless contraindicated  
**Administer:**  
- **Irinotecan** _________mg (65 mg/m²) IV in 500 cc of D5W over 90 minutes weekly for 4 weeks  
  - Available in 100-mg/5-mL single-use vials.  
  - Store at room temperature; protect from light.  
  - Dilute and mix drug in D5W (preferred) or NS.  
  - Diluted drug is stable 24 hours at room temperature; if diluted in D5W, it is stable for 48 hours if refrigerated and protected from light.  
- **Cisplatin** _________mg (30 mg/m²) IV weekly for 4 weeks  
  - Stable for 96 hours when protected from light and only 6 hours when not protected from light.  
  - Available in 1-mg/mL concentrations.  
  - Further dilute solution with 250 cc or more of NS.  
  - Do not use aluminum needles, because precipitate will form.  

### Major Side Effects  
- GI Toxicities: Early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 22% of patients, can be severe, and should be treated aggressively. Nausea and vomiting in 35%–60% of patients, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.  
- Bone Marrow Depression: Neutropenia can be dose limiting.  
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.  
- Electrolyte Imbalance: Decreases in Mg²⁺, K⁺, Ca²⁺, Na⁺, and P.  
- Alopecia: Mild.  
- Reproductive: Pregnancy category D. Breast feeding should be avoided.  

### Initiate antiemetic protocol:  
Highly to moderately emetogenic protocol.  

### Supportive drugs:  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- loperamide (Imodium)  
- diphenoxylate/atropine sulfate (Lomotil)  

### Treatment schedule:  
Chair time 4 hours weekly for 4 weeks. Repeat cycle every 6 weeks as tolerated or until disease progression.  

### Estimated number of visits:  
Four visits per cycle. Request three cycles worth of visits.  

### Dose Calculation by:  
1. __________________________  
2. __________________________

---

**Physician**  
**Date**  

**Patient Name**  
**ID Number**  

**Diagnosis**  
**Ht**  
**Wt**  
**M²**
Paclitaxel + Cisplatin

Baseline laboratory tests: CBC, Chemistry (including Mg\(^{2+}\)) and CEA

Baseline procedures or tests: Central line placement

Initiate IV: 0.9% sodium chloride

Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS (days 1 and 2)
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)

Administer:

Paclitaxel \(__________\) mg (200 mg/m\(^2\)) IV over 24 hours on day 1
- Stable for up to 27 hours at room temperature, 0.3–1.2 mg/mL solutions.
- Available in 30- and 300-mg vials 6 mg/mL and 100-mg vial 16.7 mg/mL.
- Further dilute in NS or D5W for final concentration < 1.2 mg/mL.
- Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Cisplatin \(__________\) mg (75 mg/m\(^2\)) IV on day 2
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.
- Available in 1-mg/mL concentrations.
- Further dilute solution with 250 cc or more of NS.
- Do not use aluminum needles, because precipitate will form.

Repeat cycle every 21 days.

Major Side Effects
- Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
- Electrolyte Imbalance: Decreases Mg\(^{2+}\), K, Ca\(^{2+}\), Na, and P.
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related.
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Highly to severely emetogenic protocol.

Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on day 1, and 3 hours on day 2. Repeat every 21 days as tolerated or until disease progression.

Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by:

1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ____________________________ Ht __________ Wt __________ M\(^2\) __________
**5-FU + Cisplatin + Definitive Radiation Therapy**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg2+) and CEA</th>
</tr>
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<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Central line placement</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT3 and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td>Fluorouracil _________mg (1000 mg/m²/day) IV continuous infusion on days 1–4, 29–32, 50–53, and 71–74</td>
</tr>
<tr>
<td></td>
<td>• No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.</td>
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<td></td>
<td>AND</td>
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<tr>
<td></td>
<td>Cisplatin _________mg (75 mg/m²/day) IV on days 1, 29, 50, and 71</td>
</tr>
<tr>
<td></td>
<td>• Stable for 96 hours when protected from light and only 6 hours when not protected from light.</td>
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<tr>
<td></td>
<td>• Available in 1-mg/mL concentrations.</td>
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<tr>
<td></td>
<td>• Further dilute solution with 250 cc or more of NS.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>External-beam radiation therapy, 50.4 Gy at 1.8 Gy per day, 5 days per week</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
- Electrolyte Imbalance: Decreases Mg2+, K, Ca2+, Na, and P.
- Skin: Local tissue irritation progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on days 1, 29, 50, and 71.

**Estimated number of visits:** Four visits per treatment course. May require extra visits for hydration.

**Dose Calculation by:** 1. __________________ 2. __________________

<table>
<thead>
<tr>
<th>Physician</th>
<th>Date</th>
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<th>Patient Name</th>
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<tr>
<th>Diagnosis</th>
<th>Ht</th>
<th>Wt</th>
<th>M²</th>
</tr>
</thead>
</table>
Single-Agent Regimens

Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$) and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel ________mg (250 mg/m$^2$) IV over 24 hours on day 1
• Stable for up to 27 hours at room temperature, 0.3–1.2 mg/mL solutions.
• Available in 30- and 300-mg vials 6 mg/mL and 100-mg vial 16.7 mg/mL.
• Further dilute in NS or D5W for final concentration $<$ 1.2 mg/mL.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Major Side Effects
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, back pain, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias, dose related. More frequent with longer infusions and at doses $\geq$ 175 mg/m$^2$.
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mouldly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour. 1 hour for day 2 to discontinue pump. Repeat every every 21 days as tolerated or until disease progression.

Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

___________________________/____________________/________________________

Diagnosis __________________________

Ht __________________ Wt __________________ M$^2$ __________________
Adjuvant Therapy

Chemoradiation Therapy

One cycle of chemotherapy is administered as follows:
5-Fluorouracil: 425 mg/m² IV on days 1–5
Leucovorin: 20 mg/m² IV on days 1–5
Chemoradiotherapy is then started 28 days after the start of the initial cycle of chemotherapy as follows:
Radiation therapy: 180 cGy/day to a total dose of 4500 cGy, starting on day 28
5-Fluorouracil: 400 mg/m² IV on days 1–4 and days 23–25 of radiation therapy
Leucovorin: 20 mg/m² IV on days 1–4 and days 23–25 of radiation therapy
Chemoradiotherapy is followed by two cycles of chemotherapy that are given 1 month apart and include:
5-Fluorouracil: 425 mg/m² IV on days 1–5
Leucovorin: 20 mg/m² IV on days 1–5

Combination Regimens

DCF

Docetaxel: 75 mg/m² IV on day 1
Cisplatin: 75 mg/m² IV over 1–3 hours on day 1
5-FU: 750 mg/m²/day IV continuous infusion on days 1–5
Repeat cycle every 21 days.

CF

Cisplatin: 100 mg/m² IV over 1–3 hours on day 1
5-FU: 1000 mg/m²/day IV continuous infusion on days 1–5
Repeat cycle every 28 days.

EAP

Etoposide: 120 mg/m² IV on days 4–6
Doxorubicin: 20 mg/m² IV on days 1 and 7
Cisplatin: 40 mg/m² IV on days 2 and 8
Repeat cycle every 21–28 days.
<table>
<thead>
<tr>
<th>Regimen</th>
<th>Dose Details</th>
</tr>
</thead>
</table>
| **ECF** | Epirubicin: 50 mg/m² IV on day 1  
Cisplatin: 60 mg/m² IV on day 1  
5-Fluorouracil: 200 mg/m²/day IV continuous infusion for 21 weeks  
Repeat cycle every 21 days.\textsuperscript{1,164} |
| **ELF** | Etoposide: 120 mg/m² IV on days 1–3  
Leucovorin: 300 mg/m² IV on days 1–3  
5-Fluorouracil: 500 mg/m² IV on days 1–3  
Repeat cycle every 21–28 days.\textsuperscript{1,165} |
| **IP** | Irinotecan: 70 mg/m² IV on days 1 and 15  
Cisplatin: 80 mg/m² IV on day 1  
Repeat cycle every 28 days.\textsuperscript{1,166} |
| **FAM** | 5-Fluorouracil: 600 mg/m² IV on days 1, 8, 29, and 36  
Doxorubicin: 30 mg/m² IV on days 1 and 29  
Mitomycin: 10 mg/m² IV on day 1  
Repeat cycle every 8 weeks.\textsuperscript{1,167} |
| **FAMTX** | 5-Fluorouracil: 1500 mg/m² IV on day 1, starting 1 hour after methotrexate (MTX)  
Leucovorin: 15 mg/m² PO every 6 hours for 12 doses, starting 24 hours after MTX  
Doxorubicin: 30 mg/m² IV on day 15  
Methotrexate: 1500 mg/m² IV on day 1  
Repeat cycle every 28 days.\textsuperscript{1,168} |
| **FAP** | 5-Fluorouracil: 300 mg/m² IV on days 1–5  
Doxorubicin: 40 mg/m² IV on day 1  
Cisplatin: 60 mg/m² IV on day 1  
Repeat cycle every 5 weeks.\textsuperscript{1,169} |
Docetaxel + Cisplatin

Docetaxel: 85 mg/m² IV on day 1
Cisplatin: 75 mg/m² IV on day 1
Repeat cycle every 21 days.\textsuperscript{1,170}

**Single-Agent Regimens**

5-Fluorouracil

5-Fluorouracil: 500 mg/m² IV on days 1–5
Repeat cycle every 28 days.\textsuperscript{1,171}

**Docetaxel**

Docetaxel: 100 mg/m² IV on day 1
Repeat cycle every 21 days.\textsuperscript{1,172}

OR

Docetaxel: 36 mg/m² IV weekly for 6 weeks
Repeat cycle every 8 weeks.\textsuperscript{1,172}
Adjuvant Therapy

5-FU + Leucovorin + 5-FU + Radiation Therapy

Baseline laboratory tests: CBC: Chemistry and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: Chemotherapy (one 28-day cycle):

5-FU mg (425 mg/m²/day) IV days 1–5
• 50 mg/mL, no dilution required. Can be further diluted with 0.9% sodium chloride or D5W.
Leucovorin mg (20 mg/m²/day) IV days 1–5
• Available in solution or powder. Reconstitute powder with sterile water. May further dilute with 0.9% sodium chloride or D5W.
• Do not mix in same solution with 5-FU, because a precipitate will form.

Chemoradiotherapy (starts on day 28 after the start of the initial cycle of chemotherapy as follows):
Radiation therapy 180 cGy/day to a total dose of 4500 cGy
5-FU mg (400 mg/m²/day) IV on days 1–4 and days 23–25 of radiation therapy
Leucovorin mg (20 mg/m²/day) IV on days 1–4 and days 23–25 of radiation therapy

One-month recovery period
Chemotherapy (two-28 day cycles):
5-FU mg (425 mg/m²/day) IV days 1–5
Leucovorin mg (20 mg/m²/day) IV days 1–5

Major Side Effects
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting.
• GI Toxicities: Mucositis and diarrhea can be severe and dose limiting.
• Skin: Local tissue irritation progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
• Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule:
Chemotherapy: 1 hour on day 1
Chemoradiotherapy: 1 hour on day 1 week 1, 1 hour on day 4 week 5
One month rest:
then
Chemotherapy: 1 hour on day 1 × 2

Estimated number of visits: Four visits per treatment course (21 weeks’ total therapy)
Note: May need additional visits for IV hydration.
Dose Calculation by:  1. ________________________________  2. ________________________________

________________________________________________________________________________

Physician  

________________________________________________________________________________

Date

________________________________________________________________________________

Patient Name  

________________________________________________________________________________

ID Number

________________________________________________________________________________

Diagnosis  

________________________________________________________________________________

Ht  Wt  M²
Combination Regimens

Docetaxel + Cisplatin + 5-FU (DCF)

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$) and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
Dexamethasone 8 mg bid for 3 days, starting the day before treatment
Administer: Docetaxel ________mg (75 mg/m$^2$) IV on day 1
• Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or refrigerated for 8 hours.
• Further dilute in 250 cc of D5W or 0.9% sodium chloride.
• Use non-PVC containers and tubing to administer.
• Use within 24 hours of preparation.
Cisplatin ________mg (75 mg/m$^2$) IV over 1–3 hours on day 1
• Stable for 96 hours when protected from light and only 6 hours when not protected from light.
• Available in 1-mg/1-mL solution.
• Do not use aluminum needles, because precipitate will form.
• Further dilute in 250 cc or more of 0.9% sodium chloride.
Fluorouracil ________mg (750 mg/m$^2$/day) IV continuous infusion on days 1–5
• 50-mg/10-mL concentration. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Major Side Effects
• Hypersensitivity Reactions: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as describe.
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related.
• GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting
• Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
• Neuropathy: Peripheral neuropathy may affect up to 49% of patients.
• Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.
• Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
• Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to severely emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours on day 1. Repeat cycle every 21 days.
Estimated number of visits: One visit per cycle. Request three cycles worth of visits.
Dose Calculation by:

1. ________________________________  2. ________________________________

______________________________  ________________________________
Physician                      Date

______________________________  ________________________________
Patient Name                   ID Number

______________________________
Diagnosis

____________________/
Ht    Wt    M²
5-FU + Cisplatin (CF)

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$) and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
Administer: Cisplatin ______ mg (100 mg/m$^2$) IV over 1–3 hours on day 1
• Stable for 96 hours when protected from light and only 6 hours when not protected from light.
• Available in 1-m/1-mL solution.
• Do not use aluminum needles, because precipitate will form.
• Further dilute solution with 250 cc or more NS.
Fluorouracil ______ mg (1000 mg/m$^2$/day) IV continuous infusion days 1–5
• 50-mg/10-ml solution. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Major Side Effects
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related.
• GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
• Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
• Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.
• Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
• Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to severely emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 3 hours on day 1. Repeat cycle every 28 days.
Estimated number of visits: Three visits per cycle. Request 6 months worth. May require extra visits for hydration.

Dose Calculation by:
1. __________________________________ 2. __________________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht ____________ Wt ____________ M$^2$ ____________
### Etoposide + Doxorubicin + Cisplatin (EAP)

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^2+\)), LFTs, and CEA  
**Baseline procedures or tests:** MUGA scan  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS  
**Administer:**

- **Etoposide** \( (120 \text{ mg/m}^2) \) IV over 30–60 minutes on days 4–6  
  - Available in 20-mg/mL solution.  
  - May be further diluted with NS or D5W.  
  - Stability is dependent on final concentration. A concentration of 0.2 mg/mL is stable for 48 hours in a plastic container at room temperature or for 96 hours in a glass container at room temperature (under normal fluorescent light).

- **Doxorubicin** \( (20 \text{ mg/m}^2) \) IV push on days 1 and 7  
  - Potent vesicant  
  - Available in 2-mg/mL solution; no need to further dilute.

- **Cisplatin** \( \text{mg} \) (40 mg/m\(^2\)) IV over 1–3 hours on days 2 and 8  
  - Stable for 96 hours when protected from light and only 6 hours when not protected from light.  
  - Available in 1-mL/mL solution.  
  - Do not use aluminum needles, because precipitate will form.  
  - Further dilute solution with 250 cc or more of NS.

**Major Side Effects**

- Hypersensitivity reaction with etoposide: Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs with rapid infusions. Always infuse over 30–60 minutes. Premedicate as described.

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia. Effects are dose related.

- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis can occur.

- GU: Red-orange discoloration of urine; resolves in 24–48 hours.

- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.

- Electrolyte Imbalance: Decreases Mg\(^2+\), K, Ca\(^2+\), Na, and P.

- Skin: Tissue necrosis with extravasation. Hyperpigmentation, radiation recall, and nail changes are seen. Alopecia is dose dependent.

- Cardiovascular: Hypotension may occur with rapid infusion of etoposide. Cardiomyopathy may occur with high cumulative doses of doxorubicin.

- Reproduction: Etoposide and doxorubicin are mutagenic and teratogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1, 4, 5, 6, and 7; 3 hours on days 2 and 8. Repeat cycle every 21–28 days.

**Estimated number of visits:** Nine visits per cycle. Request three cycles worth. May require extra visits for hydration.

**Dose Calculation by:** 1. 2.

**Physician**  
**Date**

**Patient Name**  
**ID Number**

**Diagnosis**  
Ht  Wt  M\(^2\)
Epirubicin + Cisplatin + Fluorouracil (ECF)

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CEA

**Baseline procedures or tests:** Central line placement, MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

Epirubicin ________mg (50 mg/m$^2$) IV on day 1

- Vesicant
- Available as a preservative-free solution (2 mg/mL).
- Use within 24 hours of preparation.

Cisplatin ________mg (60 mg/m$^2$) IV over 1–3 hours on day 1

- Stable for 96 hours when protected from light and only 6 hours when not protected from light.
- Available in 1-mg/mL solutions.
- Do not use aluminum needles, because precipitate will form.
- Further dilute solution with 250 cc or more of NS.

Fluorouracil ________mg (200 mg/m$^2$/day) IV continuous infusion for 21 days

- 50-mg/10-mL solution. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related. Can be dose limiting.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
- Cardiovascular: Acute or delayed cardiotoxicities may be seen. Acute symptoms (sinus tachycardia and electrocardiographic abnormalities) are usually of no clinical significance. Delayed toxicities, such as decreased left ventricular ejection fraction and congestive heart failure, are clinically significant.
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.
- Skin: Tissue necrosis if extravasation occurs. Hyperpigmentation, photosensitivity, radiation recall, and nail changes may occur. Hand-foot syndrome can be dose limiting. Alopecia is universal.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Epirubicin is genotoxic, mutagenic, and carcinogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Chair time 3 hours on day 1, and 1 hour on days 8 and 15. Repeat cycle every 21 days.

**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

_______________ ________________ ______________________________

Physician Date

_______________ ________________ ______________________________

Patient Name ID Number

_______________ ________________ ______________________________

Diagnosis Ht Wt M$^2$
### Etoposide + Leucovorin + Fluorouracil (ELF)

**Baseline laboratory tests:** CBC: Chemistry and CEA  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** Oral phenothiazine or 5-HT₃  
**Administer:**

- **Etoposide** ________mg (120 mg/m²) IV on days 1–3  
  - Available in 20-mg/mL solution.  
  - May be further diluted in NS or D5W.  
  - Stability is dependant on final concentration. A concentration of 0.2 mg/mL is stable for 48 hours in a plastic container at room temperature or for 96 hours in a glass container at room temperature (under fluorescent light).  

- **Leucovorin** ________mg (300 mg/m²) IV on days 1–3  
  - Available in solution or powder. Reconstitute powder with sterile water. May further dilute with 0.9% sodium chloride or D5W.  
  - Do not mix in same solution with 5-FU, because a precipitate will form.  

- **5-Fluorouracil** _________mg (500 mg/m²) IV on days 1–3  
  - 50-mg/10-mL solution. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.  

**Major Side Effects**

- Hypersensitivity reaction with etoposide: Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs with rapid infusions. Always infuse over 30–60 minutes. Premedicate as described.  
- Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily × 3 or weekly regimens.  
- GI Toxicities: Nausea and vomiting occur in 30%-50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.  
- Cardiovascular: Hypotension with rapid infusion of etoposide.  
- Skin: Alopecia is dose dependent. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.  
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.  
- Reproduction: Etoposide is teratogenic and mutagenic.  

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:** □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)  
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)  
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)  

**Treatment schedule:** Chair time 1 hour on days 1–3. Repeat every 21–28 days as tolerated.  
**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits.  

**Dose Calculation by:** 1. __________________________________ 2. ____________________________________________ 3. ______________________________________________________  

**Physician**  
**Date**  

**Patient Name**  
**ID Number**  

**Diagnosis**  
Ht Wt M²
Gastric Cancer

Irinotecan + Cisplatin (IP)

Baseline laboratory tests: CBC: Chemistry (including Mg²⁺)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT³ and dexamethasone 10–20 mg in 100 cc of NS
Administer: Irinotecan ________mg (70 mg/m²) IV on days 1 and 15
  • Available in 2- and 5-ml vials (20 mg/ml).
  • Store at room temperature and protect from light.
  • Dilute and mix drug in D5W (preferred) or NS.
  • Diluted drug is stable 24 hours at room temperature or, if diluted in D5W, stable for 48 hours if refrigerated and protected from light.
Cisplatin ________ mg (80 mg/m²) IV over 1–3 hours on day 1
  • Stable for 96 hours when protected from light and only 6 hours when not protected from light.
  • Do not use aluminum needles, because precipitate will form.
  • Available in solution as 1 mg/mL.
  • Further dilute solution with 250–1000 cc NS.

Major Side Effects
  • Bone Marrow Depression: Myelosuppression can be severe, dose-limiting toxicity. May need dose reductions for severe neutropenia.
  • GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Diarrhea or constipation possible. Abdominal pain not unusual. Early diarrhea, most likely a cholinergic reaction, can be managed with atropine before administration of irinotecan. Late diarrhea observed in 22% of patients, can be severe, and should be treated aggressively. Consider lomotil, immodium, tincture of opium, and hydration.
  • Hepatic Toxicities: Evidence of increased drug toxicity in patients with low protein and hepatic dysfunction. Dose reductions may be necessary.
  • Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting. Provide adequate hydration to reduce risk.
  • Electrolyte Imbalance: Decreases Mg²⁺, K, Ca²⁺, Na, and P.
  • Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
  • Ototoxicity: High-frequency hearing loss and tinnitus.
  • Skin: Alopecia
  • Reproduction: Cisplatin is mutagenic and probably teratogenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
  □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
  □ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Initiate antidiarrheal protocol: □ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)
Treatment schedule: Chair time 4 hours on day 1, and 2 hours on days 2 and 3. Repeat cycle every 28 days.
Estimated number of visits: Four visits per cycle. Request six cycles worth of visits.

Dose Calculation by: 1. ______________________ 2. ______________________

Physician ______________________ Date ______________________

Patient Name ______________________ ID Number ______________________

Diagnosis ______________________ Ht ______________________ Wt ______________________ M² ______________________
5-Fluorouracil + Doxorubicin + Mitomycin (FAM)

Baseline laboratory tests: CBC: Chemistry and CA 19-9
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer:

**Fluorouracil** ________mg (600 mg/m²/day) IV on days 1, 8, 29, and 36
• 50-mg/10-mL solution. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**Doxorubicin** ________mg (30 mg/m²) IV on days 1 and 29
• Potent vesicant
• Available in 2-mg/1-mL solution.
• Drug will form a precipitate if it is mixed with heparin or 5-FU.

**Mitomycin** ________mg (10 mg/m²) IV bolus on day 1
• Potent vesicant
• Available in 5-, 20-, and 40-mg vials. Dilute with sterile water to give a final concentration of 0.5 mg/mL. Reconstituted solution stable for 14 days refrigerated or 7 days at room temperature

**Major Side Effects**
• Bone Marrow Depression: Dose-limiting and cumulative toxicity, with leukopenia being more common than thrombocytopenia. Nadir counts are delayed at 4–6 weeks with mitomycin but occur at 10–14 days with doxorubicin.
• GI Toxicities: Nausea and vomiting in 50% of patients and are moderate to severe. Mucositis and diarrhea can be severe and dose limiting.
• GU: Red-orange discoloration of urine; resolves in 24–48 hours.
• Skin: Vesicants cause tissue necrosis if extravasated. Hyperpigmentation, photosensitivity, radiation recall, and nail changes may occur. Hand-foot syndrome can be dose limiting.
• Cardiac: Doxorubicin can cause cardiomyopathy with cumulative doses > 450 mg/m².
• Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
• Hemolytic-uremic syndrome: Hematocrit < 25%, platelets < 100 × 10³/mm³ and renal failure (serum creatinine > 1.6 mg/dL). Rare event (< 2%).
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol:
☐ loperamide (Imodium) ☐ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour on days 1, 8, 29, and 36. Repeat every 56 day until disease progression.
Estimated number of visits: Four visits per treatment course.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________ 3. ______________________________________________________

______________________________  ________________________________
Physician Date

______________________________
Patient Name ID Number

______________________________/ ________________________________/ ________________________________
Ht Wt M²

Diagnosis
## 5-Fluorouracil + Doxorubicin + Methotrexate (FAMTX)

### Baseline laboratory tests:
CBC: Chemistry and CA 19-9

### Baseline procedures or tests:
MUGA scan

### Initiate IV:
0.9% sodium chloride

### Pre-/Posthydration:
1000 cc of 0.9% sodium chloride with two ampules of NaHCO₃

### Premedicate:
5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS

### Administer:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorouracil</td>
<td>________mg (1500 mg/m²) IV on day 1, starting 1 hour after MTX</td>
</tr>
<tr>
<td></td>
<td>• Available in 50-mg/20-mL solution. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.</td>
</tr>
<tr>
<td>Leucovorin</td>
<td>________mg (15 mg/m²) PO every 6 hours for 12 doses, starting 24 hours after MTX</td>
</tr>
<tr>
<td></td>
<td>• Leucovorin rescue must be given on time, as ordered.</td>
</tr>
<tr>
<td></td>
<td>• Leucovorin should continue until MTX level is &lt; 50 nM.</td>
</tr>
<tr>
<td>Doxorubicin</td>
<td>________mg (30 mg/m²) IV on day 15</td>
</tr>
<tr>
<td></td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available in 2-mg/1-mL solution.</td>
</tr>
<tr>
<td></td>
<td>• Drug will form a precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>_______mg (1500 mg/m²) IV over minimum of 3 hours on day 1</td>
</tr>
<tr>
<td></td>
<td>• Stable for 7 days at room temperature.</td>
</tr>
<tr>
<td></td>
<td>• Available in 25-mg/mL solutions. High doses cross the blood-brain barrier; reconstitute with preservative-free 0.9% sodium chloride.</td>
</tr>
<tr>
<td></td>
<td>• Urine should be alkaized before and after administration to prevent crystallization in the kidneys.</td>
</tr>
</tbody>
</table>

### Major Side Effects
- **Renal Toxicity:** MTX may precipitate in renal tubules, causing acute renal tubular necrosis if urine pH greater than 7.0 is not maintained for 48–72 hours after administration.
- **Bone Marrow Depression:** Dose-limiting and cumulative toxicity with leukopenia being more common than thrombocytopenia.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting and can begin during MTX infusion. Mucositis and diarrhea can be severe and dose limiting.
- **GU:** Red-orange discoloration in urine; resolves in 24–48 hours.
- **Skin:** Tissue necrosis if extravasated. Hyperpigmentation, photosensitivity, radiation recall, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- **Cardiac:** Doxorubicin can cause cardiomyopathy at cumulative doses > 450 mg/m².
- **Ocular:** Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- **Reproductive:** Menstrual irregularities, abortion, and fetal deaths in women. Reversible oligospermia with testicular failure reported in men with high-dose therapy. Pregnancy category D. Breast feeding should be avoided.

### Initiate antiemetic protocol:
Moderately to highly emetogenic protocol.

### Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

### Initiate antidiarrheal protocol:
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

### Treatment schedule:
Chair time 8 hours on day 1, and 1 hour on day 15. Repeat cycle every 28 days.

### Estimated number of visits:
Two visits per treatment course. Request three courses worth of treatments.
<table>
<thead>
<tr>
<th>Dose Calculation by:</th>
<th>1. ______________________________ 2. ______________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>Date</td>
</tr>
<tr>
<td>Patient Name</td>
<td>ID Number</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Ht / Wt / M$^2$</td>
</tr>
</tbody>
</table>
Fluorouracil + Doxorubicin + Cisplatin (FAP)

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and CEA
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS
Administer:

**Fluorouracil** __________mg (300 mg/m\(^2\)) IV days 1–5
- 50-mg/10-mL solution. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**Doxorubicin** __________mg (40 mg/m\(^2\)) IV on day 1
- Potent vesicant
- Available in 2-mg/mL solution.
- Drug will form a precipitate if it is mixed with heparin or 5-FU.

**Cisplatin** __________mg (60 mg/m\(^2\)) IV over 1–3 hours on day 1
- Stable for 96 hours when protected from light and only 6 hours when not protected from light.
- Available in 1-mg/1-mL solution.
- Do not use aluminum needles, because precipitate will form.
- Further dilute solution with 250 cc or more NS.

**Major Side Effects**
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
- GU: Red-orange discoloration of urine; resolves in 24–48 hours.
- Cardiovascular: Doxorubicin can cause cardiomyopathy with cumulative doses > 450 mg/m\(^2\).
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
- Electrolyte Imbalance: Decreases Mg\(^{2+}\), K, Ca\(^{2+}\), Na, and P.
- Skin: Tissue necrosis if extravasation occurs. Hyperpigmentation, radiation recall, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproduction: Cisplatin and doxorubicin are mutagenic and teratogenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Initiate antidiarrheal protocol: loperamide (Imodium)

diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 3 hours on day 1, and 1 hour on days 2–5. Repeat cycle every 5 weeks.
Estimated number of visits: Five visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________________________________________________
2. __________________________________________________________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht ___________________________ Wt ___________________________ M\(^2\) ___________________________
### Docetaxel + Cisplatin

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg$^{2+}$) and CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Central line placement</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Dexamethasone 8 mg PO bid for 3 days, starting the day before treatment. 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS day of treatment</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Docetaxel</strong> _________ mg (85 mg/m$^2$) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in 20- or 80-mg doses; comes with own diluent. Do not shake.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted vials stable at room temperature or refrigerated for 8 hours.</td>
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<tr>
<td></td>
<td>• Further dilute in 250 cc of D5W or 0.9% sodium chloride.</td>
</tr>
<tr>
<td></td>
<td>• Use non-PVC containers and tubings to administer.</td>
</tr>
<tr>
<td></td>
<td>• Use within 24 hours of preparation.</td>
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<tr>
<td></td>
<td><strong>Cisplatin</strong> _________ mg (75 mg/m$^2$) IV over 1–3 hours on day 1</td>
</tr>
<tr>
<td></td>
<td>• Stable for 96 hours when protected from light and only 6 hours when not protected from light.</td>
</tr>
<tr>
<td></td>
<td>• Available in 1-mg/1-mL solution.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute solution with 250 cc or more of NS.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Hypersensitivity Reaction:** Occurs in 2%–3% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting may be acute or delayed.
- **Renal:** Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. Provide adequate hydration to reduce risk.
- **Electrolyte Imbalance:** Decreases Mg$^{2+}$, K, Ca$^{2+}$, Na, and P.
- **Neuropathy:** Peripheral neuropathy may affect up to 49% of patients. Paresthesias in a “glove and stocking” distribution and numbness.
- **Skin:** Alopecia is common. Nail changes may occur.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to severely emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** One visit per cycle. Request six months worth. May require extra visits for hydration.

**Dose Calculation by:**

1. __________________________  2. __________________________

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Physician __________________________  Date __________________________

Patient Name __________________________  ID Number __________________________

Ht ________________ / Wt ________________ / M$^2$ __________________________

Diagnosis __________________________
Single-Agent Regimens

5-Fluorouracil

Baseline laboratory tests: CBC: Chemistry and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT₃
Administer: 5-Fluorouracil _________mg (500 mg/m²/day) IV on days 1–5

- 50-mg/10-mL solution. No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Major Side Effects
- Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but are usually mild. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour on days 1–5. Repeat cycle every 28 days.
Estimated number of visits: Five days per cycle. Request six cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________
________________________

Physician Date
________________________
Patient Name ID Number
________________________
Diagnosis Ht Wt M²
**Docetaxel**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CEA

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Dexamethasone 8 mg bid for 3 days, starting the day before treatment

**Administer:**

- **Docetaxel** _______mg (100 mg/m$^2$) IV on day 1 repeat every 21 days
- Or

- **Docetaxel** _______mg (36 mg/m$^2$) IV weekly for 6 weeks; repeat every 8 weeks

*• Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or if refrigerated for 8 hours.*

*• Further dilute in 250 cc D5W or 0.9% sodium chloride.*

*• Use non-PVC containers and tubing to administer.*

**Major Side Effects**

- **Hypersensitivity Reaction:** Occurs in 2%–3% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.

- **Bone Marrow Depression:** Neutropenia is dose limiting with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia also occur.

- **GI Toxicities:** Nausea and vomiting is mild to moderate. Mucositis and diarrhea occur in 40% of patients.

- **Neuropathy:** Peripheral neuropathy may affect up to 49% of patients. Sensory alterations are paresthesias in a “glove and stocking” distribution; numbness.

- **Fluid Balance:** Fluid retention syndrome. Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Occurs in about 50% of patients. Premedication with dexamethasone effective in preventing or minimizing occurrences.

- **Skin:** Alopecia occurs in 80% of patients. Nail changes, rash, and dry, pruritic skin seen. Hand-foot syndrome has also been reported.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days. OR weekly × 6 weeks, repeating every 8 weeks

**Estimated number of visits:** Two visits per cycle; request three cycles worth of visits OR weekly for 6 weeks

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

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**Physician**

__________________________ **Date**

---

**Patient Name**

__________________________ **ID Number**

---

**Diagnosis**

__________________________ Ht ____________/___________ Wt ____________/___________ M$^2$
GASTROINTESTINAL STROMAL TUMOR (GIST)

Single-Agent Regimens

**Imatinib**

- Imatinib: 400 mg/day PO
- Continue treatment until disease progression.\(^{1,173}\)
- Increase dose to 600–800 mg/day if no response is seen.

**Sutent**

- Sutent: 50 mg PO once daily
- 4 weeks on schedule followed by 2 weeks off.\(^{1,174}\)
**Single-Agent Regimens**

**Imatinib (Gleevec)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and LFTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>c-kit (CD117) expression</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT3</td>
</tr>
<tr>
<td>Administer:</td>
<td>Start imatinib at 400–600 mg PO per day</td>
</tr>
</tbody>
</table>

- May increase dose to 600 or 800 mg PO per day if no response. 800 mg dose is given 400 mg bid.
- Available in 100- or 400-mg capsules.
- Taken with food and a large glass of water. Do NOT take with grapefruit juice.
- Monitor INRs closely in patients taking warfarin; inhibits metabolism of warfarin.

### Major Side Effects

- **GI Toxicities**: Nausea 63%–75% and vomiting, 38%–55% of patients. Usually relieved when the drug is taken with food. Diarrhea observed in 54%; constipation in 13% of patients.
- **Bone Marrow Suppression**: Myelosuppression, neutropenia, and thrombocytopenia common and can be dose related. Median duration of Neutropenia 3–4 weeks. Dose should be held for ANC, $1.0 \times 10^9/L$ and platelets $> 50 \times 10^9/L$. Resume dose at 400 mg; if recurrence decrease to 300 mg.
- **Fluid/electrolyte Imbalance**: Fluid retention is most common side effect, especially in the elderly, 77%–81%. Periorbital and lower-extremity edema primarily occur. However, pleural effusions, ascites, rapid weight gain, and pulmonary edema may develop. Hypokalemia reported in 2%–12% of patients.
- **Muscle cramps, arthralgias, headache, fatigue, and abdominal pain affecting 25%–37% of patients.**
- **Rash** may occur in 32%–36% of patients; treat with systemic antihistamine; topical or systemic corticosteroid.
- **Laboratory Values**: Mild, transient elevation in serum transaminase and bilirubin levels.
- **Multiple drug interacations with CYP3A4 pathway:**
  - Drugs that increase Gleevec plasma levels: Erythomycin, ketoconazole, itraconazole, and clarithromycin.
  - Drugs that decrease Gleevec plasma levels: Carbamazepine (tegretol), dexamethasone, phenobarbital, rifampin, and St. John’s Wort.
  - Drugs whose plasma levels may be increased by Gleevec: Acetaminophen, cyclosporine, Dihydropyridine calcium channel blockers, HMG-CoA reductase inhibitors (e.g., simvastatin), pimozide, triazolobenzodiazepines, and warfarin.
  - Drugs whose plasma levels may be decreased by Gleevec: Warfarin.
- **Reproduction**: Drug is teratogenic.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- ☐ loperamide (Imodium)
- ☐ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Daily as tolerated until disease progression.

**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:** 1. __________________________ 2. __________________________

<table>
<thead>
<tr>
<th>Physician</th>
<th>Date</th>
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<tr>
<th>Patient Name</th>
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<th>Diagnosis</th>
<th>Ht</th>
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<th>M²</th>
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</table>
**Sutent: 50 mg PO once daily**
4 weeks on schedule followed by 2 weeks off (Pfizer package insert)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry with P and LFT</th>
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<tbody>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT&lt;sub&gt;3&lt;/sub&gt;</td>
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<tr>
<td>Administer:</td>
<td><strong>Sutent</strong> 50 mg PO per day, 4 weeks on 2 weeks off.</td>
</tr>
<tr>
<td></td>
<td>• Available in 12.5-, 25-, and 50-mg capsules.</td>
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<td>• May be taken with or without food.</td>
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<td>• Dose modification: Increase or decrease by 12.5 mg based on individual safety and tolerance.</td>
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</table>

**Major Side Effects**

- Gastrointestinal: Diarrhea 81%, nausea and vomiting 49%–63%, stomatitis 58%, constipation 41%, and abdominal pain 57%.
- Cardiac: 15% of patients had decreases in Left Ventricular Ejection Fraction Dysfunction (LVEF). Monitor for signs and symptoms of Congestive Heart Failure (CHF). Patients with cardiac history should have a baseline LVEF.
- Hypertension: 15%, grade 3, 4%.
- Hemorrhagic Events: Epistaxis is the most common hemorrhagic event, bleeding from all sites 37%.
- Musculoskeletal: Arthalgia 24%, back pain 23%, and myalgias 28%
- Multiple Drug Interactions: CYP3A4 pathway.
- Reproduction: Drug is teratogenic.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Daily as tolerated until disease progression.

**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:** 1. __________________________ 2. __________________________ 3. __________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

<table>
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</table>
Combination Regimens

**TIP ................................................................................................................264**

- Paclitaxel: 175 mg/m² IV over 3 hours on day 1
- Ifosfamide: 1000 mg/m² IV over 2 hours on days 1–3
- Mesna: 400 mg/m² IV before ifosfamide
- Mesna: 200 mg/m² IV, 4 hours after ifosfamide
- Cisplatin: 60 mg/m² IV on day 1
- Repeat cycle every 21–28 days.¹,¹⁷⁵

**TPF ................................................................................................................266**

- Docetaxel: 75 mg/m² IV on day 1
- Cisplatin: 75–100 mg/m² IV over 24 hours on day 1
- 5-Fluorouracil: 1000 mg/m² over 24 hours on days 1–4
- Repeat cycle every 21 days.¹,¹⁷⁶

**TIC ................................................................................................................268**

- Paclitaxel: 175 mg/m² IV over 3 hours on day 1
- Ifosfamide: 1000 mg/m² IV over 2 hours on days 1–3
- Mesna: 400 mg/m² IV before ifosfamide
- Mesna: 200 mg/m² IV, 4 hours after ifosfamide
- Carboplatin: Area under the curve (AUC) of 6, IV on day 1
- Repeat cycle every 21–28 days.¹,¹⁷⁷

**Paclitaxel + Carboplatin..................................................................................270**

- Paclitaxel: 175 mg/m² IV over 3 hours on day 1
- Carboplatin: AUC of 6, IV on day 1
- Repeat cycle every 21 days.¹,¹⁷⁸

**Paclitaxel + Cisplatin......................................................................................272**

- Paclitaxel: 175 mg/m² IV over 3 hours on day 1
- Cisplatin: 75 mg/m² IV on day 2
- Granulocyte colony stimulating factor (G-CSF): 5 μg/kg/day SC on days 4–10
- Repeat cycle every 21 days.¹,¹⁷⁹
**PF**

Cisplatin: 100 mg/m² IV on day 1  
5-Fluorouracil: 1000 mg/m²/day IV continuous infusion on days 1–5  
Repeat cycle every 21–28 days.¹,¹⁸⁰

**PFL**

Cisplatin: 100 mg/m² IV on day 1  
5-Fluorouracil: 800 mg/m²/day IV continuous infusion on days 1–5  
Leucovorin: 50 mg/m² PO every 6 hours on days 1–5  
Repeat cycle every 21 days.¹,¹⁸¹

**PF-Larynx Preservation**

Cisplatin: 100 mg/m² IV on day 1  
5-Fluorouracil: 1000 mg/m²/day IV continuous infusion on days 1–5  
Radiation therapy: 6600–7600 cGy in 180- to 200-cGy fractions  
Repeat cycle every 21–28 days for three cycles.¹,¹⁸²

**Concurrent Chemo-Radiation Therapy for Laryngeal Preservation**

Cisplatin: 100 mg/m² IV on days 1, 22, and 43  
Radiation therapy: 7000 cGy in 200 cGy fractions  
Administer cisplatin concurrently with radiation therapy.¹⁸³

**Chemoradiotherapy for Nasopharyngeal Cancer**

Cisplatin: 100 mg/m² IV on days 1, 22, and 43 during radiotherapy  
Radiation therapy: Total dose of 7000 cGy in 180- to 200-cGy fractions  
At the completion of chemoradiotherapy, chemotherapy is administered as follows:  
Cisplatin: 80 mg/m² IV on day 1  
5-Fluorouracil: 1000 mg/m²/day IV continuous infusion on days 1–4  
Repeat cycle every 28 days for a total of three cycles.¹,¹⁸⁴

**Carboplatin + 5-Fluorouracil**

Carboplatin: 300–400 mg/m² IV on day 1  
5-Fluorouracil: 600 mg/m² IV on day 1  
Repeat cycle every 21 days.¹,¹⁸⁵

**VP**

Vinorelbine: 25 mg/m² IV on days 1 and 8  
Cisplatin: 80 mg/m² IV on day 1  
Repeat cycle every 21 days.¹,¹⁸⁶
**Single-Agent Regimens**

**Docetaxel**

Docetaxel: 100 mg/m² IV over 1 hour on day 1  
Repeat cycle every 21 days.¹,¹⁸⁷

**Paclitaxel**

Paclitaxel: 250 mg/m² IV over 24 hours on day 1  
Repeat cycle every 21 days.¹,¹⁸⁸  
OR  
Paclitaxel: 137–175 mg/m² IV over 3 hours on day 1  
Repeat cycle every 21 days.¹,¹⁸⁸

**Methotrexate**

Methotrexate: 40 mg/m² IV or IM weekly  
Repeat cycle every week.¹,¹⁸⁹

**Vinorelbine**

Vinorelbine: 30 mg/m² IV weekly  
Repeat cycle every week.¹,¹⁹⁰

**Capecitabine (Xeloda)**

Capecitabine: 1000 mg/m²/day PO BID on days 1–14.¹,¹⁹¹
Combination Regimens

Paclitaxel + Ifosfamide + Mesna + Cisplatin (TIP)

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of normal saline (NS) (days 1–3)
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)

Administer:

**Paclitaxel**

- **mg** (175 mg/m$^2$) IV over 3 hours on day 1
  - Available in 50-, 100-, and 300-mg vials, 6 mg/ml or 100 mg/16.7 ml
  - Further dilute in NS or D5W to a final concentration is $\leq$1.2 mg/mL.
  - Diluted solution stable for 27 hours at room temperature.
  - Use non-PVC tubing and containers and a 0.22-micron inline filter to administer.

**Ifosfamide**

- **mg** (1000 mg/m$^2$) IV over 2 hours on days 1–3
  - Reconstitute powder with (20 ml for 1-gram or 60 mL for 3-gram vial) sterile water for injection.
  - Chemically stable for 7 days, but discard after 8 hours due to lack of bacteriostatic preservative.
  - May further dilute in D5W or NS.

**Mesna**

- **mg** (400 mg/m$^2$) IV before ifosfamide on day 1
- **mg** (200 mg/m$^2$) IV 4 hours after ifosfamide on days 1–3
  - Available in 100 mg/ml and 1000 mg vials.
  - Diluted solution is stable for 24 hours at room temperature.
  - Mesna tablets may be given orally in a dosage equal to 40% of the ifosfamide dose.

**Cisplatin**

- **mg** (60 mg/m$^2$) IV day 1
  - Available in 100-mL vials. 1-mg/1-mL concentrations.
  - Do not use aluminum needles, as precipitate will form.
  - Further dilute solution with 250 cc or more NS.
  - 100-mL vial stable for 28 days protected from light, 7 days under florescent light.
  - Hypersensitivity Reaction: Paclitaxel and cisplatin, with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described.
  - Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended. Give paclitaxel before cisplatin to decrease the severity of myelosuppression.
  - Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be severe, acute, or delayed. Mucositis and/or diarrhea are seen in 30%–40% of patients.
  - Renal: Nephrotoxicity may be dose-limiting toxicity. Preventable with adequate hydration. Mannitol or furosemide diuresis may be needed. Hemorrhagic cystitis possible.
  - Electrolyte Imbalance: Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P.
  - Neurotoxicity: Sensory neuropathy with numbness and paresthesias. Ototoxicity.
  - Central Nervous System (CNS): Somulence, confusion, depressive psychosis, or hallucinations (12%).
  - Alopecia: A total loss of body hair occurs in nearly all patients.
  - Reproduction: Ifosfamide is mutagenic, teratogenic, and excreted in breast milk. Paclitaxel is embryotoxic. Cisplatin may result in Azoospernia, impotence, and sterility.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Treatment schedule:
Chair time 7–8 hours on day 1 and 3 hours on days 2 and 3. Repeat cycle every 21–28 days.

Estimated number of visits:
Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________

_____________________________________________  ______________________________________________________

Physician Date

_____________________________________________  ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²

_____________________________________________ __________________________/ ________________/ ________________

Ht Wt M²
**Docetaxel + Cisplatin + 5-FU (TPF)**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and carcinoembryonic antigen (CEA)

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 20 mg in 100 cc of NS

**Dexamethasone 8-mg bid for 3 days, starting the day before treatment**

**Administer:**

- **Docetaxel** _________mg (75 mg/m$^2$) IV on day 1
  - Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Final concentration 10-mg/mL.
  - Reconstituted vials stable at room temperature or refrigerate for 8 hours.
  - Further dilute in 250 cc of 5% dextrose or 0.9% sodium chloride. Thoroughly mix by manual rotation.
  - Use non-PVC containers and tubing to administer.

- **Cisplatin** _________mg (75–100 mg/m$^2$) IV over 24 hours on day 1
  - Available in 100-mL vials. 1-mg/1-mL concentrations.
  - Do not use aluminum needles, as precipitate will form.
  - Further dilute solution with 250 cc or more NS.
  - 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

- **Fluorouracil** _________mg (1000 mg/m$^2$/day) IV continuous infusion on days 1–4
  - No dilution is required. Can be further diluted with NS or D5W.

  **Major Side Effects**

  - Hypersensitivity Reaction: Docetaxel and cisplatin, with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described.

  - Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related. Can be dose limiting for daily × 5 or weekly regimens.

  - Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.

  - Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days. May be dose-limiting toxicity. Preventable with adequate hydration. Mannitol or furosemide diuresis may be needed. Hemorrhagic cystitis possible.

  - Fluid Retention Syndrome: Weight gain, peripheral and/or generalized edema, pleural effusion and/or ascites. Incidence increases with total dose > 400 mg/m$^2$. Occurs in 50% of patients. Premedicate as directed.

  - Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.

  - Electrolyte Imbalance: Decreases magnesium, potassium, calcium, sodium, and phosphorus.

  - Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses, can be dose limiting.

  - Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.

  - Reproduction: Pregnancy category D. Breast feeding should be avoided.

  - Azoospermia, impotence, and sterility.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits. Discontinue cisplatin pump on day 2 and fluorouracil pump on day 5.

Dose Calculation by: 1. __________________________ 2. ____________________________

_____________________________ _________________________________
Physician Date

_____________________________ _________________________________
Patient Name ID Number

_____________________________ _________________________________
Diagnosis Ht Wt M^2
Paclitaxel + Ifosfamide + Mesna + Carboplatin (TIC)

**Baseline laboratory tests:**
- CBC: Chemistry (including BUN, creatinine, and Mg$^{2+}$)

**Baseline procedures or tests:**
- N/A

**Initiate IV:**
- 0.9% sodium chloride

**Premedicate:**
- 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS (days 1–3)
- Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)

**Administer:**

**Paclitaxel**

- $_________mg$ (175 mg/m$^2$) IV over 3 hours on day 1
  - Available in 30-mg (6 m/mL), 100-mg (16.7 mg/mL), and 300-mg (6 mg/mL) vials.
  - Further dilute in 250–500 cc NS or D5W. Final concentration is $\leq 1.2$ mg/mL.
  - Use non-PVC tubing and containers and a 0.22-micron inline filter to administer.

**Ifosfamide**

- $_________mg$ (1000 mg/m$^2$) IV over 2 hours on days 1–3
  - Reconstitute powder with sterile water for injection (20 ml for 1 gram or 60 mL for 3-gram vial) sterile water for injection.
  - Chemically stable for 7 days, but discard after 8 hours due to lack of bacteriostatic preservative.
  - May further dilute in D5W or NS, and discard the unused portion after 8 hours.

**Mesna**

- $_________mg$ (400 mg/m$^2$) IV before ifosfamide
- $_________mg$ (200 mg/m$^2$) IV for 4 hours after ifosfamide on days 1–3
  - Available in 100-mg/mL 1000-mg vials.
  - May further dilute in 250–1000 cc NS or D5W.
  - Diluted solution is stable for 24 hours at room temperature.
  - Stable for 8 hours at room temperature.
  - Refrigerate and use reconstituted solution within 6 hours.

**Carboplatin**

- $_________mg$ (AUC 6) IV on day 1
  - Available in 1-mg/mL solution. Do not use aluminum needles, as precipitate will form.
  - Further dilute in 250–1000 cc 0.9% sodium chloride.
  - Give after paclitaxel to decrease toxicity.

**Major Side Effects**

- Hypersensitivity Reaction: Paclitaxel and carboplatin, with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, anaphylaxis, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described. There is an increased risk of hypersensitivity reactions to carboplatin after more than seven doses.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose-limiting. G-CSF support recommended.
- Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea are seen in 30%–40% of patients.
- Renal: Nephrotoxicity may be dose-limiting toxicity. Preventable with adequate hydration. Hemorrhagic cystitis possible with symptoms of hematuria, dysuria, and urinary frequency
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P.
- Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.
- CNS: Somulence, confusion, depressive psychosis, or hallucinations (12%).
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproduction: Ifosfamide is mutagenic, teratogenic, and excreted in breast milk. Paclitaxel is embryotoxic.
Initiate antiemetic protocol: Moderately to highly emetogenic protocol.

Supportive Drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 7 hours on day 1 and 4 hours on days 2 and 3. Repeat cycle every 21–28 days.

Estimated number of visits: Four visits per cycle. Request three cycles worth of visits.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis

__________________________ /

Ht Wt M^2
Paclitaxel and Carboplatin (Head and Neck CA)

Baseline laboratory tests: CBC: Chemistry
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer:

**Paclitaxel** __________mg (175 mg/m²) IV over 3 hours on day 1

- Available in 30-mg (6 mg/mL), 100-mg (16.7 mg/mL), and 300-mg (6-mg/mL) vials.
- Further dilute in 250–500 cc NS or D5W. Final concentration is ≤1.2 mg/mL.
- Use non-PVC tubing and containers and a 0.22-micron inline filter for administration.

**Carboplatin** __________mg (AUC 6) IV day 1

- Available in 50-, 150-, and 450-mg lyophilized powder; dilute with sterile water. Also available in 50-mg and 150-mg, 10-mg/mL g/mL solution; 450-mg and 60-mg 10-mg/mL multidose vials stable for 15 days after first use.
- Do not use aluminum needles, as precipitate will form.
- Further dilute in 250–1000 cc 0.9% sodium chloride or D5W.
- Chemically stable for 24 hours, discard after 8 hours because of lack of bacteriostatic preservative.
- Give carboplatin after paclitaxel to decrease toxicities.

**Major Side Effects**

- Hypersensitivity Reaction: Paclitaxel and carboplatin, with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described. There is an increased risk of hypersensitivity reactions after 7–8 doses of carboplatin.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea seen in 30%–40% of patients.
- Renal: Nephrotoxicity is less common than with cisplatin and is rarely symptomatic.
- Electrolyte Imbalance: Decreases Mg²⁺, K⁺, Ca²⁺, Na⁺, and P.
- Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Araneesp)

Treatment schedule: Chair time 5 hours on day 1. Repeat the cycle every 21 days until progression.
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
### Paclitaxel and Cisplatin (Head and Neck CA)

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\)) and CEA

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:**
- 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS (days 1 and 2)
- Diphenhydramine 25 to 30 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)

**Administer:**
- **Paclitaxel** __________ mg (175 mg/m\(^2\)) IV over 3 hours on day 1
  - Available in 30-mg (6 mg/mL), 100-mg (16.7 mg/mL), and 300-mg (6-mg/mL) vials.
  - Further dilute in NS or D5W to a final concentration of \(\leq 1.2 \text{ mg/mL}\).
  - Diluted solution stable for 27 hours at room temperature.
  - Use non-PVC containers and tubing with a 0.22-micron inline filter for administration.

- **Cisplatin** __________ mg (75 mg/m\(^2\)) IV day 2
  - Available in 100-mL vials. 1-mg/1-mL concentrations.
  - Do not use aluminum needles, as precipitate will form.
  - Further dilute solution with 250 cc or more NS.
  - 100-mL vial stable for 28 days protected from light, 7 days under fluorescent light.

**Major Side Effects**

- **Hypersensitivity Reaction:** Anaphylaxis and severe hypersensitivity reactions in 2%–4% with Paclitaxel and cisplatin. Characterized by dyspnea, hypotension, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described.

- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.

- **Gastrointestinal Toxicities:** Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea are seen in 30%–40% of patients. Metallic taste to food and loss of appetite.

- **Renal:** Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.

- **Electrolyte Imbalance:** Decreases Mg\(^{2+}\), K\(^{+}\), Ca\(^{2+}\), Na\(^{+}\), and P.

- **Neurotoxicity:** Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.

- **Alopecia:** A total loss of body hair occurs in nearly all patients.

- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderate to highly emetogenic protocol

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on days 1 and 2. Repeat every 21 days until progression.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**
1. __________________________________ 2. ____________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht ______ Wt ______ M\(^2\) ______
5-FU and Cisplatin (PF)

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS
Administer:

**Cisplatin** _________ mg (100 mg/m\(^2\)) IV on day 1
- Available in 100-mL vials. 1-mg/1-mL concentrations.
- Do not use aluminum needles, as precipitate will form.
- Further dilute solution with 250 cc or more NS.
- 100-mL vial stable for 28 days protected from light, 7 days under fluorescent light.

**Fluorouracil** _________ mg (1000 mg/m\(^2\)/day) IV continuous infusion on days 1–5.
- Available as 500 mg/10-mL.
- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**Major Side Effects**

- Hypersensitivity Reactions: Facial edema, wheezing, bronchospasm and hypotension. May occur with in minutes of administration of cisplatin.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related. Can be dose limiting for 5-Fluorouracil daily or weekly regimens.
- Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting. Metallic taste of foods and loss of appetite.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
- Electrolyte Imbalance: Decreases magnesium, potassium, calcium, sodium, and phosphorus.
- Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.
- Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses, can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.
- Azoospermia, impotence, and sterility.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1. Repeat the cycle every 21 to 28 days.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits. May require extra visits for hydration; discontinuation of infusion pump and nadir.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________

Physician __________________________________________ Date ______________________________

Patient Name ___________________________ ID Number ____________________________

_________________________ / _____________/ ____________

Diagnosis Ht Wt M\(^2\)
Cisplatin + Fluorouracil + Leucovorin (PFL)

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$) and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
Administer: Cisplatin $_________mg$ (100 mg/m$^2$) IV on day 1
  • Available in 100-mL vials. 1-mg/1-mL concentrations.
  • Do not use aluminum needles, as precipitate will form.
  • Further dilute solution with 250 cc or more NS.
  • 100-mL vial stable for 28 days protected from light, 7 days under fluorescent light.
Fluorouracil $________mg$ (800 mg/m$^2$/day) IV continuous infusion days 1–5
  • Available as 500 mg/10 mL.
  • No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.
Leucovorin $________mg$ (50 mg/m$^2$) PO every 6 hours on days 1–5
  • Available as 5- and 15-mg scored tablets for oral use. Protect from light and moisture.

Major Side Effects
• Hypersensitivity Reactions: Facial edema, wheezing, bronchospasm and hypotension. May occur within minutes of administration.
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related. Can be dose limiting for daily × 5 or weekly regimens.
• Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
• Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
• Electrolyte Imbalance: Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P.
• Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.
• Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses, can be dose limiting.
• Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.
• Azoospermia, impotence, and sterility.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1. Repeat cycle every 21 days.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits. May require extra visits for hydration; discontinuation of pump and nadir.

Dose Calculation by: 1. ______________________________ 2. ______________________________

_____________________________________________ ____________________________________________
Physician Date
_____________________________________________ ____________________________________________
Patient Name ID Number
_____________________________________________ __________________________/ __________________________/ __________________________
Diagnosis Ht Wt M$^2$
Cisplatin + Fluorouracil + Radiation Therapy (PF-Larynx Preservation)

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc NS
Administer: Cisplatin \(\text{________mg (100 mg/m}^2\text{/day)}\) IV day 1
   • Available in 100-mL vials. 1-mg/1-mL concentrations.
   • Do not use aluminum needles, as precipitate will form.
   • Further dilute solution with 250 cc or more NS.
   • 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

Fluorouracil \(\text{________mg (1000 mg/m}^2\text{/day)}\) IV continuous infusion on days 1–5
   • Available as 500 mg/10 mL.
   • No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Radiation therapy: 6600–7600 cGy in 180- to 200-cGy fractions

Major Side Effects
   • Hypersensitivity Reactions: Facial edema, wheezing, bronchospasm and hypotension. May occur within minutes of administration.
   • Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting.
   • Gastrointestinal Toxicities: Nausea and vomiting moderate to severe, may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
   • Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
   • Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.
   • Electrolyte Imbalance: Decreases Mg\(^{2+}\), K\(^+\), Ca\(^{2+}\), Na\(^+\), and P.
   • Skin: Local tissue irritation progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses, can be dose limiting.
   • Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
   • Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
   □ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1. Repeat the cycle every 21–28 days for three cycles.
Estimated number of visits: Three visits per cycle, three visits for course. May require extra visits for hydration; discontinuation of infusion pump and nadir.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________
Patient Name __________________________ ID Number __________________________

_________________________ / __________________________ / __________________________
Diagnosis Ht Wt M\(^2\)
Concurrent Chemo-Radiation Therapy for Laryngeal Preservation

Baseline laboratory tests: CBC: Chemistry (including Mg2+)
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: Chemoradiotherapy:

Cisplatin ________ mg (100 mg/m²) IV on days 1, 22, and 43 during radiotherapy
- Available in 100-mL vials. 1-mg/1-mL concentrations.
- Do not use aluminum needles, as precipitate will form.
- Further dilute solution with 250 cc or more NS.
- 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

Radiation therapy: Total dose of 7000 cGy in 200-cGy fractions
Administer cisplatin concurrently with radiation therapy

Major Side Effects
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting.
- Gastrointestinal Toxicities: Nausea and vomiting can be acute or delayed and are moderate to severe. Mucositis and diarrhea can be severe and dose limiting.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
- Electrolyte Imbalance: Decreases in magnesium, potassium, calcium, and phosphorus are seen.
- Skin: Local tissue irritation progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.
- Azoospermia, impotence, and sterility.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on days 1, 22, and 43 of radiotherapy.
Estimated number of visits: Six to twelve visits per treatment course. May need additional visits for hydration; discontinuation of infusion pump and nadir.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________

____________________ ____________________
Physician Date

____________________ ____________________
Patient Name ID Number

____________________ ____________________
Diagnosis Ht Wt M²
Chemoradiotherapy for Nasopharyngeal Cancer

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\))

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** Chemoradiotherapy:

- **Cisplatin** _________mg (100 mg/m\(^2\)) IV on days 1, 22, and 43 during radiotherapy
  - Available in 100-mL vials. 1-mg/1-mL concentrations.
  - Do not use aluminum needles, as precipitate will form.
  - Further dilute solution with 250 cc or more NS.
  - 100-mL vial stable for 28 days protected from light, 7 days under fluorescent light.

- **Radiation therapy:** Total dose of 7000 cGy in 180- to 200-cGy fractions

At the completion of chemoradiotherapy, chemotherapy is administered as follows:

**Chemotherapy:** (three 28-day cycles)

- **Cisplatin** _________mg (80 mg/m\(^2\)) IV on day 1
- **Fluorouracil** _________mg (1000 mg/m\(^2\)/day) IV continuous infusion on days 1–4
  - Available as 500 mg/10 mL.
  - No dilution required. May further dilute in NS or D5W.

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting.
- Gastrointestinal Toxicities: Nausea and vomiting can be acute or delayed and are moderate to severe. Mucositis and diarrhea can be severe and dose limiting. Metallic taste to food and loss of appetite.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
- Electrolyte Imbalance: Decreases in Mg\(^{2+}\), K\(^+\), Ca\(^{2+}\), Na\(^+\), and P.
- Skin: Local tissue irritation progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field.
- Skin Alterations: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepeptin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on days 1, 22, and 43 of radiotherapy. Three hours on day 1 of chemotherapy.

**Estimated number of visits:** Six to twelve visits per treatment course. May need additional visits for hydration, discontinuation of infusion pump and nadir.

**Dose Calculation by:**

1. ________________________________ 2. ________________________________

Physician Date

Patient Name ID Number

Diagnosis Ht Wt M\(^2\)
Carboplatin and Fluorouracil (Head and Neck CA)

Baseline laboratory tests: CBC, Chemistry (including Mg²⁺)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₁ and dexamethasone 10–20 mg in 100 cc of NS
Administer:

Carboplatin ________mg (300–400 mg/m²) IV on day 1
- Available in 50-, 150-, and 450-mg lyophilized powder; dilute with sterile water. Also available in 50 mg and 150 mg, 10 mg/mL solution; 450 mg and 600 mg 10 mg/mL multidose vials stable for 15 days after first use.
- Do not use aluminum needles, as precipitate will form.
- Further dilute in 250–1000 cc 0.9% sodium chloride.
- Chemically stable for 24 hours, discard after 8 hours because of lack of bacteriostatic preservative.

Fluorouracil ________ mg (600 mg/m²/day) IV on day 1
- Available as 500 mg/10 mL.
- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Major Side Effects
- Hypersensitivity Reactions: Facial edema, wheezing, bronchospasm and hypotension. May occur within minutes of administration.
- Bone Marrow Depression: Neutropenia and thrombocytopenia are dose related and can be dose limiting. Anemia may occur with prolonged treatment.
- Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and diarrhea can be severe and dose limiting.
- Renal: Nephrotoxicity is less common than with cisplatin and is rarely symptomatic.
- Electrolyte Imbalance: Decreases Mg²⁺, K⁺, Ca²⁺, and Na⁺.
- Skin: Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome (palmar-plantar erythrodysesthesia) characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses, can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: ☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ darbepoetin alfa (Aranesp)
☐ epoetin alfa (Procrit)
Treatment schedule: Chair time 2 hours on day 1. Repeat the cycle every 21 days.
Estimated number of visits: Two visits per course. Request three courses worth of visits.

Dose Calculation by:
1. __________________________________ 2. ___________________________________________

______________________________ ______________________________
Physician Date

______________________________ ______________________________
Patient Name ID Number

______________________________/ __________________________/
Diagnosis Ht Wt M²
**Vinorelbine and Cisplatin (VP)**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$)

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** Vinorelbine _________mg (25 mg/m$^2$) IV days 1 and 8

- Vesicant
- Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
- Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL. Infuse diluted drug IV over 6–10 minutes into sidearm port of freely flowing IV infusion, either peripherally or via central line. Use port CLOSEST to the IV bag, not to the patient, as vinorelbine causes venous irritation when infused. Central line for venous access is recommended.
- Flush with at least 75–125 mL of IV fluid after administration.
- Reconstituted solution is stable for 24 hours refrigerated.

Cisplatin _________mg (80 mg/m$^2$) IV day 1

- Available in 100-mL vials. 1-mg/1-mL concentrations.
- Do not use aluminum needles, as precipitate will form.
- Further dilute solution with 250 cc or more NS.
- 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.
- Gastrointestinal Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Constipation, diarrhea, stomatitis, and anorexia may be seen.
- Renal: Nephrotoxicity is dose related and with cisplatin presents at 10–20 days.
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P.
- Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia likely.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking-glove” pattern, with numbness, tinglings, and sensory loss in arms and legs.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.
- Azoospermia, impotence, and sterility.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1 and 1 hour on day 8. Repeat the cycle every 21 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

___ ____________________________

Physician Date

___ ____________________________

Patient Name ID Number

___ ___/___ ___/___ ___

Diagnosis Ht Wt M$^2$
Single-Agent Regimens

**Docetaxel**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CEA  
Baseline procedures or tests: Central line placement  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** Dexamethasone 8-mg bid for 3 days, starting the day before treatment  
Oral phenothiazine or 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS  
**Administer:** 

1. **Docetaxel** ________mg (100 mg/m$^2$) IV on day 1  

- Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or refrigerated for 8 hours.  
- Further dilute in 250-cc D5W or 0.9% NS.  
- Use non-PVC containers and tubing to administer.  

**Major Side Effects**  

- Hypersensitivity Reaction: Anaphylaxis and severe hypersensitivity reactions seen less frequently than with paclitaxel. Characterized by dyspnea, hypotension, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Monitor vitals signs every 15 minutes for the first hour. Patients with severe reactions should not be rechallenged. Premedicate as described.  
- Bone Marrow Depression: Neutropenia is dose limiting with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia are also seen.  
- Gastrointestinal Toxicities: Nausea and vomiting are mild to moderate. Mucositis and diarrhea are seen in 40% of the patients.  
- Neuropathy: Peripheral neuropathy may affect up to 49% of the patients. Sensory alterations are paresthesias in a glove-and-stocking distribution and numbness.  
- Fluid Balance: Fluid retention syndrome. Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. This is seen in about 50% of patients. Premedication with dexamethasone is effective in preventing or minimizing occurrences.  
- Skin: Alopecia occurs in 56%–75% of patients. Maculopapular, violaceous/erythematous, and purpuric rash may occur, usually on the feet and/or hands but can be on arms, face, or thorax. Usually resolve prior to next treatment. Nail changes may occur in 11%–40% of patients and may include onycholysis (loss of nail). Hand-foot syndrome has also been reported.  
- Reproduction: Pregnancy category D. Breast feeding should be avoided.  

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol  
**Supportive drugs:**  
- ☐ pegfilgrastim (Neulasta)  
- ☐ filgrastim (Neupogen)  
- ☐ epoetin alfa (Procrit)  
- ☐ darbepoetin alfa (Aranesp)  

**Treatment schedule:** Chair time 2 hours on day 1. Repeat the cycle every 21 days.  
**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.  

**Dose Calculation by:**  
1. __________________________________ 2. ____________________________________________ 

_______/_______/_______  

**Physician**  
Date  

**Patient Name**  
ID Number  

_______/_______/_______  

**Diagnosis**  
Ht Wt M$^2$
Paclitaxel

**Baseline laboratory tests:** CBC: Chemistry

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:**
- 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
- Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Administer:**
- Paclitaxel __________mg (250 mg/m²) IV over 24 hours on day 1
- OR
- Paclitaxel __________mg (137–175 mg/m²) IV over 3 hours on day 1

- Available in 30-mg (6 mg/mL), 100-mg (16.7 mg/mL), and 300-mg (6-mg/mL) vials.
- Further dilute in NS or D5W to a final concentration of ≤1.2 mg/mL.
- Diluted solution stable for 27 hours at room temperature.
- Use non-PVC tubing and containers and a 0.22-micron inline filter for administration.

**Major Side Effects**

- **Hypersensitivity Reaction:** With anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Usually happens within first 2–3 minutes of infusion. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Premedicate as described. Monitor vital signs every 15 minutes for first hour of infusion.

- **Bone Marrow Depression:** Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased the incidence of neutropenia with a 3-hour schedule when compared with a 24-hour schedule. G-CSF support is recommended.

- **Gastrointestinal Toxicity:** Mild to moderate nausea and vomiting, usually brief in duration. Mucositis and/or diarrhea seen in 30%–40% of patients. Mucositis is more common with the 24-hour schedule.

- **Neurotoxicity:** Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.

- **Alopecia:** A total loss of body hair occurs in nearly all patients.

- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours or 4 hours. Repeat every 21 days as tolerated.

**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**
1. _______________ 2. _______________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht  Wt  M²
Methotrexate

Baseline laboratory tests: CBC: Chemistry
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT₃
Administer: Methotrexate __________mg (40 mg/m²) IV or IM weekly.
- Available in 50-, 100-, 200-, and 1000-mg single-use reconstituted vials.
- May dilute further in 0.9% sodium chloride.
- Reconstituted solution is stable for 24 hours at room temperature.

Major Side Effects
- Bone Marrow Depression: Dose-limiting toxicity, leukocyte nadir at 4–7 days, and recovery by day 14.
- Gastrointestinal Toxicities: Nausea and vomiting are mild. Mucositis can be dose limiting, typical onset 3–7 days after treatment.
- Renal: Acute renal failure, azotemia, urinary retention, and uric acid nephropathy have been observed. Methotrexate is insoluble in acid urine and may precipitate in renal tubules at higher doses.
- Pulmonary: Poorly defined pneumonitis characterized by fever, cough, and interstitial pulmonary infiltrates.
- Skin: Alopecia and dermatitis are uncommon. Pruritus, urticaria may occur. Photosensitivity, sunburn-like rash (1–5 days after treatment), and radiation recall seen.
- Reproduction: Menstrual irregularities, abortion, and fetal deaths reported.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour weekly if given IV. If IM schedule injection only or teach patient self injection. Repeat the cycle every week.
Estimated number of visits: One visit per week. Request 12 weeks worth of visits.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________
_____________________________________________ ______________________________________________________
Physician Date

Patient Name ID Number

__________________________________________/ ___________________/ __________________
Diagnosis Ht Wt M²
Vinorelbine

Baseline laboratory tests: CBC, Chemistry
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3
Administer: Vinorelbine _________ mg (30 mg/m²) IV weekly

- Vesicant
- Available in 1- or 5-mL single-use vials at a concentration of 10 mg/mL.
- Further dilute in syringe or IV bag to concentration of 1.5–3.0 mg/mL. Infuse diluted drug IV over 6–10 minutes into sidearm port of freely flowing IV infusion, either peripherally or via central line. Use port CLOSEST to the IV bag, not to the patient, as vinorelbine causes venous irritation when infused.
- Flush with at least 75–125 mL of IV fluid after administration.
- Reconstituted solution is stable for 24 hours refrigerated.

Major Side Effects
- Bone Marrow Depression: Leukopenia is a dose-limiting toxicity. Nadir at 7–10 days. Severe thrombocytopenia and anemia are uncommon.
- Gastrointestinal Toxicities: Nausea and vomiting are moderate with an incidence of 44%. Mild to moderate stomatitis has a < 20% incidence. Constipation (35%), diarrhea (17%), and anorexia (< 20%) are also seen.
- Hormonal: Syndrome of inappropriate secretion of antidiuretic hormone.
- Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia observed in 10%–15% of patients.
- Neurotoxicity: Usually mild in severity and occurs much less frequently than with other vinca alkaloids.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour weekly. Repeat the cycle every week.
Estimated number of visits: One visit per cycle. Request 12 cycles worth of visits.

Dose Calculation by: 1. ___________________ 2. ___________________

Physician ___________________ Date ___________________
Patient Name ___________________ ID Number ___________________
Diagnosis ___________________ Ht _______ Wt _______ M² _______
Capecitabine (Xeloda)

Baseline laboratory tests: CBC, chemistry, bilirubin, and LFTs
Baseline procedures or tests: N/A
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT_3
Administer: Capecitabine ___________mg (1000 mg/m^2/day) PO bid on days 1–14

- Available in 150- and 500-mg tablets. Do not break tablets in half. Do not give Maalox 30 minutes before or 2 hour after administration. Administer within 30 minutes after a meal with plenty of water.
- Monitor INRs closely in patients on warfarin, may increase INR.
- Dose may be reduced to 825–900 mg/m^2 PO bid on days 1–14 to decrease the risk of toxicity without compromising clinical efficacy.
- Patient should be instructed to stop Xeloda at the first sign of hand-and-foot syndrome, or with stomatitis, or diarrhea uncontrolled by antidiarrheal protocol.

Major Side Effects

- Gastrointestinal Toxicities: Nausea and vomiting occur in 15%–53% of patients and are usually mild to moderate. Diarrhea is seen in up to 40% with 13% being grades 3–4. Stomatitis is common, 3% of which is severe.
- Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) is seen in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. This is less frequent in reduced doses.
- Ocular: Blepharitis, tear-duct stenosis, and acute and chronic conjunctivitis.
- Hepatic: Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminases. Dose modifications may be required if hyperbilirubinemia occurs or if patient has hepatic metastasis, which may require a 25% dose reduction.
- Renal Insufficiency: Capecitabine is contraindicated in patients with baseline creatinine clearance < 30 mL/min. A dose reduction to 75% of capecitabine should be made with baseline creatinine clearance of 30–50 mL/min.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/loperamide (Imodium)
- atropine sulfate (Lomotil)

Treatment schedule: 14 days on 7 days off per cycle. Repeat as tolerated until progression.
Estimated number of visits: One visit per cycle. Repeat cycle every 3 weeks.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number ________________/ ________________/ ________________

Diagnosis __________________________ Ht ________________ Wt ________________ M^2 ________________
HEPATOCELLULAR CANCER

Single Agent Regimens

**Doxorubicin**

Doxorubicin: 20–30 mg/m² IV weekly
Repeat cycle every week.¹,¹⁹²

**Cisplatin**

Cisplatin: 80 mg/m² IV on day 1
Repeat cycle every 28 days.¹,¹⁹³

**Capecitabine**

Capecitabine: 1000 mg/m² PO bid on days 1–14
Repeat cycle every 21 days.¹,¹⁹⁴
Dose may be reduced to 825–900 mg/m². PO bid on days 1–14. This dose reduction may decrease the risk of toxicity without compromising clinical efficacy.
Single-Agent Regimens

Doxorubicin

Baseline laboratory tests: CBC: Chemistry
Baseline procedures or tests: Multigated angiogram (MUGA) scan/consider central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: Doxorubicin __________mg (20–30 mg/m²) IV weekly
  • Potent vesicant
  • Available as a 2-mg/mL solution.
  • Doxorubicin will form a precipitate if mixed with heparin or 5-FU.
  • Should be given IV push through the side port of a free-flowing IV.

Major Side Effects
  • Bone Marrow Depression: White blood cell (WBC) and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe but is less severe with weekly dosing.
  • Gastrointestinal Toxicities: Nausea and vomiting are moderate to severe and occur in 44% of the patients. Stomatitis occurs in 10% of the patients but is not dose limiting.
  • GU: Red-orange discoloration of urine for up to 48 hours.
  • Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses of > 550 mg/m², cardiomyopathy may occur. There is an increased risk of cardiotoxicity when doxorubicin is given with Herceptin or mitomycin C.
  • Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses of more than 50 mg/m².
  • Reproduction: Doxorubicin is teratogenic, mutagenic, and carcinogenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on day 1. Repeat the cycle every 7 days until progression.
Estimated number of visits: One visit per week. Request eight weeks worth of visits.

Dose Calculation by: 1. ________________________________ 2. ________________________________

Physician
Patient Name
Diagnosis Ht Wt M²
Date
ID Number
**Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry (including Mg^{2+}) and CEA

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT_{3} and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** Cisplatin _________mg (80 per m^2) IV over 1–3 hours on day 1

- Available in 100-mL vials. 1-mg/1-mL concentrations.
- Do not use aluminum needles, as precipitate will form.
- Further dilute solution with 250 cc or more NS.
- 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia occur equally in 25%–30% of patients. Leukopenia and thrombocytopenia are dose related.
- Gastrointestinal Toxicities: Moderate to severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Metallic taste of foods and loss of appetite.
- Renal: Nephrotoxicity is dose related, with cisplatin presents at 10–20 days.
- Electrolyte Imbalance: Decreases magnesium, potassium, calcium, sodium, and phosphorus.
- Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Skin: Alopecia.
- Reproduction: Cisplatin is mutagenic and probably teratogenic. Azoospermia, impotence, and sterility.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 28 days.

**Estimated number of visits:** Two visits per cycle. Request six cycles worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ____________________________ Ht ______ Wt ______ M^{2} ______
Capecitabine (Xeloda)

**Baseline laboratory tests:** CBC, Chemistry, bilirubin, LFTs, and CEA
**Baseline procedures or tests:** N/A
**Initiate IV:** N/A
** Premedicate:** Oral phenothiazine or 5-HT₃
** Administer:** Capecitabine _________ mg (1000 mg/m²/day) PO BID, days 1–14, followed by 7 days of rest.
  - Administer within 30 minutes after a meal with plenty of water.
  - Available in 150- and 500-mg tablets. Do not break tablets in half. Do not give Maalox 30 minutes before or 2 hours after administration.
  - Monitor INRs closely in patients on warfarin, may increase INR.
  - Patient should be instructed to stop Xeloda at the first sign of hand-and-foot syndrome, or with stomatitis, or diarrhea uncontrolled by antidiarrheal protocol.

**Major Side Effects**
- Gastrointestinal Toxicities: Nausea and vomiting, 30%–50% of patients, are usually mild to moderate. Diarrhea is seen in up to 40%, with 15% being grades 3–4. Stomatitis is common, 3% of which is severe.
- Skin: Hand-foot syndrome (palmar-plantar erythrodysesthesia) seen in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.
- Ocular: Blepharitis, tear-duct stenosis, and acute and chronic conjunctivitis.
- Hepatic: Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminases. Dose modifications may be required if hyperbilirubinemia occurs or if patient has hepatic metastasis, which may require a 25% dose reduction.
- Renal: Patients with mild to moderate renal impairment should start with a 25% dose reduction.
- Renal Insufficiency: Capecitabine is contraindicated in patients with baseline creatinine clearance < 30 mL/min. A dose reduction to 75% of capecitabine should be made with baseline creatinine clearance of 30–50 mL/min.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.
**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/loperamide (Imodium)
- atropine sulfate (Lomotil)

**Treatment schedule:** 14 days on followed by 7 days off per cycle. Repeat cycle every 3 weeks as tolerated until progression.

**Estimated number of visits:** One visit per cycle. Request three to six cycles of visits.

**Dose Calculation by:**
1. ____________________________________________________________________________
2. ____________________________________________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht   Wt   M²
Combination Regimens

**BV** ................................................................. 290
Bleomycin: 10 U/m² IV on days 1 and 15
Vincristine: 1.4 mg/m² IV on days 1 and 15 (maximum, 2 mg)
Repeat cycle every 2 weeks.¹,¹⁹⁵

**ABV** ................................................................. 291
Doxorubicin: 40 mg/m² IV on day 1
Bleomycin: 15 U/m² IV on days 1 and 15
Vinblastine: 6 mg/m² IV on day 1
Repeat cycle every 28 days.¹,¹⁹⁶

Single-Agent Regimens

**Liposomal Daunorubicin** ............................................. 293
DaunoXome: 40 mg/m² IV on day 1
Repeat cycle every 14 days.¹,¹⁹⁷

**Liposomal Doxorubicin** ............................................... 294
Doxil: 20 mg/m² IV on day 1
Repeat cycle every 21 days.¹,¹⁹⁸

**Paclitaxel** ............................................................. 295
Paclitaxel: 135 mg/m² IV over 3 hours on day 1
Repeat cycle every 21 days.¹,¹⁹⁹

OR
Paclitaxel: 100 mg/m² IV on day 1
Repeat cycle every 2 weeks.¹,²⁰⁰

**Interferon α-2a** ...................................................... 296
Interferon α-2a: 36 million IU/m² SC or IM, daily for 8–12 weeks¹,²⁰¹
Interferon α-2b: 30 million IU/m² SC or IM, 3 times weekly¹,²⁰²
### Combination Regimens

**Bleomycin + Vincristine (BV)**

**Baseline laboratory tests:** CBC: Chemistry

**Baseline procedures or tests:** Pulmonary function tests (PFTs) and chest x-ray (CXR)

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** TYLENOL or TYLENOL ES 2 tablets orally 30 minutes before treatment and every 6 hours after oral 5-HT3 if prior nausea exhibited (phenothiazines enhance activity of bleomycin)

**Administer:**

- **Bleomycin** ____ units (10 U/m²) IV on days 1 and 15
  - A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
  - Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
  - Stable for 24 hours when diluted with NS.
  - Given IV push or further diluted in NS and infused or pushed over at least 10 minutes.

- **Vincristine** ____ mg (1.4 mg/m²) IV on days 1 and 15.
  - Maximum dose of 2 mg.
  - Vesicant
  - Available in 1-, 2-, and 5-mg vials at a concentration of 1 mg/mL.
  - Given IV push through side port of free-flowing IV of NS or D5W.

**Major Side Effects**

- Hypersensitivity Reaction: Fever and chills observed in up to 25% of patients. True anaphylactoid reactions are rare but more common in patients with lymphoma (1%).
- Pulmonary: Pulmonary toxicity is dose limiting in bleomycin.
- Bone Marrow Depression: Myelosuppression is mild.
- Gastrointestinal Toxicities: Nausea with or without vomiting may occur but is usually mild. Constipation, abdominal pain, and paralytic ileus are common. A prophylactic bowel regimen for constipation is recommended.
- Skin: Extravasation of vincristine may cause local tissue injury, inflammation, and necrosis. Phlebitis at the IV site may occur. Alopecia is common. Skin changes with or without rash and nail changes or loss have been seen.
- Neurotoxicity: Peripheral neuropathies occur as a result of toxicity to nerve fibers. Symptoms include absent deep tendon reflexes, numbness, weakness, myalgias, cramping, and late severe motor difficulties. Impotence may result in secondary to nerve damage.
- Reproduction: Bleomycin is teratogenic and mutagenic.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1 and 15. Repeat cycle every 2 weeks.

**Estimated number of visits:** Two visits per cycle. Request six cycles worth of visits.

**Dose Calculation by:**

1. ____________________________________________________________________________
2. ____________________________________________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Ht** __________ /

**Wt** __________ /

**M²** __________

**Diagnosis**
Doxorubicin + Bleomycin + Vinblastine (ABV)

Baseline laboratory tests: CBC, Chemistry
Baseline procedures or tests: MUGA scan PFTs and CXR baseline; PFTs and CXR
Initiate IV: 0.9% sodium chloride
Premedicate: Tylenol or Tylenol ES 2 tablets orally 30 minutes before treatment and every 6 hours after
5-HT3 and dexamethasone 10–20 mg in 100 cc of NS over 30 minutes (phenothiazines enhance activity of bleomycin)
Administer:

**Doxorubicin** ________ mg (40 mg/m²) IV day 1
- Potent vesicant
- Available as a 2-mg/mL solution. Given IV push through side port of free-flowing IV of NS or D5W.
- Doxorubicin will form a precipitate if mixed with heparin or 5-FU.
- Given IV push through the side port of a free-flowing IV.

**Bleomycin** ________ units (15 U/m²) IV on days 1 and 15
- A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
- Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water: 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
- Stable for 24 hours when diluted with NS.
- Given IV push over at least 10 minutes or further diluted and NS infused or pushed over at least 10 minutes.

**Vinblastine** ________ mg (6 mg/m²) IV on day 1
- Vesicant
- Available in 10-mg vials at a concentration of 1 mg/mL.
- Given IV push through side port of free-flowing IV of NS or D5W.

Major Side Effects

- Hypersensitivity Reaction: Fever and chills observed in up to 25% of patients. True anaphylactoid reactions are rare but more common in patients with lymphoma (1%).
- Pulmonary: Pulmonary toxicity is dose limiting in bleomycin.
- Bone Marrow Depression: Myelosuppression may be severe with WBC and platelet nadir at 10–14 days and recovery on days 15–21.
- Gastrointestinal Toxicities: Nausea and vomiting are moderate to severe and occur in 44% of patients. Stomatitis occurs in 10% of patients but is not dose limiting. Constipation, abdominal pain, and paralytic ileus are common. A prophylactic bowel regimen for constipation is recommended.
- GU: Red-orange discoloration of urine for up to 48 hours after doxorubicin.
- Cardiotoxicity: Acutely, myocarditis or subsequent cardiomyopathy can occur.
- Skin: Extravasation of doxorubicin or vinblastine may cause local tissue injury, inflammation, and necrosis. Phlebitis at the IV site may occur. Skin changes with or without rash, hyperpigmentation, photosensitivity, radiation recall, and nail changes or loss have been seen. Alopecia is common.
- Neurotoxicity: Peripheral neuropathies occur as a result of toxicity to nerve fibers. Symptoms include absent deep tendon reflexes, numbness, weakness, myalgias, cramping, and late severe motor difficulties. Impotence may result in secondary to nerve damage.
- Reproduction: Drugs are teratogenic and mutagenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on days 1 and 15. Repeat the cycle every 28 days.
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.
Kaposi's Sarcoma

Dose Calculation by:  
1. ______________________  2. ______________________

_________________________  ____________________________
Physician                  Date

_________________________  ____________________________
Patient Name               ID Number

_________________________
Diagnosis

_________________  ________  ________
Ht               Wt              M²
**Single-Agent Regimens**

**Liposomal Daunorubicin (DaunoXome)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>MUGA scan at baseline, at 320 mg/m² cumulative dose and every 160 mg/m² dose thereafter. Central line placement</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₁ and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td>Liposomal Daunorubicin __________ mg (40 mg/m²) IV over 1 hour on day 1</td>
</tr>
</tbody>
</table>
  - Available as a 2-mg/mL solution in 50-mg vials. |
  - Further dilute drug in D5W to a final concentration of 1 mg/mL. Solution is stable for 6 hours. |
  - Drug is a vesicant; administer with care as IV bolus over 60 minutes. |

**Major Side Effects**

- **Infusion Reaction:** Occurs within the first 5 minutes of infusion and manifested by back pain, flushing, and tightness in the chest and throat. Observed in about 15% of patients and usually with the first infusion. Improves on termination of infusion and typically does not recur on reinstitution at a slower infusion rate. |
- **Bone Marrow Depression:** Myelosuppression can be severe and affects the granulocytes primarily. Neutropenia (36%), concurrent antiretroviral, and antiviral agents may enhance this effect. Hold for granulocyte count < 750 cells/mm³. |
- **Gastrointestinal Toxicities:** Nausea and vomiting are usually mild to moderate and occur in 50% of patients. Mucositis and diarrhea are common but not dose limiting. Dose reduction required for abnormal liver function. |
- **Cardiac:** Acutely, pericarditis and/or myocarditis, EKG changes, or arrhythmias. Chronic form is associated with a dose-dependent cardiomyopathy at cumulative doses of > 320 mg/m². Risk of cardiac toxicity increased with prior anthracycline use, pre-existing cardiac disease, or radiotherapy encompassing heart. |
- **Skin:** Mild alopecia occurs in 6% of patients and moderate alopecia in 2% of patients. Folliculitis, seborrhea, and dry skin occur in > 5% of patients. |
- **Reproduction:** Liposomal daunorubicin is embryotoxic. |

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol. |

**Supportive drugs:**
- pegfilgrastim (Neulasta) |
- filgrastim (Neupogen) |
- epoetin alfa (Procrit) |
- darbepoetin alfa (Aranesp) |

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 14 days. |

**Estimated number of visits:** One visit per cycle. Request four cycles worth of visits. |

**Dose Calculation by:** 1. ______________________ 2. ______________________

_____________________________ ______________________________
Physician Date

_____________________________ ________________/ ________________/ ________________
Patient Name ID Number

_____________________________
Diagnosis Ht Wt M²
**Liposomal Doxorubicin (DOXIL)**

**Baseline laboratory and tests:**
- CBC: Chemistry

**Baseline procedures or tests:**
- MUGA scan

**Initiate IV:**
- 0.9% sodium chloride

**Premedicate:**
- 5-HT	extsubscript{3} and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**
- **Liposomal Doxorubicin**
  - 
  - Irritant
  - Available as a 2-mg/mL solution in 20- or 50-mg vials.
  - Further dilute drug doses up to 90 mg in 250 cc of D5W, use 500-mL D5W for doses > 90 mg.
  - Administer at initial rate of 1 mg/mL to minimize risk of infusion reaction; if no reaction increase rate to complete administration in 1 hour.
  - Diluted solution stable for 24 hours refrigerated.

**Major Side Effects**

- **Infusion Reaction:** Flushing, dyspnea, facial swelling, headache, back pain, tightness in the chest and throat, and/or hypotension. Usually occurs during first treatment and is seen in 5%–10% of patients. Resolves quickly after infusion stopped. Monitor vital signs for first 15–30 minutes. May administer corticosteroids or diphenhydramine before rechallenging, or have patient take steroids for 24 hours prior to the next administration.
- **Bone Marrow Depression:** Dose-limiting toxicity in the treatment of HIV-infected patients. Leukopenia occurs in 91% of patients, with anemia and thrombocytopenia less common.
- **Gastrointestinal Toxicities:** Nausea and vomiting are usually mild to moderate. Stomatitis is seen in 7% of patients and diarrhea in 8%; both are usually mild.
- **GU:** Red-orange discoloration of urine for up to 48 hours.
- **Cardiac:** Acutely, pericarditis and/or myocarditis, EKG changes, or arrhythmias. Not dose related. With high cumulative doses > 550 mg/m	extsuperscript{2}, cardiomyopathy may occur. Increased risk of cardiotoxicity when liposomal doxorubicin is given with Herceptin or mitomycin C. Risk of cardiac toxicity increased with prior anthracycline use, pre-existing cardiac disease, or radiotherapy encompassing heart and in patients > 70 years of age.
- **Skin:** Skin toxicity manifested as hand-foot syndrome with skin rash, swelling, erythema, pain, and/or desquamation. Seen in 3.4% of patients and is dose related. Hyperpigmentation of nails, skin rash, urticaria, and radiation recall occur. Alopecia seen in 9% of Kaposi's patients.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
- Moderately to highly emetogenic protocol.

**Supportive drugs:**
- ☐ pegfilgrastim (Neulasta)  ☐ filgrastim (Neupogen)
- ☐ epoetin alfa (Procrit)  ☐ darbepoetin alfa (Aranesp)

**Treatment schedule:**
- Chair time 2 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:**
- One visit per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. 
2. 

Physician

Date

Patient Name

ID Number


Diagnosis

Ht

Wt

M	extsuperscript{2}
Paclitaxel (Taxol)

Baseline laboratory and tests: CBC: Chemistry
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazines or 5-HT₃ in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel __________ mg (135 mg/m²) IV over 3 hours on day 1. Repeat 3 times OR
Administer: Paclitaxel __________ mg (100 mg/m²) IV over 3 hours on day 1. Repeat every 2 weeks
• Available in 30-mg (6 mg/mL), 100-mg (16.7 mg/mL), and 300-mg (6-mg/mL) vials.
• Further dilute in NS or D5W to a final concentration of ≤1.2 mg/mL.
• Diluted solution stable for 27 hours at room temperature.
• Use non-PVC containers and tubing with a 0.22-micron inline filter for administration.

Major Side Effects
• Hypersensitivity Reaction: With anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Usually happens within first 2–3 minutes of infusion. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Premedicate as described. Monitor vital signs every 15 minutes for first hour of infusion.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 13–21. Decreased the incidence of neutropenia with a 3-hour schedule when compared with a 24-hour schedule. G-CSF support is recommended.
• Gastrointestinal Toxicity: Mild to moderate nausea and vomiting, usually brief in duration. Mucositis and/or diarrhea seen in 30%–40% of patients. Mucositis is more common with the 24-hour schedule.
• Neurotoxicity: Dose limiting peripheral sensory neuropathy. Paresthesias and numbness in classic “stocking glove” pattern. Risk increases with cumulative doses. Loss of motor function, facial encephalopathy and seizures observed. Neurologic effects may be irreversible.
• Alopecia: A total loss of body hair occurs in nearly all patients.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 4 hours. Repeat every 21 days as tolerated or until progression.
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. __________________________________
_____________________________________________ ______________________________________________________
Physician Date
_____________________________________________ ________________/ ________________/ ________________
Patient Name ID Number
_____________________________________________ ______________________________________________________
Diagnosis Ht Wt M²
### Interferon α-2a

**Baseline laboratory and tests:** CBC: Chemistry (including LFTs)

**Baseline procedures or tests:** N/A

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT$_3$ blocker

**Administer:**

<table>
<thead>
<tr>
<th>Interferon α-2a (Intron A)</th>
<th>36-million IU/m$^2$</th>
<th>SC or IM, daily for 8–12 weeks</th>
</tr>
</thead>
</table>

- Available in 30 miu pen (30 miu in 1.5 ml).

OR

<table>
<thead>
<tr>
<th>Interferon α-2b</th>
<th>30-million IU/m$^2$</th>
<th>SC or IM three times weekly</th>
</tr>
</thead>
</table>

**Major Side Effects**

- **Flulike Symptoms:** Fever, chills, headache, myalgias, and arthralgias. Occurs in 80%–90% of patients. Onset 3–4 hours after injection and lasting for up to 8–9 hours. Incidence decreases with subsequent injections. Symptoms can be managed with acetaminophen and increased oral fluid intake.

- **Bone Marrow Depression:** Myelosuppression with mild leukopenia and thrombocytopenia.

- **Gastrointestinal Toxicities:** Nausea and diarrhea are mild; vomiting is rare. Anorexia is seen in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur.

- **Renal/hepatic:** Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminases. Dose-dependent toxicity is observed more frequently in the presence of pre-existing liver abnormalities.

- **Cardiotoxicity:** Chest pain, arrhythmias, and congestive heart failure are rare.

- **Skin:** Alopecia is partial. Dry skin, pruritus, and irritation at injection site seen.

- **Ocular:** Retinopathy with cotton-wool spots and small hemorrhages. Usually asymptomatic and resolves upon termination of therapy.

- **Reproduction:** Increased incidence of spontaneous abortions.

**Initiate antiemetic protocol:**

- Mildly emetogenic protocol

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:**

- Chair time 1 hour on day 1 for self-injection teaching

**Estimated number of visits:**

- One visit per week for laboratories. Request 12 weeks worth of visits. May require extra visits for hydration.

**Dose Calculation by:**

1. _____________________________ 2. _____________________________

---

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

<table>
<thead>
<tr>
<th>Ht</th>
<th>Wt</th>
<th>M$^2$</th>
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<tbody>
<tr>
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</tbody>
</table>
LEUKEMIA

Acute Lymphocytic Leukemia

Induction Therapy

**Linker Regimen**

Daunorubicin: 50 mg/m² IV every 24 hours on days 1–3
Vincristine: 2 mg IV on days 1, 8, 15, and 22
Prednisone: 60 mg/m² PO divided into three doses on days 1–28
L-Asparaginase: 6000 U/m² IM on days 17–28

If bone marrow on day 14 is positive for residual leukemia,
Daunorubicin: 50 mg/m² IV on day 15
If bone marrow on day 28 is positive for residual leukemia,
Daunorubicin: 50 mg/m² IV on days 29 and 30
Vincristine: 2 mg IV on days 29 and 36
Prednisone: 60 mg/m² PO on days 29–42
L-Asparaginase: 6000 U/m² IM on days 29–35

Consolidation Therapy

**Linker Regimen**

**Treatment A (Cycles 1, 3, 5, and 7)**

Daunorubicin: 50 mg/m² IV on days 1 and 2
Vincristine: 2 mg IV on days 1 and 8
Prednisone: 60 mg/m² PO on days 1–14
L-Asparaginase: 12,000 U/m² on days 2, 4, 7, 9, 11, and 14

**Treatment B (Cycles 2, 4, 6, and 8)**

Teniposide: 165 mg/m² IV on days 1, 4, 8, and 11
Cytarabine: 300 mg/m² IV on days 1, 4, 8, and 11

**Treatment C (Cycle 9)**

Methotrexate: 690 mg/m² IV over 42 hours
Leucovorin: 15 mg/m² IV every 6 hours for 12 doses beginning at 42 hours

Maintenance Therapy

**Linker Regimen**

Methotrexate: 20 mg/m² PO weekly
6-Mercaptopurine: 75 mg/m² PO daily
Continue for a total of 30 months of complete response.
CNS Prophylaxis

**Linker Regimen**

- Cranial irradiation: 1800 rad in 10 fractions over 12–14 days
- Methotrexate: 12 mg IT weekly for 6 weeks
- Begin within 1 week of complete response.
- In patients with documented CNS involvement at time of diagnosis, intrathecal chemotherapy should begin during induction chemotherapy.
- Methotrexate: 12 mg IT weekly for 10 doses
- Cranial irradiation: 2800 rad

**Larson Regimen**

- **Induction (Weeks 1–4)**
  - Cyclophosphamide: 1200 mg/m² IV on day 1
  - Daunorubicin: 45 mg/m² IV on days 1–3
  - Vincristine: 2 mg IV on days 1, 8, 15, and 22
  - Prednisone: 60 mg/m²/day PO on days 1–21
  - L-Asparaginase: 6000 IU/m² SC on days 15, 18, 22, and 25

- **Early Intensification (Weeks 5–12)**
  - Methotrexate: 15 mg IT on day 1
  - Cyclophosphamide: 1000 mg/m² IV on day 1
  - 6-Mercaptopurine: 60 mg/m²/day PO on days 1–4 and 8–11
  - Cytarabine: 75 mg/m² IV on days 1–14
  - Vincristine: 2 mg IV on days 15 and 22
  - L-Asparaginase: 6000 IU/m² SC on days 15, 18, 22, and 25
  - Repeat the early intensification cycle once.

- **CNS Prophylaxis and Interim Maintenance (Weeks 13–25)**
  - Cranial irradiation: 2400 cGy on days 1–12
  - Methotrexate: 15 mg IT on days 1, 8, 15, 22, and 29
  - 6-Mercaptopurine: 60 mg/m²/day PO on days 1–70
  - Methotrexate: 20 mg/m² PO on days 36, 43, 50, 57, and 64
### Late Intensification (Weeks 26–33)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doxorubicin</td>
<td>30 mg/m² IV on days 1, 8, and 15</td>
</tr>
<tr>
<td>Vincristine</td>
<td>2 mg IV on days 1, 8, and 15</td>
</tr>
<tr>
<td>Dexamethasone</td>
<td>10 mg/m²/day PO on days 1–14</td>
</tr>
<tr>
<td>Cyclophosphamide</td>
<td>1000 mg/m² IV on day 29</td>
</tr>
<tr>
<td>6-Thioguanine</td>
<td>60 mg/m²/day PO on days 29–42</td>
</tr>
<tr>
<td>Cytarabine</td>
<td>75 mg/m² on days 29, 32, 36–39</td>
</tr>
</tbody>
</table>

### Prolonged Maintenance (Continue Until 24 Months after Diagnosis)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vincristine</td>
<td>2 mg IV on day 1</td>
</tr>
<tr>
<td>Prednisone</td>
<td>60 mg/m²/day PO on days 1–5</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>20 mg/m² PO on days 1, 8, 15, and 22</td>
</tr>
<tr>
<td>6-Mercaptopurine</td>
<td>80 mg/m²/day PO on days 1–28</td>
</tr>
</tbody>
</table>

Repeat maintenance cycle every 28 days.

### Hyper-CVAD Regimen

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclophosphamide</td>
<td>300 mg/m² IV over 3 hours every 12 hours for 6 doses on days 1–3</td>
</tr>
<tr>
<td>Mesna</td>
<td>600 mg/m² IV over 24 hours on days 1–3 ending 6 hours after the last dose of cyclophosphamide</td>
</tr>
<tr>
<td>Vincristine</td>
<td>2 mg IV on days 4 and 11</td>
</tr>
<tr>
<td>Doxorubicin</td>
<td>50 mg/m² IV on day 4</td>
</tr>
<tr>
<td>Dexamethasone</td>
<td>40 mg PO or IV on days 1–4 and 11–14</td>
</tr>
</tbody>
</table>

Alternate cycles every 21 days with the following:

(High dose-MTX-Ara-C)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methotrexate</td>
<td>200 mg/m² IV over 2 hours, followed by 800 mg/m² IV over 24 hours on day 1</td>
</tr>
<tr>
<td>Leucovorin</td>
<td>15 mg IV every 6 hours for 8 doses, starting 24 hours after the completion of methotrexate infusion</td>
</tr>
<tr>
<td>Cytarabine</td>
<td>3000 mg/m² IV over 2 hours every 12 hours for 4 doses on days 2–3</td>
</tr>
<tr>
<td>Methylprednisolone</td>
<td>50 mg IV bid on days 1–3</td>
</tr>
</tbody>
</table>

Alternate four cycles of hyper-CVAD with four cycles of high-dose methotrexate and cytarabine therapy (HD-MTX-Ara-C) every three to four weeks.1,206
CNS Prophylaxis

Hyper-CVAD Regimen

Methotrexate: 12 mg IT on day 2
Cytarabine: 100 mg IT on day 8
Repeat with each cycle of chemotherapy, depending on the risk of CNS disease.

Supportive Care

Throughout treatment
Ciprofloxacin: 500 mg PO bid
Fluconazole: 200 mg/day PO
Acyclovir: 200 mg PO bid
G-CSF: 10 μg/kg/day starting 24 hours after the end of chemotherapy (i.e., on day 5 of hyper-CVAD therapy and on day 4 of high-dose methotrexate and cytarabine therapy)

Single-Agent Regimens

Clofarabine

Clofarabine: 52 mg/m² IV for 5 days
Repeat cycle every 2–6 weeks.¹²⁰⁷
Induction Therapy

**Linker Regimen: ALL**

**Baseline laboratory tests:**
CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:**
Bone marrow biopsy, central line placement, EKG, and MUGA if cardiac changes with induction therapy. Doses reduce with impaired functions.

**Initiate IV:**
NS. Consider central line.

**Premedicate:**
5-HT₃ and dexamethasone 20 mg IV

**Administer:**

- **Daunorubicin**
  - 50 mg/m² IV on day 1, 2, and 3
  - Vesicant
  - Given through the side port of a free-flowing IV. Infuse over 1 hour only if patient has a central line. Maximum lifetime dose 550 mg/m².
  - Available in 20 mg/5 mL or 50 mg/10 mL preservative-free vial. Further dilute with 10–15 mL of 0.9% sodium chloride before administration.
  - Diluted solution stable for 24 hours protected from light.
  - Incompatible with heparin and dexamethasone.

- **Vincristine**
  - 2 mg IV on days 1, 8, 15, and 22
  - Vesicant
  - Given through the side port of a free-flowing IV.
  - Available in 1 mg or 2 mg/mL vials. Keep refrigerated until ready to use.

- **Prednisone**
  - 60 mg/m² PO divided into three doses on days 1–28
  - Available in 1-, 5-, 20-, and 50-mg tablets.
  - Take in the morning with food.

- **L-Asparaginase**
  - 6000 U/m² IM on days 17–28
  - Available in 10,000 IU/10 mL.
  - Reconstituted solution is stable for 8 hours at room temperature. Do NOT administer more than 2 mL per IM injection.

If bone marrow on day 14 is positive for residual leukemia:

**Administer:**

- **Daunorubicin**
  - 50 mg/m² IV on day 15

If bone marrow on day 28 is positive for residual leukemia:

**Administer:**

- **Vincristine**
  - 2 mg IV on days 29 and 36

- **Prednisone**
  - 60 mg/m² PO on days 29–42

- **L-Asparaginase**
  - 6000 U/m² m² IM on days 29–35

**Major Side Effects**

- Anaphylactic Reaction: Occurs in 20–30 of patients receiving L-asparaginase, incidence increases with subsequent doses. Occurs less often with IM doses.

- Bone Marrow Depression: Nadir at 10–14 days; leukopenia more common than thrombocytopenia. Teach self-care measures to minimize risk of infection and bleeding.

- Gastrointestinal (GI) Toxicities: Nausea and vomiting, anorexia, and mucositis. Autonomic neuropathy resulting in constipation and can lead to paralytic ileus.

- Cardiotoxicity: Irreversible congestive heart failure (CHF). Acute toxicity can occur within hours after administration. Have patients report dyspnea, shortness of breath, edema, or orthopnea. Daily weights.

- Mental Status: Lethargy, drowsiness, and somnolence with the L-asparaginase.

- Peripheral Neuropathy: Absent deep tendon reflexes, numbness, weakness, myalgias, jaw pain, diplopia, vocal cord paralysis, and metallic taste.

- GU Toxicity: Causes discoloration of urine (pink to red, red orange for up to 48 hours after administration).

- Tumor lysis syndrome occurring 1–5 days after initiation of treatment.

- Skin Alterations: Total alopecia, radiation recall, and sun sensitivity.
• Sexual dysfunction: mutagenic and potentially teratogenic, discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Highly to moderately emetogenic protocol

**Supportive drugs:**
- □ G-CSF ______
- □ Peg-G-CSF ______
- □ Epoetin Alfa/ Darbepoetin Alfa ______
- □ Allopurinol ______
- □ Antibiotic ______
- □ Antifungal ______

**Treatment schedule:** Repeat cycle until remission (usually two to three cycles).
- Chair time two hours on days 1, 2, 3, 8, 15, 22 and 17–28, 29, 30, 31, 32, 33, 34, 35, and 36.

**Estimated number of visits:** Five to seven days first week, daily, or every other day for CBC, may require hospitalization.

**Dose Calculation by:** 1. ____________________________ 2. ____________________________

---

Physician

Date

Patient Name

ID Number

Diagnosis

Ht  Wt  M^2
## Consolidation Therapy

**Linker Regimen: ALL**

Treatment A (Cycles 1, 3, 5, and 7) Alternating with Treatment B (Cycles 2, 4, 6, and 8) Followed by Treatment C (Cycle 9)

### Baseline laboratory tests:
- CBC: Chemistry, renal and liver functions

### Baseline procedures or tests:
- Bone marrow biopsy, central line placement, EKG, and MUGA if cardiac changes with induction therapy. Doses reduce with impaired liver or renal functions.

### Treatment Cycle A (Cycles 1, 3, 5, and 7)

**Initiate IV:**
- NS

**Premedicate:**
- 5-HT₃ and dexamethasone 20 mg IV

**Administer:**
- **Daunorubicin** 90 mg/m² IV on days 1 and 2
  - Given through the side port of a free-flowing IV.
  - Infuse over 1 hour only if patient has a central line.
  - Vesicant
  - A maximum lifetime dose of 550 mg/m².
  - Add 4-mL sterile water to vial for concentration of 5 mg/mL.
  - Further dilute with 10–15 mL of 0.9% sodium chloride.
  - Incompatible with heparin and dexamethasone.
- **Vincristine** 2 mg IV on days 1 and 8
  - Given through the side port of a free-flowing IV.
  - Vesicant
- **Prednisone** 60 mg/m² divided into three doses on days 1–14

**L-Asparaginase:** 12,000 U/m² IM on days 2, 4, 7, 9, 11, and 14
  - Available in 10,000 IU/10 mL.
  - Reconstituted solution is stable for 8 hours at room temperature. Do NOT administer more than 2 mL per IM injection.

### Treatment B (Cycles 2, 4, 6, and 8)

**Administer:**
- **Teniposide (Vumon)** 165 mg/m² IV over at least 30–60 minutes on days 1, 4, 8, and 11
  - 50-mg ampule, further dilute with NS or D5W for final concentration of 0.1–0.4 mg/mL.
  - Concentrations of 1 mg/mL may precipitate faster and must be infused within 4 hours.
  - Infuse over 30–60 minutes to avoid hypotension.
  - Stable for 24 hours. Requires non-DEHP containers and tubing. Do not give if precipitate is seen. Not compatible with heparin, flush line well with NS or D5W.
- **Cytarabine (Ara-C)** 300 mg/m² IV on days 1, 4, 8, and 11
  - Dilute in sterile water with benzyl alcohol and then further dilute in 50–100 mL of NS or D5W infused over 1 hour.
  - Available in 100-mg, 500-mg, 1- and 2-gram vials. Solutions are 5 mg/mL.
  - Stable for up to 192 days at room temperature.

### Treatment C (Cycle 9)

**Administer:**
- **Methotrexate** 690 mg/m² IV over 42 hours
  - 250-mg vial, 25 mg/mL further diluted in NS.
  - Reconstituted solution stable for 24 hours at room temperature.
  - High-dose methotrexate requires leucovorin rescue.
  - Drug interactions include aspirin, penicillins, NSAIDs, cephalosporins, and phenytoin; warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole.
Leucovorin ________ 15 mg/m² IV over 15 minutes every 6 hours for 12 doses beginning at 42 hours.

- Reconstitute vials with sterile water and further with NS or D5W beginning at 42 hours.
- Continue until MTX levels fall below $5 \times 10^{-8}$.

**Major Side Effects**

- Hypersensitivity/anaphylactic Reactions: Occurs in 20–30% of patients receiving L-asparaginase; incidence increases with subsequent doses and may result in death. Occurs less often with IM doses. Can also occur with teniposide infusion. Symptoms include chills, fever, flushing, and urticaria. Severe include tachycardia, bronchospasm, facial and tongue swelling, and hypotension.
- Myelosuppression dose limiting, onset 3–7 days. Teach self-care measures to minimize risk of infection and bleeding.
- GI Toxicities: Nausea and vomiting, anorexia; mucositis and stomatitis. Autonomic neuropathy resulting in constipation and can lead to paralytic ileus secondary to vincristine.
- Cardiotoxicity: Irreversible CHF. Acute toxicity can occur within hours after administration. Have patients report dyspnea, shortness of breath, edema, or orthopnea. Daily weights.
- CNS Changes: Lethargy, drowsiness, and somnolence with the L-asparaginase. Acute cerebral dysfunction with paresis, aphasia, behavioral abnormalities, and seizures in 5%–15% receiving high-dose therapy.
- Peripheral Neuropathy: Absent deep tendon reflexes, numbness, weakness, myalgias, jaw pain, diplopia, vocal cord paralysis, and metallic taste.
- GU Toxicity: Causes discoloration of urine (pink to red, red orange for up to 48 hours after administration). Acute renal failure, azotemia, urinary retention, and uric acid nephropathy can be seen with high-dose methotrexate.
- Tumor lysis syndrome occurring 1–5 days after initiation of treatment.
- Skin Alterations: Total alopecia, radiation recall, and sun sensitivity.
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception, and sperm banking.

**Initiate antiemetic protocol:**

Highly to moderately emetogenic protocol

**Supportive drugs:**

- G-CSF ________
- Peg-G-CSF ________
- Epoetin Alfa/ Darbepoetin Alfa ________
- Allopurinol ________
- Anti-thiotic ________
- Antifungal ________

**Treatment schedule:**

Visits for Treatment A, cycles 1, 3, 5, and 7
2 hours on days 1, 2, 4, 6, 8, 11, and 14

Visits for Treatment B, cycles 2, 4, 6, and 8
3 hours on days 1, 4, 8, and 11 followed by maintenance and CNS prophylaxis protocols

**Estimated number of visits:**

Five to seven days first week, daily, or every other day for CBC, may require hospitalization.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

_______________________________ ______________________________
Physician Date

_______________________________ ________________/ ________________/ ________________
Patient Name ID Number

_______________________________ ______________________________
Diagnosis Ht Wt M²
Maintenance Therapy

**Linker Regimen: ALL**

**Baseline laboratory and tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow

**Administer:**

- **Methotrexate** ______ 20 mg/m² PO weekly
  - Available in 5-mg, 7.5-mg, 10-mg, 12.5-mg, and 15-mg tablets.
  - Take at the same time each week.

- **6-Mercaptopurine:** ______ 75 mg/m² PO daily (50-mg tablets)
  - Take on an empty stomach; continue for a total of 30 months for complete response.
  - Drug interactions—Anticoagulant effects of coumadin are inhibited. Monitor PT/INR. Allopurinol inhibits xanthine oxidase resulting in increased toxicities.

**Major Side Effects**

- Myelosuppression. Dose limiting.

- GI Toxicities: Nausea and vomiting, anorexia, mucositis, and stomatitis. Autonomic neuropathy resulting in constipation and can lead to paralytic ileus secondary to vincristine.

- CNS changes due to IT MTX: Dizziness, malaise, and blurred vision. May increase CSF pressure. Keep patient supine for at least 1 hour after IT injection to prevent headache. Brain XRT after MTX can result in neurologic changes. Liver function tests should be monitored while on oral methotrexate.

- Sensory Neuropathy: Loss of vibratory sensation, unsteady gate may occur.

- Reproduction: mutagenic and potentially teratogenic, discuss contraception, and sperm banking.

**Dose Calculation by:**

1. ___________________________ 2. ___________________________

_________________________ ___________________________

**Physician** **Date**

_________________________ ___________________________

**Patient Name** **ID Number**

_________________________ ___________________________

**Diagnosis** **Ht** **Wt** **M²**
CNS Prophylaxis

**Linker Regimen**

**Administer:**
- **Cranial irradiation** ______ 1800 rad in 10 fractions over 12–14 days
- **Methotrexate** ______ 12 mg IT weekly for 6 weeks
  - Begin within 1 week of complete response.
  - In patients with documented CNS involvement at time of diagnosis, intrathecal chemotherapy should begin during induction chemotherapy.
- **Cranial irradiation** ______ 2800 rad
- **Methotrexate** ______ 12 mg IT weekly for 10 doses

**Major Side Effects**

- Myelosuppression. Dose limiting.
- GI Toxicities: Nausea and vomiting, anorexia, mucositis, and stomatitis. Autonomic neuropathy resulting in constipation and can lead to paralytic ileus secondary to vincristine.
- CNS changes due to IT MTX: Dizziness, malaise, and blurred vision. May increase CSF pressure. Keep patient supine for at least 1 hour after IT injection to prevent headache. Brain XRT after MTX can result in neurologic changes. Liver function tests should be monitored while on oral methotrexate.
- Sensory Neuropathy: Loss of vibratory sensation, unsteady gate may occur.
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception, and sperm banking.

**Initiate antiemetic protocol:**
Mildly emetogenic protocol.

**Supportive drugs:**
- G-CSF
- Peg-G-CSF
- Epoetin Alfa
- Allopurinol
- Darbepoetin Alfa
- Antibiotic
- Antifungal

**Treatment schedule:**
Weekly to monthly.

**Estimated number of visits:**
One to four visits per month for CBC, weekly × 10 for IT methotrexate

**Dose Calculation by:**
1. __________________________________ 2. __________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht / Wt / M²
Larson Regimen: ALL

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy, central line placement, EKG, and MUGA if cardiac changes with induction therapy. Doses reduce with impaired liver or renal functions.

**Induction: (Weeks 1–4)**

**Initiate IV:**
- NS

**Premedicate:**
- 5-HT$_3$ and dexamethasone 20 mg IV

**Administer:**

- **Cyclophosphamide** ______ 1200 mg/m$^2$ IV over 2 hours on day 1
  - Available in 500-mg, 1-, and 2-gram vials. Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.
  - Final concentration of 20 mg/mL.
  - Further dilute into 250–500 mL of NS or D5W.
  - Reconstituted solution is stable for 24 hours at room temperature and 6 days upon refrigeration.

- **Daunorubicin** ______ 45 mg/m$^2$ IV on days 1–3
  - Given through the side port of a free-flowing IV.
  - Infuse over 1 hour only if patient has a central line.
  - Vesicant
  - Maximum lifetime dose of 550 mg/m$^2$.
  - Add 4-mL sterile water to vial for concentration of 5 mg/mL.
  - Further dilute with 10–15 mL of 0.9% sodium chloride. Incompatible with heparin and dexamethasone.
  - Reconstituted solution is stable for 24 hours at room temperature and 48 hours upon refrigeration.

- **Vincristine** ______ 2 mg IV on days 1, 8, 15, and 22
  - Vesicant
  - Given through the side port of a free-flowing IV.
  - Available in 1-mg or 2-mg/mL vials. Keep refrigerated until ready to use.

- **Prednisone** ______ 60 mg/m$^2$ PO on days 1–21
  - Available in 5-, 10-, 20-, and 50-mg tablets. Take in the morning with food.

- **L-Asparaginase** ______ 6000 U/m$^2$ SC on days 15, 18, 22, and 25
  - Available in 10,000 IU/10 mL.
  - Reconstituted solution is stable for 8 hours at room temperature. Do NOT administer more than 2 mL per IM injection.

**Larson Early Intensification (Weeks 5–12)**

**Administer:**

- **Methotrexate preservative-free solution** ______ 15 mg IT on day 1
  - Preservative-free solution or preservative-free power reconstituted with sterile NS ONLY. Available in preservative-free solutions in 50-mg/2-mL, 100-mg/4-mL, 200-mg/8-mL, and 250-mg/10-mL vials.

- **Cyclophosphamide** ______ 1000 mg/m$^2$/day over 2 hours on day 1
  - Available in 500-mg, 1-, and 2-gram vials. Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.
  - Final concentration of 20 mg/mL.
  - Further dilute into 250–500 mL of NS or D5W.

- **6-Mercaptopurine** ______ 60 mg/m$^2$/day PO on days 1–4 and 8–11
  - Available in 50-mg tablets. Take on an empty stomach; continue for a total of 30 months for complete response.

- **Cytarabine (Ara-C)** ______ 75 mg/m$^2$ IV on days 1–14
• Dilute in sterile water with benzyl alcohol and then further dilute in 50–100 mL of NS or D5W infused over 1 hour.
• Available in 100-mg, 500-mg, 1-, and 2-gram vials. Solutions are 5 mg/mL.
• Stable for up to 192 days at room temperature.
• **Vincristine** 2 mg IV on days 15 and 22
  - **Vesicant**
  - Given through the side port of a free-flowing IV.
  - Available in 1-mg or 2-mg/mL vials. Keep refrigerated until ready to use.
• **l-Asparaginase**: 6000 U/m² SC on days 15, 18, 22, and 25
  - Available in 10,000 IU/10 mL.
  - Reconstituted solution is stable for 8 hours at room temperature. Do NOT administer more than 2 mL per IM injection.

Repeat the early intensification cycle once.

### Larson CNS Prophylaxis and Interim Maintenance (Weeks 13–25)

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose and Route</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cranial irradiation</strong></td>
<td>2400 cGy on days 1–12</td>
</tr>
<tr>
<td><strong>Methotrexate</strong></td>
<td>15 mg IT on days 1, 8, 15, 22, and 29</td>
</tr>
</tbody>
</table>
  - Preservative-free solution or preservative-free power reconstituted with sterile NS ONLY.
  - Available in preservative free solutions in 50-mg/2-mL, 100-mg/4-mL, 200-mg/8-mL, and 250-mg/10-mL vials.
| **6-Mercaptopurine**  | 60 mg/m²/day PO on days 1–70 |
  - Available in 50-mg tablets. Take on an empty stomach; continue for a total of 30 months for complete response.
| **Methotrexate**      | 20 mg/m² PO on days 36, 43, 50, 57, and 64 |
  - Available in 5-mg, 7.5-mg, 10-mg, 12.5-mg, and 15-mg tablets.
  - Take at the same time each week.

### Larson Late Intensification (Weeks 26–33)

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose and Route</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doxorubicin</strong></td>
<td>30 mg/m² IV on days 1, 8, and 15</td>
</tr>
</tbody>
</table>
  - **Potent vesicant**
  - Available as a 2-mg/mL solution. Given IV push through side port of free-flowing IV of NS or D5W.
  - Doxorubicin will form a precipitate if mixed with heparin or 5-FU.
  - Given IV push through the side port of a free-flowing IV.
| **Vincristine**       | 2 mg IV on days 1, 8, and 15 |
  - **Vesicant**
  - Given through the side port of a free-flowing IV.
  - Available in 1-mg or 2-mg/mL vials. Keep refrigerated until ready to use.
| **Dexamethasone**     | 10 mg/m² PO on days 1–14 |
  - Available in 4-mg tablets. Take in the morning with food.
| **Cyclophosphamide**  | 1000 mg/m²/day over 2 hours on day 29 |
  - Available in 500-mg, 1-, and 2-gram vials. Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.
  - Final concentration of 20 mg/mL.
  - Further dilute into 250–500 mL of NS or D5W.
| **6-Thioguanine**     | 60 mg/m²/day PO on days 29–42 |
  - Available in 40-mg tablets. Take on an empty stomach.
| **Cytarabine (Ara-C)**| 75 mg/m² IV on days 29, 32, and 36–39 |
  - Dilute in sterile water with benzyl alcohol and then further dilute in 50–100 mL of NS or D5W infused over 1 hour.
  - Available in 100-mg, 500-mg, 1-, and 2-gram vials. Solutions are 5 mg/mL.
  - Stable for up to 192 days at room temperature.
Larson Prolonged Maintenance (Continue Until 24 Months after Diagnosis)

Administer:

**Vincristine**
- **2 mg IV on day 1**
- Vesicant
- Given through the side port of a free-flowing IV.
- Available in 1-mg or 2-mg/mL vials. Keep refrigerated until ready to use.

**Prednisone**
- **60 mg/m² PO on days 1–5**
- Available in 5-, 10-, 20-, and 50-mg tablets. Take in the morning with food.

**Methotrexate**
- **20 mg/m² PO on days 1, 8, 15, and 22**
- Available in 5-mg, 7.5-mg, 10-mg, 12.5-mg, and 15-mg tablets.
- Take at the same time each week.

**6-Mercaptopurine**
- **80 mg/m²/day PO on days 1–28**
- Take on an empty stomach; continue for a total of 30 months for complete response (50-mg tablets).

Repeat maintenance cycle every 28 days.

**Major Side Effects**

- **Hypersensitivity/anaphylactic Reactions:** Occurs in 20–30% of patients receiving L-asparaginase; the incidence increases with subsequent doses. Occurs less often with IM doses. Symptoms include chills, fever, flushing, and urticaria. Severe include tachycardia, bronchospasm, facial and tongue swelling, and hypotension and death.
- **Myelosuppression:** Dose limiting, onset 3–7 days. Teach self-care measures to minimize risk of infection and bleeding.
- **GI Toxicities:** Nausea and vomiting, anorexia, mucositis, and stomatitis. Autonomic neuropathy resulting in constipation and can lead to paralytic ileus secondary to vincristine. Reversible cholestatic jaundice may develop after 2–5 months of treatment with 6-MP.
- **Cardiotoxicity:** Irreversible CHF. Acute toxicity can occur within hours after administration. Have patients report dyspnea, shortness of breath, edema, or orthopnea with daunorubicin. Evaluate cardiac function at baseline, before each course, at 550-mg/m² cumulative dose and every 160 mg/m² dose thereafter. Risk of cardiac toxicity increased with prior anthracycline use, pre-existing cardiac disease, or radiotherapy encompassing heart. Cardiac toxicity with doxorubicin as well, cumulative dose 550 mg/m². Daily weights.
- **CNS Changes:** Lethargy, drowsiness, and somnolence with the L-asparaginase. Acute cerebral dysfunction with paresis, aphasia, behavioral abnormalities, confusion, and seizures in 5%–13% receiving cytarabine high-dose therapy.
- **CNS Changes Due to IT MTX:** Dizziness, malaise, and blurred vision. May increase CSF pressure. Keep patient supine for at least 1 hour after IT injection to prevent headache. Brain XRT after MTX can result in neurologic changes.
- **Peripheral Neuropathy:** Absent deep tendon reflexes, numbness, weakness, myalgias, jaw pain, diplopia, vocal cord paralysis, and metallic taste.
- **GU Toxicity:** Doxorubicin and daunorubicin cause discoloration of urine (pink to red, red orange for up to 48 hours after administration). Hemorrhagic cystitis, dysuria, and frequency can be seen with cyclophosphamide. Tumor lysis syndrome can occur 1–5 days after initiation of treatment.
- **Skin Alterations:** Total alopecia, radiation recall, and sun sensitivity.
- **Reproduction:** Mutagenic and potentially teratogenic, discuss contraception, and sperm banking.

**Initiate antiemetic protocol:**

**Supportive drugs:**

- G-CSF
- Peg-G-CSF
- Epoetin Alfa/
- Darbepoetin Alfa
- Allopurinol
- Antibiotic
- Antifungal

**Treatment schedule:**

**Induction therapy:** Visits days 1, 2, 3, 8, 15, 18, 22, and 25

**Early intensification:** Visits days 1–14, 15, 18, 22, and 25
Acute Lymphocytic Leukemia

CNS prophylaxis: Visits days 1, 8, 15, 22, and 29
Late intensification: Visits days 1, 8, 15, 29, 32, 36–39
Prolonged maintenance for 24 months: Visits day 1 every 28 days

**Estimated number of visits:**
Five to seven days first week, daily, or every other day for CBC, may require hospitalization.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ __________________________/ __________________________/ __________________________

Diagnosis Ht Wt M²
### Hyper-CVAD Regimen: ALL

**Baseline laboratory tests:** CBC, chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy with cytogenetics, immunophenotyping, or cytochemistry; HLA typing (in patients considering BMT) and donor search if indicated; FLT3 mutation evaluation; lumbar puncture, if symptomatic; central line placement

**Posttreatment:** Bone marrow biopsy 7–14 days after chemotherapy (7 days after last dose of G-CSF 7 to document remission).

### Induction Therapy

<table>
<thead>
<tr>
<th>Initiate IV:</th>
<th>NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premedicate:</td>
<td>5-HT₃ and dexamethasone 20-mg IVPB over 10 minutes</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Cyclophosphamide</strong> _____ 300 mg/m² IV over 3 hours every 12 hours for 6 doses on days 1–3</td>
</tr>
<tr>
<td></td>
<td>• Available in 500-mg, 1-, and 2-gram vials. Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.</td>
</tr>
<tr>
<td></td>
<td>• Final concentration of 20 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute into 250–500 mL of NS or D5W.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution is stable for 24 hours at room temperature and 6 days upon refrigeration.</td>
</tr>
<tr>
<td></td>
<td><strong>Mesna</strong> _____ 600 mg/m² IV over 24 hours on days 1–3 ending 6 hours after the last dose of cyclophosphamide</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-mg/mL 1000-mg vials.</td>
</tr>
<tr>
<td></td>
<td>• May further dilute in 250–1000 cc NS or D5W.</td>
</tr>
<tr>
<td></td>
<td>• Diluted solution is stable for 24 hours at room temperature.</td>
</tr>
<tr>
<td></td>
<td>• Refrigerate and use reconstituted solution within 6 hours.</td>
</tr>
<tr>
<td></td>
<td><strong>Vincristine</strong> __________ 2 mg on days 4 and 11; IV push through side arm of free-flowing IV</td>
</tr>
<tr>
<td></td>
<td>• Vesicant</td>
</tr>
<tr>
<td></td>
<td>• Given through the side port of a free-flowing IV.</td>
</tr>
<tr>
<td></td>
<td>• Available in 1-mg or 2-mg/mL vials. Keep refrigerated until ready to use.</td>
</tr>
<tr>
<td></td>
<td><strong>Doxorubicin</strong> ______ 50 mg/m² IV on day 4</td>
</tr>
<tr>
<td></td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available as a 2-mg/mL solution. Given IV push through side port of free-flowing IV of NS or D5W.</td>
</tr>
<tr>
<td></td>
<td>• Doxorubicin will form a precipitate if mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td></td>
<td>• Given IV push through the side port of a free-flowing IV.</td>
</tr>
<tr>
<td></td>
<td><strong>Dexamethasone</strong> _________ 40 mg PO or IV on days 1–4 and 11–14</td>
</tr>
<tr>
<td></td>
<td>• Available in 5-, 10-, 20-, and 50-mg tablets. Take in the morning with food.</td>
</tr>
<tr>
<td></td>
<td>• Available IV as 4-mg or 10-mg/mL vials. Further dilute in 50–100 cc NS, as IV push dexamethasone causes peritoneal burning while drug is injected.</td>
</tr>
</tbody>
</table>

### Alternate cycles every 21 days with the following:

| Methotrexate _________ 200 mg/m² IV over 2 hours, followed by |
| Methotrexate _________ 800 mg/m² IV over 24 hours on day 1 |
| • May further dilute in D5W or NS for infusion. |
| • Preservative-free solution or preservative-free power reconstituted with sterile NS ONLY. Available in preservative-free solutions in 50-mg/2-mL, 100-mg/4-mL, 200-mg/8-mL, and 250-mg/10-mL vials. |
| **Leucovorin 15 mg** ________ IV every 6 hours for 8 doses, starting 24 hours after the completion of methotrexate infusion |
| • Available in 10-mg/ml, 50-ml, 100-mg/20-mL, and 350-mg/30-mL vials. |
Acute Lymphocytic Leukemia

- Maybe given IV push or IV infusion and can be further diluted in 100 to 250 cc NS.

**Cytarabine** \__________ 3000 mg/m² IV over 2 hours every 12 hours for 4 doses on days 2–3
- Reconstitute with water with benzyl alcohol and then dilute with 0.9% sodium chloride or D5W.
- Reconstituted drug is stable for 48 hours at room temperature, 7 days refrigerated (fill pump for no more than 48-hour infusion and refill)

**Methylprednisolone** \_________ 50-mg IV bid on days 1–3
- Available in 20-mg/mL, 40-mg/mL, and 80-mg/mL vials.

Alternate four cycles of hyper-CVAD with four cycles of high-dose methotrexate and cytarabine therapy.

**CNS Prophylaxis**

**Hyper-CVAD Regimen: ALL**

**Administer:**

**Methotrexate** \_________ 12 mg IT on day 2
- Preservative-free solution or preservative-free power reconstituted with sterile NS ONLY. Available in preservative-free solutions in 50-mg/2-mL, 100-mg/4-mL, 200-mg/8-mL, and 250-mg/10-mL vials.

**Cytarabine** \_________ IT on day 8
- Dilute in sterile water without preservative for intrathecal treatment.
- Available in 100-mg vial, dilute with sterile saline.

Repeat with each cycle of chemotherapy, depending on the risk of CNS disease.

**Major Side Effects**

- Bone Marrow Depression: Dose-limiting toxicity.
- GI Toxicities: Nausea and vomiting, anorexia; impaired skin/mucosal changes including maculopapular rash, 6–12 hours after infusion, stomatitis at days 7–10. Total alopecia at days 10–14.
- Cardiotoxicity: Dose limit 450–550 mg/m²; arrhythmias and/or EKG changes, pericarditis or myocarditis. Usually transient and asymptomatic.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours.
- Neurotoxicity: At high doses includes cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, or difficulty with fine-motor coordination, lethargy, or somnolence. Patients with rapidly rising creatinine caused by tumor lysis syndrome or neurotoxicity should discontinue the high-dose cytarabine.
- Saline or steroid drops to both eyes may be indicated for 24 hours after completion of high cytarabine.
- Tumor lysis syndrome occurring 1–5 days after initiation of treatment; treat with hydration and allopurinol.
- Reproduction: mutagenic and potentially teratogenic.

**Supportive Care**

Recommended as part of treatment plan

- Ciprofloxacin: 500 mg PO bid
- Fluconazole: 200 mg/day PO
- Acyclovir: 200 mg PO bid
- G-CSF: 10 µg/kg/day starting 24 hours after the end of chemotherapy (i.e., on day 5 of hyper-CVAD therapy and on day 4 of high-dose methotrexate and cytarabine therapy)

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Treatment schedule:** 4–5 hours on days 1–3 and 2 hours on day 4

**Estimated number of visits:** May require hospitalization; daily CBC.
Dose Calculation by: 1. _________________________ 2. _________________________

_____________________________________________ ______________________________________________________
Physician Date

_____________________________________________ ______________________________________________________
Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________
Diagnosis Ht Wt M²
Single-Agent Regimens

Clofarabine: 52 mg/m² IV for 5 days

Baseline laboratory test: CBC: Chemistry, renal and liver functions
Monitor: CBC, renal and liver functions throughout 5-day therapy
Baseline procedures or tests: Bone marrow biopsy
Posttreatment: Bone marrow biopsy
Initiate IV: NS
Premedicate: 5-HT₃ and dexamethasone 20-mg IV
Administer: Clofarabine 52 mg/m² IV over 2 hours daily for 5 days with continuous IV fluids throughout the dosing course

• Available in 20-mL vial, 1 mg/mL.
• Withdraw drug using sterile 0.2 μm syringe filter.
• Dilute with NS or D5W or NS prior to infusion.
• Stable for 24 hours.

Major Side Effects

• Bone Marrow Depression: Dose-limiting toxicity. Febrile neutropenia occurs in 57% of patients, pyrexia in 41%. Infections include bacteremia, cellulites, herpes simplex, oral candidiasis, pneumonia, sepsis, and staphylococcal infections.
• Potential for dehydration, hypotension, and capillary leak syndrome
• GU Toxicities: Rapid lysis of tumor cells. Use allopurinol and adequate hydration to prevent renal toxicities.
• GI Toxicities: Nausea and vomiting occur in 75% and 83% of patients respectively, can be controlled with combination antiemetics. Anorexia occurs in 1/3 of patients and diarrhea is frequent, affecting 50% of patients. Constipation affects 21%. Hepatotoxicity and jaundice occur in 15% of patients.
• Skin Integrity: maculopapular rash, with or without fever, myalgias, bone pain, occasional chest pain, conjunctivitis, and malaise (cytarabine syndrome) may occur 6–12 hours after administration; corticosteroids used to treat/prevent syndrome. Mucosal inflammation and ulceration of anus/rectum may occur. Alopecia occurs.
• Edema, Fatigue, Lethargy and Pain: Edema 20%, fatigue 36%, injection site pain 14%, pain 19%, arthralgias 11%, pruritis 47%, pain in limbs and plantar erythrodysesthesia syndrome 13%.
• Reproduction: Drug is fetotoxic. All patients should be instructed on proper birth control and female patients should not breast feed.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ neutropen □ filgrastim □ aranesp □ procriz □ Allopurinol □ Antibiotic □ Antifungal

Treatment schedule: Chair time 3 hour on days 1–5 and continuous hydration over 24 hours, may require hospitalization

Estimated number of visits: 5 days in the first week; daily for blood counts.
Repeat cycle every 2–6 weeks after recovery of all baseline organ functions.
<table>
<thead>
<tr>
<th><strong>Dose Calculation by:</strong></th>
<th>1. ___________________________</th>
<th>2. ___________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physician</strong></td>
<td><strong>Date</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Patient Name</strong></td>
<td><strong>ID Number</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td><strong>Ht</strong> / <strong>Wt</strong> / <strong>M^2</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Induction Regimens

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ara-C + Daunorubicin (7 + 3)&lt;sup&gt;1.208&lt;/sup&gt;</td>
<td>Cytarabine: 100 mg/m²/day IV continuous infusion on days 1–7&lt;br&gt;Daunorubicin: 45 mg/m² IV on days 1–3</td>
</tr>
<tr>
<td>Ara-C + Idarubicin&lt;sup&gt;1.209&lt;/sup&gt;</td>
<td>Cytarabine: 100 mg/m²/day IV continuous infusion on days 1–7&lt;br&gt;Idarubicin: 12 mg/m² IV on days 1–3</td>
</tr>
<tr>
<td>Ara-C + Doxorubicin&lt;sup&gt;1.210&lt;/sup&gt;</td>
<td>Cytarabine: 100 mg/m²/day IV continuous infusion on days 1–7&lt;br&gt;Doxorubicin: 30 mg/m² IV on days 1–3</td>
</tr>
</tbody>
</table>

### Consolidation Regimens

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ara-C + Daunorubicin (5 + 2)&lt;sup&gt;1.215&lt;/sup&gt;</td>
<td>Cytarabine: 100 mg/m²/day IV continuous infusion on days 1–5&lt;br&gt;Daunorubicin: 45 mg/m² IV on days 1 and 2</td>
</tr>
<tr>
<td>Ara-C + Idarubicin&lt;sup&gt;1.215&lt;/sup&gt;</td>
<td>Cytarabine: 100 mg/m² IV continuous infusion on days 1–5&lt;br&gt;Idarubicin: 13 mg/m² IV on days 1 and 2&lt;br&gt;Repeat cycle every 21–28 days.</td>
</tr>
</tbody>
</table>

### Single-Agent Regimens

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cladribine&lt;sup&gt;1.216&lt;/sup&gt;</td>
<td>Cladribine: 0.1 mg/kg/day IV continuous infusion on days 1–7</td>
</tr>
<tr>
<td>High-Dose Cytarabine</td>
<td>Cytarabine: 3,000 mg/m² IV over 3 hours, every 12 hours on days 1, 3, and 5&lt;br&gt;Repeat cycle every 28 days.</td>
</tr>
</tbody>
</table>
Gemtuzumab (Mylotarg) .................................................................330

Gemtuzumab: 9-mg/m² IV as a 2-hour infusion
Repeat with a second dose 14 days after administration of the first dose.¹,²¹⁹
Premedicate with diphenhydramine 50-mg PO and acetaminophen
650–1000 mg PO at 1 hour before drug infusion. After the infusion is
completed, give two additional doses of acetaminophen 650–1000 mg
PO every 4 hours.

Relapsed AML

MV (Mitoxantrone + Etoposide)¹,²¹³ ........................................331

Mitoxantrone: 10 mg/m²/day IV push over 3 minutes on days 1–5
Etoposide: 100 mg/m²/day IV over 1–2 hours on days 1–5

FLAG¹,²¹⁴ ..................................................................................333

Fludarabine: 30 mg/m²/day IV over 30 minutes on days 1–5
Cytarabine: 2000 mg/m²/day over 4 hours after completion of fludarabine
on days 1–5
Neupogen: 5 mcg/kg/d day 0 (24 hours prior to starting chemotherapy
until ANC recovery).
**Induction Regimens**

**Ara-C + Daunorubicin (7 + 3)**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy, central line placement, MUGA if indicated

**Initiate IV:** NS

**Premedicate:** 5-HT, and dexamethasone 20-mg IVPB over 10 minutes

**Administer:**

- **Cytarabine** 100-mg/m²/day IV continuous infusion on days 1–7
  - Available in 100-, 500-, 1000-, and 5000-mg multidose vials.
  - Dilute in sterile water with benzyl alcohol and then further dilute with 50–100 mL of NS or D5W.
  - For IT use or high dose, use preservative-free NS and use immediately.
  - Stable 48 hours at room temperature and 7 days refrigerated.
  - IV hydration at 150 per mL per hour with or without alkalinization, oral allopurinol, strict I & O, and daily weights.

- **Daunorubicin** 45-mg/m² IV on days 1–3.
  - Given through the side port of a free-flowing IV. Infuse over 1 hour only if the patient has a central line.

  - **Vesicant**
  - Available in 20-mg vials with 100-mg mannitol for IV use. Add 4-mL sterile water to vial for concentration of 5 mg/mL. Reconstituted solution is stable for 24 hours at room temperature and 48 hours with refrigeration. Should protect from sunlight.
  - Further dilute with 10–15 mL of NS.
  - Incompatible with heparin and dexamethasone.

**Major Side Effects**

- **Bone Marrow Depression:** Dose-limiting toxicity.
- **GI Toxicities:** Nausea and vomiting in moderately emetogenic, anorexia; mucositis and diarrhea common within the first week, but not dose limiting.
- **Skin Alteration:** Hyperpigmentation of nails, rarely skin rash and urticaria. Radiation recall. Photosensitivity. Alopecia.
- **Cardiotoxicity:** Similar to but less severe than doxorubicin. EKG changes, pericarditis, and/or myocarditis. Usually transient and asymptomatic. Risk increases with dose of more than 550 mg/m².
- **GU Toxicity:** Red-orange discoloration of urine for 1–2 days after administration of daunorubicin.
- **Neurotoxicity:** At high doses includes cerebellar toxicity, including seizures, nystagmus, dysarthria, ataxia, slurred speech, or difficulty with fine-motor coordination, lethargy, or somnolence. Observe neurologic status, handwriting, or gait before and during cytarabine therapy.
- **Ocular:** Conjunctivitis can occur. Treat with corticosteroid eye drops.
- **Tumor lysis syndrome** occurring 1–5 days after initiation of treatment. Allopurinol and vigorous hydration recommended.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- G-CSF
- Peg-G-CSF
- Epoetin Alfa
- Darbepoetin Alfa
- Allopurinol

**Antibiotic**

**Antifungal**

**Treatment schedule:** Chair time 1 hour on days 1–3, 30 minutes for pump refill days. Cycle does not repeat.

**Estimated number of visits:** 5–7 days first week, daily or every other day for blood counts. Request 21 days per treatment; may require hospitalization.
Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________________________ ______________________________________________________
Physician Date

_____________________________________________ ______________________________________________________
Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________
Diagnosis Ht Wt M²
**Ara-C + Idarubicin**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy, central line placement, MUGA if indicated

**Initiate IV:** NS

**Premedicate:** 5-HT	extsubscript{3} and dexamethasone 20-mg IVPB over 10 minutes

**Administer:**

- **Idarubicin** _______ 12-mg/m	extsuperscript{2} slow IV push on days 1–3
  - Vesicant
  - Reconstitute with sodium chloride; final concentration 1 mg/1 mL.
  - Further dilute in 100–250 cc of NS. Reconstituted solution stable for 3 days at room temperature.
  - If patient has central line, infusion over 1 hour may cause less nausea and vomiting.

- **Cytarabine** _______ 100-mg/m	extsuperscript{2}/day IV continuous infusion on days 1–7
  OR
  - **Cytarabine** _______ 25-mg/m	extsuperscript{2} IV push, followed by
  - **Cytarabine** _______ 200-mg/m	extsuperscript{2}/day IV continuous infusion on days 1–5. Irritant.
  - Reconstitute with water with benzyl alcohol and then dilute with 0.9% sodium chloride or 5% dextrose.
  - Reconstituted drug is stable for 48 hours at room temperature, 7 days refrigerated (fill pump for no more than 48-hour infusion and refill).
  - Incompatible with heparin.

**Major Side Effects**

- Bone Marrow Depression: Dose-limiting toxicity.
- GI Toxicities: Nausea and vomiting moderately emetogenic. Anorexia, stomatitis, mucositis, and diarrhea common.
- Skin Alterations: Alopecia 77%; maculopapular rash 6–12 hours after infusion.
- Cardiotoxicity similar to but less severe than doxorubicin and daunorubicin. Idarubicin cumulative doses of > 150 mg/m	extsuperscript{2} associated with decreased LVEF.
- GU Toxicity: Red-orange discoloration of urine for 1–2 days after administration of daunorubicin.
- Neurotoxicity: At high doses includes cerebellar toxicity, including seizures, nystagmus, dysarthria, ataxia, slurred speech, or difficulty with fine-motor coordination, lethargy, or somnolence.
- Tumor lysis syndrome occurring 1–5 days after the initiation of treatment. Allopurinol and vigorous hydration recommended.
- Reproduction: Mutagenic and potentially teratogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- Neulasta _______
- Neupogen _______
- Procrit/Aranesp _______
- Allopurinol _______
- Antibiotic _______
- Antifungal _______

**Treatment schedule:** Chair time 1–2 hours on days 1–3, 30 minutes for pump refill days. Repeat cycle until remission (usually two to three cycles).

**Estimated number of visits:** Five to seven days first week, daily or every other day for blood counts. Request 21 days per treatment; may require hospitalization.
Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht __________ Wt __________ M² __________
Ara-C + Doxorubicin

Baseline laboratory and tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy with cytogenetics, immunophenotyping, or cytochemistry; HLA typing (in patients considering BMT) and donor search if indicated; FLT3 mutation evaluation; lumbar puncture, if symptomatic; central line placement, MUGA

Posttreatment: Bone marrow biopsy 7–14 days after chemotherapy (patient should be off G-CSF 7 days before bone marrow biopsy to document remission).

Initiate IV: NS
Premedicate: 5-HT³ and dexamethasone 20-mg IVPB over 10 minutes
Administer: Cytarabine _______ 100-mg/m²/day IV continuous infusion on days 1–7
  • Dilute in sterile water with benzyl alcohol and then further dilute with 50–100 mL of 0.9% sodium. Stable 48 hours at room temperature and 7 days refrigerated chloride or D5W.
  • IV hydration at 150 per mL per hour with or without alkalinization, oral allopurinol, strict I & O, and daily weights.
  • Doxorubicin _______ 30-mg/m² IV on days 1–3.
  • Given through side port of free-flowing IV.
  • Vesicant
    • Available in 10-, 20-, 50-, 100-, and 150-mg vials and 200-mg multidose solution. Final concentration 2 mg/mL. May be further diluted in NS for prolonged infusions.

Major Side Effects
  • Bone Marrow Depression: Dose-limiting toxicity. Daily CBC during chemotherapy and then every other day until WBCs are more than 500 per mocl, platelet transfusions as indicated.
  • Chemistry Profile: Electrolytes, Cr, BUN, uric acid, and PO₄ daily to evaluate tumor lysis.
  • GI Toxicities: Nausea and vomiting, anorexia; stomatitis, mucositis, and diarrhea.
  • Skin Alterations: Total alopecia. Hyperpigmentation of nails, rarely skin rash and urticaria. Radiation recall.
  • Cardiotoxicity: Dose limit 550 mg/m²; EKG changes, pericarditis, and or myocarditis. Usually transient and mostly asymptomatic.
  • GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis: Irritation of bladder wall capillaries occurs; preventable with appropriate hydration.
  • Neurotoxicity: At high doses includes cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, or difficulty with line-motor coordination, lethargy, or somnolence. Patients with rapidly rising creatinine caused by tumor lysis syndrome or neurotoxicity should discontinue the high-dose cytarabine. Assess handwriting or gait before and during treatment.
  • Ocular: Saline or steroid drops to both eyes may be indicated for 24 hours after completion of high cytarabine.
  • Tumor lysis syndrome occurring 1–5 days after initiation of treatment; treat with hydration and allopurinol.
  • Reproduction: mutagenic and potentially teratogenic.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)/darbepoetin alfa (Aranesp)
□ Antibiotic □ Antifungal

Treatment schedule: Chair time 1 hour on days 1–3 and 30 minutes for pump refill days
Estimated number of visits: 3–5 days on the first week, daily or every other day for blood counts
Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________ ________________________________
Physician Date

_____________________________ ________________________________
Patient Name ID Number

_____________________________
Diagnosis

____________/ ____________/ ____________
Ht  Wt  M²
## Consolidation Regimens

**Ara-C + Daunorubicin (5 + 2)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, renal and liver functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Bone marrow biopsy, central line placement, MUGA if cardiac changes with induction therapy. Dose reductions with impaired hepatic functions.</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>NS</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT$_3$ and dexamethasone 20-mg IVPB over 10 minutes</td>
</tr>
<tr>
<td>Administer: Cytarabine</td>
<td>100-mg/m$^2$/day IV continuous infusion on days 1–5</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-, 500-, 1000-, and 5000-mg multidose vials. Dilute in sterile water with benzyl alcohol and then further dilute with 50–100 mL of NS or D5W. For IT use or high dose, immediately use preservative-free NS. Stable 48 hours at room temperature and 7 days refrigerated.</td>
</tr>
<tr>
<td></td>
<td>• IV hydration at 150/mL per hour with or without alkalinization. Oral allopurinol, strict I &amp; O, and daily weights.</td>
</tr>
<tr>
<td>Daunorubicin</td>
<td>45-mg/m$^2$ IV on days 1 and 2. Given through the side port of a free-flowing IV. Infuse over 1 hour only if the patient has a central line.</td>
</tr>
<tr>
<td></td>
<td>• Vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available in 20-mg vials with 100-mg mannitol for IV use. Add 4 mL of sterile water to vial for concentration of 5 mg/mL. Reconstituted solution is stable for 24 hours at room temperature and 48 hours with refrigeration. Should protect from sunlight.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute with 10–15 mL of NS.</td>
</tr>
<tr>
<td></td>
<td>• Incompatible with heparin and dexamethasone.</td>
</tr>
<tr>
<td></td>
<td>• Bone Marrow Depression: Dose-limiting toxicity</td>
</tr>
<tr>
<td></td>
<td>• GI Toxicities: Nausea and vomiting in moderately emetogenic, anorexia; mucositis and diarrhea common within the first week, but not dose limiting.</td>
</tr>
<tr>
<td></td>
<td>• Cardiotoxicity: Similar to but less severe than doxorubicin. EKG changes, pericarditis, and/or myocarditis. Usually transient and asymptomatic. Risk increases with dose $&gt; 550$ mg/m$^2$.</td>
</tr>
<tr>
<td></td>
<td>• GU Toxicity: Red-orange discoloration of urine for 1–2 days after administration of daunorubicin.</td>
</tr>
<tr>
<td></td>
<td>• Neurotoxicity: At high doses includes cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, or difficulty with fine-motor coordination, lethargy, or somnolence. Observe neurologic status, handwriting, or gait before and during cytarabine therapy.</td>
</tr>
<tr>
<td></td>
<td>• Ocular: Conjunctivitis can occur. Treat with corticosteroid eye drops.</td>
</tr>
<tr>
<td></td>
<td>• Tumor lysis syndrome occurring 1–5 days after initiation of treatment. Allopurinol and vigorous hydration recommended.</td>
</tr>
<tr>
<td></td>
<td>• Reproduction: Mutagenic and potentially teratogenic.</td>
</tr>
<tr>
<td>Initiate antiemetic protocol:</td>
<td>Moderately to highly emetogenic protocol.</td>
</tr>
<tr>
<td>Supportive drugs:</td>
<td>□ Neulasta □ Neupogen</td>
</tr>
<tr>
<td></td>
<td>□ Procrit/Aranesp □ Allopurinol</td>
</tr>
<tr>
<td></td>
<td>□ Antibiotic □ Antifungal</td>
</tr>
<tr>
<td>Treatment schedule:</td>
<td>Chair time 2 hours on days 1–2 and 30 minutes for pump refill days; given once after an induction regimen has been used.</td>
</tr>
</tbody>
</table>
Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ___________________________/ _______________________/ ______________________

Diagnosis Ht Wt M²
### Ara-C + Idarubicin

**Baseline laboratories:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Initiate IV:** NS  
**Premedicate:** 5-HT3 and dexamethasone 20-mg IVPB over 10 minutes.  
**Administer:**  
- **Idarubicin** _______ 13 mg/m² slow IV push on days 1 and 2.  
  - Vesicant  
  - Reconstitute with sodium chloride, final concentration 1 mg/1 mL.  
  - If patient has central line, infusion over 1 hour may cause less nausea and vomiting. Further dilute in 100–250 cc of NS.  
- **Cytarabine** _______100-mg/m²/day IV continuous infusion on days 1–5  
  - IV continuous infusion days 1–5 (irritant).  
  - Reconstitute with water with benzyl alcohol and then dilute with NS or D5W.  
  - Reconstituted drug is stable for 48 hours at room temperature or 7 days refrigerated (fill pump for no more than 48 hour infusion and refill).

**Major Side Effects**  
- Bone Marrow Depression: Dose limiting.  
- GI Toxicities: Nausea and vomiting moderate to highly emetogenic, anorexia.  
- Cardiotoxicity similar to but less severe than doxorubicin and daunorubicin. Idarubicin cumulative dose 150 mg/m².  
- GU Toxicities: Red-orange discoloration of urine for 1–2 days after administration of daunorubicin.  
- Neurotoxicity: At high doses includes cerebellar toxicity, including seizures, nystagmus, dysarthria, ataxia, slurred speech, or difficulty with fine-motor coordination, lethargy, or somnolence.  
- Tumor lysis syndrome occurring 1–5 days after initiation of treatment.  
- Reproduction: Mutagenic and potentially teratogenic; discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol  
**Supportive drugs:**  
- G-CSF _______  
- Peg G-CSF _______  
- Procrit/Aranesp _______  
- Allopurinol_______  
- Antibiotic _______  
- Antifungal _________

**Treatment schedule:** Chair time 1–2 hours on days 1–3, 30 minutes for pump refill days. Repeat cycle until remission (usually two to three cycles).  
**Estimated number of visits:** Five days in the first week and then daily or every other day for blood counts. Request 21–28 days per treatment, may require hospitalization.

**Dose Calculation by:**  
1. __________________________________  
2. __________________________________

---

**Physician**  
**Date**

---

**Patient Name**  
**ID Number**

---

**Diagnosis**  
<table>
<thead>
<tr>
<th>Ht</th>
<th>Wt</th>
<th>M²</th>
</tr>
</thead>
</table>
# Single-Agent Regimens

## Cladribine (Leustatin)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, renal and liver functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Bone marrow biopsy, central line placement</td>
</tr>
<tr>
<td>Administer:</td>
<td>Cladribine ________ 0.1 mg/kg/day continuous infusion on days 1–7, one course</td>
</tr>
<tr>
<td></td>
<td>• Dilute 1:1 concentrated liquid in 500 mL of 0.9% NS per day. Unstable in D5W.</td>
</tr>
<tr>
<td></td>
<td>• Use a 22-μm filter when preparing the solution. Stable when diluted for 24 hours or refrigerated for 8 hours.</td>
</tr>
</tbody>
</table>

### Major Side Effects
- Bone Marrow Depression: Nadir at 7–14 days, neutropenia is more common than anemia or thrombocytopenia. Increased risk for opportunistic infections, including fungal, herpes, and *Pneumocystis carinii*. Teach self-care measures to minimize risk of infection and bleeding.
- Tumor fever associated with fatigue, malaise, maligns, and arthralgias and chills.
- GI Toxicities: Nausea and vomiting mildly emetogenic, anorexia. Constipation and abdominal pain.
- Neurotoxicity: Headache, insomnia, and dizziness.
- Tumor lysis syndrome rare even with high tumor burden.
- Reproduction: Potentially mutagenic and teratogenic, discuss contraception and sperm banking.

### Initiate antiemetic protocol:
Mildly emetogenic protocol.

### Supportive drugs:
- □ G-CSF ________
- □ Peg G-CSF ________
- □ Procrit/Aranesp ________
- □ Allopurinol ________
- □ Antibiotic ________
- □ Antifungal ________

### Treatment schedule:
Chair time 1 hour on days 1–3, 30 minutes for pump refill days. Repeat cycle until remission (usually two to three cycles).

### Estimated number of visits:
Seven days in the first week and then daily or every other day for blood counts.

### Dose Calculation by:
1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Ht __________ Wt __________ M2 __________
### High-Dose Cytarabine (HiDAC)

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Posttreatment:** Bone marrow biopsy 7–14 days after chemotherapy (patient should be off G-CSF 7 days before bone marrow biopsy to document remission).

**Initiate IV:** NS  
**Premedicate:** 5-HT3 and dexamethasone 20-mg IV saline, methylcellulose, or steroid eye drops, OU q6h, with cytarabine and continuing 48–72 hours after the last cytarabine dose is completed.

**Administer:**
- **Cytarabine** 3000-mg/m²/day IV over 1–2 hours every 12 hours on days 1, 2, and 3  
- OR  
- **Cytarabine** 3000-mg/m²/day IV over 1–2 hours every 12 hours on days 1, 3, and 5  
- OR  
- **Cytarabine** 3000-mg/m²/day IV over 1–2 hours every 12 hours on days 1–6.  
- OR  
- **Cytarabine** 2000-mg/m²/day IV over 1–2 hours every 12 hours on days 1–6.  
  - Dilute in sterile water with benzyl alcohol and then further dilute with 50–100 mL of NS or D5W.  
  - IV hydration at 150/mL per hour with/without alkalinization, oral allopurinol; strict I & O, daily weights. Stable 48 hours at room temperature and 7 days refrigerated.

**Drug interactions:** Decreases efficacy of gentamicin and digoxin.

### Major Side Effects
- **Bone Marrow Depression:** Nadir biphasic, WBCs fall within 24 hours, nadir on day 7–10, platelets drop by day 5, nadir on day 15–24, with recovery in 10 days.  
- Daily CBC during chemotherapy and then every other day until WBCs > 500 per mcl, platelet transfusions as indicated.  
- **Chemistry Profile:** electrolytes, creatinine, BUN, uric acid, and PO₄ daily during treatment to evaluate tumor lysis.  
- **GI Toxicities:** Nausea and vomiting, anorexia; impaired skin/mucosal changes including maculopapular rash, 6–12 hours after infusion, stomatitis at days 7–10, total alopecia on days 10–14.  
- **Neurotoxicity:** At high doses includes cerebellar toxicity, including seizures, nystagmus, dysarthria, ataxia, slurred speech, or difficulty with fine-motor coordination, lethargy, or somnolence. Assess baseline neurologic status and cerebellar function (coordinated movements such as handwriting and gait) before and during therapy. If cerebellar toxicity develops, treatment must be discontinued.  
- **Patients with rapidly rising creatinine due to tumor lysis syndrome or neurotoxicity should discontinue the high-dose cytarabine.**  
- **Tumor Lysis Syndrome:** Occurs 1–5 days after initiation of treatment. Pretreat with hydration and allopurinol.  
- **Reproduction:** Mutagenic and potentially teratogenic. Discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**
- G-CSF  
- Peg-G-CSF  
- Epoetin Alfa/  
- Darbepoetin Alfa  
- Allopurinol  
- Antibiotic  
- Antifungal  

**Treatment schedule:** Repeat cycle every 28 days or 1 week after marrow recovery.  
**Estimated number of visits:** Patients usually require hospitalization. Daily or every other day for blood counts.
<table>
<thead>
<tr>
<th><strong>Dose Calculation by:</strong></th>
<th>1. __________________________</th>
<th>2. __________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Physician</td>
<td>Date</td>
</tr>
<tr>
<td></td>
<td>Patient Name</td>
<td>ID Number</td>
</tr>
<tr>
<td></td>
<td>Diagnosis</td>
<td>Ht  Wt  M²</td>
</tr>
</tbody>
</table>
Acute Myelogenous Leukemia

Gemtuzumab (Mylotarg)

**Baseline laboratory tests:** CBC: Chemistry

**Posttreatment:** CBC at least weekly or BID

**Initiate IV:** 9NS

**Premedicate:** 5-HT₃ and dexamethasone 20-mg IV

1 hour before treatment: Diphenhydramine 50-mg PO and acetaminophen 650–1000 mg PO

Acetaminophen 650–1000 mg at completions of infusion and then Q 4 hours

**Administer:** Gemtuzumab ________ 9-mg/m² IV as a 2-hour infusion

- Available in 5-mg vials. Dilute in 5-mL sterile water to a final concentration of 1 mg/mL, and mix gently DO NOT SHAKE.
- Diluted solution is stable for 8 hours with refrigeration and when protected from light. Further dilute into a 100-mL bag of NS, and place the bag in an ultraviolet-protected bag. Use the medication immediately.
- Use a 1.2-micron filter. Do not administer by IVP or bolus.

**Major Side Effects**

- Myelosuppression; dose-limiting toxicity. With neutropenia and thrombocytopenia.
- Infusion-related Symptoms: Fever, chills, nausea, and vomiting. Urticaria, skin rash, fatigue, headache, diarrhea, dyspnea, and/or hypotension. Usually observed in the first 2 hours after infusion. Transient hypotension can be observed up to 6 hours after the infusion.
- Gastrointestinal Toxicities: Nausea and vomiting is mild to moderate. Mucositis and stomatitis mild. Transient increases in LFTs. Diarrhea seen in 38% of patients.
- Infusion Reaction: Flushing, facial swelling, headache, dyspnea, and/or hypotension can be related to rate of infusion.
- Reproduction: Pregnancy category D: Breastfeeding should be avoided.

**Initiate antiemetic protocol:** Moderately emetogenic.

**Supportive drugs:**

- □ G-CSF ________
- □ Peg-G-CSF ________
- □ Procrit/Aranesp ________
- □ Allopurinol ________
- □ Antibiotic ________
- □ Antifungal ________

**Treatment schedule:** Repeat with a second dose 14 days after administration of the first dose.

**Estimated number of visits:** Two visits per week for 12 weeks.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

_________________________ ____________________________
Physician Date

_________________________
Patient Name ID Number

_____________________________________________ _______________________________/ ___________________________/ □□
Diagnosis Ht Wt M²
Relapse AML

**MV (Mitoxantrone [M], Etoposide [V])**

**Baseline laboratory and test:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy, central line placement, MUGA

**Initiate IV:** NS

**Premedicate:** 5-HT3 and dexamethasone 20-mg IV

**Administer:**

- **Mitoxantrone** ______ 10-mg/m²/day IV days 1–5, IV push over 3 minutes
- **Etoposide** ______ 100-mg/m²/day IV over 1 hour on days 1–5

- (VePesid) 5 cc/100 mg; Etopophos reconstitute with 5–10 mL on NS, D5W, sterile water or bacteriostatic sterile water, or bacteriostatic NS with benzyl alcohol to 20 or 10 mg/mL, respectively. Further dilute to a final concentration NS or D5W to 0.1 mg/mL. Reconstituted solution is stable for 24 hours at room temperature or refrigerated.

**Major Side Effects**

- Myelosuppression: Dose-limiting toxicity.
- Hypersensitivity Reaction: Etoposide can result in chills, fever bronchospasm, tachycardia, facial and tongue swelling, and hypotension
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea
- Cardiotoxicity: CHF with decreased LVEF (less than 3%), increased cardiotoxicity with cumulative dose > 180 mg/m².
- GU Toxicity: Urine will be green blue for 24 hours; sclera may become discolored blue.
- Skin Alterations: Radiation recall. Blue discoloration of fingernails and sclera for 1–2 days after treatment.
- Alopecia: Total hair loss.
- Tumor lysis syndrome, consider treating with hydration and allopurinol.
- Reproduction: mutagenic and potentially teratogenic, discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ G-CSF ______
- □ Peg-G-CSF ______
- □ Epoetin Alfa/ Darbepoetin Alfa ______
- □ Allopurinol ______
- □ Darbepoetin Alfa ______
- □ Antibiotic ______
- □ Antifungal ______

**Treatment schedule:** Chair time 2 hours on days 1–5; second cycle may be given if remission is not achieved

**Estimated number of visits:** Days 1–4 in the first week, daily or every other day for blood counts; request 21 days per treatment, may require hospitalization.
Acute Myelogenous Leukemia

Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________ ________________________________
Physician Date

_____________________________ ________________________________
Patient Name ID Number

_____________________________ ________________________________
Diagnosis Ht  Wt  M²
### FLAG: Fludarabine, Cytarabine(Ara-C), G-CSF

| Baseline laboratory tests: | CBC: Chemistry, renal and liver functions |
| Baseline procedures or tests: | Bone marrow biopsy, central line placement |
| Initiate IV: | NS |
| Premedicate: | 5-HT3 and dexamethasone 20-mg IV |
| Administer: | Fludarabine ______ 30-mg/m²/day IV on days 1–5 over 30 minutes |
| | • Dilute with 2 mL of sterile water for a final concentration of 25 mg/mL. |
| | • Further dilute in 100 mL of NS or D5W. Drug should be used within 8 hours. |
| Cytarabine ______ 2000-mg/m²/day IV on days 1–5 over 4 hours, given 3.5 hours after the end of the fludarabine infusion. |
| | • Dilute in sterile water with benzyl alcohol and then further dilute with 50–100 mL of 0.9% sodium chloride or D5W. IV hydration at 150 mL per hour with or without alkalinization, oral allopurinol, strict I & O, daily weights. Stable 48 hours at room temperature and 7 days refrigerated. |
| G-CSF ________ 5-mcg/kg SQ on day 0 and then 300-mcg SQ until ANC recovery |

### Major Side Effects

- **Myelosuppression**: Dose-limiting toxicity
- **Neurotoxicity**: Observed with high doses. Presents as weakness, agitation, confusion, progressive encephalopathy, cortical blindness, seizures, and coma.
- **Pulmonary Toxicities**: Pneumonia occurs in 16%–22% of patients. Pulmonary hypersensitivity reaction characterized by dyspnea, cough, and interstitial pulmonary infiltrates.
- **Immunosuppression**: Decrease in CD4+ and CD8+, increasing risk for opportunistic infections (fungus, herpes, and *Pneumocystis carinii*).
- Patients with rapidly rising creatinine caused by tumor lysis syndrome or neurotoxicity should discontinue the high-dose cytarabine, tumor lysis syndrome consider treating with hydration and allopurinol.
- **GI Toxicities**: Nausea and vomiting, anorexia; mucositis, diarrhea.
- **Alopecia**: Total hair loss. Maculopapular rash, erythema, and pruritus.
- **Reproduction**: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.

### Initiate antiemetic protocol:

- Highly emetogenic protocol.

### Supportive drugs:

- □ G-CSF ______
- □ Peg-G-CSF ______
- □ Epoetin Alfa/ Darbepoetin Alfa ______
- □ Allopurinol ______
- □ Antibiotic ______
- □ Antifungal ______

### Treatment schedule:

- Chair time 1–2 hours on days 1–3; the second cycle may be given if remission is not achieved.

### Estimated number of visits:

- Days 1–4 in the first week and daily or every other day for blood counts. Request 21 days per treatment, may require hospitalization.
Dose Calculation by: 1. __________________________ 2. __________________________

__________________________  __________________________
Physician                  Date

__________________________  __________________________
Patient Name                ID Number

__________________________
Diagnosis

__________________________
Ht  Wt  M²
LEUKEMIA

Acute Promyelocytic Leukemia (APL)

Single Agents

**Arsenic Trioxide (Trisenox) [19,20,220]**

Induction: 0.15-mg/kg/d IV until bone marrow remission, not to exceed 60 doses
Consolidation: 0.15 mg/kg/d for 25 doses over a period of up to 5 weeks

**ATRA**

ATRA: 45-mg/m² PO daily in one to two divided doses

**AIDA (Acute Promyelocytic Leukemia) [1,211]**

ATRA: 45 mg/m² PO daily
Idarubicin: 12 mg/m² IV on days 2, 4, 6, and 8
Single Agents

**Arsenic Trioxide (Trisenox)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel (including Mg(^{2+})) and LFTs,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>12-lead EKG</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>Normal saline</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral 5HT(_3) or phenothiazine if nausea occurs.</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Arsenic Trioxide</strong> ((0.15 \text{ mg/kg/d})) IV daily until bone marrow remission, not to exceed 60 doses</td>
</tr>
<tr>
<td></td>
<td><strong>Consolidation:</strong> (*) (0.15 mg/kg/d) IV daily for 25 doses over a period of up to 5 weeks</td>
</tr>
<tr>
<td></td>
<td>• Available in 10-mL, single-use ampules containing 10 mg of arsenic trioxide, at a concentration of 1 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute in 100–250 cc D5W or 0.9% sodium chloride injection, USP.</td>
</tr>
<tr>
<td></td>
<td>• Give IV over 1–2 hours (or up to 4 hours if acute vasomotor reactions occur).</td>
</tr>
<tr>
<td></td>
<td>• Drug is chemically and physically stable for 24 hours at room temperature and 48 hours when refrigerated. However, does not contain any preservatives, so unused portions should be discarded.</td>
</tr>
</tbody>
</table>

**Major Side Effects:**

- **Vasomotor Reactions:** Symptoms include flushing, tachycardia, dizziness, and lightheadedness. Increasing the infusion time to 4 hours usually resolves these symptoms. Stop infusion for tachycardia and/or hypotension. Resume at decreased rate after resolution. Headaches can also occur, treat with acetaminophen as needed.
- **APL Differentiation Syndrome:** Characterized by fever, dyspnea, weight gain, pulmonary infiltrates, and pleural or pericardial effusions, with or without leukocytosis. Can be fatal. At the first suggestion, high-dose steroids should be instituted (dexamethasone 10-mg IV bid) for at least 3 days or longer until signs and symptoms abate. Most patients do not require termination of arsenic trioxide therapy during treatment of the syndrome.
- **Cardiotoxicities:** Drug can cause QT interval prolongation and complete atroventricular block. Prolonged QT interval can progress to a torsade de pointes-type fatal ventricular arrhythmia. Patients with history of QT prolongation, concomitant administration of drugs that prolong the QT interval, CHF, administration of potassium-wasting diuretics, and conditions resulting in hypokalemia or hypomagnesemia such as concurrent administration of amphotericin B. EKGs should be done weekly, more often if abnormal.
- **Fluid/electrolyte Imbalance:** Hypokalemia occurs in about 50% of patients, hypomagnesemia and hyperglycemia also commonly occur. Edema seen in 40% of patients. Less commonly, hyperkalemia, hypocalcemia, hypoglycemia, and acidosis occur. Potassium levels should be kept > 4.0 mEq/dL and magnesium > 1.8 mg/dL during arsenic trioxide therapy.
- **Hematologic Effects:** Leukocytosis seen in 50%–60% of patients with a gradual increase in WBC that peaks between 2 and 3 weeks after starting therapy. Usually resolves spontaneously without treatment and/or complications. Anemia (14%), thrombocytopenia (19%), and neutropenia (10%). Disseminated intravascular coagulation (DIC) occurred in 8% of patients.
- **GI Toxicities:** Nausea is most common (75%) and is usually mild, followed by vomiting (58%), abdominal pain (58%), diarrhea (53%), constipation (28%), anorexia (23%), dyspepsia (10%), abdominal tenderness or distention (8%), and dry mouth (8%).
- **Hepatic Toxicities:** Increased hepatic transaminases ALT and AST seen.
- **Renal Toxicities:** Use with caution in patients with renal impairment. Kidney is the main route of elimination of arsenic.
- **Respiratory Toxicities:** Cough is common. Other symptoms include dyspnea, epistaxis, hypoxia, pleural effusion, postnasal drip, wheezing, decreased breath sounds, crepitations, rales/crackles, hemoptysis, tachypnea, and rhonchi.
• Musculoskeletal: Arthralgias (33%), myalgias (25%), bone pain (23%), back pain (18%), neck pain, and pain in limbs (13%).
• Sensory/perception: Fatigue was reported by 63% of patients. Headache, insomnia, and paresthesias common. Dizziness, tremors, seizures, somnolence, and (rarely) coma can occur.
• Skin: Dermatitis common. Pruritis, ecchymosis, dry skin, erythema, hyperpigmentation, and urticaria also reported. Injection site reactions (pain, erythema, and edema) can occur.
• Reproduction: Pregnancy category D.

Initiate antiemetic protocol:
Mildly emetogenic protocol.

Supportive drugs:
- Neulasta
- Neupogen
- Imodium
- Procrit
- Aranesp
- Lomotil

Treatment schedule:
Chair time 2 hours daily until bone marrow remission, then 2 hours daily for 25 doses.

Estimated number of visits:
Maximum of 85 visits per complete treatment course.

Dose Calculation by: 1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

_____________________________ / ________________ / ________________
Diagnosis Ht Wt M^2
## ATRA (All-Trans-Retinoic Acid, Vesanoid, Tretinoin)

### Baseline laboratory tests:
- CBC: Chemistry, renal and liver functions
- CBC, coagulation studies, liver functions, triglyceride, and cholesterol levels frequently throughout therapy

### Monitor:
- CBC, coagulation studies, liver functions, triglyceride, and cholesterol levels frequently throughout therapy

### Baseline procedures or tests:
- Bone marrow biopsy

### Posttreatment:
- Bone marrow biopsy at 5–6 weeks from the start of induction therapy

### Administer:
- **ATRA (Tretinoin)** 45 mg/m² PO daily in one to two divided doses.
  - (10-mg tablets) Protect from light.
  - Absorption enhanced when taken with food.
  - Use with caution in patients with pre-existing hypertriglyceridemia, diabetes mellitus, obesity, or predisposition to excessive alcohol intake.

### Drug interactions:
- Drugs that induce cytochrome P450 hepatic enzyme system: rifampin, glucocorticoids, phenobarbital, and pentobarbital.
- Drugs that inhibit the enzyme system: ketoconazole, cimetidine, erythromycin, verapamil, diltiazem, and cyclosporin

### Major Side Effects
- Alteration in oxygenation occurs in approximately 25% of patients, varies in severity, but has resulted in death. More commonly seen with WBC > 10,000 per mm³. Usually seen with the first treatment. Signs and symptoms include fever, dyspnea, weight gain, pulmonary infiltrates, pleural, and/or pericardial effusions. Access VS, weight and pulmonary exam at each visit. Give high-dose steroids (e.g., dexamethasone 10-mg IV every 12 hours × 3 days).
- Bone Marrow Depression: Dose-limiting toxicity.
- Vitamin A Toxicity: Headache, benign intracranial hypertension with papilledema can occur, earache or ear “fullness,” fever, skin/mucous membrane dryness, pruritus, increased sweating, and visual disturbances.
- CNS Toxicity: Dizziness, anxiety, paresthesias, depression, confusion, and agitation.
- GI Toxicities: Nausea and vomiting, anorexia; stomatitis is usually mild; diarrhea infrequent and mild. Gastrointestinal bleeding/hemorrhage in up to 34% of patients, abdominal pain, diarrhea, and constipation may also occur.
- Skin Integrity: Alopecia about 30% in about 3 weeks, darkening of nail beds, skin ulcer/necrosis, sensitivity to light, and radiation recall.
- Circulatory disturbances include arrhythmia, flushing, hypotension, and phlebitis. Cardiotoxicity is similar characteristically but less severe than with daunorubicin and doxorubicin. Access cardiac status before treatment.
- Reproduction: Teratogenic. Discuss contraception and sperm banking.

### Initiate antiemetic protocol:
- Mild to moderately emetogenic protocol

### Supportive drugs:
- G-CSF
- Peg-G-CSF
- Epoetin Alfa
- Darbepoetin Alfa
- Allopurinol
- Antibiotic
- Antifungal

### Estimated number of visits:
- Three to five days first week, daily or every other day for blood counts
Dose Calculation by: 1. __________________________ 2. ____________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
AIDA (All-Trans-Retinoic Acid, Idarubicin): Acute Promyelocytic Leukemia Only

**Baseline laboratory test:** CBC: Chemistry, renal and liver functions

**Monitor:** CBC: Coagulation studies, LFTs, triglyceride, and cholesterol levels frequently throughout therapy

**Baseline procedures or tests:** Bone marrow biopsy

**Posttreatment:** Bone marrow biopsy 5–6 weeks from the start of induction therapy

**Initiate IV:** NS

**Premedicate:** 5-HT3 and dexamethasone 20-mg IV

**Administer:** ATRA _______ 45-mg/m² PO daily (10-mg tablets); protect from light.
- Absorption enhanced when taken with food.

Idarubicin _______ 12-mg/m² push through side port of free-flowing IV on days 2, 4, 6, and 8
- Vesicant. If patient has a central line, a slower infusion over 1 hour may cause less N and V.
- Available in 20-mg lyophilized vials for IV use only. Reconstitute with 20 mL of water for injection, final concentration 1 mg/1 mL, for central line infusion; further dilute in 100–250 cc of NS. Reconstituted solution is stable for 3 days at room temperature.
- Dose reduced for renal dysfunction. For hepatic dysfunction, give 50% of dose, if serum bili is 2.5 mg/dL; do not give if serum bili is > 5 mg/dL.

**Drug interactions:** Drugs that induce cytochrome P450 hepatic enzyme system include rifampin, glucocorticoids, phenobarbital, and pentobarbital. Drugs that inhibit the enzyme system include ketoconazole, cimetidine, erythromycin, verapamil, diltiazem, and cyclosporin.

**Major Side Effects:**
- Bone Marrow Depression: Dose-limiting toxicity.
- Alteration in oxygenation occurs in approximately 25% of patients; varies in severity but has resulted in death. Signs and symptoms include fever, dyspnea, weight gain, pulmonary infiltrates, and pleural and/or pericardial effusions. Access VS, weight, and pulmonary exam at each visit. Give high-dose steroids (e.g., dexamethasone 10-mg IV every 12 hours × 3 days).
- Vitamin A Toxicity: Headache, benign intracranial hypertension with papilledema can occur, earache or ear “fullness,” fever, skin/mucous membrane dryness, pruritus, increased sweating, and visual disturbances.
- CNS Toxicity: Dizziness, anxiety, paresthesias, depression, confusion, and agitation.
- GI Toxicities: Nausea and vomiting mild to moderate. Anorexia; stomatitis and diarrhea are common but not severe. Gastrointestinal bleeding/hemorrhage in up to 34% of patients, abdominal pain, diarrhea, or constipation.
- Skin Integrity: Alopecia about 30% in about 3 weeks, darkening of nail beds, skin ulcer/necrosis, sensitivity to light, and radiation recall.
- Circulatory disturbances include arrhythmia, flushing, hypotension, and phlebitis. Cardiotoxicity is similar characteristically but less severe than with daunorubicin and doxorubicin. Assess cardiac status before treatment.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours.
- Reproduction: Gonadal and fertility may be permanent or transient. Discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Mild to moderately emetogenic protocol.

**Supportive drugs:**
- G-CSF _______
- Peg-G-CSF _______
- Epoetin Alfa/
- Allopurinol _______
- Darbepoetin Alfa _______
- Antibiotic _______
- Antifungal _______

**Treatment schedule:** Chair time 1 hour on days 1–3 and 30 minutes for pump refill days.

**Estimated number of visits:** Three to five days in the first week; daily or every other day for blood counts.
Dose Calculation by: 1. ____________________________  2. ____________________________

_____________________________________________ ______________________________________________________
Physician Date
_____________________________________________ ______________________________________________________
Patient Name ID Number
_____________________________________________ ________________/ ________________/ ________________
Diagnosis Ht  Wt  M²
Combination Regimens

**CVP**

- Cyclophosphamide: 400-mg/m² PO on days 1–5 (or 800-mg/m² IV on day 1)
- Vincristine: 1.4-mg/m² IV on day 1 (maximum dose, 2 mg)
- Prednisone: 100-mg/m² PO on days 1–5
- Repeat cycle every 21 days.\(^1,221\)

**CF**

- Cyclophosphamide: 1000-mg/m² IV on day 1
- Fludarabine: 20-mg/m² IV on days 1–5
- Bactrim DS: One tablet PO bid
- Repeat cycle every 21–28 days.\(^1,222\)

**FP**

- Fludarabine: 30-mg/m² IV on days 1–5
- Prednisone: 30-mg/m² PO on days 1–5
- Repeat cycle every 28 days.\(^1,223\)

**CP**

- Chlorambucil: 30-mg/m² PO on day 1
- Prednisone: 80-mg PO on days 1–5
- Repeat cycle every 2 weeks.\(^1,221\)

**Fludarabine + Rituxan**

- Fludarabine: 25-mg/m² IV on days 1–5
- Rituxan: 375-mg/m² IV on day 5.
- Repeat cycle every 28 days.\(^1,224\)

**Fludarabine + Rituxan + Cyclophosphamide**

- Fludarabine: 25-mg/m² IV on days 1–3
- Rituxan: 375-mg/m² IV on day 1 first cycle only
- Rituxan: 500-mg/m² IV on day 5 all subsequent cycles
- Cyclophosphamide: 250-mg/m² IV on days 1–3
- Repeat cycle every 28 days.\(^1,225\)
Single-Agent Regimens

Alemtuzumab
Alemtuzumab: 30-mg/day IV, three times per week
Repeat weekly for up to a maximum of 23 weeks.\textsuperscript{1,226}
Premedicate with diphenhydramine 50-mg PO and
Acetaminophen 625-mg PO 30 minutes before drug infusion.
Patients should be placed on Bactrim DS PO bid and
Famciclovir 250-mg PO bid from day 8 through 2 months after
completion of therapy.

Chlorambucil
Chlorambucil: 6–14 mg/day PO as induction therapy and then 0.7-mg/kg
PO for 2–4 days
Repeat cycle every 21 days.\textsuperscript{1,227}

Cladribine
Cladribine: 0.09-mg/kg/day IV continuous infusion on days 1–7
Repeat cycle every 28–35 days.\textsuperscript{1,228}

Fludarabine
Fludarabine: 20–30 mg/m\textsuperscript{2} IV on days 1–5
Repeat cycle every 28 days.\textsuperscript{1,229}

Prednisone
Prednisone: 20–30 mg/m\textsuperscript{2}/day PO for 1–3 weeks.\textsuperscript{1,230}
## Combination Regimens

### CVP (Cyclophosphamide, Vincristine, Prednisone)

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, renal and liver functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Bone marrow biopsy, central line placement</td>
</tr>
<tr>
<td>Posttreatment:</td>
<td>Bone marrow biopsy (stop G-CSF 7 days before bone marrow biopsy)</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>NS</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₃ and dexamethasone 20-mg IVPB over 10 minutes</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Cyclophosphamide</strong> 400-mg/m² PO on days 1–5</td>
</tr>
<tr>
<td></td>
<td>OR <strong>Cyclophosphamide</strong> 800-mg/m² IV over 1 hour on day 1</td>
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<tr>
<td></td>
<td>• Available in 500-mg, 1-, and 2-gram vials. Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.</td>
</tr>
<tr>
<td></td>
<td>• Final concentration of 20 mg/mL.</td>
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<tr>
<td></td>
<td>• Further dilute into 250–500 mL of NS or D5W.</td>
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<tr>
<td></td>
<td>• Reconstituted solution is stable for 24 hours at room temperature and 6 days upon refrigeration.</td>
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<tr>
<td></td>
<td><strong>Vincristine</strong> 2 mg on days 4 and 11; IV push through side arm of free-flowing IV</td>
</tr>
<tr>
<td></td>
<td><strong>Prednisone</strong> 100-mg PO or IV on days 1–5 (taper prednisone dose)</td>
</tr>
</tbody>
</table>

### Major Side Effects

- **Bone Marrow Depression:** Dose-limiting toxicity.
- **GI Toxicities:** Nausea and vomiting, anorexia, stomatitis, and gastric irritation.
- **Hemorrhagic Cystitis:** Irritation of bladder wall capillaries; preventable with hydration.
- **GU Toxicities:** Discoloration of urine from pink to red up to 48 hours.
- **Neurotoxicities:** Peripheral neuropathy including numbness, weakness, myalgias, and cramping, jaw pain and paralytic ileus may also occur. May require discontinuation of vincristine. Impotency may also occur.
- **Alopecia:** Complete hair loss is possible.
- **Tumor lysis syndrome** can occur if WBC is elevated. Prevent with allopurinol and hydration.
- **Steroid Toxicities:** Sodium and water retention, Cushingoid changes, behavioral changes, including emotional lability, insomnia, mood swings, and euphoria. Muscle weakness and loss with prolonged use. May increase glucose and sodium and decrease potassium and affect warfarin dose.
- **Reproduction:** Mutagenic and potentially teratogenic.

### Initiate antiemetic protocol:

- Moderately emetogenic protocol.

### Supportive drugs:

- G-CSF
- Peg-G-CSF
- Epoetin Alfa/
- Allopurinol
- Darbepoetin Alfa
- Antibiotic
- Antifungal

### Treatment schedule:

- Chair time 2 hours on day 1. Repeat cycle every 21 days.

### Estimated number of visits:

- Weekly until remission.

### Dose Calculation by:

1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht __________ Wt __________ M²
### CF-Cyclophosphamide, Fludarabine, Bactrim DS

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Initiate IV:** NS  
**Premedicate:** 5-HT₃ and dexamethasone 20-mg IV  
**Administer:**

- **Cyclophosphamide** ______ 1000-mg/m² IV over 1 hour on day 1  
  - Available in 500-mg, 1-, and 2-gram vials. Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.  
  - Final concentration of 20 mg/mL.  
  - Further dilute into 250–500 mL of NS or D5W.  
  - Reconstituted solution is stable for 24 hours at room temperature and 6 days upon refrigeration.

- **Fludarabine** ______ 20-mg/m²/day IV on days 1–5 over 30 minutes  
  - Dilute with 2 mL of sterile water for final concentration of 25 mg/mL.  
  - Further dilute in 100 mL NS or D5W. The drug should be used within 8 hours.

- **Bactrim DS**: One tablet PO BID

### Major Side Effects

- Myelosuppression: Nadir occurs in 7–14 days and includes red blood cells.  
- Neurotoxicity: Agitation, confusion, and visual disturbances have occurred.  
- Immunosuppression: Decrease in CD4⁺ and CD8⁺, increasing risk for opportunistic infections (fungus, herpes, and *Pneumocystis carinii*).  
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea  
- Hemorrhagic Cystitis: Irritation of bladder wall capillaries; preventable with hydration.  
- Skin Alterations: Alopecia. Total hair loss. Maculopapular skin rash, erythema and pruritis.  
- Tumor lysis syndrome can occur if WBC is elevated. Prevent with allopurinol and hydration.  
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.

### Initiate antiemetic protocol:

- Moderately emetogenic protocol.

### Supportive drugs:

- G-CSF  
- Peg-G-CSF  
- Epoetin Alfa/  
- Darbepoetin Alfa  
- Allopurinol  
- Antibiotic  
- Antifungal

### Treatment schedule:

- Chair time 2 hours on day 1 and 1 hour on days 2–5.  
- Estimated number of visits: Daily for five days and then weekly. Repeat the schedule every 21–28 days.

### Dose Calculation by:

1.  
2.

### Physician

Date

### Patient Name

ID Number

### Diagnosis

Ht Wt M²
FP-Fludarabine, Prednisone

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy, central line placement
Initiate IV: NS
Premedicate: 5-HT₃ IV
Administer: Fludarabine: 30-mg/m²/day IV on days 1–5 over 30 minutes
• Dilute with 2-mL sterile water for final concentration of 25 mg/mL.
• Further dilute in 100-mL NS or D5W. The drug should be used within 8 hours.
Prednisone: 30-mg PO on days 1–5

Major Side Effects
• Myelosuppression: Nadir occurs in 7–14 days and includes red blood cells.
• Neurotoxicity: Agitation, confusion, and visual disturbances have occurred.
• Immunosuppression: Decrease in CD4⁺ and CD8⁺, increasing risk for opportunistic infections (fungus, herpes, and Pneumocystis carinii).
• Pulmonary Toxicities: Pneumonia occurs in 16%–22% of patients. Pulmonary hypersensitivity reaction characterized by dyspnea, cough, and interstitial pulmonary infiltrates.
• Steroid Toxicities: Sodium and water retention, Cushingoid changes, and behavioral changes, including emotional lability, insomnia, mood swings, and euphoria. Muscle weakness and loss with prolonged use. May increase glucose and sodium and decrease potassium and affect warfarin dose.
• GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
• Skin Alterations, Alopecia. Total hair loss. Maculapapular skin rash, erythema, and pruritis.
• Reproduction: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
□ G-CSF □ Peg-G-CSF □ Epoetin Alfa/ Darbepoetin Alfa □ Allopurinol □ Antibiotic □ Antifungal

Treatment schedule: Chair time 1–2 hours on days 1–5
Estimated number of visits: Daily for five days and then weekly. Repeat the schedule every 28 days.

Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

_______________________________ / ___________________________ / ___________________________
Diagnosis Ht Wt M²
Chronic Lymphocytic Leukemia

CP Pulse—Chlorambucil, Prednisone

Baseline laboratory tests: CBC: Chemistry, renal and liver functions

Baseline procedures or tests: Bone marrow biopsy

Administer:

Chlorambucil: __________ 30-mg/m² PO on day 1 every 2 weeks
  • Available 2 mg brown film-coated tablets.

Prednisone: __________ 80-mg PO on days 1–5 every 2 weeks

Major Side Effects

• Bone Marrow Depression: Neutropenia after the third week, teach self-care measures to minimize risk of infection and bleeding.
• GI Toxicities: Nausea and vomiting are rare. Anorexia and weight loss may occur.
• Pulmonary Toxicities: Pulmonary fibrosis and pneumonitis dose related and potentially life threatening.
• Skin Alteration: Skin rash on face, scalp, and trunk seen in early stage of therapy.
• Tumor lysis syndrome can occur if WBCs are elevated.
• Steroid Toxicities: Sodium and water retention, Cushingoid changes, and behavioral changes, including emotional lability, insomnia, mood swings, and euphoria. Muscle weakness and loss with prolonged use. May increase glucose and sodium and decrease potassium and affect warfarin dose.
• Reproduction: Mutagenic and potentially teratogenic.

Initiate antiemetic protocol: Mildly emetogenic protocol.

Treatment schedule: Repeat the cycle every 2 weeks.

Chair time: None

Estimated number of visits: Weekly or every other week for CBC.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
## Chronic Lymphocytic Leukemia

### Fludarabine + Rituxan

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Initiate IV:** NS  
**Premedicate:**  
- 5-HT<sub>3</sub> and dexamethasone 10–20 mg IV in 100 cc of NS over 20 minutes  
- Diphenhydramine 25–50 mg and cimetidine 300-mg IV in 100 cc of NS over 20 minutes  
**Administer:**  
- **Fludarabine** ________ 25-mg/m²/day IV on days 1–5  
  - Dilute with 2-mL sterile water for a final concentration of 25 mg/mL.  
  - Further dilute in 100 mL of NS or D5W. The drug should be used within 8 hours.  
- **Rituximab** ________ 50-mg/m²/day IV over 4 hours without rate escalation, day 1 (first cycle only)  
- **Rituximab** ________ 325-mg/m²/day IV on day 3 (first cycle only)  
  - Use rate escalation: start at 50-mg/hr, increasing to maximum of 400 mg/hr.  
- **Rituximab** ________ 375-mg/m²/day IV, day 5 and day 1 on cycles 2–6  
  - Start rate escalation with 100 mg/hr up to 400 mg/hr.  
  - Dilute with NS or D5W to a final concentration of 1–4 mg/mL (infusion rates are easier to calculate if solution is 1:1 concentration). Antibodies are fragile; do not shake vial or bag. Do not use a filter. Stable at room temperature for 24 hours.  
**Major Side Effects**  
- Myelosuppression: Severe and cumulative, nadir day 13  
- Hypersensitivity Reactions: Occur within 30 minutes to 2 hours; most commonly seen with first infusion of Rituxan and patients with high tumor burden characterized by fever, chills, rigors, back pain, flushing, bronchospasms, angioedema, and hypotension. Usually resolves when infusion stopped. Premedicate with acetaminophen, diphenhydramine, and corticosteroids. Ensure emergency medications are available (antihistamines, corticosteroids, epinephrine, and bronchodilators). When symptoms resolve, resume infusion at 50% of the previous infusion rate. Monitor vital signs frequently.  
- Immunosuppression: Decrease in CD4<sup>+</sup> and CD8<sup>+</sup> increasing risk for opportunistic infections (fungus, herpes, and *Pneumocystis carinii*).  
- Tumor lysis syndrome can occur if WBC is elevated or large tumor burden. Prevent with allopurinol and hydration 150 mL/hr with or without alkalinization.  
- Fatigue: Secondary to anemia.  
- Neurotoxicity: Agitation, confusion, and visual disturbances have occurred.  
- Pulmonary Toxicities: Pneumonia occurs in 16%–22% of patients. Pulmonary hypersensitivity reaction characterized by dyspnea, cough, and interstitial pulmonary infiltrates.  
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.  
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.  

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- G-CSF ________  
- Peg-G-CSF ________  
- Epoetin Alfa/ Darbepoetin Alfa ________  
- Allopurinol ________  
- Antiinfective ________  
- Antifungal ________  
**Treatment schedule:** Chair time 1 hour on day on fludarabine only days and 5–8 hours for rituxan days  
**Estimated number of visits:** Daily for five days. Repeat schedule every 28 days for six cycles.  
**Restage:** If a CR, PR, or Sable disease is obtained, give the following:  
- **Rituximab** ________ 375-mg/m²/day IV every week × 4 weeks  
  - Start rate escalation with 100 mg/hr up to 400 mg/hr.
Dose Calculation by:  1. ___________________________  2. ___________________________

______________________________________________________________________________

Physician 

______________________________________________________________________________

Date 

______________________________________________________________________________

Patient Name 

______________________________________________________________________________

ID Number 

______________________________________________________________________________

Diagnosis 

Ht  Wt  M$^2$

______________________________________________________________________________
**Fludarabine + Cyclophosphamide + Rituxan**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, renal and liver functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Bone marrow biopsy, central line placement</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>NS</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₃ IV with dexamethasone 10–20 mg in 100 cc of NS over 20 minutes</td>
</tr>
<tr>
<td></td>
<td>Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc NS over 20 minutes</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Fludarabine</strong> 25-mg/m²/day IV on days 2–4 of cycle 1</td>
</tr>
<tr>
<td></td>
<td><strong>Fludarabine</strong> 25-mg/m²/day IV on days 1–3 of cycles 2–6</td>
</tr>
<tr>
<td></td>
<td>• Dilute with 2 mL of sterile water for a final concentration of 25 mg/mL.</td>
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<td></td>
<td>• Further dilute in 100 mL of NS or D5W. The drug should be used within 8 hours.</td>
</tr>
<tr>
<td></td>
<td><strong>Cyclophosphamide</strong> 250 mg/m² on days 2–4 of cycle 1</td>
</tr>
<tr>
<td></td>
<td><strong>Cyclophosphamide</strong> 250 mg/m² on days 1–3 of cycles 2–6</td>
</tr>
<tr>
<td></td>
<td><strong>Rituximab</strong> 375-mg/m²/day IV, day 1 of cycle 1</td>
</tr>
<tr>
<td></td>
<td>• Start at 50 mg/hr with rate escalation 50 mg/hr up to 400 mg/hr.</td>
</tr>
<tr>
<td></td>
<td><strong>Rituximab</strong> 500-mg/m²/day IV on day 1 on cycles 2–6</td>
</tr>
<tr>
<td></td>
<td>• Start rate escalation with 100 mg/hr up to 400 mg/hr.</td>
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<tr>
<td></td>
<td>• Dilute with NS or D₅W to a final concentration of 1–4 mg/mL. (infusion rates easier to calculate if solution is 1:1 concentration).</td>
</tr>
<tr>
<td></td>
<td>• Antibodies are fragile; do not shake vial or bag. Do not use a filter. Stable at room temperature for 24 hours.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Myelosuppression**: Severe and cumulative, nadir day 13.
- **Hypersensitivity Reactions**: Occur within 30 minutes to 2 hours, most commonly seen with the first infusion of Rituxan, and patients with high tumor burden characterized by fever, chills, rigor, back pain, flushing, bronchospasms, angioedema, and hypotension. Usually resolves when infused stopped. Premedicate with acetaminophen, diphenhydramine, and corticosteroids. Ensure that emergency medications are available (antihistamines, corticosteroids, epinephrine, and bronchodilators). When symptoms resolve, resume infusion at 50% of the previous infusion rate. Monitor vital signs frequently.
- **Immunosuppression**: Decrease in CD4⁺ and CD8⁺, increasing risk for opportunistic infections (fungus, herpes, and *Pneumocystis carinii*).
- **Tumor lysis syndrome** can occur if WBC is elevated or large tumor burden. Prevent with allopurinol and hydration 150 mL/hr with or without alkalinization.
- **Fatigue**: Secondary to anemia.
- **Hemorrhagic cystitis**: Irritation of bladder wall capillaries; preventable with hydration.
- **Neurotoxicity**: Agitation, confusion, and visual disturbances have occurred.
- **Pulmonary Toxicities**: Pneumonia occurs in 16%–22% of patients. Pulmonary hypersensitivity reaction characterized by dyspnea, cough, and interstitial pulmonary infiltrates.
- **GI Toxicities**: Nausea and vomiting, anorexia; mucositis, diarrhea.
- **Reproduction**: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**
- Allopurinol 300 mg daily × 7 days for cycle 1
- Septa DS twice weekly for patients at high risk of myelosuppression
- Famiclovir 500 mg daily
  - □ G-CSF
  - □ Peg-G-CSF
  - □ Epoetin Alfa/Darbepoetin Alfa

**Treatment schedule:**
- Chair time 1 hour for fludarabine; 5–8 hours on rituxan days.

**Estimated number of visits:**
- Daily for three to four days. Repeat schedule every 28 days for six cycles.
Dose Calculation by:  1. ______________________________  2. ______________________________

______________________________  ______________________________
Physician                     Date

______________________________  ______________________________
Patient Name                  ID Number

______________________________
Diagnosis

____________________/  ____________/  ___________
Ht  Wt  M²
Single-Agent Regimens

Alemtuzumab (Campath)

Baseline laboratory tests: CBC: Chemistry, renal and liver functions  
Baseline procedures or tests: Bone marrow biopsy, central line placement  
Initiate IV: NS  
Premedicate: 5-HT3 and dexamethasone 10-mg IV  
Acetaminophen 650 mg and diphenhydramine 50 mg  
Administer: Alemtuzumab _________ 30-mg IV over 2 hours three times a week  
• Initiate dosing at 3-mg IV daily.  
• When tolerated (infusion-related toxicities are less than grade 2).  
• Increase to 10-mg IV three times per week.  
• When tolerated (infusion-related toxicities are less than grade 2), increase to the maintenance dose of 30-mg IV three times per week.  
• Available in 30-mg ampule, draw up with filtered needle and dilute in 100 mL of NS or D5W.  
• Use within 8 hours.  
Contraindications: Patients with active systemic infections, HIV-positive, AIDS, or known type 1 hypersensitivity or anaphylactic reactions  
Supportive drugs recommended starting on day 8:  
Anti-infective prophylaxis: Bactrim DS and trimethoprim  
□ G-CSF ___________ □ Peg-G-CSF ___________  
□ Epoetin Alfa/ Darbepoetin Alfa _________ □ Allourinol _________ □ Antifungal _________ □ Antibiotic Bactrim and Trimethoprim recommended  

Major Side Effects  
• Hypersensitivity Reactions: Most often seen in the first week of therapy. Fever, chills, rigors, nausea and vomiting, urticaria, skin rash, fatigue, headache, diarrhea, dyspnea, and/or hypotension. Stop the drug if reaction occurs; may treat with steroids; meperidine for rigors. Usually resolves in 20 minutes.  
• Myelosuppression: Dose-limiting toxicity. Dramatic drop in WBCs during the first week. Opportunistic infections common, including Pneumocystis carinii pneumonia, pulmonary aspergillus, and herpes simplex infections.  
• Tumor Lysis Syndrome: May occur with high WBCs or high tumor burden. Prevent with allopurinol and hydration.  
• Alteration in Comfort: Pain, headache, asthenia, dysphasias, and dizziness.  
• Reproduction: Not studied in pregnant women, but IgG can cross the placental barrier and may cause B- and T-cell depletion in the fetus. Breastfeeding should be avoided.  

Initiate antiemetic protocol: Mildly emetogenic protocol.  
Treatment schedule: Chair time 2–3 hours on days 1–3–5.  
Estimated number of visits: Daily for 3 days per week for 8–12 weeks, weekly CBC and CD4+. CBC more frequent if counts are low.  

Dose Calculation by:  
1. ____________________________ 2. ____________________________  

Physician ____________________________ Date ____________________________  
Patient Name ____________________________ ID Number ____________________________  
Diagnosis ____________________________ Ht ____________________________ Wt ____________________________ M² ____________________________
Chlorambucil

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy

**Administer:** 
- Chlorambucil ________ 0.1–0.2 mg/kg/day (equals 4–8 mg/m²/day) for 3–6 weeks as required
  - Then intermittent therapy:
    - Chlorambucil ________ 0.4 mg/kg/day for 5 days PO; repeat every 14–28 days, increasing dose by 0.1 mg/kg until control of lymphocytosis or toxicity is observed.
    - Available in 2-mg tablets.
  - OR
    - Chlorambucil ________ 6–14 mg/day PO as induction therapy and then 0.7-mg/kg PO for 2–4 days (repeat every 28–35 days).

**Major Side Effects**
- Bone Marrow Depression: Neutropenia after third week, teach self-care measures to minimize risk of infection and bleeding. Myelosuppression dose limiting.
- Pulmonary Toxicities: Pulmonary fibrosis and pneumonitis dose related–rare.
- GI Toxicities: Nausea and vomiting are rare. Anorexia and weight loss may occur.
- Reproduction: Mutagenic and potentially teratogenic.

**Initiate antiemetic protocol:** Mildly emetogenic protocol if necessary.

**Treatment schedule:** Repeat cycle every 28 days.

**Chair time:** None

**Estimated number of visits:** Weekly or every other week for CBC.

**Dose Calculation by:**

1. ________________________________ 2. ________________________________

______________________________  ________________________________
Physician Date

______________________________
Patient Name ID Number

______________________________ ________________________________
Ht Wt M²
**Cladribine (Leustatin, 2-CdA): CLL**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy, central line placement

**Initiate IV:** NS

**Administer:** Cladribine _______ 0.09-mg/kg/day IV continuous infusion on days 1–7
- Use 22-dilute with NS, dilute in minimum of 100 mL, stable for 24 hours.
- DO NOT use D5W.

**Major Side Effects**
- Myelosuppression: Nadir occurs in 7–14 days, recovery by weeks 3–5. Increased risk of opportunistic infections.
- Immunosuppression: Decrease in CD4+ and CD8+, increasing risk for opportunistic infections (fungus, herpes, and *Pneumocystis carinii*).
- Tumor lysis syndrome can occur if WBC is elevated or large tumor burden. Prevent with allopurinol and hydration 150 mL/hr with or without alkalinization.
- Fatigue: Secondary to anemia.
- GI Toxicities: Mild nausea and vomiting, anorexia; constipation, diarrhea.
- Neurotoxicities: Headache, insomnia, and dizziness.
- Skin Integrity: Rash, pruritus, or injection site reactions.
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**
- G-CSF _______
- Peg-G-CSF _______
- Epoetin Alfa/ Darbepoetin Alfa _______
- Allopurinol ______
- Antibiotic _______
- Antifungal _______

**Treatment schedule:** Chair time 1 hour on day 1, pump dc day 8. Repeat cycle every 28–35 days.

**Estimated number of visits:** Daily for seven days and then weekly CBC.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

**Physician** ____________________________ **Date** ____________________________

**Patient Name** ____________________________ **ID Number** ____________________________

**Diagnosis** ____________________________ **Ht** ____________________________ **Wt** ____________________________ **M**

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**Chronic Lymphocytic Leukemia**
**Fludarabine**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Initiate IV:** NS  
**Premedicate:** 5-HT\textsubscript{3} IV  
**Administer:**  

\begin{itemize}
\item Fludarabine \(\quad\) \(20–30 \) mg/m\textsuperscript{2}/day IV on days 1–5
\end{itemize}

- Available 50 mg vial.
- Dilute with 2 mL of sterile water for final concentration of 25 mg/mL.
- Further dilute in 100 mL of NS or D5W. The drug should be used within 8 hours.

**Major Side Effects**

- Myelosuppression: Severe and cumulative, nadir day 13.
- Immunosuppression: Decrease in CD4\textsuperscript{+} and CD8\textsuperscript{+}, increasing risk for opportunistic infections (fungus, herpes, and *Pneumocystis carinii*).
- Fatigue: Secondary to anemia.
- Neurotoxicity: Agitation, confusion, and visual disturbances have occurred.
- Pulmonary Toxicities: Pneumonia occurs in 16%–22% of patients. Pulmonary hypersensitivity reaction characterized by dyspnea, cough, and interstitial pulmonary infiltrates.
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**

- G-CSF  
- Peg-G-CSF  
- Epoetin Alfa  
- Darbepoetin Alfa  
- Allopurinol  
- Antibiotic  
- Antifungal

**Treatment schedule:** Chair time 1 hour on days 1–5.

**Estimated number of visits:** Daily for 5 days and then weekly. Repeat schedule every 28 days.

**Dose Calculation by:**

1. \[\text{__________________________}\]
2. \[\text{__________________________}\]

\textbf{Physician Date}\[\text{__________________________}\]

\textbf{Patient Name ID Number}\[\text{__________________________}\]

\textbf{Diagnosis Ht Wt M\textsuperscript{2}}\[\text{__________________________}\]
Prednisone

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy
Administer: Prednisone __________ 20–30 mg/m²/day PO for 1–3 weeks
OR Prednisone __________ 60–100 mg/m²/day PO for 3–6 weeks
• Take with food.

Major Side Effects
• GI Toxicities: Gastric irritation, increased appetite.
• Steroid Toxicities: Sodium and water retention, Cushingoid changes, behavioral changes, including emotional lability, insomnia, mood swings, and euphoria. May increase glucose and sodium and decrease potassium and affect warfarin dose.
• Musculoskeletal Changes: Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use.
• Perceptual Alterations: Cataracts or glaucoma may develop.

Chair time: None
Estimated number of visits: Weekly or every other week for CBC.

Dose Calculation by: 1. _____________________________ 2. _____________________________

Physician _____________________________ Date _____________________________

Patient Name _____________________________ ID Number _____________________________

Diagnosis _____________________________ Ht __________ Wt __________ M² __________
LEUKEMIA

Chronic Myelogenous Leukemia

**Combination Regimens**

**Interferon + Cytarabine**

Interferon α-2b: 5 × 10^6 IU/m^2 SC daily
Cytarabine: 20-mg/m^2 SC daily for 10 days
Repeat cytarabine on a monthly basis.\(^1\)\(^,\)\(^2\)\(^3\)\(^1\)

The dose of interferon should be reduced by 50% when the neutrophil count drops below 1500/mm\(^3\), the platelet count drops below 100,000/mm\(^3\), or both.

Interferon and cytarabine should both be discontinued when the neutrophil count drops below 1000/mm\(^3\), the platelet count drops below 50,000/mm\(^3\), or both.

**Single-Agent Regimens**

**Imatinib (Gleevec)**

Imatinib: 400-mg/day PO (chronic phase) 600-mg/day PO (accelerated phase blast crisis)
Continue treatment until disease progression.\(^1\)\(^,\)\(^2\)\(^3\)\(^2\)

**Busulfan (Myleran)**

Busulfan: 1.8-mg/m\(^2\)/day PO.\(^1\)\(^,\)\(^2\)\(^3\)\(^3\)

**Hydroxyurea**

Hydroxyurea: 1–5 g/day PO.\(^1\)\(^,\)\(^2\)\(^3\)\(^4\)

**Interferon α-2b**

Interferon 9 million units SQ per day, three times per week for up to 1–1.5 years.\(^1\)\(^,\)\(^2\)\(^3\)\(^5\)

**Dasatinib**

Sprycel: 70 mg PO twice daily.\(^2\)\(^3\)\(^6\)\(^a\)\(^,\)\(^2\)\(^3\)\(^6\)\(^b\)
## Combination Regimens

### Interferon + Cytarabine (Ara-C)

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy  
**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose and Administration</th>
</tr>
</thead>
</table>
| Interferon α-2b   | **5 × 10⁶ IU/m² SQ daily**  
  - Available in single dose prefilled syringes 3, 6, and 9 million units.  
  - Do not freeze or shake.  
  - Stable for 1 month refrigerated. |
| Cytarabine        | **20-mg/m² SQ daily for 10**  
  - Dilute in sterile water with benzyl alcohol and then further dilute with 50–100 mL of 0.9% sodium. Stable 48 hours at room temperature and 7 days refrigerated chloride or D5W.  
  - IV hydration at 150 per mL per hour with or without alkalinization, oral allopurinol, strict I & O, and daily weights.  
  - Reconstitute with water with benzyl alcohol; stable for 48 hours at room temperature. |

**Major Side Effects**

- Bone Marrow Depression: Interferon should be reduced by 50% when neutrophil count drops below 1500 per mm³, the platelet count drops below 100,000 per mm³, or both. Both drugs should be discontinued with neutrophils less than 1000 mm³, platelets less than 50,000 mm³, or both. Teach self-care measures to minimize risk of infection and bleeding.
- Flulike Syndrome: Chills 3–6 hours after interferon. Fatigue, malaise, headache, and myalgias are cumulative and dose limiting.
- Thrombophlebitis, pain at the injection site, should be treated with warm compresses.
- GI Toxicities: Nausea and vomiting, anorexia, xerostomia, and mild diarrhea.
- Partial alopecia.
- Tumor lysis syndrome occurring 1–5 days after the initiation of treatment.
- Reproduction: Mutagenic and potentially teratogenic.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- Procrit/Aranesp
- Allopurinol
- Antibiotic
- Antifungal

**Treatment schedule:** Repeat cycle every 28 days.

**Chair time:** May be administered in the office or self-administered.

**Estimated number of visits:** Weekly or every other week for CBC.

**Dose Calculation by:**

1. ____________ 2. ____________

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**Physician**

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**Date**

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**Patient Name**

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**ID Number**

---

**Diagnosis**

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Ht: ____________ Wt: ____________ M²: ____________
Single-Agent Regimens

**Imatinib (Gleevec): CML**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy

**Administer:** Imatinib ________ 400–800 mg per day

- 400-mg/day single dose for patients in chronic phase CML.
- 600-mg/day single dose for patients in accelerated phase or blast crisis.
- Treatment continues as long as patient derives benefit from drug.
- If disease progression, failure of hematologic response after 3 months, or loss of hematologic remission, increase dose to 600-mg/day (chronic CML) or to 800-mg/day given as 400-mg BID (accelerated or blast crisis).
- Available in 100- and 400-mg tablets.

**Drug interactions:** Ketoconazole, itraconazole, erythromycin, and clarithromycin may increase imatinib plasma concentrations, dexamethasone, phenytoin, carbamazepine, rifampicin, phenobarbital, and St. John's Wort. Do not coadminister ketoconazole.

Cyclosporine, pimozide plasma levels may increase; triazolo-benzodiazepines, dihydropyridine calcium channel blockers, HMG-CoA reductase inhibitors may also have increased serum levels.

Warfarin metabolism is inhibited with imitinab. Use low molecular weight heparin.

**Major Side Effects**

- Bone Marrow Depression: Median duration 2–3 weeks and thrombocytopenia 3–4 weeks. Teach self-care measures to minimize risk of infection and bleeding.
- GI Toxicities: Nausea and vomiting are mild to moderate. Diarrhea and dyspepsia may also occur.
- Fluid Retention: Common, especially in the older and primarily periorbital and lower extremity edema. May require diuretics. Pleural effusions, ascites, pulmonary edema and weight gain. More common in accelerated phase.
- Alteration in Comfort: Muscle cramps, musculoskeletal pain, headaches, fatigue, arthralgias, and abdominal pain.
- Rash may occur with pruritus.
- Reproduction: Mutagenic and potentially teratogenic.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Treatment schedule:** Daily

**Chair time:** None

**Estimated number of visits:** Weekly or every other week for CBC and then monthly.

**Dose Calculation by:** 1. __________________________________ 2. ____________________________________________

Physician Date

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M 2

Chronic Myelogenous Leukemia 359
Busulfan (Myleran)

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy
Administer: Busulfan _______ 4–8 mg or 1.8 mg/m² per day for 2–3 weeks remission induction
Maintenance: Busulfan _______ 1–3 mg/m² PO daily or 0.05-mg/kg PO daily for maintenance
• Hold when leukocyte count reaches 15,000 per µL; resume when total leukocyte count is 50,000 per µL; maintenance dose of 1–3 mg qd used if remission lasts less than 3 months.
• Available in 2-mg scored tablets.

Major Side Effects
• Bone Marrow Depression: Dose-limiting toxicity.
• Tumor lysis syndrome can occur if WBC is elevated. Prevent with allopurinol and hydration.
• GI Toxicities: Nausea and vomiting are common but mild. Mucositis dose related and may require interruption of therapy.
• Skin Alterations: Hyperpigmentation of skin, especially increases on the hands and nail beds. Skin rash and pruritis also observed.
• Pulmonary Toxicities: Cough, dyspnea and fever can be seen after long-term therapy.
• Neurotoxicities: Insomnia, anxiety, dizziness, and depression are most common.
• Reproduction: Mutagenic and potentially teratogenic.

Initiate antiemetic protocol:
Mildly emetogenic protocol.

Treatment schedule: Daily
Chair time: None
Estimated number of visits: Weekly for CBC and then monthly.

Dose Calculation by:
1. __________________________________ 2. __________________________________

__________________________  ____________________________
Physician Date

__________________________
Patient Name ID Number

__________________________/ ____________________________/ __________
Diagnosis Ht Wt M²
Hydroxyurea

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy
Administer: Hydroxyurea ______ 1–5 g/day PO, adjusted to keep WBC about 20–30 × 10^9/L

Major Side Effects
- Available in 500-mg caplets
- Bone Marrow Depression: Median duration 2–3 weeks and thrombocytopenia 3–4 weeks. Teach self-care measures to minimize risk of infection and bleeding.
- GI Toxicities: Nausea and vomiting are mild to moderate. Diarrhea and dyspepsia may also occur. Dose limiting toxicity.
- Fluid Retention: Common, especially in the older population and primarily periorbital and lower extremity edema. May require diuretics.
- Alteration in Comfort: Muscle cramps, musculoskeletal pain, headaches, fatigue, arthralgias, and abdominal pain. Drowsiness and confusion.
- Skin Alterations: Maculopapular rash, facial, and acral erythemia, hyperpigmentation, dry skin with atrophy and pruritis. Radiation recall.
- Reproduction: Mutagenic and potentially teratogenic.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Treatment schedule: Daily
Chair time: None
Estimated number of visits: Weekly or every other week for CBC and then monthly.

Dose Calculation by:
1. __________________________________
2. ______________________________________________________

_____________________________________________ ______________________________________________________
Physician Date
_____________________________________________ ______________________________________________________
Patient Name ID Number
_____________________________________________ _________________________/ ________________/ ________________
Diagnosis Ht Wt M^2
**Interferon α-2b**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy  
**Administer:** Interferon α-2b ________ 9-million units SQ per day  
**Major Side Effects**  
- Available in single dose prefilled syringes 3, 6, and 9 million units.  
- Bone Marrow Depression: Teach self-care measures to minimize the risk of infection and bleeding.  
- Flulike Syndrome: Chills 3–6 hours after interferon. Fatigue, malaise, headache, and myalgias are cumulative and dose limiting.  
- CNS Effects: Dizziness, confusion, and decreased mental status and depression.  
- Thrombophlebitis, pain at the injection site, should be treated with warm compresses.  
- GI Toxicities: Nausea and vomiting, anorexia, xerostomia, and mild diarrhea.  
- Partial alopecia.  
- Reproduction: Mutagenic and potentially teratogenic.  

**Initiate antiemetic protocol:**  
Mildly to moderately emetogenic protocol.  
**Supportive drugs:**  
- □ G-CSF ________  
- □ Peg-G-CSF ________  
- □ Epoetin Alfa/ Darbepoetin Alfa ________  
- □ Allopurinol ________  
- □ Antibiotic ________  
- □ Antifungal ________  

**Treatment schedule:** Continue SQ injections 3 days per week for up to 1–1.5 years.  
**Estimated number of visits:** Weekly or every other week for CBC.  

**Dose Calculation by:**  
1. ________________________________  
2. ________________________________  

Physician  
Date  

Patient Name  
ID Number  

_________________ / ___________________  
Diagnosis  
Ht  
Wt  
M²
### Dasatinib (Sprycel): CML

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy  
**Administer:** Sprycel ________ 70 mg PO twice per day with or without food  
- Treatment continues as long as patient derives benefit from drug.  
- Available in 20-, 50-, and 70-mg tablets.  
- Do not take within 2 hours of antacids, do not crush or cut tablets.

**Drug interactions:** Ketoconazole, itraconazole, erythromycin, and clarithromycin, ritonavir, atazanavir, indinavir, nefazodone, nelfinavir, saquinavir and telithromycin may increase plasma concentrations.  
Dexamethasone, phenytoin, carbamazepine, rifampicin, and phenobarbital may decrease plasma levels. Antacids should be avoided or taken 2 hours after administration of Sprycel.  
Proton pump inhibitors should be avoided. Drugs that may have their plasma concentration include: alfentanil, astemizole, terfenadine, cisapride, cyclosporine, fentanyl, pimozide, quinidine, sirolims, tacrolimus or erlot alkaloids and should be administered with caution.

**Major Side Effects**  
- Bone Marrow Depression: Severe (grade 3 & 4) thrombocytopenia, neutropenia and anemia. Monitor CBC weekly × 2 months, then monthly.  
- Bleeding Related Events: CNS bleed seen in 1%, GI bleed seen in 7% of patients.  
- GI Toxicities: Nausea and vomiting are mild to moderate. Diarrhea and dyspepsia may also occur.  
- Fluid Retention: Severe in 9% of patients including pleural effusion and pericardial effusion. May require diuretics.  
- Cardiac: Prolongation of QT interval. Monitor potassium and magnesium levels.  
- Rash may occur with pruritus.  
- Reproductive: Pregnancy Category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  
**Treatment schedule:** Daily  
**Chair time:** None  
**Estimated number of visits:** Weekly for CBC for 2 months then monthly.

**Dose Calculation by:**  
1. ______________________________  
2. ______________________________

**Physician**  
**Date**

**Patient Name**  
**ID Number**  

**Diagnosis**  
**Ht**  
**Wt**  
**M²**
LEUKEMIA

Hairy Cell Leukemia

Cladribine (Leustatin 2-CdA) ........................................... 365
Cladribine: 0.09-mg/kg/day IV continuous infusion on days 1–7
Administer one cycle.1,236

Pentostatin ................................................................. 366
Pentostatin: 4-mg/m² IV on day 1
Repeat cycle every 14 days for 6 cycles.1,237

Interferon α-2a .................................................. 367
Interferon α-2a: 3-million units SC or IM, three times per week
Continue treatment for up to 1 to 1.5 years.1,238
**Cladribine (Leustatin, 2-CdA)**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Initiate IV:** NS  
**Administer:** Cladribine ______ 0.09-mg/kg/day IV continuous infusion on days 1–7  
- Use 22-dilute with NS, dilute in minimum of 100 mL, stable for 24 hours.  
- DO NOT USE D5W.  

**Major Side Effects**  
- Myelosuppression: Nadir occurs in 7–14 days, recovery by weeks 3–5. Increased risk of opportunistic infections.  
- Immunosuppression: Decrease in CD4+ and CD8+, increasing risk for opportunistic infections (fungus, herpes, and *Pneumocystis carinii*).  
- Fatigue: Secondary to anemia.  
- GI Toxicities: Mild nausea and vomiting, anorexia; constipation, diarrhea.  
- Neurotoxicites: Headache, insomnia, and dizziness.  
- Flulike Symptoms: Fever, fatigue, malaise, myalgias, arthralgias, and chills. Incidence decreases with continued therapy.  
- Skin Integrity: Rash, pruritus, or injection site reactions.  
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.  

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- G-CSF ______  
- Peg-G-CSF ______  
- Epoeitin Alfa/ Darbepoetin Alfa ______  
- Allopurinol ______  
- Darbepoetin Alfa ______  
- Antibiotic ______  
- Antifungal ______  

**Treatment schedule:** Chair time 1 hour on day 1, pump dc day 8 one cycle.  
**Estimated number of visits:** Daily for seven days, then weekly CBC.  

**Dose Calculation by:**  
1. __________________________________  
2. ____________________________________________  
   ______________________________________________  
   ______________________________________________  
   ______________________________________________  
   ______________________________________________  

Physician ___________________________ Date ___________________________  
Patient Name ___________________________ ID Number ___________________________  
Diagnosis ___________________________ Ht ______ Wt ______ M² ______
Pentostatin

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy
Initiate IV: NS
Administer: Pentostatin _______ 4-mg/m² IV on day 1

- Available in single dose vials of 10 mg.
- Dilute with 5 mL of sterile water for a concentration of 2 mg/mL. May be given IV push or as bolus diluted in 25–50 mL of NS or D5W over 30 minutes. Solution is stable at room temperature for 8 hours.

Major Side Effects
- Myelosuppression: Increased risk of opportunistic infections. Dose limiting toxicity.
- Fatigue: Secondary to anemia.
- GI Toxicities: Moderate nausea and vomiting, anorexia.
- Allergic Hypersensitivity Reaction: Fever, chills, myalgias, and arthralgias.
- Neurologic Toxicities: Headache, lethargy, and fatigue.
- Immunosuppression: Decrease in CD4+ and CD8+, increasing risk for opportunistic infections (fungus, herpes, and Pneumocystis carinii).
- Reproduction: Mutagenic and potentially teratogenic, discuss contraception and sperm banking.

Initiate antiemetic protocol: Moderately emetogenic protocol.
Supportive drugs:
- □ G-CSF ________
- □ Peg-G-CSF ________
- □ Epoetin Alfa/
- Darbepoetin Alfa ________
- □ Allopurinol ________
- □ Antibiotic ________
- □ Antifungal ________

Treatment schedule: Chair time 1 hour on day 1; treat every other week for six cycles or two cycles beyond complete remission. Do not treat for more than 1 year.

Estimated number of visits: Every other week until remission.

Dose Calculation by: 1. ______________________________ 2. ______________________________

______________________________ ____________________
Physician Date

______________________________ ____________________
Patient Name ID Number

______________________________ ____________________/ ____________/ ____________
Diagnosis Ht Wt M²
### Interferon

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
Baseline procedures or tests: Bone marrow biopsy  
**Administer:** Interferon α-2a __________ 3-million units SQ per day 3 days per week  
**Major Side Effects**  
- Available in single dose prefilled syringes 3, 6, and 9 million units.  
- Do not freeze or shake.  
- Stable for 1 month refrigerated.  
- Bone Marrow Depression: Teach self-care measures to minimize risk of infection and bleeding.  
- Flulike Syndrome: Chills 3–6 hours after interferon. Fatigue, malaise, headache, and myalgias are cumulative and dose limiting.  
- CNS Effects: Dizziness, confusion, and decreased mental status and depression.  
- GI Toxicities: Nausea and vomiting, anorexia, xerostomia, and mild diarrhea.  
- Partial alopecia.  
- Reproduction: Mutagenic and potentially teratogenic.  

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  
**Supportive drugs:**  
- G-CSF ________  
- Peg-G-CSF ________  
- Epoetin Alfa/ Darbepoetin Alfa ________  
- Allopurinol ________  
- Antibiotic ________  
- Antifungal ________  

**Treatment schedule:** Continue SQ injections 3 days per week for up to 1–1.5 years.  
**Estimated number of visits:** Weekly or every other week for CBC.  

**Dose Calculation by:**  
1. __________________________________  
2. ____________________________________  

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**Physician**  
**Date**  
**Patient Name**  
**ID Number**  
**Diagnosis**  
Ht / Wt / M²
LUNG CANCER

Non–Small Cell Lung Cancer

ADJUVANT THERAPY

Combination Therapy

**Paclitaxel + Carboplatin**

Paclitaxel: 175-mg/m² IV over 3 hours on day 1
Carboplatin: Area under the curve (AUC) of 6, IV on day 1
Repeat cycle every 21 days for 4 cycles.¹²³⁹

**Vinorelbine + Cisplatin**

Vinorelbine: 25-mg/m² IV weekly for 16 weeks
Cisplatin: 50-mg/m² IV on days 1 and 8.
Repeat cisplatin every 28 days for 4 cycles.¹²⁴⁰

METASTATIC DISEASE

Combination Regimens

**Carboplatin + Paclitaxel**

Carboplatin: AUC of 6, IV on day 1
Paclitaxel: 175-mg/m² IV over 3 hours on day 1
Repeat cycle every 21 days.¹²⁴¹
It is important to administer paclitaxel first, followed by carboplatin.

**Cisplatin + Paclitaxel**

Cisplatin: 80-mg/m² IV on day 1
Paclitaxel: 175-mg/m² IV over 3 hours on day 1
Repeat cycle every 21 days.¹²⁴²
Important to administer paclitaxel first, followed by cisplatin

**Docetaxel + Carboplatin**

Docetaxel: 75-mg/m² IV on day 1
Carboplatin: AUC of 6, IV on day 1
Repeat cycle every 21 days.¹²⁴³
**Docetaxel + Cisplatin** ............................................................. 379

Docetaxel: 75-mg/m² IV on day 1  
Cisplatin: 75-mg/m² IV on day 1  
Repeat cycle every 21 days.¹,²⁴⁴

**Docetaxel + Gemcitabine** .......................................................... 381

Docetaxel: 100-mg/m² IV on day 8  
Gemcitabine: 1100-mg/m² IV on days 1 and 8  
Repeat cycle every 21 days.¹,²⁴⁵  
Granulocyte colony stimulating factor (G-CSF) support is required from days 9 to 15.

**Gemcitabine + Cisplatin** ........................................................... 383

Gemcitabine: 1250-mg/m² IV on days 1 and 8  
Cisplatin: 100-mg/m² IV on day 1  
Repeat cycle every 21 days.¹,²⁴⁶

**Gemcitabine + Carboplatin** ....................................................... 384

Gemcitabine: 1000-mg/m² IV on days 1 and 8  
Carboplatin: AUC of 5, IV on day 1  
Repeat cycle every 21 days.¹,²⁴⁷

**Gemcitabine + Vinorelbine** ....................................................... 386

Gemcitabine: 1200-mg/m² IV on days 1 and 8  
Vinorelbine: 30-mg/m² IV on days 1 and 8  
Repeat cycle every 21 days.¹,²⁴⁸

**Vinorelbine + Cisplatin** ............................................................. 387

Vinorelbine: 30-mg/m² IV on days 1, 8, and 15  
Cisplatin: 120-mg/m² IV on day 1  
Repeat cycle every 28 days.¹,²⁴⁹

**Vinorelbine + Carboplatin** ....................................................... 388

Vinorelbine: 25-mg/m² IV on days 1 and 8  
Carboplatin: AUC of 6, IV on day 1  
Repeat cycle every 28 days.¹,²⁵⁰
### Etoposide + Cisplatin (EP) .......................... 390

- Etoposide (VP-16): 120-mg/m² IV on days 1–3
- Cisplatin: 60-mg/m² IV on day 1
- Repeat cycle every 21–28 days.¹,²⁵¹

### Etoposide + Cisplatin + Docetaxel .......................... 391

- Cisplatin: 50-mg/m² IV on days 1, 8, 29, and 36
- Etoposide: 50-mg/m² IV on days 1–5 and 29–33
- Administer concurrent thoracic radiation therapy, followed 4–6 weeks after the completion of combined modality therapy by
- Docetaxel: 75-mg/m² IV on day 1
- Repeat cycle every 21 days for three cycles.¹,²⁵² The dose of docetaxel can be escalated to 100-mg/m² IV on subsequent cycles in the absence of toxicity.

### Single-Agent Regimens

#### Paclitaxel .......................................................... 393

- Paclitaxel: 225-mg/m² IV over 3 hours on day 1
- Repeat cycle every 21 days.¹,²⁵³
  **OR**
  - Paclitaxel: 80–100-mg/m² IV weekly for 3 weeks
  - Repeat cycle every 28 days after a 1-week rest.¹,²⁵⁴

#### Docetaxel .......................................................... 394

- Docetaxel: 75-mg/m² IV on day 1
- Repeat cycle every 21 days.¹,²⁵⁵
  **OR**
  - Docetaxel: 36-mg/m² IV weekly for 6 weeks
  - Repeat cycle every 8 weeks after 2-week rest.¹,²⁵⁶
  - Premedicate with dexamethasone 8 mg PO at 12 hours and immediately before docetaxel infusion and 12 hours after each dose.

#### Pemetrexed (Alimta) ........................................... 396

- Pemetrexed: 500-mg/m² IV over 10–30 minutes every 21 days.¹,²⁵⁷

#### Gemcitabine ....................................................... 397

- Gemcitabine: 1000-mg/m² IV on days 1, 8, and 15
- Repeat cycle every 28 days.¹,²⁵⁸
Topotecan ................................................................. 398
Topotecan: 1.5-mg/m² IV on days 1–5
Repeat cycle every 21 days.¹,²⁵⁹

Vinorelbine ............................................................... 399
Vinorelbine: 25-mg/m² IV every 7 days
Repeat every 7 days.¹,²⁶⁰

Gefitinib (Iressa) .......................................................... 400
Gefitinib: 250 mg/day PO
Continue treatment until disease progression.¹,²⁶¹

Erlotinib (Tarceva) ....................................................... 401
Erlotinib: 150-mg PO
Continue until disease progression.¹,²⁶²
Non–Small Cell Lung Cancer

ADJUVANT THERAPY

Combination Therapy

Paclitaxel + Carboplatin

Baseline laboratory tests: CBC: Chemistry
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of normal saline (NS)
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer:

**Paclitaxel** ___________mg (175 mg/m²) IV over 3 hours on day 1
• Available in 30 mL, 6 mg/mL; 100 mL, 16.7 mg/mL and 300.
• Final concentration is ± 1.2 mg/mL.
• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
• Use non-PVC containers and tubing with a 0.22-micron inline filter to administer.

**Carboplatin** ___________mg (AUC 6) IV on day 1
• Available in 50, 150, and 450 lyophilized powder or 450 and 600 premixed vial.
• Do not use aluminum needles, because precipitate will form.
• Give carboplatin after paclitaxel to decrease toxicities.
• Reconstitute with D5W or 0.9% sodium chloride to final concentration of 1–4 mg/mL.
• Reconstituted solution stable for 8 hours at room temperature.

**Major Side Effects**
• Hypersensitivity Reaction: Paclitaxel (30%–40%). Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy. Characterized by dyspnea, hypotension, angiodema, usicoria, skin rash, pruritis, tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged.
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
• Gastrointestinal (GI) Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea occur in 30%–40% of patients.
• Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related. More frequent with longer infusions and at doses of > 175 mg/m².
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 5 hours on day 1. Repeat cycle every 21 days for 4 cycles.
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. 
2. 

_________________________ ________________________________
Physician Date

_________________________ ________________/ ________________/ ________________
Patient Name ID Number Diagnosis Ht Wt M²
Vinorelbine + Cisplatin

Baseline laboratory tests: CBC: Chemistry (including Mg²⁺)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT³ and dexamethasone 10–20 mg in 100 cc of NS
Administer: Vinorelbine __________mg (25 mg/m²) IV on weekly for 16 weeks
  • Vesicant.
  • Available in 10 mg/mL in 1- or 5-mL single use vials.
  • Further dilute to a final concentration in syringe 1.5–3.0 or IV bag of 0.5–3.0 mg/mL.
  • Infuse diluted drug IV over 6–10 minutes into sidearm port of a freely flowing IV, either peripherally or via central line (preferred). Use port closest to the IV bag. Not the patient.
  • Flush vein with at least 75–125 mL of IV solution after infusion.
  • Reconstituted solution is stable for 24 hours refrigerated.

Cisplatin __________mg (50 mg/m²) IV on days 1 and 8.
  • Available in 100-mL vials. 1-mg/1-mL concentrations.
  • Do not use aluminum needles, as precipitate will form.
  • Further dilute solution with 250 cc or more NS.
  • 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

Major Side Effects
  • Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.
  • GI Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Constipation, diarrhea, stomatitis, and anorexia may be seen. Metallic taste to foods.
  • Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in > 30% beginning with high-frequency hearing.
  • Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules preventing reabsorption of Mg²⁺, Ca²⁺, and K⁺. Can be avoided with adequate hydration, diuresis as well as slower infusion time.
  • Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia likely.
  • Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
  □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
  □ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1 and 1 hour on days 8 and 15. Repeat cisplatin every 28 days for 4 cycles (1 hour for vinorelbine weekly for 16 weeks).

Estimated number of visits: Weekly. Request three cycles worth of visits.

Dose Calculation by:

________________________  ______________________________
1. ______________________________  2. ______________________________

Physician
Date

Patient Name
ID Number

________________________  ____________________________
Ht Wt M²

Diagnosis
METASTATIC DISEASE

Combination Regimens

**Carboplatin + Paclitaxel**

**Baseline laboratory tests:** CBC: Chemistry
**Baseline procedures or tests:** N/A
**Initiate IV:** 0.9% sodium chloride
**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of normal saline (NS)
**Administer:**
- **Paclitaxel** 175 mg/m$^2$ IV over 3 hours on day 1
  - Available in 30 mL, 6 mg/mL; 100 mL, 16.7 mg/mL and 300.
  - Final concentration is ± 1.2 mg/mL.
  - Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
  - Use non-PVC containers and tubing with a 0.22-micron inline filter to administer.
- **Carboplatin** mg (AUC 6) IV on day 1
  - Available in 50, 150, and 450 lyophilized powder or 450 and 600 premixed vial.
  - Do not use aluminum needles, because precipitate will form.
  - Give carboplatin after paclitaxel to decrease toxicities.
  - Reconstitute with D5W or 0.9% sodium chloride to final concentration of 1–4 mg/mL.
  - Reconstituted solution stable for 8 hours at room temperature.

**Major Side Effects**
- Hypersensitivity Reaction: Paclitaxel (30%–40%). Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy. Characterized by dyspnea, hypotension, angiodema, usticoria, skin rash, pruritis, tachycardim, wheezing, and facial edema. Patients with mild reactions can be rechallenged.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- Gastrointestinal (GI) Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea occur in 30%–40% of patients.
- Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related.
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.
**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
**Treatment schedule:** Chair time 5 hours on day 1. Repeat cycle every 21 days until disease progression.
**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. 

2. 

Physician ________________________ Date ________________________

Patient Name ________________________ ID Number ________________________

Diagnosis ________________________ Ht ________________________ Wt ________________________ M$^2$ ________________________
Cisplatin + Paclitaxel

Baseline laboratory tests: CBC, Chemistry (including Mg²⁺) and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone in 100 cc of NS (days 1 and 2)
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)
Administer: Paclitaxel _________mg (175 mg/m²) IV over 3 hours on day 1
• Available in 30 mg (6 mg/mL), 100 mg (16.7 mg/mL) and 300 mg (6 mg/mL) vials.
• Stable for up to 27 hours at room temperature in 0.3–1.2 mg/mL solutions.
• Further dilute in 250–500 cc NS or D5W. Final concentration is ± 1.2 mg/mL.
• Use non-PVC tubing and containers and a 0.22-micron inline filter to administer.
Cisplatin _________mg (80 mg/m²) IV on day 1
• Available in 100-mL vials. 1-mg/1-mL concentrations.
• Do not use aluminum needles, as precipitate will form.
• Further dilute solution with 250 cc or more NS.
• 100-mL vial stable for 28 days protected from light, 7 days under florescent light.
Paclitaxel must be administered first, followed by cisplatin.
Repeat the cycle every 21 days.

Major Side Effects
• Hypersensitivity Reaction: Paclitaxel and cisplatin, with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, anoidema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24 hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described.
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
• GI Toxicities: Nausea and vomiting may be severe and will occur in 100% of patients if antiemetics are not given. May be acute (within 1 or more hours, lasting for 8–24 hours or delayed occurring 24–72 hours after cisplatin). Taste alterations and anorexia occur with long-term use. Metallic taste to food.
• Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules preventing reabsorption of Mg²⁺, Ca²⁺, and K⁺. Can be avoided with adequate hydration, diuresis as well as slower infusion time.
• Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in >30% beginning with high-frequency hearing.
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 5 hours on day 1. Repeat every 21 days.
Estimated number of visits: Two visits per cycle.
Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician

Date

Patient Name

ID Number

Diagnosis

Ht  Wt  M²
**Non–Small Cell Lung Cancer**

**Docetaxel + Carboplatin**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CEA

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Dexamethasone 8-mg PO bid for 3 days, starting the day before treatment; 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS on day of treatment

**Administer:**
- **Docetaxel** ________mg (75 mg/m$^2$) IV on day 1
  - Available in 20- or 80-mg doses; comes with own diluent. Do not shake.
  - Reconstituted vials stable at room temperature or refrigerated for 8 hours.
  - Further dilute in 250 cc of D5W or 0.9% sodium chloride.
  - Use non-PVC containers and tubings to administer. No filter needed.
- **Carboplatin** ________mg (AUC 6) IV on day 1
  - Available in 50-mg, 150-mg, and 450-mg lyophilized powder; dilute with sterile water. Also available in 50-mg and 150-mg 10-mg/mL/g/mL solution; 450-mg and 600-mg 10-mg/mL multidose vials stable for 15 days after first use.
  - Do not use aluminum needles, as precipitate will form.
  - Further dilute in 250–1000 cc 0.9% sodium chloride.
  - Chemically stable for 24 hours, discard after 8 hours because of lack of bacteriostatic preservative.
  - Give carboplatin after paclitaxel to decrease toxicities.

**Major Side Effects**

- **Hypersensitivity Reaction:** Docetaxel and carboplatin, with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24-hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Carboplatin can cause rash, flushing, urticaria, erythema, and pruritus. Bronchospasm and hypotension are uncommon, but risk increases from 1% to 27% in patients receiving more than seven courses of carboplatin-based therapy. Premedicate as indicated.
  - Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting. Risk of thrombocytopenia is severe.
  - GI Toxicities: Moderate to severe nausea and vomiting within first 6–24 hours. Reversible hepatic dysfunction mild to moderate. Monitor SGOT, SGPT, and bili.
  - Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic, especially when well hydrated. Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, and Na$^+$. Fluid Balance: Fluid retention is a cumulative toxicity that may occur with docetaxel. Characterized by peripheral edema, pleural effusions, dyspnea at rest, cardiac tamponade, or ascites. Pre-treatment with dexamethasone as above may minimize the effect.
  - Neuropathy: Peripheral neuropathy may affect up to 49% of patients (severe 5.5%). Sensory alterations are paresthesias in a glove-and-stocking distribution and numbness. There is an increased risk in patients > 65 years old or in those previously treated with cisplatin and receiving prolonged carboplatin treatment.
  - Skin: Alopecia is common. Maculopapular, violaceous/erythematous and pruritic rash may occur with docetaxel. Changes in nails may occur in 11%–40% of patients and may include onycholysis (loss of nail). Keep nails clean, use nail hardeners or Tea Tree Oil. Lotrimin if indicated.
  - Reproduction: Drugs are mutagenic and teratogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.
Non–Small Cell Lung Cancer

Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________________/ ________________/ ________________

Diagnosis Ht Wt M²
**Docetaxel + Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CEA

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Dexamethasone 8-mg PO bid for 3 days, starting the day before treatment; 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS day of treatment

**Administer:**

- **Docetaxel** ________mg (75 mg/m$^2$) IV on day 1
  - Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Final concentration 10 mg/mL.
  - Reconstituted vials stable at room temperature or refrigerate for 8 hours.
  - Further dilute in 250 cc of D5W or 0.9% sodium chloride. Thoroughly mix by manual rotation.
  - Use non-PVC containers and tubing to administer. Filter NOT necessary.

- **Cisplatin** ________mg (75 mg/m$^2$) IV on day 1
  - Available in 100-mL vials. 1-mg/1-mL concentrations.
  - Do not use aluminum needles, as precipitate will form.
  - Further dilute solution with 250 cc or more NS.
  - 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

**Major Side Effects**

- **Hypersensitivity Reaction:** Docetaxel and cisplatin, with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, and edema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24-hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described.

- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting. Nadir at day 7.

- **GI Toxicities:** Moderate-to-severe nausea and vomiting may be acute or delayed. Metallic taste to food.

- **Neurotoxicity:** Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in > 30% beginning with high-frequency hearing.

- **Renal:** Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules preventing reabsorption of Mg$^{2+}$, Ca$^{2+}$, and K$^+$. Can be avoided with adequate hydration, diuresis as well as slower infusion time.

- **Fluid Balance:** Fluid retention is a cumulative toxicity that may occur with docetaxel. Characterized by peripheral edema, pleural effusions, dyspnea at rest, cardiac tamponade, or ascites. Pre-treatment with dexamethasone as above may minimize the effect.

- **Skin:** Alopecia is common. Maculopapular, violaceous/erythematous and pruritic rash may occur with docetaxel. Changes in nails may occur in 11%–40% of patients and may include onycholysis (loss of nail). Keep nails clean, use nail hardeners or Tea Tree Oil. Lotrimin if indicated.

- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits. May require extra visits for hydration.
Non-Small Cell Lung Cancer

Dose Calculation by: 1. __________________________ 2. __________________________ 

_________________________ __________________________
Physician Date

_________________________ __________________________
Patient Name ID Number

_________________________ __________________________
Diagnosis Ht Wt M²
Docetaxel + Gemcitabine

Baseline laboratory tests: CBC: Chemistry panel, and liver function tests (LFTs)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine

OR
5-HT3 and dexamethasone 10 mg in 100 cc of NS and dexamethasone 8-mg PO bid for 3 days, starting the day before treatment

Administer:
- **Docetaxel** __________ mg (100 mg/m²) IV on day 8
  - Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Thoroughly mix by manual rotation. Final concentration 10 mg/mL.
  - Reconstituted vials stable at room temperature or refrigerate for 8 hours.
  - Further dilute in 250 cc of D5W or 0.9% sodium chloride.
  - Use non-PVC containers and tubing to administer. No filter needed.
- **Gemcitabine** __________ mg (1100 mg/m²) IV on days 1 and 8 over 30 minutes
  - Available in 200-mg/10-mL or 1-g/50-mL vials (20-mg/mL).
  - Further dilute in 0.9% sodium chloride.
  - Reconstituted solution is stable 24 hours at room temperature. Do NOT refrigerate, because precipitate will form.

**Major Side Effects**
- Hypersensitivity Reaction: Docetaxel with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24-hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described.
- Hematologic: Myelosuppression is dose limiting. G-CSF support required from days 9–15. Thrombocytopenia grades 3–4 are more common in the elderly.
- GI Symptoms: Mild to moderate nausea and vomiting, diarrhea, and mucositis.
- Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in > 30% beginning with high-frequency hearing.
- Flulike Syndrome (20%) with fever 6–12 hours after treatment.
- Hepatic: Elevation of serum transaminase and bilirubin levels.
- Fluid Balance: Fluid retention is a cumulative toxicity that may occur with docetaxel. Characterized by peripheral edema, pleural effusions, dyspnea at rest, cardiac tamponade, or ascites. Pre-treatment with dexamethasone as above may minimize the effect.
- Skin: Alopecia is common. Maculopapular, violaceous/erythematous and pruritic rash may occur with docetaxel. Changes in nails may occur in 11%–40% of patients and may include onycholysis (loss of nail). Keep nails clean, use nail hardeners or Tea Tree Oil. Lotrimin if indicated.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on day 1 and 2 hours on day 8. Repeat cycle every 21 days.
Estimated number of visits: Three visits per cycle. Request four cycles worth of visits.
Non–Small Cell Lung Cancer

Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________
Physician                                                                                                   Date
_____________________________________________ ______________________________________________________
Patient Name                                                                                                 ID Number
_____________________________________________ ________________/ ________________/ ________________
Diagnosis                                                                                                    Ht Wt M²
**Gemcitabine + Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry panel (including Mg\(^{2+}\)) and LFTs  
Baseline procedures or tests: N/A  
Initiate IV: 0.9% sodium chloride  
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS  
Administer: **Gemcitabine** _________mg (1250 mg/m\(^2\)) IV over 30 minutes on days 1 and 8  
- Available in 200-mg/10-mL or 1-g/50-mL vials (20-mg/mL).  
- Further dilute in 0.9% sodium chloride.  
- Reconstituted solution is stable 24 hours at room temperature. Do NOT refrigerate, because precipitate will form.  
**Cisplatin** _________ mg (100 mg/m\(^2\)) IV on day 1  
- Available in 100-mL vials. 1-mg/1-mL concentrations.  
- Do not use aluminum needles, as precipitate will form.  
- Further dilute solution with 250 cc or more NS.  
- 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

**Major Side Effects**
- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in older patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.  
- GI Symptoms: Moderate-to-severe nausea and vomiting that may be acute or delayed. Diarrhea and/or mucositis (15%–20%). Metallic taste to food.  
- Flu-like Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).  
- Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Otoxicity occurs in > 30% beginning with high-frequency hearing.  
- Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules, preventing reabsorption of Mg\(^{2+}\), Ca\(^{2+}\), and K\(^{+}\). Can be avoided with adequate hydration, diuresis as well as slower infusion time.  
- Hepatic: Elevation of serum transaminase and bilirubin levels.  
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities, occurs in 30% of patients. Alopecia.  
- Use in pregnancy: Embryotoxic; women of childbearing potential should avoid becoming pregnant during treatment.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
**Treatment schedule:** Chair time 3 hours on day 1, and 1 hour on day 8. Repeat cycle every 21 days.  
**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**  
1. __________________________________ 2. ____________________________________________  
3. ____________________________________________ ______________________________________________________  
4. ____________________________________________ ______________________________________________________

**Physician**  
**Date**

**Patient Name**  
**ID Number**

**Diagnosis**  
**Ht**  
**Wt**  
**M\(^2\)**
**Gemcitabine + Carboplatin**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel (with LFTs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT\textsubscript{3} and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td></td>
<td>Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td>Gemcitabine ____mg (1000 mg/m\textsuperscript{2}) IV on days 1 and 8 over 30 minutes</td>
</tr>
<tr>
<td></td>
<td>• Available in 200-mg/10-mL or 1-g/50-mL vials (20-mg/mL).</td>
</tr>
<tr>
<td></td>
<td>• Further dilute in 0.9% sodium chloride.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution is stable 24 hours at room temperature. Do NOT refrigerate, because precipitate will form.</td>
</tr>
<tr>
<td>Carbo\textsubscript{p}latin ____mg (AUC 5) IV on day 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Available in 50-mg, 150-mg, and 450-mg lyophilized powder; dilute with sterile water. Also available in 50-mg and 150-mg 10-mg/mL/g/mL solution; 450-mg and 600-mg 10-mg/mL multidose vials stable for 15 days after first use.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, as precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute in 250–1000 cc 0.9% sodium chloride.</td>
</tr>
<tr>
<td></td>
<td>• Chemically stable for 24 hours, discard after 8 hours because of lack of bacteriostatic preservative.</td>
</tr>
<tr>
<td></td>
<td>• Give carboplatin after paclitaxel to decrease toxicities.</td>
</tr>
<tr>
<td></td>
<td>• Hypersensitivity Reaction: Anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24-hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described. The risk increases in patients receiving more than seven courses of carboplatin therapy.</td>
</tr>
<tr>
<td></td>
<td>• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF recommended. Thrombocytopenia grades 3–4 are more common in the elderly.</td>
</tr>
<tr>
<td></td>
<td>• GI Toxicities: Moderate to severe nausea and vomiting, acute or delayed. Mucositis and diarrhea seen. Elevation of serum transaminase and bilirubin levels.</td>
</tr>
<tr>
<td></td>
<td>• Flulike Syndrome: Flulike symptoms with fever in absence of infection 6–12 hours after treatment.</td>
</tr>
<tr>
<td></td>
<td>• Fluid Balance: Fluid retention is a cumulative toxicity that may occur with docetaxel. Characterized by peripheral edema, pleural effusions, dyspnea at rest, cardiac tamponade, or ascites. Pre-treatment with dexamethasone as above may minimize the effect.</td>
</tr>
<tr>
<td></td>
<td>• Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in &gt; 30% beginning with high-frequency hearing.</td>
</tr>
<tr>
<td></td>
<td>• Renal: Not as severe as with cisplatin. Altered renal function preventing reabsorption of Mg\textsuperscript{2+}, Ca\textsuperscript{2+}, and K\textsuperscript{+}. Can be avoided with adequate hydration, diuresis as well as slower infusion time.</td>
</tr>
<tr>
<td></td>
<td>• Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Alopecia.</td>
</tr>
<tr>
<td></td>
<td>• Reproduction: Pregnancy category D. Breast feeding should be avoided.</td>
</tr>
</tbody>
</table>

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 three hours on day 1 and 1 hour on day 8. Repeat cycle every 21 days.
Estimated number of visits: Three visits per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht _______ Wt _______ M³ _______
Gemcitabine + Vinorelbine

Baseline laboratory tests: CBC: Chemistry panel, and LFTs
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10 mg in 10 cc of NS
Administer: Gemcitabine ________ mg (1200 mg/m^2) IV on days 1 and 8 over 30 minutes
  • Available in 200-mg/10-mL or 1-g/50-mL vials (20-mg/mL).
  • Further dilute in 0.9% sodium chloride.
  • Reconstituted solution is stable 24 hours at room temperature. Do NOT refrigerate, because precipitate will form.

Vinorelbine ____ mg (30 mg/m^2) IV on days 1 and 8
  • Vesicant
  • Available in 10 mg/mL in 1- or 5-mL single-use vials.
  • Further dilute to a final concentration in syringe 1.5–3.0 or IV bag of 0.5–3.0 mg/mL.
  • Infuse diluted drug IV over 6–10 minutes into sidearm port of a freely flowing IV, either peripherally or via central line (preferred). Use port closest to the IV bag, not the patient.
  • Flush vein with at least 75–125 mL of IV solution after infusion.
  • Reconstituted solution is stable for 24 hours refrigerated.

Major Side Effects
  • Hematologic: Myelosuppression is dose limiting. Prolonged infusion time (> 60 minutes) with gemcitabine is associated with higher toxicities.
  • GI Symptoms: Mild-to-moderate nausea and vomiting. Constipation, diarrhea, and mucositis seen.
  • Flulike Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).
  • Neurotoxicity: Usually mild to moderate neuropathy is 25% but incidence increased if patient had prior vinca alkaloids. Constipation may occur in 29% of patients.
  • Hepatic: Elevation of serum transaminase and bilirubin levels.
  • Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema is seen in 30% of patients. Alopecia is rare.
  • Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule:
Chair time 2 hours on days 1 and 8. Repeat cycle every 21 days.

Estimated number of visits:
Three visits per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. ____________________________________________

Physician ____________________________ Date ____________________________
Patient Name ________________________ ID Number ________________________
Diagnosis __________________________ Ht ______ Wt ______ M^2 ______


Vinorelbine + Cisplatin

Baseline laboratory tests: CBC: Chemistry (including Mg²⁺)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
Administer: Vinorelbine __________mg (30 mg/m²) IV on days 1, 8, and 15
  • Vesicant
  • Available in 10 mg/mL in 1- or 5-mL single-use vials.
  • Further dilute to a final concentration in syringe 1.5–3.0 or IV bag of 0.5–3.0 mg/mL.
  • Infuse diluted drug IV over 6–10 minutes into sidearm port of a freely flowing IV, either peripherally or via central line (preferred). Use port closest to the IV bag, not the patient.
  • Flush vein with at least 75–125 mL of IV solution after infusion.
  • Reconstituted solution is stable for 24 hours refrigerated.
Cisplatin __________mg (120 mg/m²) IV on day 1
Available in 100-mL vials. 1-mg/1-mL concentrations.
  • Do not use aluminum needles, as precipitate will form.
  • Further dilute solution with 250 cc or more NS.
  • 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

Major Side Effects
  • Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.
  • GI Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Constipation, diarrhea, stomatitis, and anorexia may be seen.
  • Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in > 30% beginning with high-frequency hearing.
  • Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules preventing reabsorption of Mg²⁺, Ca²⁺, and K⁺. Can be avoided with adequate hydration, diuresis as well as slower infusion time.
  • Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia likely.
  • Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
  □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
  □ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 3 hours on day 1 and 1 hour on days 8 and 15. Repeat cycle every 28 days.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________

Physician__________________________________________ Date________________

Patient Name______________________________ ID Number_______________

_________________________ ____________/ ____________/ ____________
Diagnosis______________________________ Ht ____________ Wt ____________ M²
**Vinorelbine + Carboplatin**

**Baseline laboratory tests:** CBC: Chemistry (including Mg^{2+})

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT_{3} and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

Vinorelbine __________mg (25 mg/m^{2}) IV on days 1 and 8.

- Vesicant
- Available in 10 mg/mL in 1- or 5-mL single-use vials.
- Further dilute to a final concentration in syringe 1.5–3.0 or IV bag of 0.5–3.0 mg/mL.
- Infuse diluted drug IV over 6–10 minutes into sidearm port of a freely flowing IV, either peripherally or via central line (preferred). Use port closest to the IV bag, not the patient.
- Flush vein with at least 75–125 mL of IV solution after infusion.
- Reconstituted solution is stable for 24 hours refrigerated.

Carboplatin __________ (AUC 6) IV on day 1

- Available in 50-mg, 150-mg, and 450-mg lyophilized powder; dilute with sterile water.
- Also available in 50-mg and 150-mg 10-mg/mL/g/mL solution; 450-mg and 600-mg 10-mg/mL multidose vials stable for 15 days after first use.
- Do not use aluminum needles, as precipitate will form.
- Further dilute in 250–1000 cc 0.9% sodium chloride.
- Chemically stable for 24 hours, discard after 8 hours because of lack of bacteriostatic preservative.
- Give carboplatin after paclitaxel to decrease toxicities.

**Major Side Effects**

- Hypersensitivity Reaction: Carboplatin with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24-hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described. Risk increases from 1% to 27% in patients receiving more than seven courses of carboplatin-based therapy.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.
- GI Toxicities: Moderate-to-severe nausea and vomiting within first 24 hours. Constipation, diarrhea, stomatitis, and anorexia may be seen.
- Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
- Electrolyte Imbalance: Decreases Mg^{2+}, K^{+}, Ca^{2+}, and Na^{+}.
- Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia likely.
- Neurotoxicity: Usually mild to moderate neuropathy is 25% but incidence increased if patient had prior vinca alkaloids. Constipation may occur in 29% of patients.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1 and 1 hour on day 8. Repeat cycle every 28 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ __________________________/ __________________________/ __________

Diagnosis Ht Wt M²
Non–Small Cell Lung Cancer

Etoposide and Cisplatin

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS
Administer:

**Etoposide** _________mg (120 mg/m\(^2\)) IV on days 1–3
- Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W, or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
- May be further diluted in NS or D5W to final concentration of 0.1 mg/mL.
- Diluted drug is stable 96 hours in glass and 48 hours in plastic containers at room temperature.

**Cisplatin** _________ mg (60 mg/m\(^2\)) IV on day 1
- Available in 100-mL vials. 1-mg/1-mL concentrations.
- Do not use aluminum needles, as precipitate will form.
- Further dilute solution with 250 cc or more NS.
- 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

**Major Side Effects**
- Allergic reaction: Bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion of etoposide. Anaphylaxis may occur but is rare.
- Bone Marrow Depression: Myelosuppression can be a dose-limiting toxicity.
- GI Toxicities: Moderate to severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare. Metallic taste to food.
- Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in > 30% beginning with high-frequency hearing.
- Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules, preventing reabsorption of Mg\(^{2+}\), Ca\(^{2+}\), and K\(^{+}\). Can be avoided with adequate hydration, diuresis as well as slower infusion time.
- Skin: Alopecia. Etoposide is a radiosensitizer and an irritant. Patients receiving high-dose therapy may develop bullae on the skin (similar to Stevens-Johnson Syndrome).
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 3 hours on day 1 and 1 hour on days 2–3. Repeat cycle every 21–28 days.
Estimated number of visits: Four visits per cycle. Request three cycles worth of visits.

Dose Calculation by:

1. __________________________________ 2. __________________________________

______________________________ ________________________________
Physician Date

______________________________ ________________________________
Patient Name ID Number

______________________________ ________________________________
Diagnosis Ht Wt M\(^2\)
### Etoposide + Cisplatin + Docetaxel

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg$^{2+}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Etoposide</strong> _________ mg (50 mg/m$^2$) IV on days 1–5 and 29–33</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W, or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.</td>
</tr>
<tr>
<td></td>
<td>• May be further diluted in NS or D5W to final concentration of 0.1 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Diluted drug is stable 96 hours in glass and 48 hours in plastic containers at room temperature.</td>
</tr>
<tr>
<td></td>
<td><strong>Cisplatin</strong> _________ mg (50 mg/m$^2$) IV on days 1, 8, 29, and 36</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-mL vials. 1-mg/1-mL concentrations.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, as precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute solution with 250 cc or more NS.</td>
</tr>
<tr>
<td></td>
<td>• 100-mL vial stable for 28 days protected from light, 7 days under fluorescent light.</td>
</tr>
<tr>
<td>Administer concurrent thoracic radiotherapy, 4–6 weeks after the completion of combined modality therapy follow with:</td>
<td><strong>Docetaxel</strong> _________mg (75 mg/m$^2$) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in 20- or 80-mg blister pack with own diluent. Do not shake.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted vials stable at room temperature or refrigerated for 8 hours.</td>
</tr>
<tr>
<td></td>
<td>• Use non-PVC containers and tubing to administer. No filter needed.</td>
</tr>
<tr>
<td>Major Side Effects</td>
<td><strong>Allergic Reaction:</strong> Bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion of etoposide. Anaphylaxis may occur but is rare. Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Premedication with dexamethasone recommended.</td>
</tr>
<tr>
<td></td>
<td><strong>Bone Marrow Depression:</strong> Myelosuppression can be a dose-limiting toxicity.</td>
</tr>
<tr>
<td></td>
<td><strong>GI Toxicities:</strong> Moderate-to-severe nausea and vomiting with etoposide and cisplatin. May be acute (first 24 hours) or delayed (&gt; 24 hours). Mild-to-moderate nausea and vomiting with docetaxel. Mucositis and diarrhea are rare. Metallic taste to food.</td>
</tr>
<tr>
<td></td>
<td><strong>Neurotoxicity:</strong> Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in &gt; 30% beginning with high-frequency hearing.</td>
</tr>
<tr>
<td></td>
<td><strong>Renal:</strong> Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules, preventing reabsorption of Mg$^{2+}$, Ca$^{2+}$, and K$^+$. Can be avoided with adequate hydration, diuresis as well as slower infusion time.</td>
</tr>
<tr>
<td></td>
<td><strong>Fluid Balance:</strong> Fluid retention is a cumulative toxicity that may occur with docetaxel. Characterized by peripheral edema, pleural effusions, dyspnea at rest, cardiac tamponade, or ascites. Pre-treatment with dexamethasone as above may minimize the effect.</td>
</tr>
<tr>
<td></td>
<td><strong>Skin:</strong> Alopecia.</td>
</tr>
<tr>
<td></td>
<td><strong>Reproduction:</strong> Pregnancy category D. Breast feeding should be avoided.</td>
</tr>
</tbody>
</table>

- **Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.
- **Supportive drugs:**
  - □ pegfilgrastim (Neulasta)
  - □ filgrastim (Neupogen)
  - □ epoetin alfa (Procrit)
  - □ darbepoetin alfa (Aranesp)
- **Treatment schedule:** Chair time 3 hours on days 1, 8, 29, and 36; 1 hour on days 4–5 and 30–33. Etoposide cycle 36 days, rest 4–6 weeks; then repeat docetaxel every 21 days for three cycles.
- **Estimated number of visits:** Twelve visits first cycle, three visits second cycle.
Non–Small Cell Lung Cancer

Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis

Ht Wt M²
Single-Agent Regimens

Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg²⁺) and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel _________mg (225 mg/m²) IV over 3 hours on day 1 every 3 weeks.
OR
Paclitaxel _________mg (80–100 mg/m²) IV over 3 hours on day 1 weekly for 3 weeks. Repeat cycle every 28 days after 1 week rest.

• Available in 30-mg (6 mg/mL), 100-mg (16.7 mg/mL) and 300-mg (6 mg/mL) vials.
• Further dilute in 250–500 cc NS or D5W. Final concentration is 1.2 mg/mL.
• Use non-PVC tubing and containers and a 0.22-micron inline filter to administer.

Major Side Effects
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• GI Toxicity: Nausea and vomiting occur in 52% of patients, mild and preventable with antiemetics. Diarrhea in 38% of patients and stomatitis in 31%.
• Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. More frequent with longer infusions and at doses > 175 mg/m².
• Ototoxicity occurs in > 30% beginning with high-frequency hearing.
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Treatment schedule:
Chair time 4 hours every 3 weeks for 3 hour infusion and high dose. Repeat every 21 days. 2 hour chair time for weekly dosing for 3 weeks with 1 week rest. Repeat every 28 days.

Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. ____________________________________________

Physician Date

Patient Name ID Number

Diagnosis Ht Wt M²

Ht Wt M²
Docetaxel

Baseline laboratory tests: CBC: Chemistry (including Mg^{2+})
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: Dexamethasone 8-mg PO 12 hours and immediately before docetaxel infusion and 12 hours after each dose.
Oral phenothiazine or 5-HT_{3}

Administer: Docetaxel _________mg (75 mg/m²) IV on day 1 every 3 weeks
OR
Docetaxel _________mg (36 mg/m²) IV weekly for 6 weeks
• Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or refrigerated for 8 hours.
• Further dilute in 250 cc of D5W or 0.9% sodium chloride.
• Use non-PVC containers and tubing to administer. No filter needed

Major Side Effects
• Hypersensitivity Reaction: Docetaxel with anaphylaxis and severe hypersensitivity reactions in 2%–4%. Characterized by dyspnea, hypotension, angioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24-hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described.
• Bone Marrow Depression: Neutropenia is dose limiting with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia are also seen.
• GI Toxicities: Nausea and vomiting is mild to moderate. Mucositis and diarrhea seen in 40% of patients.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias; dose related. More frequent with longer infusions and peripheral neuropathy may affect up to 49% of patients. Sensory alterations are paresthesias in a glove-and-stocking distribution and numbness.
• Fluid Balance: Fluid retention syndrome. Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Seen in about 50% of patients. Premedication with dexamethasone effective in preventing or minimizing occurrences.
• Skin: Alopecia. Etoposide is a radiosensitizer and an irritant. Patients receiving high-dose therapy may develop bullae on the skin (similar to Stevens-Johnson Syndrome).
• Hyperlacrimation: Epiphor or hyperlacrimation of tear ducts. Use artificial tears and/or steroid ophthalmic solution. Severe cases may require the placement of lacrimal duct stents.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days.
OR
Chair time 2 hours on day 1. Repeat cycle every 8 weeks after 2-week rest.

Estimated number of visits: Two visits per cycle for three week protocol. Six visits per cycle for weekly protocol. Request three cycles worth of visits.
Dose Calculation by: 1. __________________________ 2. __________________________

__________________________________________ ______________________________________________________

Physician Date

__________________________________________ ______________________________________________________

Patient Name ID Number

__________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
### Pemetrexed (Alimta)

**Baseline laboratory tests:** CBC: Chemistry panel, creatinine clearance  
**Baseline procedures or tests:** N/A  
**Initiate IV:** NS  
**Premedicate:** Dexamethasone 4-mg PO bid for 3 days, starting the day before treatment  
**Folic acid** 1-mg (350–1,000 mg) PO qd, starting 5 days before the first treatment and ending 21 days after the last dose of pemetrexed.  
**Vitamin B₁₂** 1000-mcg IM during the week preceding the first dose and every three cycles thereafter (may be given the same day as pemetrexed second dose only).  
**Oral phenothiazine or 5-HT₃**

**Administer:** Pemetrexed _________ mg (500 mg/m²) IV over 10 minutes on day 1
- Available in 500-mg single-use vials for reconstitution.
- Reconstitute with 20 mL of 0.9% sodium chloride (preservative free) for a final concentration of 25 mg/mL.
- Further dilute in 100 cc of NS.
- Discard any unused portion.

**Major Side Effects**
- **Bone Marrow Toxicities:** Myelosuppression is dose-limiting toxicity. Dose reductions or treatment delay may be necessary for subsequent doses. Instruct patient to take vitamin B₁₂ and folic acid supplements to minimize hematologic toxicities.
- **GI Toxicities:** Nausea, vomiting, and diarrhea, usually mild to moderate. Mild anorexia, stomatitis, and pharyngitis seen. Instruct patient to take vitamin B₁₂ and folic acid supplements to minimize GI toxicities.
- **Renal/hepatic:** Patients with renal or hepatic impairment may require dose adjustment.
- **Skin:** Pruritus and rash in 22% of patients. Premedication with dexamethasone if effective in preventing or minimizing symptoms.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1. Repeat cycle every 21 days until disease progression.

**Estimated number of visits:** Two visits per cycle. Request six cycles worth of treatments.

**Dose Calculation by:** 1. ___________________________________________________________________ 2. ___________________________________________________________________

**Physician** ___________________________  **Date** ___________________________________________________________________

**Patient Name** ___________________________  **ID Number** ___________________________________________________________________

**Diagnosis** Ht __________ Wt __________ M² __________
Non–Small Cell Lung Cancer

Gemcitabine

Baseline laboratory tests: CBC: Chemistry panel and LFTs
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine
OR
5-HT₃ and dexamethasone 10 mg in 100 cc of NS

Administer: Gemcitabine _________mg (1000 mg/m²) IV on days 1, 8, and 15 over 30 minutes

• Available in 200-mg/10-mL or 1-g/50-mL vials, (20-mg/mL).
• Further dilute in 0.9% sodium chloride.
• Reconstituted solution is stable 24 hours at room temperature. Do NOT refrigerate, because precipitate will form.

Major Side Effects

• Myelosuppression: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in older patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.
• GI Symptoms: Mild-to-moderate nausea and vomiting (70%), diarrhea, and/or mucositis (15%–20%).
• Flulike Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).
• Hepatic: (Transient) Elevation of serum transaminase and bilirubin levels.
• Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema is seen in 30% of patients. Alopecia is rare.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on days 1, 8, and 15. Repeat cycle every 28 days.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician Date

Patient Name ID Number

____________________ / __________ / __________

Diagnosis Ht Wt M²
Topotecan

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 19-9

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 10 mg in 100 cc of NS

**Administer:** Topotecan ________mg (1.5 mg/m²) IV on days 1–5

- Available as a 4-mg single-dose vial.
- Reconstitute vial with 4 mL of sterile water for injection.
- Further dilute in 0.9% sodium chloride or D5W.
- Use immediately.

**Major Side Effects**

- Myelosuppression: Severe grade 4 myelosuppression seen during the first course of therapy in 60% of patients. Dose-limiting toxicity. Typical nadir occurs at days 7–10, with full recovery by days 21–28. If severe neutropenia occurs, reduce dose by 0.25 mg/m² for subsequent doses or may use G-CSF to prevent neutropenia 24 hours after last day of topotecan therapy.
- GI Toxicities: Mild to moderate nausea and vomiting, dose related. Occurs in 60%–80% of patients. Diarrhea occurs in 42% of patients, and constipation occurs in 39%. Abdominal pain may occur in 33% of patients.
- Flulike Symptoms: Headache, fever, malaise, arthralgias, and myalgias.
- Hepatic Toxicity: Evidence of increased drug toxicity in patients with low protein level and hepatic dysfunction. Dose reductions may be necessary.
- Renal: Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting. Microscopic hematuria seen in 10% of patients.
- Skin: Alopecia.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:** ☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1–5. Repeat every 21 days until disease progression.

**Estimated number of visits:** Six visits per course. Request three courses.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

**Physician**

Date

**Patient Name**

ID Number

__________________________ / ______________________ / __________

Ht Wt M²

**Diagnosis**
## Vinorelbine

**Baseline laboratory tests:** CBC: Chemistry  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** Oral phenothiazine or 5-HT₃  
**Administer:** Vinorelbine ________mg (25 mg/m²) IV weekly  
- Vesicant  
- Available in 10 mg/mL in 1- or 5-mL single-use vials.  
- Further dilute to a final concentration in syringe 1.5–3.0 or IV bag of 0.5–3.0 mg/mL.  
- Infuse diluted drug IV over 6–10 minutes into sidearm port of a freely flowing IV, either peripherally or via central line (preferred). Use port closest to the IV bag, not the patient.  
- Flush vein with at least 75–125 mL of IV solution after infusion.  
- Reconstituted solution is stable for 24 hours refrigerated.

### Major Side Effects
- Bone Marrow Depression: Leukopenia is dose-limiting toxicity. Nadir at 7–10 days. Severe thrombocytopenia and anemia are uncommon.  
- GI Toxicities: Nausea and vomiting are mild in IV dosing with an incidence of 44%. Stomatitis is mild to moderate with < 20% incidence. Constipation (35%), diarrhea (17%), and anorexia (< 20%) also seen.  
- Skin: Extravasation of vinorelbine may cause local tissue injury and inflammation. Alopecia observed in 10%–15% of patients.  
- Neurotoxicity: Usually mild to moderate neuropathy is 25% but incidence increased if patient had prior vinca alkaloids. Constipation may occur in 29% of patients.  
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
**Treatment schedule:** Chair time 1 hour weekly. Repeat cycle every week until disease progression.  
**Estimated number of visits:** Weekly. Request 12 cycles worth of visits.

Dose Calculation by:  
1. __________________________________  
2. __________________________________

Physician

Date

Patient Name

ID Number

Ht / Wt / M²

Diagnosis
Gefitinib (Iressa)

**Baseline laboratory tests:** CBC: Chemistry
**Baseline procedures or tests:** N/A
**Premedicate:** Oral phenothiazine or 5-HT₃
**Administer:** Gefitinib 250-mg/day PO
- Available in 250-mg tablets, 30 per bottle.
- Taken with or without food.
- Available to patients:
  1. who are currently or have previously taken the drug and are benefiting
  2. previously enrolled patients or new patients in non-investigational (IND) clinical trials
  3. through the Iressa access program.

**Major Side Effects**
- Interstitial Lung Disease: Seen in 1% of patients with a 33% mortality. Symptoms include dyspnea, sometimes with cough or low-grade fever, rapidly becoming more severe.
- GI Toxicities: Mild to moderate diarrhea occurred in 48% of patients. Drug may be interrupted for up to 14 days with severe diarrhea. Nausea and vomiting only 13%.
- Skin Alterations: Rash occurred in 43% of patients, acne in 25%, dry skin and pruritis also seen. May interrupt drug for 14 days until rash resolves before resuming drug.
- Cardiovascular: Elevations in blood pressure, especially in those with underlying hypertension.
- Visual Alterations: Amblyopia occurred in 2% of patients and conjunctivitis in 1%.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.
**Treatment schedule:** Continue treatment until disease progression.¹²⁶²
**Estimated number of visits:** One visit per cycle. Request 12 cycles worth of visits.

**Dose Calculation by:**

1. ______________________________ 2. ______________________________

______________________________
Physician Date

______________________________
Patient Name ID Number

______________/ ________________/ ________________
Diagnosis Ht Wt M²
Erlotinib (Tarceva)

Baseline laboratory tests: CBC, Chemistry
Baseline procedures or tests: N/A
Premedicate: Oral phenothiazine or 5-HT₃
Administer: Tarceva (erlotinib) 150-mg/day PO
- Available in 150-, 100-, and 25-mg tablets.
- Take on an empty stomach.

Major Side Effects
- Skin Alterations: Rash, from Maculopapular to pustular on the face, neck, chest, back, and arms, affecting up to 75% of patients. Most rashes are mild to moderate, beginning on day 8–10, maximizing in intensity by week 2, and gradually resolving by week 2. Use of skin treatments such as corticosteroids, topical clindamycin, or minocycline have been used with varying results.
- GI Toxicities: Diarrhea is seen in 54% of patients, and is mild to moderate, only 6% grade 3.
- Visual Alterations: Conjuctivitis and dry eyes may occur and are mild to moderate (grade 1–2).
- Interstitial Lung Disease: Seen in 1% of patients with a 33% mortality. Symptoms include dyspnea, sometimes with cough or low-grade fever, rapidly becoming more severe. This is a class effect. Drug should be stopped immediately in patients with worsening or unexplained pulmonary symptoms.
- Drug Interactions: Inducers of the CYP3A4 pathway may increase metabolism of erlotinib and decrease plasma concentrations; and inhibitors of the CYP3A4 pathway may increase the metabolism of erlotinib and increase plasma concentrations. Patients taking coumadin should have PT/INR monitored closely.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Treatment schedule: Erlotinib: 150-mg PO Continue until disease progression
Estimated number of visits: One visit per cycle. Request 12 cycles worth of visits.

Dose Calculation by: 1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ____________________________ Ht _____ Wt _____ M² _____

Diagnosis: 

Ht: _______ Wt: _______ M²: _______

Non–Small Cell Lung Cancer 401
LUNG CANCER

Small-Cell Lung Cancer

Combination Regimens

**Etoposide + Cisplatin (EP)** ................................................................. 404
Etoposide: 80-mg/m² IV on days 1–3
Cisplatin: 80-mg/m² IV on day 1
Repeat cycle every 21 days.¹,²⁶³

**Etoposide + Carboplatin (EC)** ............................................................ 405
Etoposide: 100-mg/m² IV on days 1–3
Carboplatin: AUC of 6, IV on day 1
Repeat cycle every 28 days.¹,²⁶⁴

**Irinotecan + Cisplatin** ................................................................. 406
Irinotecan: 60-mg/m² IV on days 1, 8, and 15
Cisplatin: 60-mg/m² IV on day 1
Repeat cycle every 28 days.¹,²⁶⁵

**Carboplatin + Paclitaxel + Etoposide** ............................................. 407
Carboplatin: AUC of 6, IV on day 1
Paclitaxel: 200-mg/m² IV over 3 hours on day 1
Etoposide: 50 mg alternating with 100 mg PO on days 1–10
Repeat cycle every 21 days.¹,²⁶⁶

**Cyclophosphamide + Doxorubicin + Vincristine (CAV)** .................... 409
Cyclophosphamide: 1000-mg/m² IV on day 1
Doxorubicin: 40-mg/m² IV on day 1
Vincristine: 1-mg/m² IV on day 1 (maximum, 2 mg)
Repeat cycle every 21 days.¹,²⁶⁷

**Cyclophosphamide + Doxorubicin + Etoposide (CAE)** ..................... 411
Cyclophosphamide: 1000-mg/m² IV on day 1
Doxorubicin: 45-mg/m² IV on day 1
Etoposide: 50-mg/m² IV on days 1–5
Repeat cycle every 21 days.¹,²⁶⁸
Single-Agent Regimens

**Etoposide**

Etoposide: 160-mg/m² PO on days 1–5
Repeat cycle every 28 days.¹,²⁶⁹

**OR**

Etoposide: 50-mg/m² PO bid on days 1–21
Repeat cycle as tolerated¹,²⁷⁰

**Paclitaxel**

Paclitaxel: 80–100-mg/m² IV weekly for 3 weeks
Repeat cycle every 28 days.¹,²⁷²¹

**Topotecan**

Topotecan: 1.5-mg/m² IV on days 1–5
Repeat cycle every 21 days.¹,²⁷²
## Combination Regimens

### Etoposide + Cisplatin

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\)) and CEA  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS  
**Administer:**  

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Formulation</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etoposide</td>
<td>80 mg/m(^2) IV on days 1–3</td>
<td>Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W, or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. It is also available in solution as a 20-mg/mL concentration.</td>
<td></td>
</tr>
</tbody>
</table>
May be further diluted in NS or D5W to final concentration of 0.1 mg/mL. |
| Cisplatin | 80 mg/m\(^2\) IV on day 1 | Available in 100-mL vials. 1-mg/1-mL concentrations |  
Do not use aluminum needles, as precipitate will form. |

**Major Side Effects**  
- **Allergic Reaction:** Bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion of etoposide. Anaphylaxis may occur but is rare.  
- **Bone Marrow Depression:** Myelosuppression can be a dose-limiting toxicity.  
- **GI Toxicities:** Moderate to severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare. Metallic taste to food  
- **Neurotoxicity:** Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in > 30% beginning with high-frequency hearing.  
- **Renal:** Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules, preventing reabsorption of Mg\(^{2+}\), Ca\(^{2+}\), and K\(^{+}\). Can be avoided with adequate hydration, diuresis as well as slower infusion time.  
- **Skin:** Alopecia.  
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.  

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  

**Treatment schedule:** Chair time 4 hours on day 1 and 2 hours on days 2–3. Repeat cycle every 21 days.  
**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits.  

**Dose Calculation by:**  
1.  
2.  

---  

**Physician**  
**Date**  

**Patient Name**  
**ID Number**  

**Diagnosis**  
\( \text{Ht} / \text{Wt} / \text{M}^2 \)
Etoposide + Carboplatin

Baseline laboratory tests: CBC: Chemistry (including Mg\textsuperscript{2+}) and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\textsubscript{3} and dexamethasone 10–20 mg in 100 cc of NS
Administer:

- **Etoposide** \[_________\text{mg (100 mg/m}^2\text{)}\] IV on days 1–3
  - Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W, or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
  - May be further diluted in NS or D5W to final concentration of 0.1 mg/mL.
- **Carboplatin** \[_________\text{mg (AUC 6)}\] IV on day 1
  - Available in 50-mg, 150-mg, and 450-mg lyophilized powder; dilute with sterile water. Also available in 50-mg and 150-mg 10-mg/mL/mL solution; +50-mg and 600-mg 10-mg/mL multidose vials stable for 15 days after first use.
  - Do not use aluminum needles, as precipitate will form.
  - Further dilute in 250–1000 cc 0.9% sodium chloride.
  - Chemically stable for 24 hours, discard after 8 hours because of lack of bacteriostatic preservative.
  - Give carboplatin after paclitaxel to decrease toxicities.

**Major Side Effects**

- Allergic Reaction: Bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion of etoposide. Anaphylaxis may occur but is rare. Rash, urticaria, erythema, and pruritus with carboplatin. Bronchospasm and hypotension are uncommon, but risk increases in patients receiving more than seven courses of carboplatin-based therapy.
- Bone Marrow Depression: Myelosuppression can be a dose-limiting toxicity.
- GI Toxicities: Moderate to severe nausea and vomiting occurs within the first 24 hours. Mucositis and diarrhea are rare.
- Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
- Electrolyte Imbalance: Decreases Mg\textsuperscript{2+}, K\textsuperscript{+}, Ca\textsuperscript{2+}, and Na\textsuperscript{+}.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- Skin: Alopecia.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 3 hours on day 1 and 2 hours on days 2–3. Repeat cycle every 28 days.
Estimated number of visits: Four visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

______________________________ ________________________________
Physician Date

______________________________
Patient Name ID Number

______________________________/ ________________/ ________________
Diagnosis Ht Wt M\textsuperscript{2}
**Irinotecan + Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry panel  
**Baseline procedures or tests:** N/A  
**Initiate IV:** D5W and water  
**Premedicate:** 5HT₃ and dexamethasone 20 mg in 100 cc of D5W  
Atropine 0.25–1.0 mg IV unless contraindicated

**Administer:**  
- **Irinotecan** ________ mg (60 mg/m²) IV in 500 cc of D5W over 90 minutes on days 1, 8, and 15
  - Available in 100-mg vials.  
  - Store unopened vials at room temperature and protect from light.  
  - Dilute and mix drug in D5W (preferred) or NS.  
  - Diluted drug is stable for 24 hours at room temperature. If diluted in D5W, stable for 48 hours if refrigerated and protected from light.

- **Cisplatin** ________ mg (60 mg/m²) IV in 1000 cc of NS on day 1  
  - Available in 100-mL vials. 1-mg/1-mL concentrations  
  - Do not use aluminum needles, as precipitate will form.  
  - Further dilute solution with 250 cc or more NS.  
  - 100-mL vial stable for 28 days protected from light, 7 days under florescent light.

**Major Side Effects**  
- GI Toxicities: Irinotecan can cause early diarrhea, most likely a cholinergic effect, can be managed with atropine before therapy. Late diarrhea observed in 22% of patients; it can be severe and should be treated aggressively. Nausea and vomiting in 35%–60% of patients, with 17% experiencing grade 3–4 nausea and 13% experiencing grade 3–4 vomiting.

- Bone Marrow Depression: Neutropenia can be dose limiting. GCSF recommended.

- Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules, preventing reabsorption of Mg²⁺, Ca²⁺, and K⁺. Can be avoided with adequate hydration, diuresis as well as slower infusion time.

- Alopecia: Mild.

- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- loperamide (Imodium)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Chair time 4 hours weekly for 4 weeks. Repeat cycle every 28 days for 6 cycles as tolerated or until disease progression.

**Estimated number of visits:** Four visits per cycle. Request three to six cycles worth of visits.

**Dose Calculation by:** 1. ________________________ 2. ________________________

__________________________  __________________________
Physician Date

__________________________  __________________________
Patient Name ID Number

__________________________  __________________________
Diagnosis Ht Wt M²
**Baselne laboratory tests:** CBC: Chemistry  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT	extsubscript{3} and dexamethasone 10–20 mg in 100 cc of NS  
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS  
Oral phenothiazine or 5-HT	extsubscript{3} before etoposide days 4–10  
**Administer:**  
**Paclitaxel** 
- Available in 30-mg (6 mg/mL), 100-mg (16.7 mg/mL), and 300-mg (6 mg/mL) vials. Further dilute in 250–500 cc NS or D5W. Final concentration is ± 1.2 mg/mL.  
- Use non-PVC tubing and containers and a 0.22-micron inline filter to administer.  
**Carboplatin** 
- Available in 50-mg, 150-mg, and 450-mg lyophilized powder; dilute with sterile water. Also available in 50-mg and 150-mg 10-mg/mL solution; 450-mg and 600-mg 10-mg/mL multidose vials stable for 15 days after first use.  
- Do not use aluminum needles, as precipitate will form.  
- Further dilute in 250–1000 cc 0.9% sodium chloride.  
- Chemically stable for 24 hours, discard after 8 hours because of lack of bacteriostatic perservative  
- Give carboplatin after paclitaxel to decrease toxicities  
**Etoposide** 50 mg alternating with 100 mg PO on days 1–10  
- Available in 50- and 100-mg capsules.  
- Store in refrigerator.  
- Monitor patients taking warfarin; it can elevate prothrombin time (PT)/international normalized ratio.  

**Major Side Effects**  
- Hypersensitivity Reaction: Paclitaxel and carboplatin, with anaphylaxis and severe hypersensitivity reactions in 30%–40%. Characterized by dyspnea, hypotension, anioedema, and generalized urticaria. May also see tachycardia, wheezing, and facial edema. Patients with mild reactions can be rechallenged after 24-hour corticosteroid prophylaxis. Patients with severe reactions should not be rechallenged. Monitor vitals signs every 15 minutes for the first hour. Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy.  
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.  
- GI Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea seen in 30%–40% of patients.  
- Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. Ototoxicity occurs in >30% beginning with high-frequency hearing.  
- Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules, preventing reabsorption of Mg	extsuperscript{2+}, Ca	extsuperscript{2+}, and K	extsuperscript{+}. Can be avoided with adequate hydration, diuresis as well as slower infusion time.  
- Alopecia: Total loss of body hair occurs in nearly all patients.  
- Reproduction: Pregnancy category D. Breast feeding should be avoided.  

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  

**Treatment schedule:** Chair time 5 hours on day 1. Repeat cycle every 21 days until disease progression.  
**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.
Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________ _______________________________
Physician Date

_____________________________ _______________________________
Patient Name ID Number

_____________________________ _______________________________
Diagnosis Ht Wt M²
# Cyclophosphamide + Doxorubicin + Vincristine (CAV)

**Baseline laboratory tests:** CBC: Chemistry and LFTs  
**Baseline procedures or tests:** Multigated angiogram (MUGA) scan  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 20 mg in 100 cc of NS  
**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage (mg)</th>
<th>Route</th>
<th>Details</th>
</tr>
</thead>
</table>
| Cyclophosphamide   | (1000 mg/m²) | IV    | on day 1  
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.  
  - Dilute with sterile water to a concentration of 20 mg/mL and shake well to ensure that solution is completely dissolved.  
  - Reconstituted solution stable for 24 hours at room temperature and 6 days if refrigerated. |
| Doxorubicin        | (40 mg/m²)  | IV    | on day 1  
  - Potent vesicant  
  - Available as a 2-mg/mL solution.  
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-fluorouracil. |
| Vincristine        | (1 mg/m²)   | IV    | on day 1 (maximum dose 2 mg)  
  - Vesicant  
  - Available in 1-, 2-, and 5-mg vials, 1 mg/mL.  
  - Refrigerate vials until use.  
  - Given as an IV push through side port of a freely flowing IV. |

**Major Side Effects**

- **Bone Marrow Depression:** Leukopenia, thrombocytopenia, and anemia seen; may be severe.
- **GI Toxicities:** Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea incidence 10%, but is not dose limiting. Constipation, abdominal pain, or paralytic ileus as a result of nerve toxicity.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m², cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- **Neurotoxicities:** Peripheral neuropathies as a result of toxicity to nerve fibers. Cranial nerve dysfunction may occur (rare), as well as jaw pain, diplopia, vocal cord paresis, mental depression, and metallic taste.
- **Hepatic:** Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- **Bladder Toxicities:** Hemorrhagic cystitis, dysuria, and urinary frequency. Red-orange discoloration of urine; resolves by 24–48 hours. Provide adequate hydration.
- **Skin:** Extravasation of vesicants causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided. Impotence may occur.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

<table>
<thead>
<tr>
<th>Drug</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pegfilgrastim (Neulasta)</td>
<td>filgrastim (Neupogen)</td>
</tr>
<tr>
<td>epoetin alfa (Procrit)</td>
<td>darbepoetin alfa (Aranesp)</td>
</tr>
</tbody>
</table>

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.
Small-Cell Lung Cancer

Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________
Physician Date

_____________________________________________ ______________________________________________________
Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________
Diagnosis Ht Wt M²
Small-Cell Lung Cancer

Cyclophosphamide + Doxorubicin + Etoposide (CAE)

Baseline laboratory tests: CBC: Chemistry panel (including Mg^{2+}), and LFTs
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT_{3} and dexamethasone 10–20 mg in 100 cc of NS
Administer: Cyclophosphamide \( mg \) (1000 mg/m\(^2\)) IV on day 1
- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
- Dilute with sterile water, and shake well to ensure that solution is completely dissolved.
- Reconstituted solution stable for 24 hours at room temperature and 6 days if refrigerated.
Doxorubicin \( mg \) (45 mg/m\(^2\)) IV on day 1
- Potent vesicant
- Available in 2-mg/mL solution; no need to further dilute.
- Given IV push through the sidearm port of a freely flowing IV.
Etoposide \( mg \) (50 mg/m\(^2\)) IV over 30–60 minutes on days 1–5
- Available in 20-mg/mL solution.
- May be further diluted with NS or D5W.
- Stability is dependent on final concentration. A concentration of 0.2 mg/mL is stable for 48 hours in a plastic container at room temperature or 96 hours in a glass container at room temperature (under normal fluorescent light).

Major Side Effects
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia. Effects are dose related. GCSF support recommended.
- GI Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis can occur.
- Skin: Tissue necrosis with extravasation. Hyperpigmentation, radiation recall, and nail changes are seen. Alopecia will occur.
- Cardiovascular: Hypotension may occur with rapid infusion of etoposide. Cardiomyopathy may occur with high cumulative doses of doxorubicin.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- ♠ pegfilgrastim (Neulasta)
- ♠ filgrastim (Neupogen)
- ♠ epoetin alfa (Procrit)
- ♠ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 4 hours on day 1 and 2 hours on days 2–5. Repeat cycle every 21 days.
Estimated number of visits: Six visits per cycle; request three cycles worth. May require extra visits for hydration.

Dose Calculation by:
1. 
2. 

Physician __________________________ Date __________________________

Patient Name __________________________

ID Number __________________________

Diagnosis __________________________

Ht __________________________

Wt __________________________

M \(^{2}\) __________________________
Single-Agent Regimens

**Etoposide**

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 19-9

**Baseline procedures or tests:** N/A

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT₃

**Administer:**
- **Etoposide** ________mg (160 mg/m²/day) PO on days 1–5
- **OR**
  - **Etoposide** ________mg (50 mg/m²) PO bid on days 1–21

- Available in 50- or 100-mg capsules for oral use.
- May give as a single dose up to 400 mg; > 400 mg, divide dose into two to four doses.
- Store in refrigerator.

**Major Side Effects**
- Bone Marrow Depression: Nadir 10–14 days after drug dose. Neutropenia may be severe.
- GI Toxicities: Nausea and vomiting occur in 30%–40% of patients and are generally mild to moderate. More commonly observed with oral administration. Metallic taste to food.
- Skin: Alopecia observed in nearly two thirds of patients.
- Neurotoxicities: Peripheral neuropathies may occur but are uncommon and mild.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** No chair time. Repeat cycle every 28 days as tolerated or until disease progression.

**Estimated number of visits:** One visit per cycle. Request three cycles worth of visits.

**Dose Calculation by:** 1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________/ ________________/ ________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg^{2+}) and CEA
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel __________ mg (80–100 mg/m^2) IV weekly for 3 weeks
• Available in 30-mg (6 mg/mL), 100-mg (16.7 mg/mL), and 300-mg (6 mg/mL) vials.
• Further dilute in 250–500 cc NS or D5W. Final concentration is ± 1.2 mg/mL.
• Use non-PVC tubing and containers and a 0.22-micron inline filter to administer.

Major Side Effects
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• GI Toxicity: Nausea and vomiting occur in 52% of patients, mild and preventable with anitmetics. Diarrhea in 38% of patients and stomatitis in 31%.
• Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. More frequent with longer infusions and at doses > 175 mg/m^2.
• Ototoxicity occurs in > 30% beginning with high-frequency hearing.
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours per week every 3 weeks. Repeat cycle every 28 days.
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. ____________________________________________

Physician ____________________ Date ____________________

Patient Name ____________________ ID Number ____________________

________________________/__ / ________________/ ____________________
Diagnosis Ht Wt M^2
### Topotecan

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 19-9

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 10 mg in 100 cc of NS

**Administer:** Topotecan ________ mg (1.5 mg/m²) IV over at least 30 minutes on days 1–5

Available as a 4-mg single-dose vial.
- Reconstitute vial with 4 mL of sterile water for injection.
- Further dilute in 0.9% sodium chloride or D5W.
- Use immediately.

**Major Side Effects**
- Myelosuppression: Severe grade 4 myelosuppression seen during the first course of therapy in 60% of patients. Dose-limiting toxicity. Typical nadir occurs at days 7–10 with full recovery by days 21–28. If severe neutropenia occurs, reduce dose by 0.25 mg/m² for subsequent doses or may use G-CSF to prevent neutropenia 24 hours after last day of topotecan therapy.
- GI Toxicities: Mild to moderate nausea and vomiting, dose related. Occurs in 60%–80% of patients. Diarrhea occurs in 42% of patients, and constipation occurs in 39%. Abdominal pain may occur in 33% of patients.
- Flulike Symptoms: Headache, fever, malaise, arthralgias, and myalgias.
- Hepatic Toxicity: Evidence of increased drug toxicity in patients with low protein level and hepatic dysfunction. Dose reductions may be necessary.
- Renal: Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting. Microscopic hematuria seen in 10% of patients.
- Skin: Alopecia.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

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### Initiating antiemetic protocol:
Mildly to moderately emetogenic protocol.

### Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

### Treatment schedule:
Chair time 1 hour on days 1–5. Repeat every 21 days until disease progression.

### Estimated number of visits:
Six visits per course. Request three courses.

**Dose Calculation by:**
1. ____________________________ 2. ____________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Ht</th>
<th>Wt</th>
<th>M²</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
# Combination Regimens

## ABVD

- **Doxorubicin:** 25-mg/m^2^ IV on days 1 and 15  
- **Bleomycin:** 10-U/m^2^ IV on days 1 and 15  
- **Vinblastine:** 6-mg/m^2^ IV on days 1 and 15  
- **Dacarbazine:** 375-mg/m^2^ IV on days 1 and 15  
- Repeat cycle every 28 days.\(^1\,273\)

## MOPP

- **Nitrogen mustard:** 6-mg/m^2^ IV on days 1 and 8  
- **Vincristine:** 1.4-mg/m^2^ IV on days 1 and 8  
- **Procarbazine:** 100-mg/m^2^ PO on days 1–14  
- **Prednisone:** 40-mg/m^2^ PO on days 1–14  
- Repeat cycle every 28 days.\(^1\,274\)

## MOPP/ABVD Hybrid

- **Nitrogen mustard:** 6-mg/m^2^ IV on days 1 and 8  
- **Vincristine:** 1.4-mg/m^2^ IV on day 1 (maximum dose 2 mg)  
- **Procarbazine:** 100-mg/m^2^ PO on days 1–14  
- **Prednisone:** 40-mg/m^2^ PO on days 1–14  
- **Doxorubicin:** 35-mg/m^2^ IV on day 8  
- **Bleomycin:** 10-U/m^2^ IV on day 8  
- **Hydrocortisone:** 100-mg IV given before bleomycin  
- **Vinblastine:** 6-mg/m^2^ IV on day 8  
- Repeat cycle every 28 days.\(^1\,275\)

## MOPP Alternating with ABVD

See MOPP and ABVD regimens outlined earlier.
### Stanford V

- Nitrogen mustard: 6-mg/m² IV on day 1
- Doxorubicin: 25-mg/m² IV on days 1 and 15
- Vinblastine: 6-mg/m² IV on days 1 and 15
- Vincristine: 1.4-mg/m² IV on days 8 and 22 (maximum 2 mg)
- Bleomycin: 5-U/m² IV on days 8 and 22
- Etoposide: 60-mg/m² IV on days 15 and 16
- Prednisone: 40-mg/m² PO every other day, taper starting day 10

Repeat cycle every 28 days.\(^1\)\(^2\)\(^7\)\(^6\)

### BEACOPP

- Bleomycin: 10-U/m² IV on day 8
- Etoposide: 100-mg/m² IV on days 1–3
- Doxorubicin: 25-mg/m² IV on day 1
- Cyclophosphamide: 650-mg/m² IV on day 1
- Vincristine: 1.4-mg/m² IV on day 8 (maximum dose 2 mg)
- Procarbazine: 100-mg/m² PO on days 1–7
- Prednisone: 40-mg/m² PO on days 1–14

Repeat cycle every 21 days.\(^1\)\(^2\)\(^7\)\(^7\)

### BEACOPP Escalated

- Bleomycin: 10-U/m² IV on day 8
- Etoposide: 200-mg/m² IV on days 1–3
- Doxorubicin: 35-mg/m² IV on day 1
- Cyclophosphamide: 1200-mg/m² IV on day 1
- Vincristine: 1.4-mg/m² IV on day 8 (maximum dose 2 mg)
- Procarbazine: 100-mg/m² PO on days 1–7
- Prednisone: 40-mg/m² PO on days 1–14

Repeat cycle every 21 days.\(^1\)\(^2\)\(^7\)\(^8\)

- G-CSF 5 µg/kg/day SC starting on day 8 and continuing until neutrophil recovery.

### EVA

- Etoposide: 200-mg/m² IV on days 1–5
- Vincristine: 2-mg/m² IV on day 1 (maximum dose 2 mg)
- Doxorubicin: 50-mg/m² IV on day 2

Repeat cycle every 28 days.\(^1\)\(^2\)\(^7\)\(^9\)
### EVAP

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Time Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etoposide</td>
<td>120-mg/m² IV</td>
<td>days 1, 8, and 15</td>
</tr>
<tr>
<td>Vinblastine</td>
<td>4-mg/m² IV</td>
<td>days 1, 8, and 15</td>
</tr>
<tr>
<td>Cytarabine</td>
<td>30-mg/m² IV</td>
<td>days 1, 8, and 15</td>
</tr>
<tr>
<td>Cisplatin</td>
<td>40-mg/m² IV</td>
<td>days 1, 8, and 15</td>
</tr>
</tbody>
</table>

Repeat cycle every 28 days.\(^{1,280}\)

### Mini-BEAM

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Time Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCNU</td>
<td>60-mg/m² IV</td>
<td>day 1</td>
</tr>
<tr>
<td>Etoposide</td>
<td>75-mg/m² IV</td>
<td>days 2–5</td>
</tr>
<tr>
<td>Cytarabine</td>
<td>100-mg/m² IV</td>
<td>every 12 hours on days 2–5</td>
</tr>
<tr>
<td>Melphalan</td>
<td>30-mg/m² IV</td>
<td>day 6</td>
</tr>
</tbody>
</table>

Repeat cycle every 4–6 weeks.\(^{1,281}\)

### Single-Agent Regimen

#### Gemcitabine

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Time Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gemcitabine</td>
<td>1250-mg/m² IV</td>
<td>days 1, 8, and 15</td>
</tr>
</tbody>
</table>

Repeat cycle every 28 days.\(^{1,282}\)
**Combination Regimens**

**Doxorubicin, Bleomycin, Vinblastine, Dacarbazine (ABVD)**

**Baseline laboratory tests:** CBC: Chemistry, sedimentation rate, and MUGA
Laboratory tests: CBC before each treatment, central line placement

**Premedicate:** 5-HT3, dexamethasone, and acetaminophen

**Administer:**

**Doxorubicin:** _____ 25-mg/m² IV push on days 1 and 15
- Available as 2 mg/mL. Refrigerated. Given IV push through a free-flowing IV.

**Bleomycin:** _____ 10-U/m² IV push on days 1 and 15
- A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
- Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
- Stable for 24 hours when diluted with NS.
- Given IV push or further diluted in NS and infused or pushed over at least 10 minutes.
- Reduce dose with impaired renal function.

**Vinblastine** _____ 6-mg/m² IV push days 1 and 15.
- Vesicant
- Available in 1-mg/mL, 10-mg vials, refrigerated.
- Dilute with 10 mL of bacteriostatic water NS with benzyl alcohol.
- Should be clear and free of particulate matter.
- Given slow IV push over 1–2 minutes through side port of freely flowing IV.

**Dacarbazine** _____ 375-mg/m² IVPB over at least 1 hour on days 1 and 15.
- Vesicant
- Available in 100- and 200-mg vials, refrigerated.
- Add sterile water or NS to vial.
- Avoid exposure to light.
- Reconstituted solution should be yellow. Discard if solution turns pink or red.
- Myelosuppression: May be severe. Teach self-care measures to minimize risk of infection and bleeding. GCSF support may be needed.
- GI Toxicities: Nausea, vomiting, and anorexia, moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy.
- Flulike Symptoms: Fever, chills, malaise, myalgias, and arthralgias. May last for several days after treatment.
- Cardiotoxicity: Doxorubicin dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- Genitourinary (GU) toxicities: Discoloration of urine from pink to red up to 48 hours.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
- Pulmonary Toxicity: Pneumonitis occurs with Bleomycin in 10% of patients. Risk factors include age > 70 years, dose > 400 U.
- Skin Alterations: Alopecia total, hyperpigmentation of nail beds and dermal crease of hands, greatest in dark-skinned individuals. Radiation recall.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

**Major Side Effects**

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

- □ G-CSF _____ neupogen
- □ pegfilgrastim (Neulasta)
- □ epoetin alfa (Procrit)/darbepoetin alfa (Aranesp)
- □ Allopurinol
- □ Antibiotic
- □ Antifungal
Treatment schedule: Repeat cycle every 28 days for four to six cycles.
Estimated number of visits: Every other week.
Chair time: Chair time 2–3 hours on days 1 and 15.

Dose Calculation by: 1. __________________________ 2. __________________________

__________________________ __________________________
Physician Date

__________________________ __________________________
Patient Name ID Number

__________________________ __________________________
Diagnosis Ht Wt M²
Nitrogen Mustard, Vincristine, Procarbazine, Prednisone (MOPP)

Baseline laboratory tests: CBC: Chemistry, sedimentation rate
Draw blood before each chemotherapy administration

Premedicate: 5-HT₃ and dexamethasone

Administer:
- **Nitrogen mustard** 6-mg/m² IV push on days 1 and 8
  - Add 10 mL of sterile water or NS for final concentration of 1 mg/1 mL.
  - Prepare immediately before administrations (within 15 minutes).
  - Powerful vesicant; avoid contact with skin or eyes or inhaling powder.
  - Given IV push through the side port of a freely flowing IV.

- **Vincristine** 1.4-mg/m² IV push on days 1 and 8. Maximum dose 2 mg.
  - Available in 1-, 2-, and 5-mg vial. 1 mg/mL. Keep refrigerated.
  - Vesicant
  - Given IV push through a free-flowing IV.

- **Procarbazine** 100-mg/m² PO on days 1–14
  - Available in 50-mg tablets.

- **Prednisone** 40-mg/m² PO on days 1–14 taper:

**Major Side Effects**
- Myelosuppression: May be severe and dose-limiting toxicity.
- Cardiotoxicity: Decreased bioavailability of digoxin with procarbazine.
- Flulike Syndrome: Fever, chills, sweating, lethargy, myalgia, and arthralgia common.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgia, and late severe motor difficulties. Jaw pain. Tinnitus, deafness, and other signs of eighth cranial nerve damage. Central nervous system (CNS) toxicity with paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and/or seizures.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Pulmonary Toxicity: Pneumonitis in 10% of patients. Risk factors include age > 70, dose > 400 U.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.

Supportive drugs:
- G-CSF (neupogen) 
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)/
- darbepoetin alfa (Aranesp)
- Allopurinol
- Antibiotic
- Antifungal

Treatment schedule: Repeat cycle every 28 days for four to six cycles.

Estimated number of visits: 16

Chair time: Chair time 1 hour on days 1 and 15.
Dose Calculation by: 1. ______________________ 2. ______________________

__________________________
Physician

__________________________
Date

__________________________
Patient Name

__________________________
ID Number

__________________________
Diagnosis

Ht Wt M²
MOPP/ABVD Hybrid

Baseline laboratory tests: CBC: Chemistry, sedimentation rate, MUGA
Laboratory tests: CBC before each treatment
Premedicate: 5-HT3, dexamethasone, and acetaminophen
Administer: Nitrogen mustard: _________ 6-mg/m² IV push on days 1 and 8.
• Powerful vesicant; avoid contact with skin and eyes or inhaling powder.
• Add 10 mL of sterile water or NS for final concentration 1 mg/1 mL.
• Prepare immediately before administration (within 15 minutes). Given IV push through the side port of a freely flowing IV.
Vincristine: __________ 1.4-mg/m² IV on day 1. Maximum dose 2 mg.
• Vesicant.
• Available in 1 mg/mL 1-, 2-, and 5-mg vial, refrigerated. Given IV push through a free-flowing IV.
Procarbazine: __________ 100-mg/m² PO on days 1–14
• Available in 50-mg capsules.
Prednisone: __________ 40-mg/m² PO on days 1–14; take with breakfast.
Doxorubicin: 35-mg/m² IV on day 8
• Potent Vesicant
• Available as 2 mg/mL.
• Refrigerated. Given IV push through a free-flowing IV.
Bleomycin: ________ 10-units/m² IV push day 8
• A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
• Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in DSW.
• Stable for 24 hours when diluted with NS.
• Given IV push or further diluted in NS and infused or pushed over at least 10 minutes.
• Reduce dose with impaired renal function
Hydrocortisone: ________ 100-mg IV given before bleomycin (not needed if dexamethasone given as an antiemetic)
Vinblastine: __________ 6-mg/m² IV on day 8
• Vesicant
• 10-mg vial, 1 mg/mL. Refrigerated.
• Rapid push through a free-flowing IV.

Major Side Effects
• Myelosuppression: May be severe and dose limiting.
• GI Toxicities: Nausea, vomiting, and anorexia; moderate to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy. Antabuse-like reaction with alcohol and procarbazine. MAO inhibitor activity. Avoid the following foods: beer, wine, cheese, brewer's yeast, chicken liver, and bananas.
• Cardiotoxicity: Dose limit 450–550 mg/m²; decreased bioavailability of digoxin with procarbazine.
• Flulike Syndrome: Fever, chills, sweating, lethargy, myalgias, and arthralgias common.
• GU Toxicities: Discoloration of urine from pink to red up to 48 hours.
• Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. CNS toxicity with paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and/or seizures.
• Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium levels. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
• Pulmonary Toxicity: Pneumonitis in 10% of patients. Risk factors include age > 70, dose > 400 U.
• Skin Alterations: Alopecia total, hyperpigmentation of nail beds and dermal crease of hands, greatest in dark-skinned individuals. Radiation recall. Sun sensitivity.
• Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
   □ G-CSF _____ neutrogen
   □ pegfilgrastim (Neulasta)
   □ epoetin alfa (Procrit)/
   □ Allopurinol_____
   □ darbepoetin alfa (Aranesp)_____
   □ Antibiotic ________
   □ Antifungal _______

Treatment schedule: Repeat cycle every 28 days for four to six cycles.
Estimated number of visits: Every other week for six weeks.
Chair time: Chair time 2 hours on days 1 and 15.

Dose Calculation by: 1. ____________________________ 2. ____________________________

______________________________ ________________________
Physician Date
______________________________ ________________________
Patient Name ID Number
______________________________ ________________________
Diagnosis Ht Wt M²
MOPP Alternating with ABVD (see MOPP and ABVD regimens outlined previously)

Stanford V

Baseline laboratory tests: CBC: Chemistry, sedimentation rate, and MUGA
Laboratory tests: CBC before each treatment
Premedicate: 5-HT3, dexamethasone, and acetaminophen
Administer:

**Nitrogen mustard:** _______ 6-mg/m² IV on day 1
- Add 10 mL of sterile water or NS for final concentration of 1 mg/1 mL.
- Prepare immediately before administrations (within 15 minutes). Given as an IV push through side port of freely flowing IV.
- Powerful vesicant; avoid contact with skin and eyes or inhaling powder.

**Doxorubicin:** __________ 25-mg/m² IV on days 1 and 15
- Potent vesicant
- Available as 2 mg/mL. Refrigerated. Given IV push through a free-flowing IV.

**Vinblastine:** _______ 6-mg/m² IV on days 1 and 15. Reduce to 4–6 mg/m² on weeks 9 and 12 if age > 50 years.
- Vesicant
- 10-mg vial, 1 mg/mL. Refrigerated.
- Rapid push through a free-flowing IV.

**Vincristine:** __________ 1.4-mg/m² IV on days 8 and 22 (maximum dose 2 mg). Reduce to 1 mg/m² on weeks 9 and 12 if age > 50 years.
- Available in 1 mg/mL 1-, 2-, and 5-mg vial.
- Given IV push through sidearm of freely flowing IV.
- Keep refrigerated.
- Vesicant
- Given IV push through a free-flowing IV.

**Bleomycin:** ______ 5 units/m² IV push on days 8 and 22
- A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
- Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
- Stable for 24 hours when diluted with NS.
- Given IV push or further diluted in NS and infused or pushed over at least 10 minutes.
- Reduce dose with impaired renal function.

**Etoposide:** ___________ 60-mg/m² IV infusion on days 15 and 16
- Available in 500- and 1000-mg vials, 20 mg/mL.
- Further dilute with NS or D5W to 0.1-mg/mL final concentration.
- Give over 30–60 minutes to minimize risk of hypotension.
- Stable 48 hours at room temperature.
- Enhances warfarin action by increasing PT.
- Dose modification for increased bilirubin level or creatinine clearance.

**Prednisone:** _______ 40-mg/m² PO every other day. Taper starting on week 10.
- Take with breakfast.

**Prophylactic:** Bacitracin DS PO bid, acyclovir 200-mg PO tid

*Major Side Effects*

- Myelosuppression: May be severe. Teach self-care measures to minimize risk of infection and bleeding.
- Hypersensitivity Reactions: Characterized by hypotension, bronchospasms, or wheezing may occur with bleomycin and etoposide.
- GI Toxicities: Nausea, vomiting, and anorexia; moderate to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy.
- Cardiotoxicity: Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- Flulike Syndrome: Fever, chills, sweating, lethargy, myalgias, and arthralgias common.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
- Pulmonary Toxicity: Pneumonitis occurs in 10% of patients. Risk factors include age > 70, dose > 400 U.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol:
- Moderately to highly emetogenic protocol.

Supportive drugs:
- G-CSF _____neupogen
- pegfilgrastim (Neulasta) + G-CSF _____
- epoetin alfa (Procrit)/ darbepoetin alfa (Aranesp) ____
- Bactrim DS PO BID
- Acyclovir 200-mg PO TID
- Allopurinol_____
- Antibiotic ______
- Antifungal ______

Treatment schedule:
- Repeat cycle every 28 days for three cycles.

Estimated number of visits:
- Weekly chemotherapy for 16 visits.

Chair time:
- Chair time 1–2 hours weekly.

Dose Calculation by:

1. ____________________________ 2. ____________________________

____________________________ ________________/ ________________/ ________________

Physician Date

Patient Name ID Number

____________________________ ______________________

Ht Wt M²
Hodgkin’s Disease

Bleomycin, Etoposide, Doxorubicin, Cyclophosphamide, Vincristine, Procarbazine, Prednisone (BEACOPP)

Baseline laboratory tests:
- CBC: Chemistry, sedimentation rate, and MUGA
- CBC before each treatment
- 5-HT₃, dexamethasone, and acetaminophen

Laboratory tests:
- CBC before each treatment

Premedicate:

Administer:

- **Bleomycin:** _______ 10-units/m² IV push on day 8
  - A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
  - Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
  - Stable for 24 hours when diluted with NS.
  - Given IV push or further diluted in NS and infused or pushed over at least 10 minutes.
  - Reduce dose with impaired renal function.

- **Etoposide:** _________ 100-mg/m² IV infusion on days 1–3
  - Available in 100-mg/5-mL vials, 20 mg/mL.
  - Further dilute with NS or D5W to 0.1-mg/mL final concentration.
  - Give over 30–60 minutes to minimize the risk of hypotension.
  - Stable at 48 hours at room temperature.
  - Enhances warfarin action by increasing PT.
  - Dose modification for increased bilirubin level or creatinine clearance.

- **Doxorubicin:** __________ 25-mg/m² IV on day 1
  - Vesicant
  - Available as 2 mg/mL.
  - Refrigerated.
  - Given IV push through a free-flowing IV.

- **Cyclophosphamide:** _______ 650-mg/m² IV on day 1
  - Dilute with sterile water or bacteriostatic water for injection or paraben preserved; shake well until solution is clear.
  - Final concentration equals 20 mg/mL.
  - Further dilute into NS or D5W 250–500 mL.

- **Vincristine:** __________ 1.4-mg/m² IV on day 8 (maximum dose 2 mg)
  - Vesicant
  - Available in 1 mg/mL 1-, 2-, and 5-mg vials.
  - Keep refrigerated.
  - Given IV push through a free-flowing IV.

- **Procarbazine** __________ 100-mg/m² PO on days 1–7
  - Available in 50-mg tablets.

- **Prednisone** __________ 40-mg/m² PO on days 1–14.
  - Take with breakfast.

**Major Side Effects**

- **Myelosuppression:** Dose-limiting toxicity. Teach self-care measures to minimize risk of infection and bleeding.
- **Hypersensitivity Reactions:** Characterized by hypotension, bronchospasms, or wheezing may occur with bleomycin and etoposide.
- **GI Toxicities:** Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy. Antabuse-like reaction with alcohol and procarbazine. MAO inhibitor activity. Avoid the following foods: beer, wine, cheese, brewer’s yeast, chicken liver, and bananas.
- **Cardiotoxicity:** Doxorubicin dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- **Flulike Syndrome:** Fever, chills, sweating, lethargy, myalgias, and arthralgias common.
• GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; it is preventable with appropriate hydration.

• Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. CNS toxicity with paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and/or seizures.

• Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.

• Pulmonary Toxicity: Pneumonitis occurs in 10% of patients. Risk factors include age > 70, dose > 400 U.

• Skin Alterations: Alopecia total, hyperpigmentation of nail beds and dermal crease of hands, greatest in dark-skinned individuals. Radiation recall. Sun sensitivity.

• Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol

Supportive drugs:

- G-CSF ______
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)/ Allopurinol ______
- darbepoetin alfa (Aranesp) ______
- Antibiotic ______
- Antifungal _______

Treatment schedule: Repeat cycle every 21 days.

Estimated number of visits: Five visits every 3 weeks.

Chair time: Chair time 1–3 hours day 1; 2 hours days 2 and 3; 1 hour day 8.

Dose Calculation by:

1. __________________________________ 2. __________________________________

Physician Date

Patient Name ID Number

Diagnosis Ht Wt M 2
Bleomycin, Etoposide, Doxorubicin, Cyclophosphamide, Vincristine, Procarbazine, Prednisone (BEACOPP Escalated)

Baseline laboratory tests: CBC: Chemistry, sedimentation rate, and MUGA.
Laboratory tests: CBC before each treatment.
Premedicate: 5-HT3, dexamethasone, and acetaminophen.
Administer:

**Bleomycin:** _______ 10-units/m² IV push day 8
- A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
- Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
- Stable for 24 hours when diluted with NS.
- Given IV push or further diluted in NS and infused or pushed over at least 10 minutes.
- Reduce dose with impaired renal function.

**Etoposide:** ___________ 200-mg/m² IV infusion on days 1–3
- Available in 500- and 1000-mg vials, 20 mg/mL.
- Further dilute with NS or D5W to 0.1-mg/mL final concentration.
- Give over 30–60 minutes to minimize risk of hypotension.
- Stable 48 hours at room temperature.
- Enhances warfarin action by increasing PT.
- Dose modification for increased bilirubin level or creatinine clearance.

**Doxorubicin:** ____________ 35-mg/m² IV on day 1
- Vesicant
- Available as 2 mg/mL.
- Refrigerated.
- Given IV push through a free-flowing IV.

**Cyclophosphamide:** _______ 1200-mg/m² IV on day 1
- Dilute with sterile water or bacteriostatic water for injection (paraben preserved only).
- Shake well until solution is clear.
- Final concentration equals 20 mg/mL.
- Further dilute into NS or D5W 250–500 mL.

**Vincristine:** ____________ 1.4-mg/m² IV on day 8 (maximum dose 2 mg)
- Vesicant
- Available in 1 mg/mL 1-, 2-, and 5-mg vial.
- Keep refrigerated.
- Given IV push through a free-flowing IV.

**Procarbazine** _______ 100-mg m² PO on days 1–7
- Available in 50-mg tablets.

**Prednisone:** ______ 40-mg/m² PO on days 1–14.
- Take with breakfast.
- Repeat cycle every 21 days. G-CSF, at 5-µg/kg/day SQ, starting at day 8 and continuing until neutrophil recovery.

**Major Side Effects**

- **Myelosuppression:** Dose-limiting toxicity. Teach self-care measures to minimize risk of infection and bleeding. G-CSF recommended.
- **Hypersensitivity Reactions:** Characterized by hypotension, bronchospasms, or wheezing may occur with bleomycin and etoposide.
- **GI Toxicities:** Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy. Antabuse-like reaction with alcohol and procarbazine. MAO inhibitor activity. Avoid the following foods: beer, wine, cheese, brewer's yeast, chicken liver, and bananas.
• Cardiotoxicity: Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.

• Flu-like Syndrome: Fever, chills, sweating, lethargy, myalgias, and arthralgias common.

• GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.

• Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. CNS toxicity with paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and/or seizures.

• Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.

• Pulmonary Toxicity: Pneumonitis occurs in 10% of patients. Risk factors include age > 70, dose > 400 U.

• Skin Alterations: Alopecia total, hyperpigmentation of nail beds and dermal crease of hands, greatest in dark-skinned individuals. Radiation recall. Sun sensitivity.

• Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.

Supportive drugs:
- □ G-CSF
- □ pegfilgrastim (Neulasta)
- □ epoetin alfa (Procrit)
- □ Allopurinol
- □ darbeepoetin alfa (Aranesp)
- □ Antibiotic
- □ Antifungal

Treatment schedule:
Repeat cycle every 21 days.

Estimated number of visits:
Five visits every 3 weeks.

Chair time:
Chair time 1–3 hours day 1; 2 hours days 2 and 3; 1 hour day 8.

Dose Calculation by:
1. ________________________________ 2. ________________________________

Physician
Date

Patient Name
ID Number

_______________________________________
Diagnosis
Ht Wt M²
Hodgkin’s Disease

**Etoposide, Vincristine, Doxorubicin (EVA)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, sedimentation rate, and MUGA</th>
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</thead>
<tbody>
<tr>
<td>Laboratory tests:</td>
<td>CBC before each treatment</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT₃ and dexamethasone</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Etoposide:</strong> 200-mg/m² IV infusion on days 1–5</td>
</tr>
<tr>
<td></td>
<td>• Available in 500- and 1000-mg vials, 20 mg/mL.</td>
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<td></td>
<td>• Further dilute with NS or D5W to 0.1-mg/mL final concentration.</td>
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<td></td>
<td>• Give over 30–60 minutes to minimize risk of hypotension.</td>
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<td></td>
<td>• Stable 48 hours at room temperature.</td>
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<td></td>
<td>• Enhances warfarin action by increasing PT.</td>
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<td></td>
<td>• Dose modification for increased bilirubin level or creatinine clearance.</td>
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<tr>
<td></td>
<td><strong>Vincristine:</strong> 2-mg IV on day 1 (maximum dose, 2 mg)</td>
</tr>
<tr>
<td></td>
<td>• Available in 1-, 2-, and 5-mg vial.</td>
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<td></td>
<td>• Keep refrigerated.</td>
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<tr>
<td></td>
<td>• <strong>Vesicant</strong></td>
</tr>
<tr>
<td></td>
<td>• Given IV push through a free-flowing IV.</td>
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<td></td>
<td><strong>Doxorubicin:</strong> 50-mg/m² IV on day 2</td>
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<tr>
<td></td>
<td>• <strong>Vesicant</strong></td>
</tr>
<tr>
<td></td>
<td>• Available as 2 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Refrigerated.</td>
</tr>
<tr>
<td></td>
<td>• Given IV push through a free-flowing IV.</td>
</tr>
<tr>
<td></td>
<td>• Repeat cycle every 28 days.</td>
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</tbody>
</table>

**Major Side Effects**

- Myelosuppression: May be severe. Teach self-care measures to minimize risk of infection and bleeding.
- Hypersensitivity Reactions: Characterized by hypotension, bronchospasms, or wheezing may occur with etoposide.
- GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy.
- Cardiotoxicity: Doxorubicin dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

<table>
<thead>
<tr>
<th>Supportive drugs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ G-CSF (Neupogen)</td>
</tr>
<tr>
<td>□ pegfilgrastim (Neulasta)</td>
</tr>
<tr>
<td>□ epoetin alfa (Procrit)</td>
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<tr>
<td>□ Allopurinol</td>
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<tr>
<td>darbepoetin alfa (Aranesp)</td>
</tr>
<tr>
<td>□ Antibiotic</td>
</tr>
<tr>
<td>□ Antifungal</td>
</tr>
</tbody>
</table>

**Estimated number of visits:** Six visits per cycle.

**Treatment schedule:** Repeat cycle every 28 days.

**Chair time:** Chair time 2–3 hours day 1; 2 hours day 2–5.
Dose Calculation by: 1. __________________________ 2. __________________________

Physician

Date

Patient Name

ID Number

Diagnosis

Ht    Wt    M$^2$
Etoposide, Vinblastine, Cytarabine, Cisplatin (EVAP)

Baseline laboratory tests: CBC: Chemistry panel (especially blood urea nitrogen [BUN], Cr, Na⁺, Mg²⁺, Ca²⁺, K), sedimentation rate, and MUGA.

Premedicate: 5-HT₃ and dexamethasone

Administer:

**Etoposide**: ______ 120-mg/m² IV infusion on days 1, 8, and 15
- Available in 500- and 1000-mg vials, 20 mg/mL.
- Further dilute with NS or D5W to 0.1-mg/mL final concentration.
- Give over 30–60 minutes to minimize risk of hypotension.
- Stable 48 hours at room temperature.
- Enhances warfarin action by increasing PT.
- Dose modification for increased bilirubin level or creatinine clearance.

**Vinblastine**: ______ 4-mg/m² IV on days 1, 8, and 15.
- Vesicant
- 10-mg vial, 1 mg/mL.
- Refrigerated.
- Rapid push through a free-flowing IV

**Cytarabine**: ______ 30-mg/m² IV over 1–2 hours on days 1, 8, and 15.
- Irritant.
- Reconstitute with water with benzyl alcohol, then dilute with 0.9% sodium chloride or D5W.
- Reconstituted drug is stable for 48 hours at room temperature, 7 days refrigerated (fill pump for no more than 48-hour infusion and refill).

**Cisplatin**: ______ 40-mg/m² IV on days 1, 8, and 15
- Available in 100-mg vials, 1-mg/mL concentration.
- Further dilute to 100–1000 mL with NS.
- Do NOT mix with D5W.
- Avoid aluminum needles.
- Stable for 24 hours at room temperature.
- Reduces renal clearance of etoposide and decreases effect of phenytoin.
- Cisplatin is inactivated in the presence of alkaline solutions containing sodium bicarbonate.

**Major Side Effects**

- Myelosuppression: May be severe. Teach self-care measures to minimize risk of infection and bleeding.
- Hypersensitivity Reactions: Characterized by hypotension, bronchospasms, or wheezing may occur with etoposide. Hypersensitivity reactions can occur with cisplatin.
- GI Toxicities: Nausea, vomiting and anorexia, metallic taste of foods; moderate to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy can occur.
- Potential Renal Damage: Dose-limiting toxicity with cisplatin. Can be prevented by adequate hydration and diuresis.
- Neurotoxicity: Dose limiting. Effects on renal function dose related and seen in 10–20 days after therapy. Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. At high doses includes cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, difficulty with fine motor coordination, lethargy, or somnolence. Ototoxicity: High-frequency hearing loss and tinnitus.
- Renal: Dose-limiting toxicity and may be cumulative and presents at 10–20 days. May result in necrosis of proximal and distal renal tubules preventing reabsorption of Mg²⁺, Ca²⁺, and K⁺. Can be avoided with adequate hydration, diuresis as well as slower infusion time.
• Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.

Supportive drugs:
- G-CSF (Neupogen)
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- Allopurinol
- Antibiotic
- Antifungal

Treatment schedule: Repeat cycle every 28 days.

Estimated number of visits: Weekly chemotherapy, for 16 visits.

Chair time: Chair time 2–3 hours.

Dose Calculation by: 1. ___________________________ 2. ___________________________

______________________________ ______________________________
Physician Date

______________________________ ______________________________
Patient Name ID Number

______________________________ ______________________________
Diagnosis Ht Wt M²
Carmustine (BCNU), Etoposide, Cytarabine, Melphalan (Mini-BEAM)

Baseline laboratory tests: CBC, Chemistry panel (especially BUN, Cr, Na⁺, Mg²⁺, Ca²⁺, K), sedimentation rate, and pulmonary function tests.

Premedicate: 5-HT₃ and dexamethasone.

Administer:
- **Carmustine**: _________ 60-mg/m² IV over 1–2 hours on day 1
  - Add sterile alcohol to vial, and dilute with sterile water.
  - Further dilute with 100–250 mL of D5W or NS.
  - Reconstituted solution stable for 8 hours at room temperature and 24 hours refrigerated.
  - Cimetidine and amphotericin B increase toxicity, and carmustine decreases plasma levels of digoxin and phenytoin.

- **Etoposide**: _________ 75-mg/m² IV infusion on days 2–5
  - Available in 500- and 1000-mg vials, 20 mg/mL.
  - Further dilute with NS or D5W to 0.1-mg/mL final concentration.
  - Give over 30–60 minutes to minimize risk of hypotension.
  - Stable for 48 hours at room temperature.
  - Enhances warfarin action by increasing PT.
  - Dose modification for increased bilirubin level or creatinine clearance.

- **Cytarabine**: _________ 100-mg/m² IV every 12 hours over 1–2 hours on days 2–5.
  - Irritant.
  - Reconstitute with water with benzyl alcohol, and then dilute with NS or D5W.
  - Reconstituted drug is stable for 48 hours at room temperature.

- **Melphalan**: _________ 30-mg/m² IV over 30–45 minutes on day 6.
  - Irritant.
  - 50-mg vial diluted with provided diluent, to a final concentration of 5 mg/mL.
  - Further dilute in 100–150 mL of NS.
  - Use 0.45-µ filter.
  - Stable for 1 hour at room temperature.
  - Dose reductions for abnormal renal function.

**Major Side Effects**
- Myelosuppression: May be severe, delayed, and prolonged. Teach self-care measures to minimize risk of infection and bleeding.
- Hypersensitivity Reactions: Characterized by hypotension, bronchospasms, or wheezing may occur with etoposide and melphalan. Hypersensitivity reactions can occur with cisplatin.
- GI Toxicities: Nausea, vomiting, and anorexia, metallic taste of foods; moderate to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy can occur. Watch LFT changes.
- Neurotoxicity: Dose limiting. Effects on renal function dose related and seen 10–20 days after therapy. Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. At high doses includes cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, difficulty with fine motor coordination, lethargy, or somnolence.
- Electrolyte Imbalance: Hypomagnesemia, hypocalcemia, and hypokalemia.
- Pulmonary Toxicity: Dose related > 1400 mg carmustine. Presents with cough and dyspnea. Obtain baseline pulmonary function tests. Chest x-ray study shows pulmonary infiltrates.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.
Supportive drugs:

- G-CSF (Neupogen)
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)
- Allopurinol
- darbepoetin alfa (Aranesp)
- Antibiotic
- Antifungal

Treatment schedule:
Repeat cycle every 28 days.

Estimated number of visits:
Seven visits per cycle. Request 3–6 cycles of visits.

Chair time:
Chair time 3 hours day 1–5; 1–2 hours day 6.

Dose Calculation by:
1. ________________________________ 2. ________________________________

Physician ________________________________ Date ________________________________

Patient Name ________________________________ ID Number ________________________________

Diagnosis ________________________________ Ht / Wt / M² ________________________________
**Single-Agent Regimen**

**Gemcitabine (Gemzar)**

**Baseline laboratory tests:** CBC, Chemistry, LFTs, and RFTs  
**Initiate IV:** NS  
**Premedicate:** 5-HT₃ and dexamethasone  
**Administer:** Gemcitabine _________ 1250-mg/m² IV infusion on days 1, 8, and 15  
- Available in 200- and 1000-mg vial. 40 mg/mL.  
- Reconstitute with 5 mL of preservative-free NS for 200-mg vial and 25 mL of NS for 1-g vial.  
- Shake vial until mixture is dissolved.  
- Concentration is 38 mg/mL.  
- Further dilute in 250–500 cc NS and infuse over 30 minutes. May cause some irritation with infusion.

**Major Side Effects**  
- Myelosuppression: Dose-limiting toxicity, with grade 3 and 4 neutropenia, thrombocytopenia.  
- GI Toxicities: Nausea and vomiting, anorexia, stomatitis, and diarrhea.  
- Flulike Syndrome: Transient febrile episodes. Treat with acetaminophen.  
- Skin Alterations: Erythematous, pruritic, and/or maculopapular, appearing on neck and extremities. Edema mild to moderate and not related to renal, hepatic, or cardiac impairment. Alopecia occurs in about 15% of patients and is reversible.  
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  
**Supportive drugs:**  
- G-CSF (Neupogen)  
- pegfilgrastim (Neulasta)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- Allopurinol  
- Antibiotic  
- Antifungal

**Treatment schedule:** Repeat every 28 days.  
**Estimated number of visits:** Weekly  
**Chair time:** 1 hour

**Dose Calculation by:**  
1. __________________________________ 2. ____________________________________________  
_____________________________________________ ______________________________________________________  

**Physician**  
**Date**

**Patient Name**  
**ID Number**

**Diagnosis**  
Ht _________/ Wt _________/ M²
LOW-GRADE Combination Regimens

CVP

Cyclophosphamide: 400-mg/m² PO on days 1–5 (or 800-mg/m² IV on day 1)
Vincristine: 1.4-mg/m² IV on day 1 (maximum 2 mg)
Prednisone: 100-mg/m² PO on days 1–5
Repeat cycle every 21 days.1,283

CNOP

Cyclophosphamide: 750-mg/m² IV on day 1
Mitoxantrone: 10-mg/m² IV on day 1
Vincristine: 1.4-mg/m² IV on day 1 (maximum 2 mg)
Prednisone: 50-mg/m² PO on days 1–5
Repeat cycle every 21 days.1,284

FND

Fludarabine: 25-mg/m² IV on days 1–3
Mitoxantrone: 10-mg/m² IV on day 1
Dexamethasone: 20-mg PO on days 1–5
Bactrim DS: 1 tablet PO bid, three times per week
Repeat cycle every 21 days.1,285

FC

Fludarabine: 20-mg/m² IV on days 1–5
Cyclophosphamide: 1000-mg/m² IV on day 1
Bactrim DS: 1 tablet PO bid
Repeat cycle every 21–28 days.1,286

CHOP

Cyclophosphamide: 750-mg/m² IV on day 1
Doxorubicin: 50-mg/m² IV on day 1
Vincristine: 1.4-mg/m² IV on day 1 (maximum 2 mg)
Prednisone: 100-mg/m² PO on days 1–5
Repeat cycle every 21 days.1,287
**INTERMEDIATE-GRADE**

**CHOP**
- Cyclophosphamide: 750-mg/m² IV on day 1
- Doxorubicin: 50-mg/m² IV on day 1
- Vincristine: 1.4-mg/m² IV on day 1 (maximum 2 mg)
- Prednisone: 100-mg PO on days 1–5
- Repeat cycle every 21 days.¹²⁸⁷

**CNOP**
- Cyclophosphamide: 750-mg/m² IV on day 1
- Mitoxantrone: 10-mg/m² IV on day 1
- Vincristine: 1.4-mg/m² IV on day 1 (maximum 2 mg)
- Prednisone: 100-mg PO on days 1–5
- Repeat cycle every 21 days.¹²⁸⁸

**EPOCH**
- Etoposide: 50-mg/m²/day IV continuous infusion on days 1–4
- Prednisone: 60-mg/m² PO on days 1–5
- Vincristine: 0.4-mg/m²/day IV continuous infusion on days 1–4
- Cyclophosphamide: 750-mg/m² IV on day 5; begin after infusion
- Doxorubicin: 10-mg/m²/day IV continuous infusion on days 1–4
- Bactrim DS: One tablet PO bid three times per week
- Repeat cycle every 21 days.¹²⁸⁹

**EPOCH + Rituximab**
- Etoposide: 50-mg/m²/day IV continuous infusion on days 1–4
- Prednisone: 60-mg/m² PO bid on days 1–5
- Vincristine: 0.4-mg/m²/day IV continuous infusion on days 1–4
- Cyclophosphamide: 750-mg/m² IV on day 5; begin after infusion
- Doxorubicin: 10-mg/m²/day IV continuous infusion on days 1–4
- Rituximab: 375-mg/m² IV on day 0 prior to continuous infusion
- Bactrim DS: 1 tablet PO bid 3 times per week
- Repeat cycle every 21 days.¹²⁹⁰
### MACOP-B

<table>
<thead>
<tr>
<th>Therapy details</th>
<th>Dosage details</th>
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<tbody>
<tr>
<td>Methotrexate</td>
<td>400-mg/m² IV on weeks 2, 6, and 10</td>
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<tr>
<td>Leucovorin</td>
<td>15-mg/m² PO every 6 hours for 6 doses, beginning 24 hours after methotrexate</td>
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<tr>
<td>Doxorubicin</td>
<td>50-mg/m² IV on weeks 1, 3, 5, 7, 9, and 11</td>
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<td>Cyclophosphamide</td>
<td>350-mg/m² IV on weeks 1, 3, 5, 7, 9, and 11</td>
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<tr>
<td>Vincristine</td>
<td>1.4-mg/m² IV on weeks 2, 4, 6, 8, 10, and 12</td>
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<td>Prednisone</td>
<td>75-mg/day PO for 12 weeks with taper over the last 2 weeks</td>
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<td>Bleomycin</td>
<td>10-U/m² IV on weeks 4, 8, and 12</td>
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<td>Bactrim DS</td>
<td>One tablet PO bid</td>
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<tr>
<td>Ketoconazole</td>
<td>200-mg/day PO</td>
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Administer one cycle.1,291

### m-BACOD

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<td>Leucovorin</td>
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<td>Bleomycin</td>
<td>4-U/m² IV on day 1</td>
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<tr>
<td>Doxorubicin</td>
<td>45-mg/m² IV on day 1</td>
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<td>Cyclophosphamide</td>
<td>600-mg/m² IV on day 1</td>
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<tr>
<td>Vincristine</td>
<td>1-mg/m² IV on day 1 (maximum 2 mg)</td>
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<tr>
<td>Dexamethasone</td>
<td>6-mg/m² PO on days 1–5</td>
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Repeat cycle every 21 days.1,292

### ProMACE/CytA/BOM

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<td>Etoposide</td>
<td>120-mg/m² IV on day 1</td>
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<td>Cytarabine</td>
<td>300-mg/m² IV on day 8</td>
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<tr>
<td>Bleomycin</td>
<td>5-U/m² IV on day 8</td>
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<td>Methotrexate</td>
<td>120-mg/m² IV on day 8</td>
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<tr>
<td>Leucovorin rescue</td>
<td>25-mg/m² PO every 6 hours for 6 doses beginning 24 hours after methotrexate</td>
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<tr>
<td>Bactrim DS</td>
<td>One tablet PO bid on days 1–21</td>
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</table>

Repeat cycle every 21 days.1,293
HIGH-GRADE

**Magrath Protocol (Burkitt’s Lymphoma)**

- Cyclophosphamide: 1200-mg/m² IV on day 1
- Doxorubicin: 40-mg/m² IV on day 1
- Vincristine: 1.4-mg/m² IV on day 1 (maximum 2 mg)
- Prednisone: 40-mg/m² PO on days 1–5
- Methotrexate: 300-mg/m² IV on day 10 for 1 hour and then 60-mg/m² IV on days 10 and 11 for 41 hours
- Leucovorin rescue: 15-mg/m² IV every 6 hours for 8 doses, starting 24 hours after methotrexate on day 12
- Intrathecal cytarabine: 30-mg/m² IT on day 7, cycle 1 only; 45-mg/m² IT on day 7 all subsequent cycles
- Intrathecal methotrexate: 12.5-mg IT on day 10, all cycles

Repeat cycle every 28 days.

**OR**

**Regimen A (CODOX-M)**

- Cyclophosphamide: 800-mg/m² IV on day 1 and 200-mg/m² IV on days 2–5
- Doxorubicin: 40-mg/m² IV on day 1
- Vincristine: 1.5-mg/m² IV on days 1 and 8 in cycle 1 and on days 1, 8, and 15 in cycle 3
- Methotrexate: 1200-mg/m² IV over 1 hour, followed by 240 mg/m²/hour for the next 23 hours on day 10
- Leucovorin: 192-mg/m² IV starting at hour 36 after the start of the methotrexate infusion and 12-mg/m² IV every 6 hours thereafter until serum methotrexate (MTX) levels < 50 nM

**CNS Prophylaxis**

- Cytarabine: 70-mg IT on days 1 and 3
- Methotrexate: 12-mg IT on day 15

Alternate Regimen A with Regimen B for 4 cycles.

**Regimen B (IVAC)**

- Ifosfamide: 1500-mg/m² IV on days 1–5
- Etoposide: 60-mg/m² IV on days 1–5
- Cytarabine: 2-g/m² IV every 12 hours on days 1 and 2 for a total of four doses
- Methotrexate: 12-mg IT on day 5
### Stanford Regimen (Small Non-Cleaved Cell and Burkitt’s Lymphoma)

- **Cyclophosphamide**: 1200-mg/m² IV on day 1
- **Doxorubicin**: 40-mg/m² IV on day 1
- **Vincristine**: 1.4-mg/m² IV on day 1 (maximum 2 mg)
- **Prednisone**: 40-mg/m² PO on days 1–5
- **Methotrexate**: 3-g/m² IV over 6 hours on day 10
- **Leucovorin rescue**: 25-mg/m² IV or PO every 6 hours for 12 doses beginning 24 hours after methotrexate
- **Intrathecal methotrexate**: 12-mg IT on days 1 and 10
- Repeat cycle every 21 days.1,296

### MANTLE CELL LYMPHOMA

**Bortezomib**

- **Bortezomib**: 1.5-mg/m² IV on days 1, 4, 8, and 11
- Repeat cycle every 21 days.1,297

### CD20⁺, B-CELL LYMPHOMAS

**CHOP + Rituximab (GELA Study)**

- **Cyclophosphamide**: 750-mg/m² IV on day 1
- **Doxorubicin**: 50-mg/m² IV on day 1
- **Vincristine**: 1.4-mg/m² IV on day 1 (maximum 2 mg)
- **Prednisone**: 40-mg/m² PO on days 1–5
- **Rituximab**: 375-mg/m² IV on day 1
- Repeat cycle every 21 days.1,298
  - Rituximab is to be administered first, followed by cyclophosphamide, doxorubicin, and vincristine.

**OR**

**CHOP + Rituximab (Nebraska Regimen)**

- **Cyclophosphamide**: 750-mg/m² IV on day 3
- **Doxorubicin**: 50-mg/m² IV on day 3
- **Vincristine**: 1.4-mg/m² IV on day 3 (maximum 2 mg)
- **Prednisone**: 100-mg PO on days 3–7
- **Rituximab**: 375-mg/m² IV on day 1
- Repeat cycle every 21 days.1,299
### Salvage Regimens

**ESHAP**
- Etoposide: 40-mg/m² IV on days 1–4
- Methylprednisolone: 500-mg IV on days 1–4
- Cisplatin: 25-mg/m²/day IV continuous infusion on days 1–4
- Cytarabine: 2000-mg/m² IV on day 5 after completion of cisplatin and etoposide
- Repeat cycle every 21 days.¹³⁰⁰

**DHAP**
- Cisplatin: 100-mg/m² IV on day 1
- Cytarabine: 2000-mg/m² IV over 2 hours every 12 hours for 2 doses on day 1
- Dexamethasone: 40-mg PO on days 1–14
- Repeat cycle every 3–4 weeks.¹³⁰¹

**ICE**
- Ifosfamide: 5000-mg/m² IV continuous infusion for 24 hours on day 2
- Etoposide: 100-mg/m² IV on days 1–3
- Carboplatin: AUC of 5.0, IV on day 2
- Mesna: 5000-mg/m² IV in combination with ifosfamide dose
- Repeat cycle every 14 days.¹³⁰²
- G-CSF is administered at 5 μg/kg on days 5–12.

**MINE**
- Mesna: 1330-mg/m² IV administered at same time as ifosfamide on days 1–3 and then 500-mg IV 4 hours after ifosfamide on days 1–3
- Ifosfamide: 1330-mg/m² IV on days 1–3
- Mitoxantrone: 8-mg/m² IV on day 1
- Etoposide: 65-mg/m² IV on days 1–3
- Repeat cycle every 21 days.¹³⁰³
LOW-GRADE
Combination Regimens

Cyclophosphamide, Vincristine, Prednisone (CVP)

Baseline laboratory tests: SMAC, CBC: sedimentation rate
Initiate IV: NS
Premedicate: 5-HT₃ and dexamethasone
Administer: Cyclophosphamide _______ 400-mg/m² PO on days 1–5 (or 800 mg/m² on day 1)

• Take with breakfast.
• Available in 25- and 50-mg tablets.
• OR IV at same doses.
• Dilute with sterile water or bacteriostatic water for injection (sterile water paraben preserved); shake well until solution is clear.
• Final concentration equals 20 mg/mL.
• Further dilute into NS or D5W 250–500 mL.
• Increases effect of anticoagulants and decreases digoxin levels.

Vincristine: __________ 1.4-mg/m² IV on day 1 (maximum dose 2 mg)

• Vesicant
• Available in 1 mg/mL 1-, 2-, and 5-mg vial.
• Keep refrigerated.
• Given IV push through a free-flowing IV.

Prednisone: ___________ 100-mg/m² PO on days 1–5

• Take with breakfast.

Major Side Effects
• GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea
• GU Toxicities: Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
• Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
• Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
• Skin Alterations: Alopecia, hyperpigmentation of nails and skin, and transverse ridging of nails may occur.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Supportive drugs:
□ pegfilgrastim (Neulasta) _____ □ filgrastim (Neupogen) ______
□ epoetin alfa (Procrit) / □ Allopurinol ______
darbepoetin alfa (Aranesp) ______
□ Antibiotic _______ □ Antifungal _______

Treatment schedule: Repeat cycle every 21–28 days for four cycles.
Estimated number of visits: 8–12 over 4 months. Chair time 2 hours.
Non-Hodgkin’s Lymphoma

Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht ___________________________ Wt ___________________________ M²
Cyclophosphamide, Mitoxantrone (Novantrone), Vincristine (Oncovin), Prednisone (CNOP)

**Baseline laboratory tests:** SMAC, CBC: sedimentation rate MUGA

**Initiate IV:** NS

**Premedicate:** 5-HT₃ and dexamethasone

**Administer:**

- **Cyclophosphamide** ______ 750-mg/m² IV on day 1
  - Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.
  - Final concentration equals 20 mg/mL.
  - Further dilute into NS or D5W 250–500 mL.

- **Mitoxantrone** ______ 10-mg/m² IV on day 1.
  - Nonvesicant.
  - IV push over 3 minutes through the side arm of a free-flowing IV or IV infusion over 5–30 minutes.
  - Available in 20 mg in 10-mL dark blue solution. May be diluted in D5W or NS. Stable at room temperature for 48 hours. Incompatible with heparin.

- **Vincristine:** ______ 1.4-mg/m² IV on day 1 (maximum dose 2 mg)
  - Available in 1-, 2-, and 5-mg vial.
  - Keep refrigerated.
  - Vesicant.
  - Given IV push through a free-flowing IV.

- **Prednisone:** ______ 50-mg/m² PO on days 1–5
  - Take with breakfast.

**Major Side Effects**

- **Myelosuppression:** Dose-limiting toxicity.
- **Cardiotoxicity:** Less than that of doxorubicin or daunorubicin. Patients with cumulative dose 140 mg/m² with no prior anthracycline exposure; 120 mg/m² with prior exposure, at greater risk.
- **GI Toxicities:** Nausea and vomiting, anorexia; mucositis, diarrhea.
- **GU Toxicities:** Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration. Urine will be green-blue for 24 hours. Sclera may become discolored blue.
- **Neurotoxicity:** Peripheral neuropathy; include numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
- **Steroid Toxicities:** Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- **Skin Alterations:** Alopecia, hyperpigmentation of nails and skin, and transverse ridging of nails may occur.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

**Supportive drugs:**

- pegfilgrastim (Neulasta) ______
- filgrastim (Neupogen) ______
- epoetin alfa (Procrit) ______
- darbepoetin alfa (Aranesp) ______
- Allopurinol ______
- Antibiotic ______
- Antifungal ______

**Initiate antiemetic protocol after chemotherapy:** Moderately emetogenic.

**Treatment schedule:** Repeat cycle every 21 days.

**Estimated number of visits:** Day 1 and at nadir for each cycle. Chair time 2 hours.
446 Non-Hodgkin’s Lymphoma

Dose Calculation by: 1. __________________________ 2. __________________________

__________________________ __________________________
Physician Date

__________________________ __________________________
Patient Name ID Number

__________________________
Diagnosis Ht Wt M³
**Fludarabine, Mitoxantrone (Novantrone), Dexamethasone (FND)**

**Baseline laboratory tests:** SMAC, CBC: sedimentation rate, baseline MUGA

**Initiate IV:** NS

**Premedicate:** 5-HT3 and dexamethasone

**Administer:**

- **Fludarabine** 25-mg/m² IV infused over 30 minutes on days 1–3
  - Mix 50-mg vial with 2 cc of sterile water for final concentration of 25 mg/mL.
  - Further dilute in at least 100 mL of D5W or NS.
  - Reconstituted solution stable for 8 hours.

- **Mitoxantrone** 10-mg/m² IV on day 1.
  - Nonvesicant
  - IV push over 3 minutes through the side arm of a free-flowing IV or IV infusion over 5–30 minutes.
  - Available in 20 mg in 10-mL dark blue solution. May be diluted in D5W or NS. Stable at room temperature for 48 hours. Incompatible with heparin.

- **Dexamethasone:** 20-mg PO on days 1–5
  - Take with breakfast.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)/darbepoetin alfa (Aranesp)
- Allopurinol
- Antibiotic
- Antifungal

**Major Side Effects**

- Myelosuppression: Dose-limiting toxicity. Severe and cumulative.
- Cardiotoxicity: Less than that of doxorubicin or daunorubicin. Patients with cumulative dose 140 mg/m² with no prior anthracycline exposure; 120 mg/m² with prior exposure, at greater risk.
- Fatigue: Secondary to anemia, appropriate iron diet, red blood cell growth factor, and/or transfusions may be necessary.
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
- Tumor lysis syndrome occurring 1–5 days after initiation of treatment; treat with hydration and allopurinol. Metallic taste during infusion of Fludarabine.
- GU Toxicities: Urine will be green-blue for 24 hours. Sclera may become discolored blue.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. Agitation, confusion, visual disturbances have also occurred.
- Pulmonary Toxicities: Pneumonia and pulmonary hypersensitivity reactions characterized by cough, dyspnea, and interstitial infiltrate.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Skin Alterations: Alopecia, hyperpigmentation of nails and skin, and transverse ridging of nails may occur. Dry skin, photosensitivity, and hyperpigmentation of infused vein.
- Reproduction: Pregnancy category D. Breastfeeding should be avoided. Discuss contraception and sperm banking.

**Initiate antiemetic protocol after chemotherapy:** Moderately emetogenic

**Treatment schedule:** Repeat cycle every 21 days.

**Estimated number of visits:** Four visits per cycle. Ask for 3–6 cycles worth of visits. Chair time 1–2 hours.
Non-Hodgkin's Lymphoma

**Dose Calculation by:**
1. ____________________________  2. ____________________________

_____________________________  ________________________________
Physician                                      Date

_____________________________  ________________________________
Patient Name                               ID Number

_____________________________
Diagnosis

_____________________________/  ________________/  ________________
Ht               Wt              M²
Fludarabine, Cyclophosphamide (FC)

**Baseline laboratory tests:** SMAC, CBC: sedimentation rate

**Initiate IV:** NS

**Premedicate:** 5-HT3 and dexamethasone

**Administer:**
- **Fludarabine** _______ 20-mg/m² IV infused over 30 minutes on days 1–5
  - Mix 50-mg vial with 2 cc of sterile water for final concentration of 25 mg/mL.
  - Further dilute in at least 100 mL of D5W or NS.
  - Reconstituted solution stable for 8 hours.
- **Cyclophosphamide** _______ 1000-mg/m² IV on day 1
  - Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.
  - Final concentration equals 20 mg/mL.
  - Further dilute into NS or D5W 250–500 mL.

**Bactrim DS:** 1 tablet PO bid

**Major Side Effects**
- Myelosuppression: Dose-limiting toxicity. Severe and cumulative.
- Fatigue: Secondary to anemia; appropriate iron diet, red blood cell growth factor, and/or transfusions may be necessary.
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
- Tumor lysis syndrome occurring 1–5 days after initiation of treatment; treat with hydration and allopurinol.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
- Neurotoxicity: Objective weakness and paresthesias as well as agitation, confusion, and visual disturbances have occurred.
- Pulmonary Toxicities: Pneumonia and pulmonary hypersensitivity reactions characterized by cough, dyspnea, and interstitial infiltrate.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Skin Alterations: Alopecia, hyperpigmentation of nails and skin, and transverse ridging of nails may occur. Dry skin, photosensitivity, and hyperpigmentation of infused vein.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

**Supportive drugs:**
- pegfilgrastim (Neulasta)______
- filgrastim (Neupogen)______
- epoetin alfa (Procrit)/
- darbepoetin alfa (Aranesp)______
- Allopurinol______
- Antibiotic______
- Antifungal______

**Initiate antiemetic protocol after chemotherapy:** Moderately emetogenic.

**Treatment schedule:** Repeat cycle every 21–28 days.

**Estimated number of visits:** Days 1–5 and weekly to monitor CBC each cycle. Request 3 cycles worth of visits. Chair time 2 hours.
Non-Hodgkin’s Lymphoma

Dose Calculation by: 1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis

Ht Wt M²
Cyclophosphamide, Doxorubicin, Vincristine, Prednisone (CHOP)

Baseline laboratory tests: CBC: Chemistry, sedimentation rate, and MUGA
Premedicate: 5-HT₃ and dexamethasone
Initiate IV: NS
Administer:

Cyclophosphamide: _______ 750-mg/m² IV on day 1
  • Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.
  • Final concentration equals 20 mg/mL.
  • Further dilute into NS or D5W 250–500 mL.
Doxorubicin: ___________ 50-mg/m² IV on day 1
  • Vesicant
  • Available as 2 mg/mL.
  • Refrigerated.
  • Given IV push through a free-flowing IV.
Vincristine: ____________1.4-mg/m² IV push on day 1 (maximum dose 2 mg)
  • Vesicant
  • Available in 1 mg/mL 1-, 2-, and 5-mg vials.
  • Refrigerated.
  • Given IV push through a free-flowing IV.
Prednisone: _______100-mg PO on days 1 through 5; then taper to 0
  • Take with breakfast.

Major Side Effects
  • Myelosuppression: Moderate to severe. GCSF recommended.
  • GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
  • GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
  • Cardiotoxicity: Doxorubicin dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
  • Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
  • Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
  • Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

Supportive Drugs:

- pegfilgrastim (Neulasta)_____
- filgrastim (Neupogen) _______
- epoetin alfa (Procrit)/_____
- Allopurinol_____
- darbepoetin alfa (Aranesp) _______
- Antibiotic _______
- Antifungal _______

Initiate antiemetic protocol after chemotherapy: Moderately to highly emetogenic protocol.
Treatment schedule: Repeat every 21 days for six cycles.
Estimated number of visits: Two visits per cycle. Request 4–6 months of visits. Chair time 2 hours.
Non-Hodgkin's Lymphoma

Dose Calculation by: 1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis

Ht Wt M²
INTERMEDIATE-GRADE

Cyclophosphamide, Doxorubicin, Vincristine, Prednisone (CHOP)

**Baseline laboratory tests:** CBC: Chemistry, sedimentation rate, and MUGA
**Premedicate:** 5-HT₃ and dexamethasone
**Initiate IV:** NS
**Administer:**
- **Cyclophosphamide:** _______ 750-mg/m² IV on day 1
  - Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.
  - Final concentration equals 20 mg/mL.
  - Further dilute into NS or D5W 250–500 mL.
- **Doxorubicin:** ___________ 50-mg/m² IV on day 1
  - Vesicant
  - Available as 2 mg/mL.
  - Refrigerated.
  - Given IV push through a free-flowing IV.
- **Vincristine:** ___________ 1.4-mg/m² IV push on day 1 (maximum dose 2 mg)
  - Vesicant
  - Available in 1 mg/mL 1-, 2-, and 5-mg vials.
  - Refrigerated.
  - Given IV push through a free-flowing IV.
- **Prednisone:** _______100-mg PO on days 1 through 5; then taper to 0
  - Take with breakfast.

**Major Side Effects**
- Myelosuppression: Moderate to severe. GCSF recommended.
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
- Cardiotoxicity: Doxorubicin dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hyperkalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

**Supportive Drugs:**
- pegfilgrastim (Neulasta) _______ filgrastim (Neupogen) _______
- epoetin alfa (Procrit)/ Allopurinol _______
- darbepoetin alfa (Aranesp) _______
- Antibiotic _______
- Antifungal _______

**Initiate antiemetic protocol after chemotherapy:** Moderately to highly emetogenic protocol.
**Treatment schedule:** Repeat every 21 days for six cycles.
**Estimated number of visits:** Two visits per cycle. Request 4–6 months of visits. Chair time 2 hours.
Non-Hodgkin's Lymphoma

Dose Calculation by: 1. ______________________________  2. ______________________________

________________________________________________________
Physician Date

________________________________________________________
Patient Name ID Number

________________________________________________________
Diagnosis Ht Wt M²
Non-Hodgkin’s Lymphoma

Cyclophosphamide, Mitoxantrone (Novantrone), Vincristine (Oncovin), Prednisone (CNOP)

Baseline laboratory tests: SMAC, CBC: sedimentation rate
Initiate IV: NS
Premedicate: 5-HT₃ and dexamethasone
Administer:

**Cyclophosphamide** _____ 750-mg/m² IV on day 1
- Dilute with sterile water or bacteriostatic water for injection (sterile water or paraben preserved); shake well until solution is clear.
- Final concentration equals 20 mg/mL.
- Further dilute into NS or D5W 250–500 mL.

**Mitoxantrone** _____ 10-mg/m² IV on day 1.
- Nonvesicant.
- IV push over 3 minutes through the side arm of a free-flowing IV or IV infusion over 5–30 minutes.
- Available in 20 mg in 10-mL dark blue solution. May be diluted in D5W or NS. Stable at room temperature for 48 hours. Incompatible with heparin.

**Vincristine:** __________ 1.4-mg/m² IV on day 1 (maximum dose 2 mg)
- Available in 1-, 2-, and 5-mg vial.
- Keep refrigerated.
- Vesicant
- Given IV push through a free-flowing IV.

**Prednisone:** __________ 100 mg PO on days 1–5
- Take with breakfast.
- Myelosuppression: Dose-limiting toxicity.
- Cardiotoxicity: Less than that of doxorubicin or daunorubicin. Patients with cumulative dose 140 mg/m² with no prior anthracycline exposure; 120 mg/m² with prior exposure, at greater risk.
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
- GU Toxicities: Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration. Urine will be green-blue for 24 hours. Sclera may become discolored blue.
- Neurotoxicity: Peripheral neuropathy; including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Skin Alterations: Alopecia, hyperpigmentation of nails and skin, and transverse ridging of nails may occur.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

**Supportive drugs:**

- pegfilgrastim (Neulasta) _____
- filgrastim (Neupogen) _____
- epoetin alfa (Procrit)/
- darbepoetin alfa (Aranesp) _____
- Allopurinol _____
- Antibiotic _____
- Antifungal _____

**Initiate antiemetic protocol after chemotherapy:** Moderately emetogenic.

**Treatment schedule:** Repeat cycle every 21 days.

**Estimated number of visits:** Day 1 and at nadir for each cycle. Chair time 2 hours.
Non-Hodgkin’s Lymphoma

**Dose Calculation by:** 1. ____________________________ 2. ____________________________

Physician

Date

Patient Name

ID Number

Diagnosis

Ht

Wt

M²
Non-Hodgkin’s Lymphoma

Etoposide, Prednisone, Vincristine, Cyclophosphamide, Doxorubicin (EPOCH)

Baseline laboratory tests:
CBC: Chemistry, sedimentation rate, and MUGA
Laboratory tests:
CBC: Chemistry, RFTs, and LFTs before each treatment
Premedicate:
5-HT₃, dexamethasone
Administer:
Etoposide ______ 50-mg/m²/d IV continuous infusion on days 1–4
• 100 mg/5mL.
• Reconstitute etopophos with 5–10 mL of NS, D5W, sterile water, bacteriostatic sterile water, or bacteriostatic NS with benzyl alcohol to 20 mg/mL or 10 mg/mL, respectively.
• Further dilute to final concentration NS or D5W to 0.1 mg/mL 250–500 cc
Prednisone: __________ 60-mg/m²/day PO on days 1–5.
• Take with breakfast.
Vincristine: __________ 0.4-mg/m²/day IV continuous infusion on days 1–4.
• Maximum dose, 2 mg.
• Available in 1 mg/mL 1-, 2-, and 5-mg vials.
• Keep refrigerated.
• Vesicant. Give through side port of freely flowing IV, as continuous infusion use patent central line.
Doxorubicin: __________ 10 mg/m²/day continuous infusion on days 1–4
• Vesicant. Must give continuous infusion with patent central line.
• Available as 2 mg/mL.
• Refrigerated.
• Etoposide, Vincristine, and Doxorubicin compatible in same solution for continuous infusion.
Cyclophosphamide: ______ 750-mg/m² IV on day 5
• Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.
• Final concentration equals 20 mg/mL.
• Further dilute into NS or D5W 250–500 mL.
Bactrim DS: ______ 1 tablet PO bid, 3 times per week.

Major Side Effects

• Myelosuppression: Dose-limiting toxicity.
• GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis, stomatitis, and diarrhea. Constipation and paralytic ileus secondary to autonomic neuropathy.
• Cardiotoxicity: Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
• Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
• Hypersensitivity Reaction: Characterized by hypotension, bronchospasms, or wheezing may occur with etoposide. Occur more frequently with first dose of etoposide, may premedicate with dexamethasone, cinetidine, and/or diphenhydra mix.
• GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
• Neurotoxicity: Peripheral neuropathy; including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
• Skin Alterations: Total alopecia, hyperpigmentation of nail beds and dermal crease of hands, greatest in dark-skinned individuals. Radiation recall. Sun sensitivity.
• Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.
Non-Hodgkin’s Lymphoma

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- G-CSF (Neupogen) □
- pegfilgrastim (Neulasta) □
- epoetin alfa (Procrit)/ Allopurinol □
- darbepoetin alfa (Aranesp) □
- Antibiotic □
- Antifungal □

Treatment schedule: Repeat cycle every 21 days.
Estimated number of visits: Six visits per cycle. Request 3 cycles worth of visits.
Chair time: One hour day 1–4; 2–3 hours day 5.

Dose Calculation by:
1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ____________________________ Ht __________ Wt __________ M² __________
**Etoposide, Prednisone, Vincristine, Cyclophosphamide, Doxorubicin + Rituximab**  
(EPOCH + Rituximab)

**Baseline laboratory tests:**  
CBC: Chemistry, sedimentation rate, MUGA  
Laboratory tests:  
CBC: Chemistry, RFT, and LFTs before each treatment  
Premedicate:  
5-HT3, dexamethasone  
**Administer:**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Administration Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rituximab:</strong></td>
<td>375-mg/m² IV on day 0</td>
<td>To be administered day 1 before continuous infusion.</td>
</tr>
</tbody>
</table>
| **Etoposide:**   | 50-mg/m²/d IV continuous infusion on days 1–4 | 100 mg/5mL.  
Reconstitute etoposide with 5–10 mL of NS, D5W, sterile water, bacteriostatic sterile water, or bacteriostatic NS with benzyl alcohol to 20 mg/mL or 10 mg/mL, respectively.  
Further dilute to final concentration NS or D5W to 0.1 mg/mL. |
| **Prednisone:**  | 60-mg/m²/day PO on days 1–5 |  
Take with breakfast. |
| **Vincristine:** | 0.4-mg/m²/day IV continuous infusion on days 1–4 | Maximum dose 2 mg.  
Available in 1 mg/mL 1-, 2-, and 5-mg vials.  
Keep refrigerated.  
**Vesicant** |
| **Doxorubicin:** | 10 mg/m²/day continuous infusion on days 1–4 | Available as 2 mg/mL.  
Refrigerated.  
Given as continuous infusion through patent central line. Avoid extravasation.  
Etoposide, vincristine, and doxorubicin can be mixed in same solution for continuous infusion.  
**Cyclophosphamide:** | 750-mg/m² IV on day 5 | Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.  
Final concentration 20 mg/mL.  
Further dilute into NS or D5W 250–500 mL.  
**Bactrim DS:** | 1 tablet PO bid, 3 times per week |

**Major Side Effects**  
- Myelosuppression: Dose-limiting toxicity.  
- GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis, stomatitis, and diarrhea. Constipation and paralytic ileus secondary to autonomic neuropathy.  
- Cardiotoxicity: Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.  
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.  
- Hypersensitivity Reactions: Characterized by hypotension, bronchospasms, or wheezing may occur with etoposide. More frequent with first dose and faster infusions. May premedicate with dexamethasone, diphenhydramine, and/or cinetidine.  
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.  
- Neurotoxicity: Peripheral neuropathy; including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
• Skin Alterations: Total alopecia, hyperpigmentation of nail beds and dermal crease of hands, greatest in dark-skinned individuals. Radiation recall. Sun sensitivity.
• Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

**Initiate antiemetic protocol:**

Highly to moderately emetogenic protocol.

**Supportive drugs:**

- G-CSF (Neupogen) ☐
- pegfilgrastim (Neulasta) ☐
- epoetin alfa (Procrit)/ darbepoetin alfa (Aranesp) ☐
- Allopurinol ______
- Antibiotic ______
- Antifungal ______

**Treatment schedule:**
Repeat cycle every 21 days.

**Estimated number of visits:**
Four visits in five weeks. Request visits for 3–6 cycles.

**Chair time:**
1 hour on Monday, Thursday, and Friday during week 1 and nadir. Chair time 4–6 hours day 0; 1–2 hours day 1–4.

**Dose Calculation by:**
1. __________________________________ 2. ____________________________________________

_________________________ ____________________________
Physician Date

_________________________ ____________________________
Patient Name ID Number

_________________________ ____________________________
Diagnosis Ht Wt M²
**Methotrexate, Doxorubicin, Cyclophosphamide, Vincristine, Prednisone, Bleomycin (MACOP-B)**

**Baseline laboratory tests:** CBC: Chemistry, sedimentation rate, and MUGA

**Laboratory tests:** CBC before each treatment

**Premedicate:** 5-HT3, dexamethasone, and acetaminophen

**Administer:**

**MTX**
- 400-mg/m² IV on weeks 2, 6, and 10
  - 250-mg vial further diluted in NS. Reconstituted solution stable for 24 hours at room temperature. High-dose methotrexate requires leucovorin rescue. Drug interactions include aspirin, penicillins, nonsteroidal anti-inflammatory drugs (NSAIDs), cephalosporins, phenytoin warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole. Vigorously hydrate; moderate dose of MTX.

**Leucovorin:**
- 15-mg/m² PO every 6 hours for 6 doses, beginning 24 hours after methotrexate

**Doxorubicin:**
- 50-mg/m² IV on weeks 1, 3, 5, 7, 9, and 11
  - Vesicant
  - Available as 2 mg/mL.
  - Refrigerated.
  - Given IV push through a free-flowing IV or IV infusion through central line.

**Cyclophosphamide:**
- 350-mg/m² IV on weeks 1, 3, 5, 7, 9, and 11
  - Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake until solution is clear.
  - Final concentration equals 20 mg/mL.
  - Further dilute into NS or D5W 250–500 mL.

**Vincristine:**
- 1.4-mg/m² IV on weeks 2, 4, 6, 8, 10, and 12
  - Maximum dose 2 mg.
  - Vesicant
  - Available in 1 mg/mL 1-, 2-, and 5-mg vials.
  - Keep refrigerated.
  - Given IV push through a free-flowing IV.

**Prednisone:**
- 75-mg/day PO for 12 weeks; taper over the last 2 weeks
  - Take with breakfast.

**Bleomycin:**
- 10-units/m² IV on weeks 4, 8, and 12
  - A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
  - Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
  - Stable for 24 hours when diluted with NS.
  - Given IV push or further diluted in NS and infused or pushed over at least 10 minutes. Dilute in NS or sterile water.
  - Reduce dose with impaired renal function.

**Bactrim DS:**
- 1 tablet PO bid

**Ketoconazole:**
- 200-mg/day PO

**Major Side Effects**

- **Myelosuppression:** Dose-limiting toxicity.
- **GI Toxicities:** Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis can be severe. Constipation and paralytic ileus secondary to autonomic neuropath.
- **Cardiotoxicity:** Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- **Flulike Syndrome:** Fever, chills, sweating, lethargy, myalgias, and arthralgias common.
- **GU Toxicities:** Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration. Acute renal failure, azotemia, urinary retention, and uric acid nephropathy.
Non-Hodgkin’s Lymphoma

- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. CNS toxicity with paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and/or seizures.

- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.

- Pulmonary Toxicity: Pneumonitis in 10% of patients. Risk factors include age > 70, dose > 400 U.


- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.

Supportive drugs:

- □ G-CSF
- □ pegfilgrastim (Neulasta)
- □ epoetin alfa (Procrit)/
- □ Allopurinol
- □ darbepoetin alfa (Aranesp)
- □ Antibiotic
- □ Antifungal

Treatment schedule: Administer one cycle.

Estimated number of visits: Weekly for 12 weeks.

Chair time: Chair time 2–3 hours.

Dose Calculation by: 1. ______________________________ 2. ______________________________

_____________________________ ______________________________
Physician Date

_____________________________ ______________________________
Patient Name ID Number

_____________________________ ______________________________
Diagnosis Ht Wt M²
Methotrexate, Bleomycin, Doxorubicin, Cyclophosphamide, Vincristine, Dexamethasone (m-BACOD)

Baseline laboratory tests: CBC: Chemistry, sedimentation rate, and MUGA
Laboratory tests: CBC before each treatment
Premedicate: 5-HT3, dexamethasone, and acetaminophen
Administer: Methotrexate ________ 200-mg/m² IV on days 8 and 15
- 250-mg vial further diluted in NS.
- Reconstituted solution stable for 24 hours at room temperature.
- High-dose methotrexate requires leucovorin rescue.
- Drug interactions include aspirin, penicillins, NSAIDs, cephalosporins, phenytoin, warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole. Vigorously hydrate; moderate dose of MTX.
Leucovorin: _____ 10-mg/m² PO every 6 hours for 8 doses, beginning 24 hours after methotrexate.
Bleomycin: ________ 4-units/m² IV on day 1
- A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
- Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
- Stable for 24 hours when diluted with NS.
- Given IV push or further diluted in NS and infused or pushed over at least 10 minutes
- Reduce dose with impaired renal function.
Doxorubicin: ____________ 45-mg/m² IV on day 1
- Vesicant
- Available as 2 mg/mL.
- Refrigerated.
- Given IV push through a free-flowing IV or IV infusion through central line.
Cyclophosphamide: ________ 600-mg/m² IV on day 1
- Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake until solution is clear.
- Final concentration equals 20 mg/mL.
- Further dilute into NS or D5W 250–500 mL.
Vincristine: ________ 1-mg/m² IV on day 1 (maximum 2 mg)
- Maximum dose 2 mg.
- Vesicant.
- Available in 1-, 2-, and 5-mg vials.
- Keep refrigerated.
- Given IV push through a free-flowing IV
Dexamethasone: ________ 6-mg/m² PO on days 1–5
- Take with breakfast.

Major Side Effects
- Myelosuppression: Dose-limiting toxicity.
- GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis can be severe. Constipation and paralytic ileus secondary to autonomic neuropath.
- Cardiotoxicity: Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- Flu-like Syndrome: Fever, chills, sweating, lethargy, myalgias, and arthralgias common.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration. Acute renal failure, azotemia, urinary retention, and uric acid nephropathy.
- Neurotoxicity: Peripheral neuropathy; including numbness, weakness, myalgias, and late severe motor difficulties, jaw pain. CNS toxicity with paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and/or seizures.
Non-Hodgkin’s Lymphoma

- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Pulmonary Toxicity: Pneumonitis in 10\% of patients. Risk factors include age > 70, dose > 400 U.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Highly to moderately emetogenic protocol.

Supportive drugs:
- G-CSF (Neupogen)
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)
- Allopurinol
- darbepoetin alfa (Aranesp)
- Antibiotic
- Antifungal

Treatment schedule:
- Repeat cycle every 21 days.
- Three visits per cycle.
- Chair time: Chair time 2–3 hours on day 1, and 1 hour on days 8 and 15.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

______________________________ / ______________________________ / ____________

Diagnosis Ht Wt M²

-
ProMACE/CytaBOM

Baseline laboratory tests: CBC: Chemistry, sedimentation rate, and MUGA
Laboratory tests: CBC: Chemistry, RFTs, and LFTs before each treatment
Premedicate: Prednisone: ______ 60-mg/m²/day PO on days 1–14
• Take with breakfast.
Doxorubicin: ______ 25-mg/m² IV on day 1
• Available as 2 mg/mL.
• Refrigerated.
• Given IV push through a free-flowing IV.
Cyclophosphamide: ______ 650-mg/m² IV on day 1
• Dilute with sterile water or bacteriostatic water for injection (paraben preserved only);
shake well until solution is clear.
• Final concentration equals 20 mg/mL.
• Further dilute into NS or D5W 250–500 mL.
Etoposide ______ 120-mg/m²/d IV on day 1
• 5 cc/100 mg, 20 mg/mL.
• Etoposide reconstitute with 5–10 mL of NS, D5W, sterile water, bacteriostatic sterile
water, or bacteriostatic NS with benzyl alcohol to 20 mg/mL or 10 mg/mL, respectively.
• Further dilute to final concentration NS or D5W to 0.1 mg/mL.
Cytarabine ______ 300-mg/m²/day IV on day 8
• Dilute in sterile water with benzyl alcohol, then further dilute with 50–100 mL of 0.9%
sodium chloride or D5W.
• IV hydration at 150 mL per hour with or without alkalinization, oral allopurinol, strict
intake and output recording, and daily weights.
• Stable 48 hours at room temperature and 7 days refrigerated.
Bleomycin: ______ 5-units/m² IV push day 8.
• A test dose of 2 U is recommended before the first dose to detect hypersensitivity.
• Available as a powder in 15- or 30-unit sizes. Dilute powder in NS or sterile water 1–5 cc
for the 15-unit vial and 2–10 cc for the 30-unit vial. Should NOT be diluted in D5W.
• Stable for 24 hours when diluted with NS.
• Given IV push or further diluted in NS and infused or pushed over at least 10 minutes.
• Reduce dose with impaired renal function.
Vincristine: ______ 1.4-mg/m²/day IV continuous infusion on days 1–4
• Maximum dose, 2 mg.
• Available in 1-, 2-, and 5-mg vials.
• Keep refrigerated.
• Vesicant
Methotrexate ______ 120-mg/m² IV on day 8
• A 250-mg vial further diluted in NS.
• Reconstituted solution stable for 24 hours at room temperature.
• High-dose methotrexate requires leucovorin rescue. Drug interactions
include aspirin, penicillins, NSAIDs, cephalosporins, phenytoin, warfarin,
5-fluorouracil, thymidine, folic acid, and omeprazole.
Leucovorin ______ 25-mg/m² PO every 6 hours for six doses, beginning 24 hours after
methotrexate

Major Side Effects
• Myelosuppression: Dose-limiting toxicity.
• GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis,
stomatitis, and diarrhea. Constipation and paralytic ileus secondary to autonomic
neuropathy.
Non-Hodgkin’s Lymphoma

- Cardiotoxicity: Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Hypersensitivity Reactions: Characterized by hypotension, bronchospasms, or wheezing may occur with etoposide.
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. At high doses, cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, difficulty with fine motor coordination, lethargy, or somnolence. Patients with rapidly rising creatinine level due to tumor lysis syndrome or neurotoxicity should discontinue the high-dose cytarabine.
- Tumor lysis syndrome occurring 1–5 days after initiation of treatment; treat with hydration and allopurinol.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- G-CSF (Neupogen)
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- Allopurinol
- Antibiotic
- Antifungal

Treatment schedule: Repeat cycle every 21 days.
Estimated number of visits: Four visits per cycle. Request 4–6 cycles worth of visits.
Chair time: Three hours day 1 and 3 hours day 8.

Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht ___________ Wt ___________ M² ___________
HIGH-GRADE

Magrath Protocol (Burkitt’s Lymphoma)

Baseline laboratory tests: CBC: Chemistry, sedimentation rate, MUGA, Ommaya reservoir placement vs lumbar puncture every cycle.

Laboratory tests: CBC: Chemistry, RFTs, and LFTs before each treatment

Premedicate: 5-HT3, dexamethasone, and acetaminophen

Administer:

_**Cyclophosphamide:**_ _______ 1200-mg/m² IV on day 1
- Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.
- Final concentration equals 20 mg/mL.
- Further dilute into NS or D5W 250–500 mL.

_**Doxorubicin:**_ ________ 40-mg/m² IV on day 1
- Vesicant
- Available as 2 mg/mL.
- Refrigerated.
- Given IV push through a free-flowing IV.

_**Vincristine:**_ ___________ 1.4-mg/m² IV on day 1 (maximum dose 2 mg)
- Vesicant
- Available in 1-, 2-, and 5-mg vials.
- Keep refrigerated.
- IV push through a free-flowing IV.

_**Prednisone:**_ ________ 40-mg/m² PO on days 1–5
- Take with breakfast.

_**Methotrexate**_ ________ 300-mg/m² IV on day 10 for 1 hour and then

_**Methotrexate**_ ________ 60-mg/m² on days 10 and 11 for 41 hours
- 250-mg vial further diluted in NS.
- Reconstituted solution stable for 24 hours at room temperature.
- High-dose methotrexate requires leucovorin rescue and adequate hydration.
- Drug interactions include aspirin, penicillins, NSAIDs, cephalosporins, phenytoin, warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole.

_**Leucovorin rescue**_ ________ 15-mg/m² IV over 15 minutes every 6 hours for 8 doses starting 24 hours after methotrexate on day 12
- Reconstitute vials with sterile water and further with NS or D5W.

_**Intrathecal cytarabine**_ ______ 30-mg/m² IT on day 7, cycle 1 only; ______ 45-mg/m² IT on day 7 all subsequent cycles
- Use preservative-free NS to dilute. Must use immediately after reconstitution. Discard unused drug.
- Available in 100-mg vials.

_**Intrathecal methotrexate**_ ______ 12.5-mg IT on day 10, all cycles
- Use preservative-free NS to dilute. Must use immediately after reconstitution. Discard unused drug.
- Available in 50-mg and 250-preservative free vials.

**Major Side Effects**

- **Myelosuppression:** Dose-limiting toxicity.
- **GI Toxicities:** Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy. Diarrhea is common and an indication to interrupt therapy of methotrexate. Transient increases in LFTs can be seen with methotrexate.
- **Cardiotoxicity:** Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
• GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration. Monitor BUN and creatinine levels because methotrexate can precipitate in renal tubules, resulting in acute tubular necrosis.
• Neurotoxicity: Peripheral neuropathy with vincristine, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. CNS toxicity with paresthesias, neuropathies, dizziness, blurred vision, ataxia, lethargy, headache, confusion, and/or seizures. Intrathecal chemotherapy can increase cerebrospinal fluid pressure.
• Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased; muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
• Skin Alterations: Total alopecia, hyperpigmentation of nail beds and dermal crease of hands, greatest in dark-skinned individuals. Radiation recall. Photosensitivity.
• Tumor lysis syndrome occurring 1–5 days after initiation of treatment; treat with hydration and allopurinol.
• SIADH: May occur with high-dose cyclophosphamide. Monitor serum Na⁺ level, intake and output, and daily weights.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
Moderately to highly emetogenic protocol.
Supportive drugs:
☐ G-CSF (Neupogen)_______ ☐ pegfilgrastim (Neulasta)
☐ epoetin alfa (Procrit)/ ☐ Allopurinol_______
☐ darbepoetin alfa (Aranesp)________
☐ Antibiotic _____________ ☐ Antifungal __________

Treatment schedule:
Repeat cycle every 28 days.
Estimated number of visits:
Five visits every 3 weeks.
Chair time:
Chair time 2–3 hours. 2 hours day 1; 2 hours day 10; 1 hour day 7.
Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht ______________ Wt ______________ M² ______
Cyclophosphamide + Doxorubicin + Vincristine + Methotrexate + Leucovorin  
(Regimen A-CODOX-M) (Small Non-Cleaved and Burkitt’s Lymphoma)

**Baseline laboratory tests:**  
CBC: Chemistry, sedimentation rate, MUGA, Ommaya reservoir placement vs lumbar puncture each cycle.

**Laboratory tests:**  
CBC: Chemistry, RFTs, and LFTs before each treatment

**Premedicate:**  
5-HT$_3$ and dexamethasone IV

**Administer:**

- **Cyclophosphamide:**  
  - 800-mg/m$^2$ IV on day 1  
  - 200-mg/m$^2$ IV on days 2–5  
  - Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.  
  - Final concentration equals 20 mg/mL.  
  - Further dilute into NS or D5W 250–500 mL.

- **Doxorubicin:**  
  - 40-mg/m$^2$ IV on day 1  
  - Vesicant  
  - Available as 2 mg/mL.  
  - Refrigerated.  
  - Given IV push through a free-flowing IV.

- **Vincristine:**  
  - 1.5-mg/m$^2$ IV push through free-flowing IV on days 1 and 8 in cycle 1; days 1, 8, and 15 in cycle 3. Maximum dose 2 mg.  
  - Vesicant  
  - Available in 1 mg/mL 1-, 2-, and 5-mg vials.  
  - Keep refrigerated.

- **Methotrexate:**  
  - 1200-mg/m$^2$ IV over 1 hour on day 10, followed by  
  - 240-mg/m$^2$/hour for the next 23 hours on day 10  
  - 250-mg vial further diluted in NS.  
  - Reconstituted solution stable for 24 hours at room temperature.  
  - High-dose methotrexate requires leucovorin rescue and adequate hydration.  
  - Drug interactions include aspirin, penicillins, NSAIDs, cephalosporins, phenytoin; warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole.

- **Leucovorin rescue:**  
  - 192-mg/m$^2$ IV on day 11, starting 36 hours after the start of the methotrexate infusion  
  - 12-mg/m$^2$ IV every 6 hours until serum MTX levels < 50 nM  
  - Reconstitute vials with sterile water and further with NS or D$_5$W.

**CNS Prophylaxis**  
Intrathecal cytarabine:  
- 70-mg/m$^2$ IT on days 1 and 3  
  - Use preservative-free NS to dilute. Must use immediately after reconstitution.  
  - Discard unused drug.  
  - Available in 100-mg vials.

Intrathecal methotrexate:  
- 12-mg IT on day 15  
  - Use preservative-free NS to dilute. Must use immediately after reconstitution.  
  - Discard unused drug.  
  - Available in 50- and 250-mg preservative-free vials.

**Major Side Effects**  
- **Myelosuppression:** Dose-limiting toxicity.  
- **GI Toxicities:** Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy. Diarrhea is common and an indication to interrupt therapy of methotrexate. Transient increases in LFTs can be seen with methotrexate.  
- **Cardiotoxicity:** Dose limit 450–550 mg/m$^2$. Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration. Monitor BUN and creatinine levels because methotrexate can precipitate in renal tubules, resulting in acute tubular necrosis. Hemorrhagic cystitis, hematuria, frequency preventable with uroprotection and hydration of 2–3 L per day. Monitor BUN and serum creatinine levels.

Neurotoxicity: Peripheral neuropathy with vincristine, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. CNS toxicity with paresthesias, neuropathies, dizziness, blurred vision, ataxia, lethargy, headache, confusion, and/or seizures. Intrathecal chemotherapy can increase cerebrospinal fluid pressure.


Tumor lysis syndrome occurring 1–5 days after initiation of treatment; treat with hydration and allopurinol.

SIADH: May occur with high-dose cyclophosphamide. Monitor serum Na+, intake and output, and daily weights.

Replication: Pregnancy category D. Breast feeding should be avoided.

Alternate with Ifosfamide, Etoposide, Cytarabine (Regimen B-IVAC)

Administer:

Ifosfamide ______ 1500-mg/m² IV on days 1–5
- Available in 1- and 3-g vials.
- Reconstitute with sterile water.
- Further dilute to concentrations of 6–20 mg/mL in D5W or NS.
- Stable for 24 hours refrigerated.
- Phenobarbital, phenytoin, cimetidine, and allopurinol increase toxicity.
- Ifosfamide may enhance anticoagulant effects of warfarin.

Etoposide ______ 60-mg/m²/d IV over 1–2 hours on days 1–5
- VePesid 5 cc/100 mg; reconstitute etoposide with 5–10 mL of NS, D5W, sterile water, bacteriostatic sterile water, or bacteriostatic NS with benzyl alcohol to 20 mg/mL or 10 mg/mL, respectively. Further dilute to final concentration NS or D3W to 0.1 mg/mL.
- Stability is dose concentration dependent from 8–96 hours.

Cytarabine ______ 2-g/m²/day IV over 2 hours q 12 hours on days 1 and 2 for a total of four doses
- Dilute in sterile water with benzyl alcohol, then further dilute with 50–100 mL of 0.9% sodium chloride or D5W.
- Stable 48 hours at room temperature and 7 days refrigerated.
- IV hydration at 150/mL per hour with or without alkalinization, oral allopurinol, strict intake and output, and daily weights.

Methotrexate ______ 12-mg IT on day 5
- 250-mg vial further diluted in NS.
- Reconstituted solution stable for 24 hours at room temperature.
- High-dose methotrexate requires leucovorin rescue and adequate hydration.
- Drug interactions include aspirin, penicillins, NSAIDs, cephalosporins, phenytoin; warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole.
- Myelosuppression: Dose-limiting toxicity.

Major Side Effects

GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy. Diarrhea is common and an indication to interrupt therapy of methotrexate. Transient increases in LFTs can be seen with methotrexate.

Nephrotoxicity: Patients with renal dysfunction are at risk. Monitor electrolyte, BUN, and creatinine values.
- Cerebellar Toxicity: High doses of cytarabine can result in cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, difficulty with fine motor coordination, lethargy, or somnolence. Assess baseline neurologic status and cerebellar function (coordinated movements, such as handwriting and gait) before and during therapy. If cerebellar toxicity develops, treatment must be discontinued.
- Skin Alterations: Alopecia with total hair loss. Sterile phlebitis may occur at injection site. Hyperpigmentation, dermatitis, and nail ridging may occur. Total alopecia.
- Sensory/perceptual alterations: Lethargy and confusion at high doses of ifosfamide, usually lasting 1–8 hours; reversible.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- G-CSF (Neupogen)
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)
- Allopurinol
- darbepoetin alfa (Aranesp)
- Antibiotic
- Antifungal

Treatment schedule:
- Regimen A–3 hours day 1 and 8; 1 hour day 2–5 and day 15.
- Regimen B–3 hours day 1 and 2; 1 hour day 5.
- Alternate Regimen A with Regimen B for 4 cycles.

Estimated number of visits: Requests 15–20 visits per cycle. May need hospitalization for every 12-hour treatment.

Dose Calculation by:
1. ______________________________ 2. ______________________________

Physician ______________________________ Date ______________________________

Patient Name ______________________________ ID Number ______________________________

Diagnosis ______________________________ ______________________________ ______________________________

Ht _______ Wt _______ M^2 _______
Stanford Regimen (Small Non-Cleaved Cell and Burkitt’s Lymphoma)

Baseline laboratory tests:
- CBC: Chemistry, sedimentation rate, MUGA

Laboratory tests:
- CBC: Chemistry, RFTs, and LFTs before each treatment
- 5-HT₃, dexamethasone

Premedicate:
- Cyclophosphamide: _______ 1200-mg/m² IV on day 1
  - Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.
  - Final concentration equals 20 mg/mL.
  - Further dilute into NS or D5W 250–500 mL.

Administer:
- Doxorubicin: __________ 40-mg/m² IV on day 1
  - Available as 2 mg/mL.
  - Refrigerated.
  - Given IV push through a free-flowing IV

- Vincristine: ___________1.4-mg/m² IV on day 1 (maximum dose 2 mg)
  - Available in 1-, 2-, and 5-mg vials.
  - Keep refrigerated.
  - Vesicant.
  - Given IV push through a free-flowing IV.

- Prednisone: _____________ 40-mg/m² PO on days 1–5
  - Take with breakfast.

Methotrexate _________ 3000-mg/m² IV over 6-hour day on day 10
  - 250-mg vial further diluted in NS.
  - Reconstituted solution stable for 24 hours at room temperature.
  - High-dose methotrexate requires leucovorin rescue and adequate hydration.
  - Drug interactions include aspirin, penicillins, NSAIDs, cephalosporins, phenytoin, warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole.

Leucovorin ________ 25-mg/m² IV or PO every 6 hours for 12 doses beginning 24 hours after methotrexate
  - Reconstitute vials with sterile water and further with NS or D5W.

Intrathecal methotrexate ________ 12-mg IT on days 1 and 10.
  - Use preservative-free NS to dilute. Must use immediately after reconstitution.
  - Discard unused drug.
  - Available in 50- and 250-mg preservative-free vials.

- Major Side Effects

  - Myelosuppression: May be severe. Teach self-care measures to minimize risk of infection and bleeding.
  - GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis. Constipation and paralytic ileus secondary to autonomic neuropathy.
  - Chemical Arachnoiditis: Severe headaches, mochal rigidity, seizures, vomiting, fever, and an inflammatory cell infiltrate in the CSF.
  - Cerebral Dysfunction: Paresis, aphasia, behavioral abnormality, and seizures with high dose methotrexate. Occurs within 6 days of treatment. Resolves within 48–72 hours.
  - Cardiotoxicity: Dose limit 450–550 mg/m². Arrhythmias and/or EKG changes, pericarditis, or myocarditis. Usually transient and asymptomatic.
  - GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Adequate hydration and leucovorin rescue for high-dose methotrexate to prevent acute renal tubular necrosis.
  - Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
• Reproduction: Pregnancy category D. Breastfeeding should be avoided. Discuss sperm banking.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- G-CSF
- pegfilgrastim (Neulasta)
- epoetin alfa (Procrit)/
- Allopurinol
- darbepoetin alfa (Aranesp)
- Antifungal

**Antibiotic**

**Treatment schedule:** Repeat cycle every 21 days for three cycles.

**Estimated number of visits:** Weekly chemotherapy, 16 visits.

**Chair time:** Chair time of 2–3 hours.

**Dose Calculation by:**

1. __________________________________
2. __________________________________

______________________________

______________________________

______________________________

______________________________

______________________________
MANTLE CELL LYMPHOMA

**Bortezomib (Velcade)**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy

**Premedicate:** 5-HT₃ and dexamethasone

**Administer:** Bortezomib ______ 1.5-mg/m² IV push, followed by saline flush on days 1, 4, 8, and 11; followed by a 10-day rest period.

- Dilute powder in 3.5 mL of NS. Reconstituted product should be clear.
- Stable for 8 hours at room temperature.

**Major Side Effects**

- **Myelosuppression:** Neutropenia and thrombocytopenia.
- **GI Toxicities:** Nausea and vomiting, anorexia, constipation, and dehydration.
- **Orthostatic hypotension.**
- **Fatigue:** Fatigue, malaise, and generalized weakness.
- **Peripheral Neuropathy:** Mix of sensorimotor neuropathy. May improve and/or return to baseline with discontinuation of drug.
- **Steroid Toxicities:** Sodium and water retention, cushingoid changes, and behavioral changes, including emotional lability, insomnia, mood swings, and euphoria. May increase glucose and sodium levels, decrease potassium level, and affect warfarin dose.
- **Musculoskeletal Changes:** Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use.
- **Perceptual Alterations:** Cataracts or glaucoma may develop.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)_____
- filgrastim (Neupogen)_____
- epoetin alfa (Procrit)/
- darbepoetin alfa (Aranesp)_____
- Allopurinol_____
- Antibiotic_____
- Antifungal_____

**Treatment schedule:** Repeat cycle every 21 days.

**Chair time:** 1 hour

**Estimated number of visits:** Five to 6 days per cycle.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

__________ / ___________ / ___________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht Wt M²
**CD20⁺, B-CELL LYMPHOMAS**

**CHOP + Rituxan (Rituximab)–Monoclonal Antibody (GELA Study)**

**Baseline laboratory tests:**
- CBC: Chemistry, sedimentation rate

**Initiate IV:**
- Draw blood before each chemotherapy administration: CBC

**Premedication:**
- 5-HT3 and dexamethasone
- Tylenol 1000-mg PO 30 minutes and
- Diphenhydramine 50 mg in 150 cc of NS over 30 minutes (or PO), may use
- Cimetidine 300 mg in 100 cc NS to help reduce infusion reactions. Especially within first treatment of Rituxan.

**Administer:**
- **Rituxan:** __________ 375-mg/m² IV infusion on day 1
  - Available in 500-mg/50-mL and 100-mg/10-mL vials. Further dilute in NS to make final concentration of 1 or 4 mg/1 mL.
  - Stable for 24 hours at room temperature and an additional 24 hours refrigerated.
  - Discard unused portion.
  - Use infusion pump and blood pressure monitor.
- **First infusion:** Initial rate of 50 mg/hr. Increase infusion rate in 50-mg/hr increments every 30 minutes to a maximum rate of 400 mg/hr.
  - If a hypersensitivity-related event develops, the infusion should be temporarily slowed or interrupted.
  - Resume infusion at 50% of previous rate after symptoms subside. May give additional corticosteroids or diphenhydramine to reduce hypersensitivity reactions.
  - Monitor vital signs every 10 minutes for the first hour and then every 30 minutes thereafter.
- **Subsequent infusions:** Initial rate of 100 mg/hr. Increase rate by 100 mg/hr every 30 minutes to a maximum rate of 400 mg/hr as tolerated. Do NOT give IV push.

- **Cyclophosphamide:** _______ 750-mg/m² IV over 1 hour on day 1
  - Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.
  - Final concentration equals 20 mg/mL.
  - Further dilute into NS or D5W 250–500 mL.

- **Doxorubicin:** __________ 50-mg/m² IV on day 1
  - Vesicant
  - Available as 2 mg/mL. Refrigerated. Given IV push through a free-flowing IV.

- **Vincristine:** __________ 1.4-mg/m² IV push on day 1 (maximum dose 2 mg)
  - Vesicant
  - Available in 1-, 2-, and 5-mg vial.
  - Refrigerated.
  - Given IV push through a free-flowing IV.

- **Prednisone:** _______40-mg PO on days 1 through 5 and then taper to 0
  - Take with breakfast.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)____  □ filgrastim (Neupogen) _______
- □ epoetin alfa (Procrit)/ □ Allopurinol_____
  - Darbepoetin alfa (Aranesp) _______
- □ Antibiotic _______  □ Antifungal _______

**Major Side Effects**
- □ Myelosuppression: Moderate to severe. Potential for infection with B-lymphocytes reduced, resulting in bacterial infections not related to neutropenia.
- □ GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
- □ GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
Non-Hodgkin’s Lymphoma

- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- Hypersensitivity Reactions: Infusion-related reactions occur within 30 minutes to 2 hours after the beginning of the first infusion. Fever, chills, and rigors most common. Bronchospasm, dyspnea, pruritus, hypotension, back pain, and angioedema may also be seen. Will resolve when the infusion is stopped and/or symptomatic treatment (acetaminophen, diphenhydramine, and IV NS) is given. Have emergency hypersensitivity/anaphylaxis medications available (e.g., epinephrine, antihistamines, bronchodilators, and corticosteroids).
- Skin Reactions: Rare and include paraneoplastic pemphigus, Stevens-Johnson syndrome, lichenoid dermatitis, vesiculobullous dermatitis, and toxic epidermal necrolysis. Drug therapy should be discontinued, and skin biopsy should be obtained to determine cause.
- Tumor lysis syndrome: Patients with high tumor burden or high white blood cell count at risk. Occurs in first 5 days after infusion. Treat/prevent with hydration and allopurinol.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

Treatment schedule:
Repeat cycle every 21 days. Rituximab is to be administered first, followed by cyclophosphamide, doxorubicin, and vincristine.

Estimated number of visits:
Two visits per cycle. Request 4–6 worth of visits.

Chair time:
First cycle 6–8 hours, 2nd cycle 4–6 hours.

Dose Calculation by:
1. __________________________ 2. __________________________

Physician

Date

Patient Name

ID Number

__/__/____

Diagnosis

Ht  Wt  M²
CHOP + Rituxan (Rituximab)–Monoclonal Antibody (Vose or Nebraska Regimen)

Baseline laboratory tests: CBC: Chemistry and sedimentation rate

Initiate IV: Draw blood before each chemotherapy administration: CBC

Premedication: 5-HT _3_ and dexamethasone (for nausea and may be used to prevent or treat infusion-related reactions)

Tylenol 1000-mg PO 30 minutes and
Diphenhydramine 50-mg in 150 cc of NS over 30 minutes (or PO) may use
Cimetidine 300 mg in 100cc NS to help reduce infusion reactions. Especially within first treatment of Rituxan.

Administer: Rituxan: __________ 375-mg/m² IV infusion on day 1

• Available in 500-mg/50 mL and 100-mg/10-mL vials. Further dilute in NS to make final concentration of 1 or 4 mg/1 mL.
• Stable for 24 hours at room temperature and an additional 24 hours refrigerated.
• Discard unused portion.

First infusion: Initial rate of 50 mg/hr. Increase infusion rate in 50-mg/hr increments every 30 minutes to a maximum rate of 400 mg/hr.

• If a hypersensitivity-related event develops, the infusion should be temporarily slowed or interrupted. May give additional corticosteroids and/or diphenhydramine to help alleviate hypersensitivity reactions.
• Resume infusion at 50% of previous rate after symptoms subside.
• Monitor vital signs every 10 minutes for the first hour and then every 30 minutes thereafter.

Subsequent infusions: Initial rate of 100 mg/hr. Increase rate by 100 mg/hr every 30 minutes to a maximum rate of 400 mg/hr as tolerated. Do NOT give IV push.

Cyclophosphamide: ______ 750-mg/m² IV over 1 hour on day 3

• Dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear.
• Final concentration 20 mg/mL.
• Further dilute into NS or D5W 250–500 mL.

Doxorubicin: __________ 50-mg/m² IV on day 3

• Vescicant
• Available as 2 mg/mL.
• Refrigerated.
• Given IV push through a free-flowing IV.

Vincristine: __________ 1.4 mg/m² IV push on day 3 (maximum dose 2 mg)

• Vescicant.
• Available in 1-, 2-, and 5-mg vial.
• Refrigerated.
• Given IV push through a free-flowing IV.

Prednisone: ______ 100-mg PO on days 3–7; then taper to 0

• Take with breakfast.

Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ Allopurinol
□ darbepoetin alfa (Aranesp)
□ Antibiotic □ Antifungal

Major Side Effects
• Myelosuppression: Moderate to severe. Potential for infection with B-lymphocytes reduced, resulting in bacterial infections not related to neutropenia.
• GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
• GU Toxicities: Discoloration of urine from pink to red up to 48 hours. Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration.
Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.

Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.

Hypersensitivity Reactions: Infusion-related reactions occur within 30 minutes to 2 hours of the beginning of the first infusion. Fever, chills, and rigors most common. Bronchospasm, dyspnea, pruritus, hypotension, back pain, and angiodema may also be seen. Will resolve when the infusion is stopped and/or symptomatic treatment (acetaminophen, diphenhydramine, and IV saline) is given. Have emergency hypersensitivity/anaphylaxis medications available (e.g., epinephrine, antihistamines, bronchodilators, and corticosteroids).

Skin Reactions: Rare and include paraneoplastic pemphigus, Stevens-Johnson syndrome, lichenoid dermatitis, vesiculobullous dermatitis, and toxic epidermal necrolysis. Drug therapy should be discontinued and skin biopsy should be obtained to determine cause.

Tumor lysis syndrome: Patients with high tumor burden or high white blood cell count at risk. Occurs in first 5 days after infusion. Treat/prevent with hydration and allopurinol.

Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

Treatment schedule:
Repeat cycle every 21 days. Rituximab is to be administered first, followed by cyclophosphamide, doxorubicin, and vincristine.

Estimated number of visits:
Two visits per cycle. Request 4–6 worth of visits.

Chair time:
Six to 8 hours day 1; 2–3 hours day 3; 4–6 hours day 1 cycles 2–6.

Dose Calculation by:
1. __________________________ 2. __________________________

Physician

Patient Name

Date

ID Number

Diagnosis

Ht Wt M²
Salvage Regimens

**Etoposide (VP-16), Cytarabine, Cisplatin (ESHAP)**

**Baseline laboratory tests:** CBC: Chemistry, sedimentation rate, and Mg

**Perform laboratory tests monthly:** CBC: Chemistry, Mg^{2+} (Draw CBC: Chemistry, Mg^{2+} at nadir, 10 days)

Access central venous catheters.

**Premedicate:** 5-HT	extsubscript{3} and dexamethasone

**Administer:**

- **Etoposide** 40-mg/m² IV infusion on days 1–4
  - Available in 500- and 1000-mg vials, 20 mg/mL.
  - Further dilute with NS or D5W to 0.1-mg/mL final concentration.
  - Give over 30–60 minutes to minimize risk of hypotension.
  - Stable for 48 hours at room temperature.
  - Enhances warfarin action by increasing PT.
  - Dose modification for increased bilirubin level or creatinine clearance.

- **Methylprednisolone** (Solu-Medrol): 500-mg IV on days 1–4

- **Cisplatin** 25 mg/m² per day continuous infusion on days 1–4
  - Available in 100-mg vials, 1-mg/mL concentration.
  - Further dilute to 100–1000 mL with NS.
  - Do NOT mix with D5W.
  - Avoid aluminum needles.
  - Stable for 24 hours at room.
  - Reduces renal clearance of etoposide, and decreases effect of phenytoin.
  - Cisplatin is inactivated in the presence of alkaline solutions containing sodium bicarbonate.
  - May add Mg^{2+}.

- **Cytarabine** 2000 mg/m² IV on day 5 over 2 hours after cisplatin and etoposide
  - Reconstitute with water with benzyl alcohol, then dilute with 0.9% sodium chloride or D5W.
  - Reconstituted drug is stable for 48 hours at room temperature and 7 days refrigerated.

**Major Side Effects**

- **Myelosuppression:** Moderate to severe.
- **Hypersensitivity Reactions:** Characterized by hypotension, bronchospasms, or wheezing may occur with etoposide. Hypersensitivity reactions can occur with cisplatin.
- **GI Toxicities:** Nausea and vomiting, anorexia, and metallic taste of foods; moderate to highly emetogenic; mucositis, diarrhea.
- **Potential Renal Damage:** Dose-limiting toxicity with cisplatin. Can be prevented by adequate hydration and diuresis.
- **Neurotoxicity:** Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties, jaw pain. Neurotoxicity dose limiting. Effects on renal function dose related and seen 10–20 days after therapy. Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. High-dose cytarabine includes cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, difficulty with fine motor coordination, lethargy, or somnolence. Assess baseline neurologic status and cerebellar function (coordinated movements, such as handwriting and gait).
- **Ototoxicity:** High-frequency hearing loss and tinnitus.
- **Steroid Toxicities:** Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided. Discuss sperm banking.
Supportive drugs:  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- Allopurinol  
- darbepoetin alfa (Aranesp)  
- Antibiotic  
- Antifungal

Initiate antiemetic protocol after chemotherapy: Moderately emetogenic.

Treatment schedule: Repeat cycle every 21 days.

Estimated number of visits: 10 to 15 visits every 3 weeks

Chair time: Three hours days 1–5. Mix levels and CBC as indicated by doctor.

Dose Calculation by:  
1.  
2.  

Physician  
Date

Patient Name  
ID Number

Diagnosis  
Ht  Wt  \( M^2 \)
### Dexamethasone, High-Dose Cytarabine, Cisplatin (DHAP)

**Baseline laboratory tests:** CBC: Chemistry, renal and LFTs  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Initiate IV:** NS  
**Premedicate:** 5-HT₃ and dexamethasone IV  
**Administer:**

- **Cytarabine**
  - 2000-mg/m²/day IV over 2 hours q 12 hours for 2 doses on day 1  
  - Dilute in sterile water with benzyl alcohol, then further dilute with 50–100 mL of 0.9% sodium chloride or D5W.  
  - IV hydration at 150/mL per hour with or without alkalinization, should give oral allopurinol, strict intake and output recording, and daily weights.  
  - Stable for 48 hours at room temperature and 7 days refrigerated.

- **Cisplatin**
  - 100-mg/m² IV on day 1  
  - Available in 100-mg vials, 1-mg/mL concentration.  
  - Further dilute to 100–1000 mL with NS.  
  - Do NOT mix with D5W.  
  - Avoid aluminum needles.  
  - Stable for 24 hours at room temperature.  
  - Reduces renal clearance of etoposide and decreases effect of phenytoin.  
  - Cisplatin is inactivated in the presence of alkaline solutions containing sodium bicarbonate.

**Dexamethasone:**

- 40-mg PO on days 1–14  
- Repeat cycle every 3–4 weeks.

**Drug interactions:** Decreases efficacy of gentamicin and digoxin

**Major Side Effects**

- **Bone Marrow Depression:** Nadir biphasic and severe.  
- **GI Toxicities:** Severe nausea and vomiting acute and delayed; anorexia and taste alterations.  
- **Skin Alterations:** Total alopecia, impaired skin/mucosal changes, including maculopapular rash.  
- **Neurotoxicity:** High doses of cytarabine can result in cerebellar toxicity, including nystagmus, dysarthria, ataxia, slurred speech, difficulty with fine motor coordination, lethargy, or somnolence. Assess baseline neurologic status and cerebellar function (coordinated movements, such as handwriting and gait) before and during therapy. If cerebellar toxicity develops, treatment must be discontinued. Cisplatin causes peripheral neuropathy and ototoxicity.  
- **Saline or steroid drops to both eyes may be indicated for 24 hours after completion of high cytarabine.**  
- **Alteration in Urinary Elimination:** Tumor lysis syndrome can occur 1–5 days after initiation of treatment; treat with hydration and allopurinol. Daily weights and intake and output recording. Monitor electrolytes, creatinine, BUN, uric acid, and phosphorus daily during treatment to evaluate tumor lysis. Discontinue therapy with rapidly increasing creatinine. Cisplatin can cause necrosis of proximal and distal renal tubules.  
- **Steroid Toxicities:** Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, and increased sodium level. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathologic fractures with prolonged use. Mood changes, euphoria, headache, insomnia, depression, and psychosis. Cataracts or glaucoma may develop.  
- **Sexual Dysfunction:** Mutagenic and teratogenic; discuss contraception and sperm banking.

**Initiate antiemetic protocol:**

- Highly emetogenic protocol.
Supportive drugs: □ G-CSF (Neupogen) □ pegfilgrastim (Neulasta) + G-CSF □ epoetin alfa (Procrit) □ Allopurinol □ darbepoetin alfa (Aranesp) □ Antibiotic □ Antifungal

Treatment schedule: Repeat cycle every 3–4 weeks.

Estimated number of visits: May require hospitalization on day 1. Daily or every other day for blood counts; 12 visits in 4 weeks. Chair time 3 hours day.

Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________

Physician

_____________________________________________ ______________________________________________________

Date

Patient Name

_____________________________________________ __________________________

ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M 2

_____________________________________________ ______________________________________________________

Ht Wt M
Ifosfamide, Etoposide, Carboplatin (ICE)

Baseline laboratory tests: CBC: Chemistry, renal and LFTs
Baseline procedures or tests: Bone marrow biopsy, central line placement
Initiate IV: NS
Premedicate: 5-HT₃ and dexamethasone IV
Administer: Ifosfamide _______5000-mg/m² IV continuous infusion for 24 hours on day 2
  • Available in 1- and 3-g vials.
  • Reconstitute with sterile water.
  • Further dilute to concentrations of 0.6–20 mg/mL in D5W or NS.
  • Stable for 24 hours refrigerated.
  • Phenobarbital, phenytoin, cimetidine, and allopurinol increase toxicity.
  • Ifosfamide may enhance anticoagulant effects of warfarin.
Etoposide _______ 100-mg/m²/d IV over 1–2 hours on days 1–3
  • VePesid 5 cc/100 mg; etopophos reconstitute with 5–10 mL NS, D5W, sterile water, bacteriostatic sterile water, or bacteriostatic NS with benzyl alcohol to 20 mg/mL or 10 mg/mL, respectively.
  • Further dilute to final concentration NS or D5W to 0.1 mg/mL.
  • Stability is dose concentration dependent from 8–96 hours.
Carboplatin _______ AUC of 5.0, IV infusion over 1 hour on day 2
  • Available in 50-, 150-, 450-, and 600-mg vials (lyophilized powder should be diluted with sterile water).
  • Dilute further in D5W or NS.
  • Stable for 24 hours.
  • Dose modification for creatinine clearance < 60 cc/min or if other values are abnormal.
Mesna _______ 5000-mg/m² continuous IV infusion in combination with ifosfamide
  • Available in 1000-mg multidose vials. Dilute with D5W or NS.
  • Reconstituted solution stable for 24 hours at room temperature.
GCSF is administered at 5 μg/kg on days 5–12.
  • Repeat cycle every 14 days.

Major Side Effects
  • Bone Marrow Depression: Myelosuppression is dose-limiting toxicity.
  • GI Toxicities: Nausea and vomiting moderately to highly emetogenic, anorexia. Monitor LFT results.
  • Nephrotoxicity: Patients with renal dysfunction are at risk. Monitor electrolyte, BUN, and creatinine values.
  • Potential for Hypersensitivity Reactions: Carboplatin may cause allergic reactions ranging from rash, urticaria, erythema, and pruritus to anaphylaxis; occurring within minutes of infusion.
  • Altered Urinary Elimination: Hemorrhagic cystitis, hematuria; frequency preventable with uroprotection and hydration of 2–3 L per day. Monitor BUN and serum creatinine levels.
  • Skin Alterations: Alopecia with total hair loss. Sterile phlebitis may occur at injection site. Hyperpigmentation, dermatitis, and nail ridging may occur.
  • Sensory/perceptual Alterations: Lethargy and confusion at high doses of ifosfamide, usually lasting 1–8 hours; reversible.
  • Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
  □ G-CSF (Neupogen)□ pegfilgrastim (Neulasta)
  □ epoetin alfa (Procrit)/ darbepoetin alfa (Aranesp)
  □ Allopurinol□ Antifungal
  □ Antibiotic
Treatment schedule: Chair time 1–2 hours on days 1 and 3, and 2–3 hours on day 2. Repeat cycle every 14 days.
Estimated number of visits: 3 days first week. Monitor CBC.

Dose Calculation by:

1. __________________________
2. ____________________________

______________________________ ________________________________
Physician Date

______________________________ ________________________________
Patient Name ID Number

______________________________ ________________________________
Diagnosis Ht Wt M²
### Mesna, Ifosfamide, Mitoxantrone, Etoposide (MINE)

**Baseline laboratory tests:** CBC: Chemistry on day 1

**Premedicate:** 5-HT<sub>3</sub> and dexamethasone 10-mg IV

**Administer:**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesna</td>
<td>1330-mg/m&lt;sup&gt;2&lt;/sup&gt; IV infusion 15 minutes before ifosfamide on days 1–3 then, 500-mg/day IV 4 hours after ifosfamide on days 1–3</td>
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<tr>
<td></td>
<td></td>
<td>• Available in 1000-mg multidose vials. Dilute with D5W or NS.</td>
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<td></td>
<td></td>
<td>• Reconstituted solution stable for 24 hours at room temperature. Also available in 400-mg, white, oblong tablets for oral use (IV dose is 20% of ifosfamide dose; oral dose is 40% of ifosfamide dose).</td>
</tr>
<tr>
<td>Ifosfamide</td>
<td>1330-mg/m&lt;sup&gt;2&lt;/sup&gt; IV infusion on days 1–3</td>
<td></td>
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<tr>
<td></td>
<td>• Available in 1- and 3-g vials.</td>
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<tr>
<td></td>
<td>• Reconstitute with sterile water.</td>
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<td></td>
<td>• Further dilute to concentrations of 0.6–20 mg/mL in D5W or NS.</td>
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<td></td>
<td>• Stable for 24 hours refrigerated.</td>
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<tr>
<td></td>
<td>• Phenobarbital, phenytoin, cimetidine, and allopurinol increase toxicity.</td>
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<tr>
<td></td>
<td>• Ifosfamide may enhance anticoagulant effects of warfarin.</td>
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<tr>
<td>Mitoxantrone</td>
<td>8-mg/m&lt;sup&gt;2&lt;/sup&gt; IV infusion on day 1 only</td>
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<td></td>
<td>• IV push over 3 minutes through the side arm of a free-flowing IV or IV infusion over 5–30 minutes.</td>
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<td></td>
<td>• Available at 20 mg in 10-mL dark blue solution.</td>
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<td></td>
<td>• May be diluted in D5W or NS.</td>
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<tr>
<td></td>
<td>• Stable at room temperature for 48 hours.</td>
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<tr>
<td></td>
<td>• Incompatible with heparin.</td>
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<tr>
<td>Etoposide</td>
<td>65-mg/m&lt;sup&gt;2&lt;/sup&gt; IV infusion on days 1–3</td>
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<td></td>
<td>• Available in 500- and 1000-mg vials, 20 mg/mL.</td>
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<td>• Further dilute with NS or D5W to 0.1-mg/mL final concentration.</td>
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<td></td>
<td>• Give over 30–60 minutes to minimize risk of hypotension.</td>
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<td></td>
<td>• Stable 48 hours at room temperature.</td>
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<td>• Enhances warfarin action by increasing PT.</td>
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<td>• Dose modification for increased bilirubin level or creatinine clearance.</td>
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<td></td>
<td>• Myelosuppression: Nadir in 9–14 days.</td>
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<td></td>
<td>• GI Toxicities: Nausea, vomiting, and anorexia. Monitor LFT results.</td>
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<tr>
<td></td>
<td>• Cardiotoxicity: CHF with decreased left ventricular ejection fraction (&lt; 3 %), increased cardiotoxicity with cumulative dose of mitoxantrone &gt; 180 mg/m&lt;sup&gt;2&lt;/sup&gt;.</td>
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<tr>
<td></td>
<td>• Hypersensitivity Reactions: Infusion-related reactions occur within 30 minutes to 2 hours after the beginning of the first infusion. Fever, chills, and rigors most common. Bronchospasms may occur with etoposide; hypotension with rapid infusion.</td>
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<tr>
<td></td>
<td>• Skin Alterations: Alopecia with total hair loss. Sterile phlebitis may occur at injection site. Hyperpigmentation, dermatitis, and nail ridging may occur. Radiation recall with etoposide.</td>
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<tr>
<td></td>
<td>• Altered Urinary Elimination: Hemorrhagic cystitis, hematuria, frequency preventable with uroprotection and hydration of 2–3 L per day. Monitor BUN and serum creatinine levels. Urine will be green-blue for 24 hours; sclera may become temporarily discolored blue.</td>
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<td></td>
<td>• Sensory/perceptual alterations: Lethargy and confusion at high doses of ifosfamide, usually lasting 1–8 hours; reversible.</td>
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<tr>
<td></td>
<td>• Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.</td>
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</tr>
</tbody>
</table>

**Major Side Effects**

- Initiate antiemetic protocol: Highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)_____
- filgrastim (Neupogen)_____
- epoetin alfa (Procrit)/
  darbepoetin alfa (Aranesp)_____
- Allopurinol_____
- Antibiotic_____
- Antifungal_____

Treatment schedule: Repeat cycle every 21 days.
Estimated number of visits: Chair time 6 hours day 1–3. Request 5 visits per cycle. 3–6 cycles worth of visits.

Dose Calculation by:
1. _________________________________ 2. _________________________________

_____________________________  _________________________________
Physician Date

_____________________________ _________________________________
Patient Name ID Number

_____________________________ _________________________________
Diagnosis Ht Wt M²
Primary CNS Lymphoma

**Methotrexate**

3.5-g/m² IV over 2 hours every other week for five doses
Intrathecal methotrexate: 12-mg IT weekly every other week after IV MTX
Leucovorin: 10-mg IV every 6 hours for 12 doses, starting 24 hours after IV MTX
Leucovorin: 10-mg IV every 12 hours for 8 doses, starting 24 hours after IT MTX
Vincristine: 1.4-mg/m² IV every other week along with IV MTX
Procarbazine: 100-mg/m²/day PO for 7 days on first, third, and fifth cycle of IV MTX

- After chemotherapy is completed, whole-brain radiation therapy to a total dose of 45 cGy. ³⁰⁴

**Single-Agent Regimens**

**Rituximab**

Rituximab: 375-mg/m² IV on days 1, 8, 15, and 22
May repeat one additional cycle. ³⁰⁵

**Ibritumomab Tiuxetan (Zevalin) Regimen**

Rituximab: 250 mg/m² IV on days 1 and 8
¹¹¹In-ibritumomab tiuxetan: 5 mCi of ¹¹¹In, 1.6 mg of ibritumomab tiuxetan IV on day 1
⁹⁰Y-ibritumomab tiuxetan: 0.4-mCi/kg IV over 10 minutes on day 8 after the day 8 rituximab dose
The dose of ⁹⁰Y-ibritumomab tiuxetan is capped at 32 mCi. ³⁰⁶

**Fludarabine**

Fludarabine: 25-mg/m² IV on days 1–5
Repeat cycle every 28 days. ³⁰⁷
Cladribine: 0.5–0.7 mg/kg SC on days 1–5 or 0.1-mg/kg IV on days 1–7
Repeat cycle every 28 days.1,308

I 131-tositumomab (Bexar) 309a
Administered in radiation oncology department.309a
Primary CNS Lymphoma

**Methotrexate, IT Methotrexate, Leucovorin, Vincristine and Procarbazine followed by Whole Brain Irradiation**

**Baseline laboratory tests:** CBC and Chemistry Panel, Creatinine Clearance ≥ 50 mL/h

**Laboratory tests:** CBC before each treatment

**Baseline procedures:** Diagnostic Lumbar Puncture, Ommaya reservoir

**Initiate IV:** 0.9% Sodium Chloride

**Premedication:** 5-HT$_3$, dexamethasone

**Administer:**

- **Methotrexate** ______ 3.5 gm/m$^2$ IV over 2 hours every other week for 5 doses
  - Available in 250-mg vial.
  - Further diluted in NS.
  - Reconstituted solution stable for 24 hours at room temperature. High-dose methotrexate requires leucovorin rescue.
  - Drug interactions include aspirin, penicillins, nonsteroidal anti-inflammatory drugs (NSAIDs), cephalosporins, phenytoin warfarin, 5-fluorouracil, thymidine, folic acid, and omeprazole. Vigorously hydrate; moderate dose of MTX

- **Leucovorin:** ______ 10 mg IV every 6 hours for 6 doses for 12 doses, starting 24 hours after IV methotrexate

- **Vincristine:** ______ 1.4 mg/m$^2$ IV every other week along with IV methotrexate
  - Maximum dose 2 mg.
  - Vesicant
  - Available in 1-, 2-, and 5-mg vials.
  - Keep refrigerated.
  - Given IV push through a free-flowing IV.

- **Procarbazine** ______ 100 mg/m$^2$/day PO for 7 days on 1st, 3rd and 5th cycle of IV methotrexate
  - Available in 50-mg tablets.

- **Intratecal Methotrexate** ______ 12 mg IT weekly on alternate weeks after systemic IV methotrexate

- **Leucovorin** ______ 10 mg IV every 12 hours for 8 doses starting 24 hours after IT methotrexate.

**Major Side Effects**

- GI Toxicities: Nausea, vomiting, and anorexia; moderately to highly emetogenic. Mucositis and stomatitis can be severe and dose limiting. Constipation and paralytic ileus secondary to autonomic neuropathy.
- GU Toxicities: Acute renal failure, azotemia, urinary retention and uric acid nephropathy. Provide adequate hydration.
- Pulmonary Toxicities: Poorly defined Pneumonitis characterized by fever, cough and interstitial infiltrates.
- Flulike Syndrome: Fever, chills, sweating, lethargy, myalgias, and arthralgias common.
- Hemorrhagic cystitis or irritation of bladder wall capillaries; preventable with appropriate hydration. Acute renal failure, azotemia, urinary retention, and uric acid nephropathy.
- Neurotoxicity: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain. CNS toxicity with paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and/or seizures. Usually occurs within 6 days of high dose Methotrexate and resolves within 48-72 hours.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.
Non-Hodgkin’s Lymphoma

Supportive drugs:

- G-CSF (Neupogen) _____
- Peg-G-CSF _____
- Epoetin alfa (Procrit) _____
- Darbepoetin alfa (Aranesp) _____
- Allopurinol ______
- Antibiotic ______
- Antifungal ______

Treatment schedule:
Administer one cycle.

Estimated number of visits:
Weekly for 12 weeks.

Chair time:
Chair time 2–3 hours every other week for Methotrexate and 1 hour of IT Methotrexate.

Dose Calculation by:

1. __________________________________ 2. __________________________________

_____________________________ ______________________________
Physician Date

_____________________________ ______________________________
Patient Name ID Number

_____________________________ ______________________________
Diagnosis Ht Wt M²
Single-Agent Regimens

**Rituxan (Rituximab): Monoclonal Antibody; CD 20 Positive, B-Cell Non-Hodgkin’s Lymphoma**

**Baseline laboratory tests:** CBC: Chemistry and sedimentation rate

**Laboratory tests:** Perform before each chemotherapy administration: CBC

**Initiate IV:** NS

**Premedication:** Dexamethasone may be used for patients to prevent or treat infusion-related reactions

- Tylenol 1000-mg PO 30 minutes before infusion
- Benadryl 50 mg in 150 cc of NS over 30 minutes (or PO)

**Administer:**

- **Rituxan** 375-mg/m² IV infusion

  - Available in 500-mg/50 mL and 100-mg/10-mL vials. Further dilute in NS to make final concentration of 1 or 4 mg/1 mL.
  - Stable for 24 hours at room temperature and an additional 24 hours refrigerated.
  - Discard unused portion.
  - Use infusion pump and blood pressure monitor.

**First infusion:**

- Initial rate of 50 mg/hr. Increase infusion rate in 50-mg/hr increments every 30 minutes to a maximum rate of 400 mg/hr. If a hypersensitivity-related event develops, the infusion should be temporarily slowed or interrupted. Resume infusion at 50% of previous rate after symptoms subside. Monitor vital signs every 10 minutes for the first hour, then every 30 minutes thereafter.

**Subsequent infusions:**

- Initial rate of 100 mg/hr. Increase rate by 100 mg/hr every 30 minutes to a maximum rate of 400 mg/hr as tolerated. Do NOT give IV push.

**Major Side Effects**

- **Hypersensitivity Reactions:** Infusion-related reactions occur within 30 minutes to 2 hours of the beginning of the first infusion. Fever, chills, and rigors most common. Bronchospasm, dyspnea, pruritus, hypotension, back pain, and angioedema may also be seen. Will resolve when the infusion is stopped and/or symptomatic treatment (acetaminophen, diphenhydramine, and IV NS) is given. Have emergency hypersensitivity/anaphylaxis medications available (e.g., epinephrine, antihistamines, bronchodilators, and corticosteroids).

- **Potential for Infection:** B-lymphocytes reduced, resulting in bacterial infections not related to neutropenia.

- **Skin Reactions:** Rare and include paraneoplastic pemphigus, Stevens-Johnson syndrome, lichenoid dermatitis, vesiculobullous dermatitis, and toxic epidermal necrolysis. Drug therapy should be discontinued and skin biopsy should be obtained to determine cause.

- **Tumor Lysis Syndrome:** Patients with high tumor burden or high white blood cell count at risk. Occurs in first 5 days after infusion. Treat/prevent with hydration and allopurinol.

- **Reproduction:** Pregnancy category C. Breast feeding should be avoided.

**Treatment schedule:**

- Repeat cycle weekly for four doses.

- May be repeated upon relapse.

- Maintenance therapy of one infusion every 2 months or every 6 months.

**Estimated number of visits:**

- Four for single therapy.

**Chair time:**

- 6–8 hours with first dose. 4–6 hours in weeks 2–4.

**Dose Calculation by:**

1. ____________________________________________ 2. ____________________________________________

**Physician** ________________________________ **Date** ________________________________

**Patient Name** ________________________________ **ID Number** ________________________________

**Diagnosis** ________________________________ **Ht** _______ **Wt** _______ **M²** _______
Ibritumomab Tiuxetan (Zevalin) Regimen

Baseline laboratory tests: CBC: Chemistry, renal, and LFTs
Baseline procedures or tests: Bone marrow biopsy, central line placement
Initiate IV: NS
Premedicate: Diphenhydramine, acetaminophen, dexamethasone
Administer: Rituximab ________ 250-mg/m² IV, days 1 and 8

- Dilute with NS or D5W to final concentration of 1–4 mg/mL.
- Infusion rates easier to calculate if solution is 1:1 concentration.
- Antibodies are fragile; do not shake vial or bag.
- Do not use a filter.
- Stable at room temperature for 24 hours.

Given in Radiation Oncology Department

111In-ibritumomab tiuxetan ________ 5 mCi of 111In and _________ 1.6 mg of ibritumomab tiuxetan IV on day 1

90Y-ibritumomab tiuxetan ________ 0.4-mCi/kg IV over 10 minutes on day 8 after the day 8 rituximab dose. Dose of 90Y-ibritumomab tiuxetan is capped at 32 mCi.

See package insert for drug preparation.

Day 1: 111In IV over 10 minutes using 0.22-micron filter, followed by rituximab IV within 4 hours, initially at 50 mg/hr and gradually increasing the rate in 50-mg increments if no infusion reaction occurs to a maximum of 400 mg/hr.

Biodistribution imaging 1: 2–24 hours after 111In injection; image 2: 48–72 hours later. Optional image 3; at 90–120 hours.

If biodistribution acceptable, on day 7–9, rituximab 250-mg/m² IV, and within 4 hours, 90Y-ibritumomab tiuxetan IV over 10 minutes. Avoid extravasation.

Major Side Effects

- Myelosuppression: Severe and prolonged.
- Hypersensitivity Reactions: Occur within 30 minutes to 2 hours, most commonly seen with first infusion and patients with high tumor burden and characterized by fever, chills, rigors, back pain, flushing, bronchospasms, angioedema, and hypotension. Usually resolves when infusion stopped. Premedicate with acetaminophen, diphenhydramine, and corticosteroids. Ensure that emergency medications are available (antihistamines, corticosteroids, epinephrine, and bronchodilators). When symptoms resolve, resume infusion at 50% of the previous infusion rate. Monitor vital signs frequently.
- Tumor lysis syndrome can occur if white blood cell count is elevated or large tumor burden present. Prevent with allopurinol and hydration 150 mL/hr with or without alkalinization.
- Skin Alterations: Severe mucocutaneous reactions are rare but require discontinuation of rituximab.
- Alterations in Comfort: Asthenia, headache, pruritus, myalgias, dizziness, and fatigue.
- Neurotoxicity: Agitation, confusion, visual disturbances have occurred.
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.
- Radiation Exposure: 90Y is a beta-emitter, and thus, patients should protect others from exposure to their body secretions (saliva, stool, blood, and urine).
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- □ G-CSF (Neupogen)________
- □ pegfilgrastim (Neulasta)
- □ epoetin alfa (Procrit)/
- □ darbepoetin alfa (Aranesp)
- □ Allopurinol________
- □ Antibiotic ________
- □ Antifungal ________

Treatment schedule: One cycle only, 6–8 hours days 1 and 8 for Rituximab.
Estimated number of visits: Weekly for CBCs until bone marrow recovery.
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<th><strong>Dose Calculation by:</strong></th>
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### Fludarabine

**Baseline laboratory tests:** CBC: Chemistry, renal, and LFTs  
**Baseline procedures or tests:** Bone marrow biopsy, central line placement  
**Initiate IV:** NS  
**Premedicate:** 5-HT₃ IV  
**Administer:** Fludarabine ________ 25-mg/m²/d IV on days 1–5  
- Dilute with 2 mL of sterile water for final concentration of 25 mg/mL.  
- Further dilute in 100 mL of NS or D5W. Drug should be used within 8 hours.

#### Major Side Effects
- Myelosuppression: Severe and cumulative, nadir day 13.  
- Fatigue: Secondary to anemia.  
- Neurotoxicity: Agitation, confusion, and visual disturbances have occurred.  
- Pulmonary Toxicities: Pneumonia occurs in 16%–22% of patients. Pulmonary hypersensitivity reaction characterized by dyspnea, cough, interstitial pulmonary infiltrates.  
- GI Toxicities: Nausea and vomiting, anorexia; mucositis, diarrhea.  
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- □ G-CSF (Neupogen) _____  
- □ pegfilgrastim (Neulasta)  
- □ epoetin alfa (Procrit)/ □ Allopurinol_____  
- □ darbepoetin alfa (Aranesp)________  
- □ Antibiotic ________  
- □ Antifungal _________

**Treatment schedule:** Chair time 1 hour on days 1–5  
**Estimated number of visits:** Daily for 5 days and then weekly. Request 3–4 cycles worth of visits.  
Repeat schedule every 28 days.

**Dose Calculation by:** 1. __________________________________ 2. ____________________________________________  
__________________________________________________________________________  

Physician: ___________________________ Date: ___________________________  

Patient Name: ___________________________ ID Number: ___________________________  

Diagnosis: ___________________________ Ht: ______ Wt: ______ M²: ______
Cladribine (Leustatin)

Baseline laboratory tests: CBC: Chemistry, renal, and LFTs
Baseline procedures or tests: Bone marrow biopsy, central line placement

Administer: Cladribine _______0.5–0.7 mg/kg/day SC or 0.1 mg/kg IV on days 1–7
- Dilute 1:1 concentrated liquid in 500 mL of 0.9% NS per day.
- Unstable in D5W.
- Use 22-µm filter when preparing solution.
- Stable when diluted for 24 hours and 8 hours refrigerated.

Major Side Effects
- Bone marrow depression: Nadir at 7–14 days; neutropenia is more common than anemia or thrombocytopenia. Increased risk for opportunistic infections, including fungal, herpes, and Pneumocystis carinii. Teach self-care measures to minimize risk of infection and bleeding.
- Fever: >100°F due to infection or release of endogenous pyrogen from lysed lymphocytes. Symptoms include chills, diaphoresis, malaise, myalgia, and arthralgias.
- GI Toxicities: Nausea and vomiting mildly emetogenic and usually controlled with phenothiazines. Diarrhea in 10% and constipation in 9% of patients.
- Neurotoxicity: Headache, insomnia, and dizziness.
- Tumor lysis syndrome rare, even with high tumor burden.
- Reproduction: Pregnancy category D. Breast feeding should be avoided. Discuss contraception and sperm banking.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ G-CSF ______ □ pegfilgrastim (Neulasta)
□ epoetin alfa (Procrit)/ □ Allopurinol______
□ darbepoetin alfa (Aranesp)_______
□ Antibiotic ______ □ Antifungal ________

Treatment schedule: Chair time 1 hour on days 1–5, 30 minutes for IV dose.
Repeat cycle until remission (usually two to three cycles).

Estimated number of visits: Seven days first week and then daily or every other day for blood counts.

Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________ ______________________________
Physician Date

_____________________________ ________________/ ________________/ ________________
Patient Name ID Number

_____________ / ______________ / ______________
Diagnosis Ht Wt M2
**Baseline laboratory tests:**
- TSH, CBC: Platelets \(\geq 100,000\); Neutrophil count \(\geq 1,500\); Chemistry, renal function test, pregnancy test, if applicable, HAMA (human anti-murine antibodies) if patient has had previous exposure to murine antibodies

**Baseline procedures:**
- Bone marrow biopsy \(\leq 25\%\) lymphoma of the intratrabecular space; referral to Nuclear Medicine/ Radiation Oncology Department

**Laboratory tests:**
- CBC weekly for 10 weeks or until bone marrow recovery; TSH at least annually

The BEXXAR therapeutic regimen consists of four components administered in two discrete steps: the dosimetric step, followed 7–14 days later by a therapeutic step.

**Premedication: Day 1**
- Thyroid Protection initiated 24 hours prior to administration of Iodine I 131 Tositumomab dosimetric dose and continued until 2 weeks after Iodine I 131 Tositumomab therapeutic dose.
- SSKI—saturated solution of potassium iodide 4 drops orally t.i.d.; or potassium iodide tablets 130 mg orally

**Premedication: Day 0**
- Tylenol 1000 mg and Benadryl 50 mg PO 30 minutes prior to Dosimetric and Therapeutic steps

**Dosimetric step**
- **Tositumomab 450 mg** intravenously in 50 ml 0.9% Sodium Chloride over 60 minutes.
  - Reduce the rate of infusion by 50% for mild to moderate infusional toxicity; interrupt infusion for severe infusional toxicity. After complete resolution of severe infusional toxicity, infusion may be resumed with a 50% reduction in the rate of infusion.
  - 22 micron in-line filter
  - The same IV tubing set and filter must be used throughout the entire Dosimetric or Therapeutic Step. A change in filter can result in loss of drug

Followed by:

**Iodine I 131 Tositumomab** (containing 5.0 mCi Iodine-131 and 35 mg Tositumomab) intravenously in 30 ml 0.9% Sodium Chloride over 20 minutes.
- Reduce the rate of infusion by 50% for mild to moderate infusional toxicity; interrupt infusion for severe infusional toxicity. After complete resolution of severe infusional toxicity, infusion may be resumed with a 50% reduction in the rate of infusion.

**Day 0**
- Whole Body Dosimetry and Biodistribution
**Day 2, 3, or 4**
- Whole Body Dosimetry and Biodistribution
**Day 6 or 7**
- Whole Body dosimetry and Biodistribution

If biodistribution is acceptable begin Therapeutic Step. Note: Do not administer the therapeutic step if biodistribution is altered (see Assessment of Biodistribution of Iodine I 131 Tositumomab).

**Premedication: Tylenol 1000 mg and Benadryl 50 mg PO 30 minutes before treatment**

**Therapeutic step**
- **Tositumomab 450 mg** intravenously in 50 ml 0.9% Sodium Chloride over 1 hour.
  - Reduce the rate of infusion by 50% for mild to moderate infusional toxicity; interrupt infusion for severe infusional toxicity. After complete resolution of severe infusional toxicity, infusion may be resumed with a 50% reduction in the rate of infusion.

Followed by:

**Iodine I 131 Tositumomab** (see CALCULATION OF IODINE-131 ACTIVITY FOR THE THERAPEUTIC DOSE).
- Reduce the rate of infusion by 50% for mild to moderate infusional toxicity; interrupt infusion for severe infusional toxicity. After complete resolution of severe infusional toxicity, infusion may be resumed with a 50% reduction in the rate of infusion.
- Patients with \(\geq 150,000\) platelets/mm\(^3\): The recommended dose is the activity of Iodine-131 calculated to deliver 75 cGy total body irradiation and 35 mg Tositumomab, administered intravenously over 20 minutes.
• Patients with NCI Grade 1 thrombocytopenia (platelet counts ≥100,000 but < 150,000 platelets/mm³): The recommended dose is the activity of Iodine-131 calculated to deliver 65 cGy total body irradiation and 35 mg Tositumomab, administered intravenously over 20 minutes.

**ADMINISTRATION IS DONE BY A NUCLEAR MEDICINE PHYSICIAN/RADIATION ONCOLOGIST.**

SEE PACKAGE INSERT FOR DIRECTIONS FOR COMPLETE PREPARATION AND ADMINISTRATION

**Major Side Effects**

• Hypersensitivity Reactions: Symptoms include fever, rigors, chills, sweating, hypotension, dyspnea, bronchospasms, and nausea during the infusion or up to 48 hours after the infusion. Rare but potentially life threatening. May treat with Tylenol and/or diphendydramine.

• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia that are prolonged and severe. Intervention with G-csf and epoetin alfa is recommended. Transfusions of RBCs and platelets were not uncommon.

• GI Toxicities: Nausea (61%), anorexia (21%) and diarrhea (32%). Dehydration and hypokalemia were also seen.

• Neurotoxicity: Central neurotoxicity may occur, as well as neuropathy and optic neuritis.

• Radiation Precautions: Patients may receive outpatient treatment as long as total dose to an individual at 1 meter is < 500 millirem. Remain at a distance of > 3 feet from other people for at least 2 days. Infants and pregnant women should not visit the patient, and if necessary visits should be brief and at a distance of at least 9 feet. Do not travel by commercial transportation or go on a prolonged automobile trip with others for at least the first 2 days. Have sole use of the bathroom for at least two days and drink up to 3 + quarts water per day for at least two days to prevent dehydration.

• Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- G-CSF Neupogen
- Neulasta
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- Allopurinol
- Antibiotic
- Antifungal

**Treatment schedule:**

Chair time 2 hours on day 0, Body scans day 0, (2, 3, or 4) and day 6 or 7. Therapeutic Step days 7–14 (one dose within that time frame). Chair time 2 hours.

**Estimated number of visits:**

Four visits at Radiation Therapy Department for treatment. Monitor CBC at least weekly for 10 weeks or until counts stabilize.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

Physician

______________________________ Date

Patient Name

______________________________ ID Number

______________________________ ______________________

Ht Wt M²

Diagnosis
MALIGNANT MELANOMA

Adjuvant Therapy

Interferon-α-2b

Interferon-α-2b: 20-MU/m² IV, 5 times weekly for 4 weeks, then 10 MU/m² SC, 3 times weekly for 48 weeks. Treat for a total of 1 year.¹,³⁰⁹

METASTATIC DISEASE

Combination Regimens

DTIC + BCNU + Cisplatin

Dacarbazine: 220-mg/m² IV on days 1–3
Carmustine: 150-mg/m² IV on day 1
Cisplatin: 25-mg/m² IV on days 1–3
Repeat cycle with dacarbazine and cisplatin every 21 days and carmustine every 42 days.¹,³¹⁰

DTIC + Cisplatin + BCNU + Tamoxifen (Dartmouth Regimen)

Dacarbazine: 220-mg/m² IV on days 1–3 and 22–24
Cisplatin: 25-mg/m² IV on days 1–3 and 22–24
Carmustine: 150-mg/m² IV on day 1
Tamoxifen: 10-mg PO bid starting on day 4
Repeat cycle every 6 weeks.¹,³¹¹

CVD

Cisplatin: 20-mg/m² IV on days 1–5
Vinblastine: 1.6-mg/m² IV on days 1–5
Dacarbazine: 800-mg/m² IV on day 1
Repeat cycle every 21–28 days.¹,³¹²

IFN + DTIC

Interferon-α-2b: 15-MU/m² IV on days 1–5, 8–12, and 15–19 as induction therapy
Interferon-α-2b: 10-MU/m² SC 3 times weekly after induction therapy
Dacarbazine: 200-mg/m² IV on days 22–26
Repeat cycle every 28 days.¹,³¹³
### Cisplatin + Vinblastine + DTIC + IL-2 + IFN

Cisplatin: 20-mg/m² IV on days 1–4 and 22–25  
Vinblastine: 1.5-mg/m² IV on days 1–4 and 22–25  
Dacarbazine: 800-mg/m² IV on days 1 and 22  
Interleukin-2: 9-MU/m² IV as a 24-hour continuous infusion on days 5–8 and 17–20  
Interferon-α-2b: 5-MU/m² SC on days 5–9, 17–21, and 26–30.  
Repeat cycle every 6 weeks.  

### Temozolomide + Thalidomide

Temozolomide: 75 mg/m²/day PO for 6 weeks  
Thalidomide: 200–400 mg/m²/day PO for 6 weeks  
Repeat cycle every 10 weeks.  

### Single-Agent Regimens

#### Dacarbazine

Dacarbazine: 250-mg/m² IV on days 1–5  
Repeat cycle every 21 days.  
OR  
Dacarbazine: 850-mg/m² IV on day 1  
Repeat cycle every 3–6 weeks.  

#### Interferon-α-2b

Interferon-α-2b: 20-MU/m² IM, 3 × weekly for 12 weeks  

#### Aldesleukin

Aldesleukin (IL-2): 100,000 IU/kg IV on days 1–5 and 15–19  
Repeat cycle every 28 days.  

#### Temozolomide

Temozolomide: 150-mg/m² PO on days 1–5  
Repeat cycle every 28 days.  
If well tolerated, can increase dose to 200-mg/m² PO on days 1–5.
Adjuvant Therapy

Interferon-α-2b (Intron A, IFN-α-2b Recombinant, α-2-Interferon, rIFN-α-2)

Baseline laboratory tests: CBC: Chemistry (including liver function tests [LFTs])
Baseline procedures or tests: Central line
Initiate IV: Normal saline (NS)
Premedicate: 5-HT₃ for IV therapy
Acetaminophen 650 mg 30 minutes before treatment and every 4 hours
may alternate with
Ibuprofen 400-mg PO every 4 hours
Administer: Interferon-α-2b _______MU(20 × 10⁶ IU/m²) IV on days 1–5 × 4 weeks
• Use only Intron A powder (interferon-α-2b) because of the amount of preservative in the premixed solution.
• Do not use 5% dextrose and water (D₅W).
• May require increased hydration as treatment progresses.

Then
Maintenance therapy
Interferon-α-2b _______MU/m² SQ TIW × 48 weeks
• Available in multidose pens with 6 doses of 3 MU (18 MU) or 5 MU (30 MU) or 10 MU (60 MU).
• Keep refrigerated.

Major Side Effects
• Flulike Symptoms: Fever, chills, headache, myalgias, and arthralgias. Occurs in 80%–90% of patients. Onset 3–4 hours after injection and lasting for up to 8–9 hours. Incidence decreases with subsequent injections. Symptoms can be managed with acetaminophen and increased oral fluid intake. Symptoms may be more pronounced during IV induction therapy.
• Bone Marrow Depression: Myelosuppression with mild leukopenia and thrombocytopenia. Cumulative effect, dose-limiting thrombocytopenia; reversible.
• Gastrointestinal (GI) Toxicities: Nausea and diarrhea are mild; vomiting is rare. Anorexia is seen in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur.
• Renal/hepatic: Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities.
• CNS Effects: Dizziness (21–41%), confusion, decreased mental status and depression. Somnolence, irritability and poor concentration.
• Cardiotoxicity: Chest pain, arrhythmias, and congestive heart failure (CHF) are rare.
• Skin: Alopecia is partial. Dry skin, pruritus, and irritation at injection site occur.
• Reproductive: Pregnancy category C. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on days 1–5 for 4 weeks, and 1 hour on day 1 of week 5 for self-injection teaching.

Estimated number of visits: 20 visits first month, and once every 1–2 weeks for remainder of year.
Dose Calculation by:  1. __________________________________  2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis

Ht Wt M²
## METASTATIC DISEASE
### Combination Regimens

<table>
<thead>
<tr>
<th>Dacarbazine/Carmustine/Cisplatin</th>
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<tbody>
<tr>
<td><strong>Baseline laboratory tests:</strong></td>
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<td><strong>Baseline procedures or tests:</strong></td>
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<tr>
<td><strong>Initiate IV:</strong></td>
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<td><strong>Premedicate:</strong></td>
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<tr>
<td>Carmustine (BCNU) ______ mg (150 mg/m(^2)) IV in 500–1000 cc of NS over 1–2 hours on day 1</td>
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<td>Cisplatin ______ mg (25 mg/m(^2)) IV in 1000 cc of NS over 1–2 hours on days 1–3</td>
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</table>
Initiate antiemetic protocol: Moderately to highly emetogenic protocol.

Supportive drugs: □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 4 hours on day 1, and 3 hours on days 2–3. Repeat cycle for dacarbazine and cisplatin every 21 days, carmustine every 42 days.

Estimated number of visits: Four visits every 21-day cycle. Request four cycles worth of visits.

Dose Calculation by: 1. ___________________________ 2. ___________________________

_________________________ ___________________________
Physician Date

_________________________ ___________________________
Patient Name ID Number

_________________________ ___________________________
Diagnosis Ht Wt M²
DTIC + Cisplatin + BCNU + Tamoxifen

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and LFTs
Baseline procedures or tests: Pulmonary function tests, central line
Initiate IV: NS
Premedicate: 5-HT3 and dexamethasone 20 mg in 100 cc of NS
Administer: Dacarbazine ______ mg (220 mg/m\(^2\)) IV over 1 hour on days 1–3 and 22–24
- Available in 100- and 200-mg vials 10 mg/mL or
- Reconstitute with 9.9 mL sterile water, NS, or D5W to a final concentration of 10 mg/mL. Further dilute in D5W or NS 250–500 mL.
- Vesicant
- May cause vein burning/irritation if infused too rapidly.
- Reconstituted solution stable for 8 hours at room temperature, and 72 hours if refrigerated. If further diluted, solution is stable for 8 hours at room temperature and 24 hours refrigerated.
Cisplatin ______ mg (25 mg/m\(^2\)) IV in 1000 cc of NS over 1–2 hours on days 1–3 and 22–24.
- Available in 1-mg/1-mL solution. Multidose vial stable for 28 days under protected light or 7 days under fluorescent light.
- Do not use aluminum needles, because precipitate will form.
- Further dilute in 250 cc or more of NS.
Carmustine (BCNU) ________ mg (150 mg/m\(^2\)) IV on day 1
- Reconstitute with 3 mL of sterile diluent (dehydrated alcohol injection) supplied by the manufacturer.
- Further dilute with 27 mL of sterile water to a final concentration of 3.3 mg/mL.
- Further dilute with D5W for administration.
- Stable for 8 hours at room temperature.
Tamoxifen 10-mg PO bid starting on day 4

Major Side Effects
- Flulike Symptoms: Fever, chills, headache, myalgias, and arthralgias. May last for several days after treatment.
- Bone Marrow Depression: Myelosuppression involving all blood elements. Delayed nadir with BCNU lasting 1–3 weeks.
- GI Toxicities: Nausea and vomiting can be severe with dacarbazine. Anorexia occurs in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur. Diarrhea is rare.
- Renal/hepatic: Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities. Nephrotoxicity; can be prevented with vigorous hydration.
- Skin: Alopecia in 90% of patients taking DTIC. Dry skin, flushing, pruritus, photosensitivity, and irritation at injection site seen. Pain at injection site during dacarbazine infusion; phlebitis.
- Pulmonary Fibrosis: Patients receiving carmustine at cumulative doses 1400 mg/m\(^2\) are at higher risk.
- Neurotoxicity: Peripheral neuropathy (sensory/motor) with cisplatin. Dose/duration dependent and progresses with continued therapy. Paresthesias and numbness in classic “stocking glove” pattern.
- Ototoxicity: Occurs in 10%–30% of patients.
- Hot Flashes: Occur in about 10% of patients and are usually not severe enough to discontinue therapy.
- Reproductive: Pregnancy category D. Impotence and infertility can occur.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)  □ darbepeotin alfa (Aranesp)

Treatment schedule: Chair time 4 hours on day 1, and 3 hours on days 2–3 and 22–24. Repeat cycle every 6 weeks.

Estimated number of visits: Seven visits per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ____________________________ ____________________________

Ht Wt M$^2$

Diagnosis
Cisplatin + Vinblastine + Dacarbazine (CVD)

Baseline laboratory tests: CBC: Chemistry panel (including Mg^{2+})
Baseline procedures: Central line placement
Premedicate: 5-HT_{3} and dexamethasone 20 mg in 100 cc of NS.
Initiate IV: NS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisplatin</td>
<td>______ mg (20 mg/m^2)</td>
<td>1–5</td>
</tr>
<tr>
<td></td>
<td>Available in 1-mg/1-mL solution. Multidose vial stable for 28 days under protected light or 7 days under fluorescent light.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Do not use aluminum needles, because precipitate will form.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Further dilute in 250 cc or more of NS</td>
<td></td>
</tr>
<tr>
<td>Vinblastine</td>
<td>______ mg (1.6 mg/m^2)</td>
<td>1–5</td>
</tr>
<tr>
<td></td>
<td>Vesicant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Available in 10-mg vials. 1 mg/mL. Store in refrigerator until use.</td>
<td></td>
</tr>
<tr>
<td>Dacarbazine (DTIC)</td>
<td>________ mg (800 mg/m^2)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Available in 100- and 200-mg vials 10 mg/mL or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reconstitute with 9.9 mL sterile water, NS, or D5W to a final concentration of 10 mg/mL. Further dilute in D5W or NS 250–300 mL.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vesicant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May cause vein burning/irritation if infused too rapidly. Reconstituted solution stable for 8 hours at room temperature, and 72 hours if refrigerated. If further diluted, solution is stable for 8 hours at room temperature and 24 hours refrigerated.</td>
<td></td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Flulike Symptoms: Fever, chills, headache, myalgias, and arthralgias.
- Bone Marrow Depression: Dose limiting toxicity, nadir at 21–25 days with DTIC, days 4–6 with vinblastine.
- GI Toxicities: Nausea and vomiting can be severe with dacarbazine. Anorexia occurs in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur. Diarrhea is rare.
- Renal/hepatic: Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities. Nephrotoxicity; can be prevented with vigorous hydration.
- Skin: Alopecia in 90% of patients taking DTIC. Dry skin, flushing, pruritus, photosensitivity, and irritation at injection site seen. Pain at injection site during dacarbazine infusion; phlebitis.
- CNS Toxicity: Peripheral neuropathy (paresthesias, paralysis, and loss of deep tendon reflexes and constipation). Paralytic ileus and urinary retention.
- Neurotoxicity: Peripheral neuropathy (sensory/motor). Dose/duration dependent and progresses with continued therapy.
- Ototoxicity: Occurs in 10%–30% of patients.
- Reproductive: Pregnancy category D. Impotence and infertility can occur.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen) □ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 5 hours on day 1, and 3 hours on days 2–5. Repeat cycle every 21–28 days.
Estimated number of visits: Five visits per cycle. Request four cycles worth of visits.
Dose Calculation by: 1. ___________________________ 2. ___________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

Diagnosis ___________________________ Ht ___________ Wt ___________ M² ___________
**Interferon (IFN) + DTIC**

**Baseline laboratory tests:** CBC; Chemistry panel and LFTs

**Baseline procedures:** Central line placement

**Initiate IV:** NS

**Premedicate:** 5-HT3 in 100 cc of NS (add dexamethasone if indicated)

**Administer:**

- **Induction:** Interferon-α-2b _____ MU (15 MU/m²) IV on days 1–5, 8–12, and 15–19
  - DO NOT USE D5W.
  - Use only Intron A powder (interferon-α-2b). Premixed solutions should not be used because of the amount of preservative in the premixed solution.
  - More hydration and additional antiemetics may be needed toward the end of the patient’s therapy or if they are having difficulty taking fluids.

**Maintenance therapy**

- Interferon-α-2b _____ MU (10 MU/m²) SC (TIW—three times per week) after induction therapy
  - Available in multidose pens with 6 doses of 3 MU (18 MU) or 5 MU (30 MU) or 10 MU (60 MU). Keep refrigerated.

- **Dacarbazine (DTIC) __________ mg (200 mg/m²) IV on days 22–26
  - Available in 100- and 200-mg vials 10 mg/mL or
  - Reconstitute with 9.9 mL sterile water, NS, or D5W to a final concentration of 10 mg/mL. Further dilute in D5W or NS 250–500 mL.
  - **Vesicant**
    - May cause vein burning/irritation if infused too rapidly.
    - Reconstituted solution stable for 8 hours at room temperature, and 72 hours if refrigerated. If further diluted, solution is stable for 8 hours at room temperature and 24 hours refrigerated.

**Major Side Effects**

- **Flulike Symptoms:** Fever, chills, headache, myalgias, and arthralgias. Occur in 80%–90% of patients. Onset 3–4 hours after injection and lasting for up to 8–9 hours. Incidence decreases with subsequent injections. Symptoms can be managed with acetaminophen and increased PO fluid intake.

- **Bone Marrow Depression:** Dose limiting toxicity, nadir at 21–25 days with DTIC, days 4–6 with vinblastine.

- **GI Toxicities:** Nausea and diarrhea are mild, vomiting is rare with interferon. Moderate to severe with dacarbazine. Anorexia occurs in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur.

- **Renal/hepatic:** Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities.

- **Skin:** Alopecia in 90% of patients taking DTIC. Dry skin, flushing, pruritus, photosensitivity, and irritation at injection site seen. Pain at injection site during dacarbazine infusion; phlebitis.

- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** 1 hour on days 1–5, 8–12, and 15–19; 2 hours on days 22–26. Repeat cycle every 28 days.

**Estimated number of visits:** 20 visits first month, and every 1–2 weeks after.
Dose Calculation by:  1. ___________________________  2. ___________________________

_____________________________________________ ______________________________________________________

Physician                                           Date

_____________________________________________ ______________________________________________________

Patient Name                                       ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis                                           Ht    Wt    M$^2$


### Cisplatin + Vinblastine + Dacarbazine + IL-2 + Interferon

**Baseline laboratory tests:**
CBC: Chemistry panel (including $\text{Mg}^{2+}$)

**Baseline procedures or tests:**
Central line placement for continuous infusion

**Premedicate:**
5-HT$_3$ and dexamethasone 20 mg in 100 cc of NS over 30 minutes.

**Initiate IV:**
NS

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Route</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cisplatin</strong></td>
<td>20 mg/m$^2$</td>
<td>IV</td>
<td>2000 cc of NS over 1–2 hours on days 1–4 and 22–25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Available in 1-mg/1-mL solution. Multidose vial stable for 28 days under protected light or 7 days under fluorescent light.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Further dilute in 250 cc or more of NS.</td>
</tr>
<tr>
<td><strong>Vinblastine</strong></td>
<td>1.5 mg/m$^2$</td>
<td>IV</td>
<td>on days 1–4 and 22–25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Vesicant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Available in 10-mg vials. 1-mg/1-mL concentration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Store in refrigerator until use.</td>
</tr>
<tr>
<td><strong>Dacarbazine (DTIC)</strong></td>
<td>800 mg/m$^2$</td>
<td>IV</td>
<td>in 500 mL of NS over 1–2 hours on days 1 and 22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Vesicant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Reconstitute with sterile water, NS, or D5W to a final concentration of 10 mg/mL. (May cause vein burning/irritation if infused too rapidly.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Reconstituted solution stable for 8 hours at room temperature, and 72 hours if refrigerated. If further diluted, solution is stable for 8 hours at room temperature and 24 hours refrigerated.</td>
</tr>
<tr>
<td><strong>Interleukin-2</strong></td>
<td>9 MU/m$^2$</td>
<td>IV</td>
<td>as a 24-hour continuous infusion on days 5–8 and 17–20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Available in 22 MU single dose vials; discard unused portion.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Reconstituted solution stable for 48 hours refrigerated.</td>
</tr>
</tbody>
</table>

**Interferon-α-2b**
5 MU/m$^2$ SC on days 5–9, 17–21, and 26–30

**Major Side Effects**

- **Flulike Syndrome:** Chills, rigor, fever, and headache. Myalgia and arthralgias
- **Myelosuppression:** Dose-limiting toxicity, nadir day 4–6 with vinblastine and day 21–25 with DTIC.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting. Can be acute or delayed with severity and intensity decreasing with subsequent doses.
- **Neurotoxicity:** Peripheral neuropathy (sensory/motor). Dose/duration dependent and progresses with continued therapy.
- **Renal:** Nephrotoxicity can be prevented with vigorous hydration. Oliguria, proteinuria, elevated creatinine, tubular cell injury, and decreased renal blood flow with IL-2.
- **Hepatic:** Hepatomegaly and hypoalbuminemia and elevated LFT results may occur. Hold drug for signs of hepatic failure including encephalopathy, increasing ascites, liver pain, or hypoglycemia
- **Capillary Leak Syndrome:** Peripheral edema, CHF, pleural effusions, and pericardial effusions. Decreased systemic vascular resistance and hypotension, which can cause decreased renal perfusion. Extravasation of protein and fluid into extravascular space. Strict I & O, vital signs every 2–4 hours.
- **Ototoxicity:** Occurs in 10%–30% of patients.
- **Skin:** Diffuse erythematous rash, which may desquamate. Pruritus and alopecia.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen) □ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 5 hours on days 1 and 22, and 3 hours on days 2–4 and 23–25. Repeat cycle every 6 weeks.

Estimated number of visits: Ten visits per cycle. Request four cycles worth of visits. Preauthorize prn hospital admission.

Dose Calculation by:

1. ________________________________ 2. ________________________________

Physician ________________________________ Date ________________________________

Patient Name ________________________________ ID Number ________________________________

Diagnosis ___________________________________________ Ht ______ Wt ______ M² ______
Malignant Melanoma  

**Temozolomide + Thalidomide**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and LFTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or $5\text{-HT}_3$</td>
</tr>
<tr>
<td></td>
<td>Warfarin 2-mg PO qd to decrease risk of thromboembolic complications (if physician orders)</td>
</tr>
<tr>
<td>Administer:</td>
<td>Temozolomide $____________$ mg ($75 \text{ mg/m}^2/\text{day}$) PO for six weeks</td>
</tr>
<tr>
<td></td>
<td>• Available in 5-, 20-, 100-, and 250-mg capsules for oral use.</td>
</tr>
<tr>
<td></td>
<td>• Store at room temperature; protect from light and moisture.</td>
</tr>
<tr>
<td></td>
<td>Thalidomide $___________$ mg ($200-400 \text{ mg/m}^2/\text{day}$) PO for 6 weeks</td>
</tr>
<tr>
<td></td>
<td>• Requires registration with Celgene (Summit, NJ) STEPS program and authorization number for each 28-day prescription.</td>
</tr>
<tr>
<td></td>
<td>• Available in 50-, 100-, and 200-mg capsules.</td>
</tr>
<tr>
<td></td>
<td>• Store in a cool, dry place and protect from light.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Teratogenic Effect:** Most serious toxicity of thalidomide. Severe birth defects or death to an unborn fetus. Manifested as absent or defective limbs, hypoplasia or absence of bones, facial palsy, absent or small ears, absent or shrunken eyes, congenital heart defects, and gastrointestinal and renal abnormalities.
- **Bone Marrow Depression:** Myelosuppression is dose-limiting toxicity with leukopenia more frequent than thrombocytopenia. Nadir day 28–29. Anemia may also occur. Does not usually require granulocyte colony stimulating factor (G-CSF) administration.
- **GI Toxicities:** Nausea and vomiting occur in 75% of patients, usually mild to moderate, occurring on day 1. Diarrhea, constipation, and/or anorexia may affect up to 40% of patients. Constipation is primary GI toxicity with thalidomide.
- **Cardiovascular Toxicities:** Increase risk of thromboembolic complications, including deep vein thrombosis and pulmonary embolism. See earlier warfarin recommendation.
- **Neurotoxicities:** Fatigue, orthostatic hypotension, and dizziness. Peripheral neuropathy in the form of numbness, tingling, and pain in the feet or hands. Does not appear to be dose or duration related. Daytime sedation.
- **Skin:** Maculopapular skin rash, urticaria, and dry skin. Stevens-Johnson syndrome reported. Thalidomide should be discontinued if patients develop a skin rash. Therapy can be restarted with caution if the rash was not exfoliative, purpuric, bullous, or otherwise suggestive of a serious skin condition.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- loperamide (Imodium)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** No chair time. Repeat cycle every 10 weeks until disease progression.

**Estimated number of visits:** One visit per month.

**Dose Calculation by:**

1. ____________ 2. ____________ 3. ____________

**Physician**  

**Date**

**Patient Name**

**ID Number**  

**Diagnosis**  

Ht Wt M$^2$
## Single-Agent Regimens

**Dacarbazine (DTIC)**

<table>
<thead>
<tr>
<th><strong>Baseline laboratory tests:</strong></th>
<th>CBC: Chemistry panel and LFTs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline procedures or tests:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Initiate IV:</strong></td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td><strong>Premedicate:</strong></td>
<td>5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td><strong>Administer:</strong></td>
<td><strong>Dacarbazine</strong> ___________ mg (250 mg/m²) IV on days 1–5</td>
</tr>
</tbody>
</table>

Repeat cycle every 21 days.

**OR**

**Dacarbazine** ___________ mg (850 mg/m²) IV on day 1

Repeat cycle every 3–6 weeks

- Available in 100- and 200-mg vials 10 mg/mL or
- Reconstitute with 9.9 mL sterile water, NS, or D5W to a final concentration of 10 mg/mL. Further dilute in D5W or NS 250–500 mL.

- **Vesicant**
- May cause vein burning/irritation if infused too rapidly.
- Stable for 8 hours at room temperature, and 72 hours if refrigerated.

### Major Side Effects

- **Bone Marrow Suppression:** Myelosuppression is a dose-limiting toxicity. Leukopenia and thrombocytopenia are equally affected, with nadir occurring at 21–25 days.
- **GI Toxicities:** Nausea and vomiting are moderate to severe. Onset is usually 1–3 hours after treatment and lasts for up to 12 hours. Decreases with each consecutive day of therapy. Diarrhea is uncommon. Anorexia is common.
- **Hepatic:** Hepatotoxicity is rare, but hepatic veno-occlusive disease has been described.
- **Central Nervous System (CNS) Toxicity:** Paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and seizures have all been observed.
- **Flulike Syndrome:** Malaise, headache, myalgia, hypotension. May occur up to 7 days after first dose, lasts 7–21 days, and may recur with subsequent dosing.
- **Skin:** Pain at injection site during infusion, erythema and urticaria, phlebitis. Alopecia likely. Photosensitization may occur.
- **Reproductive:** Drug is teratogenic, mutagenic, and carcinogenic.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:**
- Chair time 2 hours on days 1–5. Repeat cycle every 21 days.
- Chair time 3 hours on day 2. Repeat cycle every 3–6 weeks.

**Estimated number of visits:**
- Five visits per cycle. Request three cycles worth of visits.
- One visit per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________ 2. __________________________

______________________________ _______________________________

Physician Date

______________________________ ________________/ ________________/ ________________

Patient Name ID Number

______________________________ ________________________________

Diagnosis Ht Wt M²
Interferon (Melanoma)

Baseline laboratory tests: CBC: Chemistry (including LFTs)
Baseline procedures or tests: N/A
Initiate IV: NS
Premedicate: Oral phenothiazine or 5-HT3
Acetaminophen 650 mg 30 minutes before treatment and q 4 hours
may alternate with
Ibuprofen 400-mg PO q 4 hours

Administer: Interferon-α-2b MU (20 MU/m2) IM three times per week × 12 weeks

- Available in solution form in single-dose vials of 3, 6, 9, and 36 MU.
- DO NOT freeze or shake vials.
- Stable for 1 month under refrigeration.

Major Side Effects

- Flulike Symptoms: Fever, chills, headache, myalgias, and arthralgias. Occurs in 80%–90% of patients. Onset 3–4 hours after injection and lasting for up to 8–9 hours. Incidence decreases with subsequent injections. Symptoms can be managed with acetaminophen, ibuprofen, and/or indomethacin and increased oral fluid intake.
- Bone Marrow Depression: Myelosuppression with mild leukopenia and thrombocytopenia. Cumulative effect, dose-limiting thrombocytopenia; reversible.
- GI Toxicities: Nausea and diarrhea are mild, and vomiting is rare. Anorexia occurs in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur.
- Renal/hepatic: Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities.
- Cardiotoxicity: Chest pain, arrhythmias, and CHF are rare.
- Skin: Alopecia is partial. Dry skin, pruritus, and irritation at injection site seen.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on day 1 for injection teaching. Cycle is TIW × 12 weeks.
Estimated number of visits: One visit weekly if doing own injection (total 12 visits); 36 visits if not.

Dose Calculation by: 

1. 
2. 

Physician Date

Patient Name ID Number

/ / 

Diagnosis Ht Wt M2
**Aldesleukin (IL-2)**

**Baseline laboratory tests:** CBC: Chemistry (including LFTs)

**Baseline procedures or tests:** Pulmonary function tests

**Initiate IV:** NS

**Premedicate:**
- 5-HT3 in 100 cc of NS
- Acetaminophen 650 mg 30 minutes before treatment and q 4 hours
  - May alternate with Ibuprofen 400-mg PO q 4 hours

**Administer:**
- **Aldesleukin** _______ IU (100,000 IU/kg) IV over 15 minutes on days 1–5 and 15–19

  - Available in vials containing 22 MU (1.3 mg).
  - Reconstituted with 1.2 mL of sterile water for injection so that each mL contains 18 IU.
  - DO NOT SHAKE.
  - Further dilute in 50 mL of D5W.
  - Refrigerate and use within 48 hours.

**Major Side Effects**
- Flulike Symptoms: Chills, rigors, fever (102°–104°) and headache. Myalgia and arthralgias may occur at high doses because of accumulation of cytokine deposits/lymphocytes in joint spaces.
- CNS Toxicities: Confusion, irritability, disorientation, impaired memory, expressive aphasia, sleep disturbances, depression, hallucinations, and psychoses may occur, resolving within 24–48 hours after last drug dose.
- Capillary Leak Syndrome: Peripheral edema, CHF, pleural effusions, and pericardial effusions may occur and are reversible once treatment is stopped. IL-2 causes peripheral vasodilation, decreased systemic vascular resistance, and hypotension that may lead to decreased renal perfusion. A decrease in systolic blood pressure occurs 2–12 hours after start of therapy and typically progresses to significant hypotension with hypoperfusion. In addition, protein and fluid extravasate into the extravascular space, forming edema and new effusions. Strict I and O, vital signs 2–4 hours.
- GI Toxicities: Nausea and vomiting are mild. Diarrhea is common, can be severe, and may require bicarbonate replacement. Stomatitis is common but mild.
- Renal/hepatic Toxicity: IL-2 causes direct tubular cell injury and decreased renal blood flow with cumulative doses. Oliguria, proteinuria, increased creatinine, and LFTs. Anuria occurs in 38% of patients; is reversible after drug discontinuance. Hepatomegaly and hypoalbuminemia may occur.
- Bone Marrow Toxicity: Severe anemia, requiring transfusion. Thrombocytopenia common but rarely requires transfusion.
- Skin: Diffuse erythematous rash which may desquamate. Pruritus.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
- Mildly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:**
- Usually administered in hospital setting. Chair time 1 hour on days 1–5 and 15–19. Repeat cycle every 28 days.

**Estimated number of visits:**
- Ten visits every cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. ________________________ 2. ________________________

______________________________ ______________________________
Physician Date

______________________________ ______________________________
Patient Name ID Number

______________________________ ______________________________
Diagnosis Ht Wt M²

Malignant Melanoma 515
### Temozolomide

**Baseline laboratory tests:** CBC: Chemistry and LFTs  
**Baseline procedures or tests:** N/A  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT<sub>3</sub>  
**Administer:** Temozolomide __________ mg (150 mg/m<sup>2</sup>) PO on days 1–5  
- If well tolerated, can increase dose to 200-mg/m<sup>2</sup> PO on days 1–5.  
- Available in 5-, 20-, 100-, and 250-mg capsules for oral use.  
- Store at room temperature; protect from light and moisture.  

**Major Side Effects**  
- Bone Marrow Depression: Myelosuppression is dose-limiting toxicity, with leukopenia more frequent than thrombocytopenia. Nadir day 28–29. Anemia may also occur. Does not usually require G-CSF administration.  
- GI Toxicities: Nausea and vomiting occur in 75% of patients, usually mild to moderate and occurring on day 1. Diarrhea, constipation, and/or anorexia may affect up to 40% of patients.  
- Skin: Photosensitivity. Rash, itching, and mild alopecia may occur and are mild.  

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ loperamide (Imodium)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
- □ diphenoxylate/atropine sulfate (Lomotil)  

**Treatment schedule:** No chair time. Repeat cycle every 28 days until disease progression.  
**Estimated number of visits:** One to 2 visits per month.  

**Dose Calculation by:**  
1. ___________________________  
2. ___________________________  

<table>
<thead>
<tr>
<th>Physician</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>ID Number</th>
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<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Ht</th>
<th>Wt</th>
<th>M&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
## Combination Regimens

**Doxorubicin + Cisplatin**

<table>
<thead>
<tr>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doxorubicin: 60-mg/m² IV on day 1</td>
<td>1,321</td>
</tr>
<tr>
<td>Cisplatin: 60-mg/m² IV on day 1</td>
<td></td>
</tr>
<tr>
<td>Repeat cycle every 21–28 days.</td>
<td>1,321</td>
</tr>
</tbody>
</table>

**CAP**

<table>
<thead>
<tr>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclophosphamide: 500-mg/m² IV on day 1</td>
<td></td>
</tr>
<tr>
<td>Doxorubicin: 50-mg/m² IV on day 1</td>
<td></td>
</tr>
<tr>
<td>Cisplatin: 80-mg/m² IV on day 1</td>
<td></td>
</tr>
<tr>
<td>Repeat cycle every 21 days.</td>
<td>1,322</td>
</tr>
</tbody>
</table>

**Gemcitabine + Cisplatin**

<table>
<thead>
<tr>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gemcitabine: 1000-mg/m² IV on days 1, 8, and 15</td>
<td></td>
</tr>
<tr>
<td>Cisplatin: 100-mg/m² IV on day 1</td>
<td></td>
</tr>
<tr>
<td>Repeat cycle every 28 days.</td>
<td>1,323</td>
</tr>
</tbody>
</table>

**Gemcitabine + Carboplatin**

<table>
<thead>
<tr>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gemcitabine: 1000-mg/m² IV on days 1, 8, and 15</td>
<td></td>
</tr>
<tr>
<td>Carboplatin: AUC of 5, IV on day 1</td>
<td></td>
</tr>
<tr>
<td>Repeat cycle every 28 days.</td>
<td>1,324</td>
</tr>
</tbody>
</table>

**Pemetrexed (Alimta) + Cisplatin**

<table>
<thead>
<tr>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pemetrexed: 500 mg/m² IV over 10 minutes on day 1</td>
<td></td>
</tr>
<tr>
<td>Cisplatin: 75-mg/m² IV over 2 hours on day 1</td>
<td></td>
</tr>
<tr>
<td>Repeat every 21 days.</td>
<td>1,325</td>
</tr>
</tbody>
</table>
Combination Regimens

**Doxorubicin + Cisplatin**

- **Baseline laboratory tests:** CBC: Chemistry (including Mg²⁺)
- **Baseline procedures or tests:** Multigated angiogram (MUGA) scan
- **Initiate IV:** 0.9% sodium chloride
- **Premedicate:** 5-HT₃ and dexamethasone 20 mg in 100 cc of NS.
- **Administer:**
  - **Doxorubicin** __________ mg (60 mg/m²) IV on day 1
    - Potent vesicant
    - Available as a 2-mg/mL solution.
    - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.
  - **Cisplatin** __________ mg (60 mg/m²) IV on day 1
    - Do not use aluminum needles, because precipitate will form.
    - Available in solution as 1 mg/mL.
    - Further dilute solution with 250 cc or more of NS.

**Major Side Effects**

- **Bone Marrow Depression:** Leukopenia, thrombocytopenia, and anemia all can occur; may be severe.
- **GI Toxicities:** Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis occurs in 10% of patients but is not dose limiting.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m², cardiomyopathy may occur.
- **Renal:** Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.
- **Electrolyte Imbalance:** Decreased Mg²⁺, K, Ca²⁺, Na⁺, and P.
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses > 50 mg/m².
- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern. Risk increases with cumulative doses.
- **Ototoxicity:** High-frequency hearing loss and tinnitus with cisplatin.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 21–28 days.

**Estimated number of visits:** One per cycle. Request four cycles worth of visits.

**Dose Calculation by:** 1. _______________ 2. _______________

_________________________  _______________
Physician Date

_________________________
Patient Name ID Number

__________/__________/__________
Diagnosis Ht Wt M²
**Cyclophosphamide + Doxorubicin + Cisplatin (CAP) Mesothelioma**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg&lt;sup&gt;2+&lt;/sup&gt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT&lt;sub&gt;3&lt;/sub&gt; and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Cyclophosphamide</strong> ________ mg (500 mg/m&lt;sup&gt;2&lt;/sup&gt;) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.</td>
</tr>
<tr>
<td></td>
<td>• Dilute with sterile water. Shake well to ensure that all particles completely dissolve.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution is stable for 24 hours at room temperature and for 6 days refrigerated.</td>
</tr>
<tr>
<td></td>
<td><strong>Doxorubicin</strong> ________ mg (50 mg/m&lt;sup&gt;2&lt;/sup&gt;) IV on day 1</td>
</tr>
<tr>
<td></td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available as a 2-mg/mL solution.</td>
</tr>
<tr>
<td></td>
<td>• Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td></td>
<td><strong>Cisplatin</strong> ________ mg (80 mg/m&lt;sup&gt;2&lt;/sup&gt;) IV over 1–3 hours on day 1</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Available in solution as 1 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute solution with 250 cc or more of NS.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia occur equally in 25%–30% of patients. Leukopenia and thrombocytopenia are dose related.
- GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis can occur.
- GU Toxicities: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Bladder toxicity in the form of hemorrhagic cystitis, dysuria, and increased urinary frequency. Provide adequate hydration. Red-orange discoloration of urine for up to 48 hours.
- Electrolyte Imbalance: Decreased Mg<sup>2+</sup>, K, Ca<sup>2+</sup>, Na<sup>+</sup>, and P.
- Cardiotoxicity: Acutely, pericarditis or myocarditis may occur. Later, cardiomyopathy in the form of CHF may occur.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Skin: Extravasation of doxorubicin causes severe tissue damage. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 28 days.

**Estimated number of visits:** One visit per cycle. Request six cycles worth of visits.

**Dose Calculation by:** 1. __________________________________ 2. ____________________________________________

_________________________ __________________________
Physician Date

_________________________ __________________________
Patient Name ID Number

_________________________ __________________________
Diagnosis Ht Wt M<sup>2</sup>
Malignant Mesothelioma

**Gemcitabine + Cisplatin**

**Baseline laboratory tests:** CBC: Chemistry panel (including Mg\(^2+\)) and LFTs

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

- **Gemcitabine** ________ mg (1000 mg/m\(^2\)) IV on days 1, 8, and 15
  - Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
  - Reconstituted solution is stable 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

- **Cisplatin** ________ mg (100 mg/m\(^2\)) IV on day 1
  - Do not use aluminum needles, because precipitate will form.
  - Further dilute solution with 250 cc or more of 0.9% sodium chloride.

**Major Side Effects**

- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grades 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time of gemcitabine (> 60 minutes) is associated with higher toxicities.

- GI Symptoms: Moderate to severe nausea and vomiting; may be acute or delayed. Diarrhea and/or mucositis (15%–20%).

- Flulike Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).

- Renal: Nephrotoxicity is dose related with cisplatin and occurs at 10–20 days. Can be avoided with adequate hydration, diuresis, as well as slower infusion time.

- Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in classic “stocking glove” distribution. Risk increases with cumulative doses. Proprioception, vibrating sense, and motor function can occur. Ototoxicity occurs in 30% beginning with high frequency hearing.

- Electrolyte Imbalance: Decreased Mg\(^2+\), K, Ca\(^2+\), Na\(^+\), and P.

- Hepatic: Elevation of serum transaminase and bilirubin levels.

- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.

- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1, and 1 hour on days 8 and 15. Repeat cycle every 28 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. __________________________________

**Physician Date**

______________________________ ________________________________ ________________________________

**Patient Name ID Number**

______________________________ ________________________________ ________________________________

**Diagnosis**

______________________________ ________________________________ ________________________________
Gemcitabine + Carboplatin

Baseline laboratory tests: CBC, Chemistry panel (with LFTs)
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Gemcitabine __________ mg (1000 mg/m²) IV on days 1, 8, and 15
• Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride (5 cc for 200 mg and 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
• Reconstituted solution is stable 24 hours at room temperature.
• Do not refrigerate, because precipitate will form.
Carboplatin __________ mg (area under the curve [AUC] 5) IV on day 1.
• Do not use aluminum needles, because precipitate will form.
• Available in powder or solution. Discard reconstituted powder after 8 hours.

Major Side Effects
• Hypersensitivity Reaction: Rash, urticaria, erythema, and pruritus. Bronchospasm and hypotension are uncommon, but risk increases in patients receiving more than seven courses of carboplatin therapy.
• Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF recommended.
• GI Toxicities: Moderate to severe nausea and vomiting, acute or delayed. Mucositis and diarrhea seen. Elevation of serum transaminase and bilirubin levels.
• Flulike Syndrome: Flulike symptoms with fever in absence of infection 6–12 hours after treatment.
• Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
• Electrolyte Imbalance: Decreases Mg²⁺, K⁺, Ca²⁺, Na⁺ and PO₄
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias.
• Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 2 hours on day 1, and 1 hour on days 8 and 15. Repeat cycle every 28 days.
Estimated number of visits: Two visits per cycle. Request four cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________
Patient Name __________________________ ID Number __________________________
Diagnosis __________________________ Ht __________________________ Wt __________________________ M² __________________________
### Pemetrexed + Cisplatin

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and carcinoembryonic antigen (CEA)

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ in 100 cc of NS

- Dexamethasone 4-mg PO bid for 3 days, starting the day before treatment
- Folic acid 1-mg PO qd, starting 5 days before the first treatment ending 21 days after the last dose of pemetrexed.
- Vitamin B$_{12}$ 1000 mcg IM during the week preceding the first dose and every three cycles thereafter (may be given the same day as pemetrexed from second dose on)

**Administer:**

- **Pemetrexed** $______$ mg (500 mg/m$^2$) IV in 100 cc of NS over 10 minutes on day 1
  - Available in 500-mg single-use vials for reconstitution.
  - Reconstitute with 20 mL of 0.9% sodium chloride (preservative free) for a final concentration of 25 mg/mL.
  - Further dilute in 100 cc of NS.
  - Discard any unused portion.

- **Cisplatin** $______$ mg (75 mg/m$^2$) IV over 2 hours on day 1, approximately 30 minutes after the end of pemetrexed administration
  - Do not use aluminum needles, because precipitate will form.
  - Available in solution as 1 mg/mL.
  - Further dilute solution with 250 cc or more of NS.

**Major Side Effects**

- **Bone Marrow Toxicities:** Myelosuppression is dose-limiting toxicity. Dose reductions or treatment delay may be necessary for subsequent doses. Administer vitamin B$_{12}$ and folic acid supplements to minimize hematologic toxicities.

- **GI Toxicities:** Moderate to severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Anorexia, stomatitis, and pharyngitis may occur. Instruct patient to take vitamin B$_{12}$ and folic acid supplements to minimize GI toxicities. Patients with hepatic impairment may require dose adjustments.

- **Renal:** Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Patients with renal impairment may require dose adjustments. Can be avoided with adequate hydration, diuresis, as well as slower infusion time.

- **Electrolyte Imbalance:** Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P.

- **Neurotoxicity:** Severe neuropathy with numbness, tingling, and sensory loss is classic “stocking glove” distribution. Risk increases with cumulative doses. Proprioception, vibrating sense, and motor function can occur. Ototoxicity occurs in 30% beginning with high frequency hearing.

- **Ototoxicity:** High-frequency hearing loss and tinnitus.

- **Skin:** Alopecia. Pruritus and rash may occur with pemetrexed. Premedication with dexamethasone is effective in preventing or minimizing symptoms of rash and pruritis.

- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours day 1. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle. Request 6 cycles worth of visits.
<table>
<thead>
<tr>
<th><strong>Dose Calculation by:</strong></th>
<th>1. ______________________________</th>
<th>2. ______________________________</th>
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</thead>
<tbody>
<tr>
<td>Physician</td>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Patient Name</td>
<td>ID Number</td>
<td></td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Ht</td>
<td>Wt</td>
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</tbody>
</table>
### Combination Regimens

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Medication Details</th>
</tr>
</thead>
</table>
| **MP**    | Melphalan: 8–10 mg/m² PO on days 1–4  
Prednisone 60 mg/m² on days 1–4  
Repeat cycle every 42 days. | 526 |
| **VAD**   | Vincristine: 0.4-mg/day IV continuous infusion on days 1–4  
Doxorubicin: 9-mg/m²/day IV continuous infusion on days 1–4  
Dexamethasone: 40-mg PO on days 1–4, 9–12, and 17–20  
Repeat cycle every 28 days. | 527 |
| **Thalidomide + Dexamethasone** | Thalidomide: 200-mg/day PO  
Dexamethasone: 40-mg/day PO on days 1–4, 9–12, and 17–20 (odd cycles)  
40-mg/day PO on days 1–4 (even cycles).  
Repeat cycle every 28 days. | 528 |
| **M2 Protocol** | Vincristine: 0.03-mg/kg IV on day 1  
Carmustine: 0.5-mg/kg IV on day 1  
Melphalan: 0.25-mg/kg PO on days 1–4  
Cyclophosphamide: 10-mg/kg IV on day 1  
Prednisone: 1-mg/kg PO on days 1–7, taper after first week, discontinue on day 21  
Repeat cycle every 35 days. | 529 |
| **VBMCP** | Vincristine: 1.2-mg/m² IV on day 1  
Carmustine: 20-mg/m² IV on day 1  
Melphalan: 8-mg/m² PO on days 1–4  
Cyclophosphamide: 400-mg/m² IV on day 1  
Prednisone: 40-mg/m² PO on days 1–7, all cycles, then 20 mg/m² PO on day 8–14 first three cycles only  
Repeat cycle every 35 days for 10 cycles (induction), then every 42 days for three cycles, then every 56 days until relapse. | 531 |
### Single-Agent Regimens

**Dexamethasone**

Dexamethasone: 40-mg IV or PO on days 1–4, 9–12, and 17–20
Repeat cycle every 21 days.\(^1\,^{331}\)

**Melphalan**

Melphalan: 90–140 mg/m\(^2\) IV on day 1
Repeat cycle every 28–42 days.\(^1\,^{332}\)

**Thalidomide**

Thalidomide: 200–800 mg PO daily
Continue treatment until disease progression or undue toxicity.\(^1\,^{328}\)

**Bortezomib**

Bortezomib: 1.3-mg/m\(^2\) IV on days 1, 4, 8, and 11.
Repeat cycle every 21 days.\(^1\,^{334}\)
If disease is progressive after two cycles or stable after four cycles, may add dexamethasone 20-mg PO daily on the day of and the day after bortezomib.

**Interferon-α-2b**

Interferon-α-2b: 2 MU SC or IM, 3 times weekly
Use as maintenance therapy in patients with significant response to induction chemotherapy.\(^1\,^{335}\)

**Revlimid**

10-mg PO daily\(^1\,^{336}\)
## Combination Regimens

### Melphalan + Prednisone

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, renal and liver functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>Bone marrow biopsy</td>
</tr>
<tr>
<td>Administer:</td>
<td></td>
</tr>
<tr>
<td>Melphalan:</td>
<td>_________ 8–10 mg/m² PO on days 1–4</td>
</tr>
<tr>
<td>Prednisone:</td>
<td>_________ 60-mg/m² PO on days 1–4</td>
</tr>
</tbody>
</table>

Repeat every 42 days.

**OR**

| Melphalan: | ______ 9-mg/m² PO on days 1–4 |
| Prednisone: | ______ 40-mg/m² PO tid on days 1–4 |

Repeat every 28 days.

Melphalan (2-mg tablets) should be taken on an empty stomach, and prednisone should be taken with food.

### Major Side Effects

- **Myelosuppression:** Dose limiting, with leukopenia and thrombocytopenia equally affected. Effect may be prolonged and cumulative. Nadir 4–6 weeks.
- **GI Toxicities:** Gastric irritation, increased appetite. Nausea and vomiting minimal, but severe with high doses.
- **Steroid Toxicities:** Sodium and water retention, cushingoid changes, behavioral changes, including emotional lability, insomnia, mood swings, and euphoria. May increase glucose and sodium levels, decrease potassium level, and affect warfarin dose.
- **Musculoskeletal Changes:** Muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use of steroids.
- **Perceptual Alterations:** Cataracts or glaucoma may develop.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

### Chair time:

None

### Estimated number of visits:

Weekly or every other week for CBC.

### Dose Calculation by: 1. ________ 2. ____________________________

<table>
<thead>
<tr>
<th>Physician</th>
<th>Date</th>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>ID Number</th>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Ht</th>
<th>Wt</th>
<th>M²</th>
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<tbody>
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</tbody>
</table>
### VAD

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
Bone marrow biopsy, MUGA, central line placement  

**Baseline procedures or tests:**  

**Administer:**  

- **Vincristine** _______0.4-mg/day IV continuous infusion on days 1–4  
  - Vesicant  
  - Available in 1-, 2-, and 5-mg vials. 1mg/mL.  

- **Doxorubicin** _______ 9-mg/m2 IV continuous infusion on days 1–4  
  - Potent vesicant  
  - Available in 2 mg/mL solution.  
  - Doxorubicin will form precipitant with heparin.  

**Dexamethasone:** 40-mg PO on days 1–4, 9–12, and 17–20  
Mix vincristine and doxorubicin in 50–100 mL to run over 4 days  

**Major Side Effects**  
- Myelosuppression: Dose limiting toxicity, nadir usually occurs at days 10–14.  
- GI Toxicities: Mild nausea and vomiting. Constipation and paralytic ileus secondary to autonomic neuropathy. Gastric irritation, increased appetite.  
- Cardiotoxicity: Dosage 550 mg/m². May result in cardiomyopathy. Acutely, pericarditic-myocarditis syndrome may occur and can be acute or delayed.  
- GU Toxicities: Discoloration of urine from pink to red up to 48 hours.  
- Skin alterations: Alopecia.  
- Elevated white blood cell secondary to demargination.  
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, increased sodium. Warfarin and insulin doses may need to be increased. Muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use; mood changes, euphoria, headache, insomnia, depression and psychosis; cataracts or glaucoma may develop.  
- Reproductive: Pregnancy category D. Breast feeding should be avoided.  

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  

**Supportive drugs:**  
- pegfilgrastim  
- filgrastim  
- epoetin alfa  
- Allopurinol  
- Antibiotic  
- Antifungal  

**Treatment schedule:** Repeat cycle every 28 days.  
**Chair time:** 30 minutes on day 1, and 30 minutes for pump discontinuation  
**Estimated number of visits:** Days 1 and 4, weekly to monitor blood counts  

**Dose Calculation by:**  
1. __________________________  
2. __________________________  

**Physician**  
**Date**  

**Patient Name**  
**ID Number**  

**Diagnosis**  

Ht  
Wt  
M²
Thalidomide + Dexamethasone

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy

Administer:

Thalidomide: __________ 200-mg day PO daily
  • Available in 50- and 100-mg tablets. Take at bedtime.
Dexamethasone: 40-mg PO on days 1–4, 9–12, and 17–20 (odd cycles)
  40-mg PO on days 1–4 (even cycles). Should be taken with food.

Major Side Effects

• Reproductive: ABSOLUTE CONTRAINDICATION IN PREGNANCY. Teratogenic. Patients must be using birth control. Negative pregnancy test required for women of childbearing age. Must complete registration with Celgene (STEPS program, Summit, NJ) to dispense.
• Neurologic: Drowsiness, fatigue, peripheral neuropathy. Increased sedation with barbiturates, alcohol, chlorpromazine, and reserpine
• GI Toxicity: Constipation; can be severe and should be treated with prophylaxis. Gastric irritation with dexamethasone; increased appetite.
• Skin Integrity: Maculopapular skin rash, urticaria, and dry skin. Serious reactions, including Stevens-Johnson syndrome, have been reported. Discontinue if patient develops rash.
• Elevated white blood cell secondary to demargination.
• Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, increased sodium level. Warfarin and insulin doses may need to be increased.
• Musculoskeletal Changes: Muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use.
• Neuropsychiatric Effects: Mood changes, euphoria, headache, insomnia, depression, and psychosis.
• Perceptual Alterations: Cataracts or glaucoma may develop.

Treatment schedule: Repeat cycles every 28 days.
Estimated number of visits: Monthly

Dose Calculation by: 1. ________________________________ 2. ________________________________

___________________________ ________________________________
Physician Date

___________________________ ________________________________
Patient Name ID Number

___________________________ ________________________________
Diagnosis Ht Wt M 2
**M2 Protocol**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy, pulmonary function tests

**Premedicate:** 5-HT\(_3\) and dexamethasone

**Administer:**

- **Vincristine**: 0.03-mg/kg IV through side port of free-flowing IV on day 1
  - Vesicant
  - Available in 1-, 2-, and 5-mg vials. 1mg/mL.

- **Carmustine (BCNU)**: 0.5-mg/kg IV on day 1
  - Available in 100 mg powder; add 3 mL sterile diluent and add sterile water.
  - Stable for 8 hours at room temperature or 24 hours when refrigerated.

- **Melphalan**: 0.25-mg/kg PO on days 1–4
  - Available in 2 mg tablets.

- **Cyclophosphamide**: 10-mg/kg IV on day 1
  - Available 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Reconstituted solution stable for 24 hours at room temperature and 6 days if refrigerated.
  - Dilute with sterile water or bacteriostatic water for injection (paraben preserved only);
    - shake well until solution is clear. Final concentration equals 20 mg/mL. Further dilute into 250–500 mL of NS or D5W.

- **Prednisone**: 1-mg/kg PO on days 1–7; taper after first week; discontinue on day 21
  - Repeat cycle every 35 days.

**Major Side Effects**

- **Myelosuppression**: Dose limiting. Involving all blood elements, delayed and cumulative.
  - Double nadir days 7–14 and 4–6 weeks after tx.

- **GI Toxicities**: Severe nausea with carmustine; otherwise nausea and vomiting are mild.
  - Constipation and paralytic ileus secondary to autonomic neuropathy. Gastric irritation,
  - increased appetite with prednisone.

- **Hemorrhagic Cystitis**: Irritation of bladder wall capillaries; preventable with appropriate hydration.

- **Pulmonary toxicity with carmustine doses >1400 mg.**

- **Neurotoxicity**: Peripheral neuropathy, including numbness, weakness, myalgias, and late severe motor difficulties. Jaw pain.

- **Skin Alterations**: Alopecia.

- **Elevated white blood cell count secondary to demargination.**

- **Steroid Toxicities**: Sodium and water retention, cushingoid changes, hyperglycemia, hyperkalemia, increased sodium level. Warfarin and insulin doses may need to be increased.
  - Muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use; mood changes, euphoria, headache, insomnia, depression, and psychosis; cataracts or glaucoma may develop.

- **Reproductive**: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**

- Moderately emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)/
- □ darbepoetin alfa (Aranesp)
- □ Allopurinol
- □ Antibiotic
- □ Antifungal

**Treatment Schedule:**

- Chair time 3 hours on day 1.

**Estimated number of visits:**

- Day 1, then weekly to monitor blood counts.
Multiple Myeloma

Dose Calculation by: 1. __________________________ 2. ____________________________

_____________________________  ________________________________
Physician  Date

_____________________________  ________________________________
Patient Name  ID Number

_____________________________  ________________________________
Diagnosis  Ht  Wt  M²
VBMCP (Vincristine, Carmustine, Melphalan, Cyclophosphamide, Prednisone)

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy, pulmonary function tests

**Premedicate:** 5-HT_{3} and dexamethasone

**Administer:**
- **Vincristine:** 1.2-mg/m² IV through side port of free-flowing IV on day 1
- **Carmustine:** 20-mg/m² IV on day 1
  - Add sterile alcohol (provided with drug), then add sterile water. May be further diluted in 100–250 mL D5W or NS.
- **Melphalan:** 8-mg/m² PO on days 1–4
- **Cyclophosphamide:** 400-mg/m² IV on day 1 dilute with sterile water or bacteriostatic water for injection (paraben preserved only); shake well until solution is clear. Final concentration equals 20 mg/mL. Further dilute into NS or D5W 250–500 mL.
- **Prednisone:** 40-mg/m²/d PO on days 1–7 (all cycles), and 20-mg/m²/d PO, on days 8–14 (first three cycles only)

**Major Side Effects**
- Myelosuppression: Teach self care measures to minimize risk of infection and bleeding.
- GI Toxicities: Severe nausea with carmustine, otherwise nausea and vomiting is mild. Constipation and paralytic ileus secondary to autonomic neuropathy. Gastric irritation, increased appetite with prednisone.
- Hemorrhagic Cystitis: Irritation of bladder wall capillaries; preventable with appropriate hydration.
- Pulmonary toxicity with Carmustine doses > 1400 mg.
- Skin Alterations: Alopecia
- Elevated white blood cell count secondary to demargination.
- Steroid Toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, increased sodium. Warfarin and insulin doses may need to be increased; muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use; mood changes, euphoria, headache, insomnia, depression and psychosis; cataracts or glaucoma may develop.
- Reproductive: Mutagenic and potentially teratogenic, impotence secondary to neuropathy.

Initiate antiemetic protocol: Moderately emetogenic protocol.

Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)/Allopurinol
darbepoetin alfa (Aranesp)
- Antibiotic
- Antifungal

Treatment schedule: Repeat cycle every 35 days for 10 cycles (induction), then every 42 days for 3 cycles, then every 56 days until relapse.

Chair time: 30 minutes on day 1, and 30 minutes for pump discontinuation.

Estimated number of visits: Days 1 and 4, then weekly to monitor blood counts.

Dose Calculation by: 1. ______________________ 2. ______________________

______________________________ ________________________________
Physician Date

Patient Name ID Number

______________________________ / ________________/ ________________
Diagnosis Ht Wt M²
Single-Agent Regimens

**Dexamethasone**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
Baseline procedures or tests: Bone marrow biopsy  
**Administer:** Dexamethasone: _________ 40-mg IV or PO on days 1–4, 9–12, and 17–20  
Repeat every 21 days.  
Take with food.

**Major Side Effects**
- Elevated white blood cell count secondary to demargination.
- GI Toxicities: Gastric irritation, increased appetite
- Steroid toxicities: Sodium and water retention, cushingoid changes, hyperglycemia, hypokalemia, increased sodium level. Warfarin and insulin doses may need to be increased.
- Musculoskeletal Changes: Muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use.
- Neuropsychiatric Effects: Mood changes, euphoria, headache, insomnia, depression, and psychosis.
- Perceptual Alterations: Cataracts or glaucoma may develop.

**Chair time:** None

**Estimated number of visits:** Weekly or every other week for CBC

**Dose Calculation by:**  
1. __________________________________  
2. ____________________________________________

____________________________  
Physician  
____________________________  
Date

____________________________  
Patient Name  
____________________________  
ID Number

____________________________  
Diagnosis  
____________________________  
Ht  
____________________________  
Wt  
____________________________  
M²
Melphalan

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy
Premedicate: 5-HT₃ and dexamethasone
Administer: Melphalan: _________ 90–140 mg/m² IV on day 1
• Available in 50 mg vial. Add 10 mL of supplied diluent, shake until clear.
• Further dilute in NS to concentration not greater than 0.45 mg/mL.
• Administer over a minimum of 15 minutes, within 60 minutes.
• Stability, must be used within 60 minutes after dilution. Do Not Refrigerate.
Repeat every 28–42 days

Major Side Effects
• Myelosuppression: Dose limiting with leukopenia and thrombocytopenia equally affected. Effect may be prolonged and cumulative. Nadir 4–6 weeks.
• Hypersensitivity Reaction: Observed in 10% of patients treated with IV melphalan. Characterized by diaphoresis, urticaria, skin rashes, bronchospasm, dyspnea, tachycardia, and hypotension.
• Skin: Alopecia rare. Skin ulcerations at injection site rare.
• GI Toxicities: Severe nausea and vomiting with IV therapy.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Chair time: 1 hour
Estimated number of visits: Weekly or every other week for CBC.

Dose Calculation by: 1. __________________________________ 2. ____________________________________________
_____________________________________________ ______________________________________________________
_____________________________________________ ______________________________________________________
_____________________________________________ ______________________________________________________

Physician

Date

Patient Name

ID Number

Ht / Wt / M²

Diagnosis
**Thalidomide**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions  
**Baseline procedures or tests:** Bone marrow biopsy  
**Administer:** Thalidomide: _________ 200–800 mg/m²/day PO daily  
Available in 50- and 100-mg tablets. Take at bedtime.

**Major Side Effects**  
- Alteration in Sexuality/Reproductive: ABSOLUTE CONTRAINDICATION IN PREGNANCY. Teratogenic. Patients must be taking birth control. Negative pregnancy test required for women of childbearing age. Must complete registration with Celgene (STEPS program; Summit, NY) to dispense.  
- Neurologic: Drowsiness, fatigue, peripheral neuropathy. Increased sedation with barbiturates, alcohol, chlorpromazine, and reserpine.  
- GI Toxicity: Constipation; can be severe and should be treated with prophylaxis.  
- Skin Integrity: Maculopapular skin rash, urticaria, and dry skin. Serious reactions, including Stevens-Johnson syndrome, have been reported. Discontinue if patient develops rash.

**Chair time:** None  
**Estimated number of visits:** Monthly  

**Dose Calculation by:** 1. ________________________________ 2. ________________________________

Physician ________________________________ Date ________________________________

Patient Name ________________________________ ID Number ________________________________

Diagnosis ________________________________ Ht ________________________________ Wt ________________________________ M²
Bortezomib (Velcade)

Baseline laboratory tests: CBC: Chemistry, renal and liver functions
Baseline procedures or tests: Bone marrow biopsy
Premedicate: 5-HT₃ and dexamethasone
Administer: Bortezomib: _______ 1.3-mg/m² IV push followed by saline flush on days 1, 4, 8, and 11; followed by a 10-day rest period.
• Dilute powder in 3.5 mL of NS.
• Reconstituted product should be clear.
• Stable for 8 hours at room temperature.
If disease is progressive after two cycles, may add: Dexamethasone at 20-mg PO daily on the day of and the day after bortezomib.
• Available in 10 mg vial. 3.5 mg of bortezomib cake or powder.

Major Side Effects
• Myelosuppression: Neutropenia and thrombocytopenia
• GI Toxicities: Nausea and vomiting, anorexia, constipation, and dehydration. Orthostatic hypotension.
• Fatigue: Fatigue, malaise, and generalized weakness
• Peripheral Neuropathy: Mix of sensorimotor neuropathy. May improve and or return to baseline with discontinuation of drug.
• Steroid Toxicities: Sodium and water retention, cushingoid changes, behavioral changes, including emotional lability, insomnia, mood swings, and euphoria. May increase glucose and sodium levels, decrease potassium level, and affect warfarin dose.
• Musculoskeletal Changes: Muscle weakness, loss of muscle mass, osteoporosis, and pathological fractures with prolonged use.
• Perceptual Alterations: Cataracts or glaucoma may develop.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
Moderately emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) _______
□ filgrastim (Neupogen) _______
□ epoetin alfa (Procrit) _______
□ Allopurinol _______
□ darbepoetin alfa (Aranesp) _______
□ Antibiotic _______
□ Antifungal _______

Treatment schedule:
Repeat cycle every 21 days.
Chair time: 1 hour day 1–4, 8–11.
Estimated number of visits: 5 visits per cycle. Request 4 cycles worth of visits.

Dose Calculation by:
1. ________________________________ 2. ________________________________

Physician ________________________________ Date ________________________________

Patient Name __________________________ ID Number __________________________

_________/_________/_________ Ht Wt M²

Diagnosis __________________________
**Interferon-α-2b**

**Baseline laboratory tests:** CBC: Chemistry, renal and liver functions

**Baseline procedures or tests:** Bone marrow biopsy

**Administer:** Interferon-α-2b ______ 2 MU SQ or IM 3 times per week
- Available in multidose pens with 6 doses of 3 MU (18 MU) or 5 MU (30 MU) or 10 MU (60 MU). Keep refrigerated.

**Major Side Effects**
- **Flulike Symptoms:** Fever, chills, headache, myalgias, and arthralgias. Occurs in 80%–90% of patients. Onset 3–4 hours after injection and lasting for up to 8–9 hours. Incidence decreases with subsequent injections. Symptoms can be managed with acetaminophen, ibuprofen, and/or indomethacin and increased oral fluid intake.
- **Bone Marrow Depression:** Myelosuppression with mild leukopenia and thrombocytopenia. Cumulative effect, dose-limiting thrombocytopenia; reversible.
- **GI Toxicities:** Nausea and diarrhea are mild, and vomiting is rare. Anorexia occurs in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur.
- **Renal/hepatic:** Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities.
- **Cardiotoxicity:** Chest pain, arrhythmias, and CHF are rare.
- **Skin:** Alopecia is partial. Dry skin, pruritus, and irritation at injection site seen.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- G-CSF ______
- Peg-G-CSF ______
- epoetin alfa/ darbepoetin alfa ______
- Allopurinol ______
- Antibiotic ______
- Antifungal ______

**Treatment schedule:**
Use as a maintenance therapy in patients with significant response to induction therapy.

**Estimated number of visits:**
Weekly or every other week for CBC

**Dose Calculation by:**
1. 
2. 

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht / Wt / M2
### Lenalidomide (Revlimid)

**Baseline laboratory tests:** CBC, Chemistry Panel, LFTs, and pregnancy test for females of childbearing potential

**Baseline procedures or tests:** Bone marrow biopsy to establish myelodysplastic syndrome associated with a deletion 5q cytogenetic abnormality with or without additional cytogenetic abnormalities.

**Initiate IV:** N/A

**Premedicate:** Oral 5-HT₃ if nausea occurs.

**Administer:** Lenalidomide __________ 10 mg by mouth daily

- Available in 5-mg (pale yellow opaque) and 10-mg (blue/green) capsules for oral use.
- Take with water. Do not break, chew, or open capsules.
- Store at 25° C (77° F), excursions permitted to 15–30°C (59–86°F).
- Drug is only available under a special restricted distribution program called the Revassist program.

**Major Side Effects:**

- **Reproductive:** Teratogenic. Pregnancy category X. Lenalidomide is an analogue of thalidomide. Thalidomide is a known human teratogen that causes life-threatening human defects. If lenalidomide is taken during pregnancy, it may cause birth defects or death to an unborn baby. All patients on lenalidomide must participate in telephone surveys and patient registry (Revassist program). Under this program, all female patients of childbearing potential must have a negative pregnancy test done by their doctors within 10–14 days and 24 hours before lenalidomide therapy; then weekly during the first 4 weeks of lenalidomide therapy. Thereafter, the patient must have a pregnancy test every 4 weeks if she has regular menstrual cycles, or every 2 weeks if her cycles are irregular while she is taking lenalidomide. Two forms of birth control, one highly effective and an additional effective method, must be used simultaneously at least 4 weeks before beginning lenalidomide therapy, during therapy, during therapy interruption, and for 4 weeks following discontinuation of lenalidomide therapy. Male patients must never have unprotected sexual contact with a female who can become pregnant. Call 1-888-423-5436 for information/assistance with Revassist program and enrollment.

- **Hematologic Toxicities:** Neutropenia and thrombocytopenia. Grade 3 and 4 hematologic toxicity was seen in 80% of patients studied. Eighty percent of patients had to have a dose delay/reduction during the major study. Thirty-four percent of patients had to have a second dose delay/reduction. Patients may require use of blood product support and/or growth factors. See package insert for delays/reductions.

- **Thromboembolic Events:** Increased risk of deep venous thrombosis (DVT) and pulmonary embolism (PE) in patients with multiple myeloma who were treated with lenalidomide combination therapy. It is not known whether prophylactic anticoagulation or antiplatelet therapy prescribed in conjunction with lenalidomide may lessen the potential for venous thromboembolic events. Instruct patients to seek medical attention if they develop symptoms such as shortness of breath, chest pain, or arm or leg swelling.

- **Renal Toxicities:** Drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug is expected to be greater in patients with impaired renal function. Care should be taken in patients with impaired renal function.

- **GI Toxicities:** Diarrhea common. Constipation also seen. Nausea occurs, sometimes with vomiting and stomach pain. Dry mouth reported in many patients. Anorexia.

- **Hepato Toxicities:** Hyperbilirubinemia, cholecystitis, and hepatic failure uncommon.

- **Respiratory Toxicities:** Nasopharyngitis, cough dyspnea, pharyngitis, epistaxis, dyspnea on exertion, rhinitis, and bronchitis all reported (listed by frequency of occurrence).

- **Musculoskeletal:** Arthralgia, back pain, muscle cramps, and myalgias can occur.

- **Neurosensoral Effects:** Fatigue is common. Dizziness, vertigo, headache, hypoesthesia, insomnia, depression, and peripheral neuropathy can occur.

- **Skin:** Pruritus, rash, and dry skin commonly occur. Edema in extremities with or without pain.
Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: 
- Neulasta
- Neupoge
- Imodium
- Procrit
- Aranesp
- Lomotil

Treatment schedule: No chair time. Weekly visits for CBC first 8 weeks of therapy, then monthly thereafter.
Estimated number of visits: Ten visits first three months of therapy.

Dose Calculation by: 1. __________________________ 2. __________________________

______________________________  ________________________________
Physician Date

______________________________
Patient Name ID Number

______________________________
Diagnosis Ht Wt M²
Single-Agent Regimens

Azactidine (Vidaza) ................................................................. 540
75-mg/m² SQ days 1–7
Repeat cycle every 28 days.410

Arsenic Trioxide (Trisenox) ..................................................... 542
0.3-mg/kg IV days 1–5, then twice weekly for 11 more weeks.
May repeat cycle if response is seen.411

Lenalidomide (Revlimid) ............................................................. 544
10-mg PO daily.412

Decitabine (Dacogen) ................................................................. 546
Dacogen 15 mg/m² IV over 3 hours every 8 hours, for 3 days
OR
Dacogen 20 mg/m² IV over 1 hour daily for 5 days
OR
Dacogen 10 mg/m² IV over 1 hour daily for 10 days
OR
Dacogen 10 mg/m² Subcutaneously BID for 5 days413,414
Single-Agent Regimens

Azacitidine (Vidaza)

Baseline laboratory tests: CBC, Chemistry Panel, and LFTs
Baseline procedures or tests: N/A
Initiate IV: N/A
Premedicate: Oral 5-HT₃ or phenothiazine orally 30 minutes prior to daily dosing.
Administer: Azacitidine ________ mg (75 mg/m²) subcutaneously, daily for 7 days. Give a minimum of 4 cycles, therapeutic effects may not be seen until 5 or more cycles completed.
• Dose may be increased to 100 mg/m² if no beneficial effect is seen after two treatment cycles and if no toxicity other than nausea and vomiting has occurred.
• Available as lyophilized powder in 100-mg vials for subcutaneous injection.
• Reconstitute drug with 4 mL sterile water for injection. Inject diluent slowly into the vial. Invert 2–3 times and gently rotate until a uniform suspension is achieved. Suspension will be cloudy.
• The resulting suspension will contain azacitidine 25 mg/mL.
• Doses greater than 4 mL should be divided equally into two syringes.
• Must be administered within 1 hour after reconstitution.

Major Side Effects

• Myelotoxicities: Neutropenia and thrombocytopenia may require dose reductions as follows: Baseline (start of treatment) WBC ≥ 3.0 × 10⁹/L, ANC ≥ 1.5 × 10⁹/L, and platelets ≥ 75 × 10⁹/L:

<table>
<thead>
<tr>
<th>Nadir Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANC (×10⁹/L)</td>
</tr>
<tr>
<td>&lt;0.5</td>
</tr>
<tr>
<td>0.5–1.5</td>
</tr>
<tr>
<td>&gt;1.5</td>
</tr>
</tbody>
</table>

See package insert for dose reductions for patients whose counts are less than those stated above. Dose adjustments should then be based on nadir counts and bone marrow biopsy cellularity at the time of the nadir. Anemia may occur or be exacerbated.

• GI Toxicities: Nausea is common. Vomiting, diarrhea, constipation, stomatitis, and tongue ulceration also occur. Dysphagia, dyspnea, and abdominal distension were also reported.

• Renal Toxicities: Patients with renal impairment should be closely monitored. Elevated serum creatinine, renal failure, renal tubular acidosis seen. If unexplained reductions in serum bicarbonate levels (< 20 mEq/L) occur, the dose should be reduced by 50% on the next course. If unexplained elevations of BUN or serum creatinine occur, the next cycle should be delayed until values return to normal or baseline, and the dose should be reduced by 50% on the next treatment course.

• Respiratory Toxicities: Decreased breath sounds, pleural effusion, rhonchi atelectasis, exacerbation of dyspnea, postnasal drip, and chest wall pain seen in study.

• Cardiovascular Toxicities: Hypotension, syncope, and chest pain can occur.

• Sensory/neurotoxicities: Lethargy, increased fatigue, malaise, and hypoesthesia reported.

• Skin: Injection site reactions (erythema, pruritus, swelling, pain, bruising, injection site granuloma, and injection site pigmentation changes) can occur. Rotate injection sites; give at least one inch from an old site and never into areas where the site is tender, bruised, red, or hard. Peripheral edema, urticaria, and dry skin reported.

• Reproductive: Pregnancy Category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ Neulasta □ Neupogen
□ Imodium □ Procrit
□ Aranesp □ Lomotil

Treatment schedule: Thirty minutes for injection days 1–7. Repeat cycle every 28 days as tolerated.

Estimated number of visits: Ten visits per month. Request 5 months worth of visits.

Dose Calculation by: 1. ______________________________________________________________________ 2. ______________________________________________________________________

____________________________________________________________________________________

Physician Date

____________________________________________________________________________________

Patient Name ID Number

____________________________________________________________________________________

Diagnosis Ht Wt M\(^2\)
**Arsenic Trioxide (Trisenox)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC, Chemistry Panel (including Mg$^{2+}$), and LFTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>12-lead EKG</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>Normal saline</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral 5-HT$_3$ or phenothiazine if nausea occurs.</td>
</tr>
<tr>
<td>Administer:</td>
<td>Arsenic trioxide ___________ mg (0.3 mg/kg) IV days 1–5, then twice weekly for 11 weeks.</td>
</tr>
</tbody>
</table>

- Available in 10-mL, single-use ampules containing 10 mg of arsenic trioxide, at a concentration of 1 mg/mL.
- Further dilute in 100–250 cc D5W or 0.9% sodium chloride injection, USP.
- Give IV over 1–2 hours (or up to 4 hours if acute vasomotor reactions occur).
- Drug is chemically and physically stable for 24 hours at room temperature and 48 hours when refrigerated. However, does not contain any preservatives, so unused portions should be discarded.

**Major Side Effects**

- Vasomotor Reactions: Symptoms include flushing, tachycardia, dizziness, and lightheadedness. Increasing the infusion time to 4 hours usually resolves these symptoms. Stop infusion for tachycardia and/or hypotension. Resume at decreased rate after resolution. Headaches can also occur; treat with acetaminophen as needed.
- APL Differentiation Syndrome: Characterized by fever, dyspnea, weight gain, pulmonary infiltrates, and pleural or pericardial effusions, with or without leukocytosis. Can be fatal. At the first suggestion, high-dose steroids should be instituted (dexamethasone 10-mg IV bid) for at least 3 days or longer until signs and symptoms abate. Most patients do not require termination of arsenic trioxide therapy during treatment of the syndrome.
- Cardiotoxicities: Drug can cause QT interval prolongation and complete atrioventricular block. Prolonged QT interval can progress to a torsade de pointes-type fatal ventricular arrhythmia. Patients with history of QT prolongation, concomitant administration of drugs that prolong the QT interval, CHF, administration of potassium-wasting diuretics, and conditions resulting in hypokalemia or hypomagnesemia such as concurrent administration of amphotericin B. EKGs should be done weekly, more often if abnormal.
- Fluid/electrolyte Imbalance: Hypokalemia occurs in about 50% of patients. Hypomagnesemia and hyperglycemia also commonly occur. Edema seen in 40% of patients. Less commonly, hyperkalemia, hypocalcemia, hypoglycemia, and acidosis occur. Potassium levels should be kept > 4.0 mEq/dL and magnesium > 1.8 mg/dL during arsenic trioxide therapy.
- Hematologic Effects: Leukocytosis seen in 50%–60% of patients with a gradual increase in WBC that peaks between 2 and 3 weeks after starting therapy. Usually resolves spontaneously without treatment and/or complications. Anemia (14%), thrombocytopenia (19%) and neutropenia (10%). Disseminated intravascular coagulation (DIC) occurred in 8% of patients.
- GI Toxicities: Nausea is most common (75%) and is usually mild, followed by vomiting (38%), abdominal pain (38%), diarrhea (33%), constipation (28%), anorexia (23%), dyspepsia (10%), abdominal tenderness or distention (8%), and dry mouth (8%).
- Hepatic Toxicities: Increased hepatic transaminases ALT and AST seen.
- Respiratory Toxicities: Cough is common. Other symptoms include dyspnea, epistaxis, hypoxia, pleural effusion, postnasal drip, wheezing, decreased breath sounds, crepitations, rales/crackles, hemoptysis, tachypnea, and rhonchi.
- Musculoskeletal: Arthralgias (33%), myalgias (25%), bone pain (23%), back pain (18%), neck pain, and pain in limbs (13%).
- Sensor/Perception: Fatigue was reported by 63% of patients. Headache, insomnia, and paresthesias common. Dizziness, tremors, seizures, somnolence, and (rarely) coma can occur.
• Skin: Dermatitis common. Pruritis, ecchymosis, dry skin, erythema, hyperpigmentation, and urticaria also reported. Injection site reactions (pain, erythema, and edema) can occur.

• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
Mildly emetogenic protocol.

Supportive drugs:
- Neulasta
- Neupogen
- Imodium
- Procrit
- Aranesp
- Lomotil

Treatment schedule:
Chair time 2 hours days 1–5 then, twice weekly for 11 weeks. May repeat cycle if response is seen.

Estimated number of visits:
Twenty-seven visits per cycle.

Dose Calculation by: 1. ____________________________ 2. ____________________________

_____________________________ ________________________________
Physician Date

_____________________________ ________________________________
Patient Name ID Number

_____________________________ ________________________________
Diagnosis Ht Wt M²
Lenalidomide (Revlimid)

**Baseline laboratory tests:** CBC, Chemistry Panel, LFTs, and pregnancy test for females of childbearing potential

**Baseline procedures or tests:** Bone marrow biopsy to establish myelodysplastic syndrome associated with a deletion 5q cytogenetic abnormality with or without additional cytogenetic abnormalities.

**Initiate IV:** N/A

**Premedicate:** Oral 5-HT3 if nausea occurs.

**Administer:** Lenalidomide 10 mg by mouth daily

- Available in 5-mg (pale yellow opaque) and 10-mg (blue/green) capsules for oral use.
- Take with water. Do not break, chew, or open capsules.
- Store at 25° C (77° F), excursions permitted to 15–30°C (59–86°F)
- Drug is only available under a special restricted distribution program called the Revassist program.

**Major Side Effects**

- Reproductive: Teratogenic. Pregnancy category X. Lenalidomide is an analogue of thalidomide. Thalidomide is a known human teratogen that causes life-threatening human defects. If lenalidomide is taken during pregnancy, it may cause birth defects or death to an unborn baby. All patients on lenalidomide must participate in telephone surveys and patient registry (Revassist program). Under this program, all female patients of childbearing potential must have a negative pregnancy test done by her doctor within 10–14 days and 24 hours before lenalidomide therapy, then weekly during the first 4 weeks of lenalidomide therapy. Thereafter, the patient must have a pregnancy test every 4 weeks if she has regular menstrual cycles, or every 2 weeks if her cycles are irregular while she is taking lenalidomide. Two forms of birth control, one highly effective and an additional effective method, must be used simultaneously at least 4 weeks before beginning lenalidomide therapy, during therapy, during therapy interruption, and for 4 weeks following discontinuation of lenalidomide therapy. Male patients must never have unprotected sexual contact with a female who can become pregnant. Call 1-888-423-5436 for information/assistance with Revassist program and enrollment.

- Hematologic Toxicities: Neutropenia and thrombocytopenia. Grade 3 and 4 hematologic toxicity was seen in 80% of patients studied. Eighty percent of patients had to have a dose delay/reduction during the major study. Thirty-four percent of patients had to have a second dose delay/reduction. Patients may require use of blood product support and/or growth factors. See package insert for delays/reductions.

- Thromboembolic Events: Increased risk of deep venous thrombois (DVT) and pulmonary embolism (PE) in patients with multiple myeloma who were treated with lenalidomide combination therapy. It is not known whether prophylactic anticoagulation or antiplatelet therapy prescribed in conjunction with lenalidomide may lessen the potential for venous thromboembolic events. Instruct patient to seek medical attention if they develop symptoms such as shortness of breath, chest pain, or arm or leg swelling.

- Renal Toxicities: Drug is known to be substantially excreted by the kidney and the risk of toxic reactions to this drug is expected to be greater in patients with impaired renal function. Care should be taken in patients with impaired renal function.

- GI Toxicities: Diarrhea common. Constipation also seen. Nausea occurs, sometimes with vomiting and stomach pain. Dry mouth reported in many patients. Anorexia.

- Hepatotoxicties: Hyperbilirubinemia, cholecystitis, and hepatic failure uncommon.

- Respiratory Toxicities: Nasopharyngitis, cough dyspnea, pharyngitis, epistaxis, dyspnea on exertion, rhinitis and bronchitis all reported (listed by frequency of occurrence).

- Musculoskeletal: Arthralgia, back pain, muscle cramps, and myalgias can occur.

- Neurosensory Effects: Fatigue is common. Dizziness, vertigo, headache, hypoesthesia, insomnia, depression, and peripheral neuropathy can occur.

- Skin: Pruritus, rash, and dry skin commonly occur. Edema in extremities with or without pain.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.
Supportive drugs:
- Neulasta
- Neupogen
- Imodium
- Procrit
- Aranesp
- Lomotil

Treatment schedule:
No chair time. Weekly visits for CBC first 8 weeks of therapy, then monthly thereafter.

Estimated number of visits:
Ten visits first three months of therapy.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________
_____________________________________________ ______________________________________________________
Physician                                  Date
_____________________________________________ ______________________________________________________
Patient Name                                ID Number
_____________________________________________ ________________/ ________________/ ________________
Diagnosis                                     Ht  Wt  M²
Decitabine (Dacogen)

**Baseline laboratory tests:** CBC, Chemistry

**Monitor:** CBC

**Baseline procedures or tests:** Bone marrow biopsy

**Administer:**

- Dacogen ______ 15 mg/m² IV over 3 hours every 8 hours, for 3 days
- OR
- Dacogen ______ 20 mg/m² IV over 1 hour daily for 5 days
- OR
- Dacogen ______ 10 mg/m² IV over 1 hour daily for 10 days
- OR
- Dacogen ______ 10 mg/m² Subcutaneously BID for 5 days

- Available in 50 mg single dose vials. Dilute with 10 mL Sterile Water for injection resulting in 5 mg/mL
- Further dilute in Sodium Chloride, D5W, or Lactated Ringer’s Solution within 15 minutes of preparation to a final concentration of 0.1–1.0 mg/mL. (250 mL is a safe volume for most doses)
- Final solution should be used infused within 15 minutes and infusion should be completed within 3 hours or it must be refrigerated at 2°C and is stable for a maximum of 7 hours until administration.

**Major Side Effects**

- Bone Marrow Depression: Neutropenia, febrile neutropenia, thrombocytopenia and anemia are the most common side effects. Growth factors and prophylactic antibiotics are recommended. Transfusions as indicated.
- Flulike Symptoms: Fatigue with pyrexia, arthralgias, myalgias, bone, and back pain may be present but mild.
- GI Toxicities: Mild nausea and vomiting, anorexia; stomatitis is usually minimal; constipation and diarrhea infrequent and mild.
- Skin Integrity: Ecchymosis, rash, and petechiae are usually mild.
- Reproduction: Pregnancy Category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**

Mildly emetogenic protocol

**Supportive drugs:**

- G-CSF (neupogen)
- Peg-G-CSF (neulasta)
- epoetin alfas (Procrit)
- darbepoetin alfa (Aranesp)
- Antibiotic _____________
- Antifungal _________

**Treatment schedule:** Chair time 4 hours, for 3 day protocol; 2 hours for 3 or 5 day protocol. 30 minutes for subcutaneous dosing.

**Estimated number of visits:** 3–5 days the week of treatment and weekly CBC; Repeat cycle every 6 weeks for a minimum of 4 cycles; however, a complete or partial response may take longer than 4 cycles. Continue as long as the patient continues to benefit.

**Dose Calculation by:**

1. __________________________________ 2. __________________________________

Physician __________________________ Date __________________________

Patient Name ____________________________ ID Number ____________________________

______________/ ________________/ ________________

Diagnosis __________________________________ Ht Wt M²
Combination Regimens

**CC**
Carboplatin: 300-mg/m² IV on day 1
Cyclophosphamide: 600-mg/m² IV on day 1
Repeat cycle every 28 days.¹³³⁷

**CP**
Cisplatin: 100-mg/m² IV on day 1
Cyclophosphamide: 600-mg/m² IV on day 1
Repeat cycle every 28 days.¹³³⁸

**CT**
Cisplatin: 75-mg/m² IV on day 2
Paclitaxel: 135-mg/m² IV over 24 hours on day 1
Repeat cycle every 21 days.¹³³⁹
Paclitaxel must be administered first, followed by cisplatin.

**Carboplatin + Paclitaxel**
Carboplatin: AUC of 6–7.5, IV on day 1
Paclitaxel: 175-mg/m² IV over 3 hours on day 1
Repeat cycle every 21 days.¹³⁴⁰
Paclitaxel must be administered first, followed by carboplatin.

**Carboplatin + Docetaxel**
Carboplatin: AUC of 6, IV on day 1
Docetaxel: 60-mg/m² IV on day 1
Repeat cycle every 21 days.¹³⁴¹

**Gemcitabine + Liposomal Doxorubicin**
Gemcitabine: 1,000-mg/m² IV on days 1 and 8
Doxil: 30-mg/m² IV on day 1
Repeat cycle every 21 days.¹³⁴²
Gemcitabine + Cisplatin ................................................................. 555

Gemcitabine: 800–1,000 mg/m² IV on days 1 and 8
Cisplatin: 30 mg/m² IV on days 1 and 8
Repeat cycle every 21 days.1,343

Single-Agent Regimens

Altretamine .................................................................................. 556

Altretamine: 260-mg/m²/day PO in four divided doses after meals and at
bedtime
Repeat cycle every 14–21 days.1,344

Liposomal Doxorubicin (Doxil) ...................................................... 557

Liposomal doxorubicin: 50-mg/m² IV over 1 hour on day 1
Repeat cycle every 28 days.1,345

Paclitaxel ....................................................................................... 558

Paclitaxel: 135-mg/m² IV over 3 hours on day 1
Repeat cycle every 21 days.1,346

Topotecan ...................................................................................... 559

Topotecan: 1.5-mg/m² IV on days 1–5
Repeat cycle every 21 days.1,347

Gemcitabine .................................................................................. 560

Gemcitabine: 800-mg/m² IV weekly for 3 weeks
Repeat cycle every 4 weeks.1,348

Etoposide ....................................................................................... 561

Etoposide: 50-mg/m²/day PO on days 1–21
Repeat cycle every 28 days.1,349
Combination Regimens

**Carboplatin + Cyclophosphamide (CC)**

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^2+\)) and LFTs, CA 125

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**
- **Carboplatin** \(\text{________ mg (300 mg/m}^2\text{)}\) IV on day 1
  - Do not use aluminum needles, because precipitate will form.
  - Available in 50, 150, and 450 lyophilized powder or 50, 150, 450, and 600 mg solution.
  - Discard reconstituted powder after 8 hours.
  - Multidose vial stable for 15 days after first use.
- **Cyclophosphamide** \(\text{________ mg (600 mg/m}^2\text{)}\) IV on day 1
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Dilute with sterile water and shake well to ensure that solution is completely dissolved.
  - Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

**Major Side Effects**
- **Hypersensitivity Reactions:** Rash, urticaria, erythema, and pruritus. Bronchospasm and hypotension are uncommon, but risk increases from 1%–27% in patients receiving more than seven courses of carboplatin-based therapy.
- **Bone Marrow Depression:** Dose-limiting myelosuppression
- **GI Toxicities:** Moderate-to-severe nausea and vomiting within first 24 hours.
- **Hepatic Toxicity:** Reversible hepatic dysfunction is mild to moderate; increased LFTs and bilirubin.
- **Renal:** Nephrotoxicity less common than with cisplatin and rarely symptomatic.
- **GU:** Hemorrhagic cystitis, dysuria, and increased urinary frequency occurs in 5%–10% of patients. Usually reversible on discontinuation of drug.
- **Electrolyte Imbalance:** Decreased Mg\(^2+\), K, Ca\(^2+\), Na\(^+\), and P.
- **Skin:** Hyperpigmentation of skin and nails may occur. Alopecia likely.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- \(\square\) pegfilgrastim (Neulasta)
- \(\square\) filgrastim (Neupogen)
- \(\square\) epoetin alfa (Procrit)
- \(\square\) darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1. Repeat cycle every 28 days.

**Estimated number of visits:** One visit per cycle. Request three cycles worth of visits.

**Dose Calculation by:** 1. ___________________________ 2. ___________________________

**Physician** ___________________________ **Date** ___________________________

**Patient Name** ___________________________ **ID Number** ___________________________

**Diagnosis** ___________________________ **Ht** ___________________________ **Wt** ___________________________ **M\(^2\)**
**Cisplatin + Cyclophosphamide (CP)**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$), CA 125

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 20 mg in 100 cc of NS.

**Administer:**

Cisplatin _________ mg (100 mg/m$^2$) IV on day 1
- Do not use aluminum needles, because precipitate will form.
- Available in 1-mg/ml solution.
- Further dilute in 250 cc or more of NS.

Cyclophosphamide _________ mg (600 mg/m$^2$) IV on day 1
- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
- Dilute with sterile water and shake well to ensure that solution is completely dissolved.
- Reconstituted solution stable for 24 hours at room temperature, and 6 days refrigerated.

**Major Side Effects**

- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen; may be severe and dose limiting.
- GI Toxicities: Nausea and vomiting is moderate to severe and can be acute or delayed.
- Renal/bladder Toxicities: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Hemorrhagic cystitis, dysuria, and urinary frequency.
- Electrolyte Imbalance: Decreased Mg$^{2+}$, K, Ca$^{2+}$, Na$^+$, and P.
- Skin: Hyperpigmentation of skin and nails. Complete alopecia.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern. Increased risk with cumulative dosing.
- Ototoxicity: High-frequency hearing loss and tinnitus with cisplatin.
- Reproductive: Drugs are teratogenic and mutagenic. Sterility may be permanent.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1. Repeat cycle every 28 days.

**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________ 2. __________________________

_____________________________ ________________________________

Physician Date

_____________________________ ________________________________

Patient Name ID Number

_____________________________ ________________________________

Diagnosis Ht Wt M$^2$
**Cisplatin + Paclitaxel (CT)**

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\)) and CA 125

**Baseline procedures or tests:** Central line placement

**Initiate IV:** 0.9% sodium chloride

**Premedicate:**
- 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS (days 1 and 2)
- Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS (day 1 only)

**Administer:**
- **Paclitaxel** __________ mg (135 mg/m\(^2\)) IV over 24 hours on day 1
  - Available in 30 mg and 300 mg vials (6 mg/mL) or 100 mg (16.7 mg/mL).
  - Final concentration is ≤ 1.2 mg/mL.
  - Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

- **Cisplatin** __________ mg (75 mg/m\(^2\)) IV on day 2
  - Available in 1 mg/mL solution.
  - Do not use aluminum needles, because precipitate will form.
  - Further dilute solution with 250 cc or more of NS.

Repeat cycle every 21 days.

Paclitaxel must be administered first, followed by carboplatin.

**Major Side Effects**
- Hypersensitivity Reaction: Paclitaxel (30%–40%). Premedicate as described.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed.
- Renal: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.
- Electrolyte Imbalance: Decreases Mg\(^{2+}\), K\(^+\), Ca\(^{2+}\), Na\(^+\), and P.
- Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in classic “stocking and glove” distribution. Proprioception, vibrating sense, and loss of motor function can occur. Increased risk with cumulative dose, more frequent with longer infusions.
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderate to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1, and 3 hours on day 2. Repeat every 21 days as tolerated or until disease progression.

**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**
1. __________________________________________________________________________
2. __________________________________________________________________________

Physician ___________________________ Date ___________________________

Patient Name ___________________________ ID Number ___________________________

____________________________/ ________________/ _______________

Diagnosis Ht Wt M\(^2\)
Carboplatin + Paclitaxel

**Baseline laboratory tests:** CBC: Chemistry, CA 125
**Baseline procedures or tests:** N/A
**Initiate IV:** 0.9% sodium chloride
**Premedicate:** 5-HT and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS

**Administer:**
- **Paclitaxel** __________ mg (175 mg/m²) IV over 3 hours day 1
  - Available in 30 mg and 300 mg vials (6 mg/mL) or 100 mg vial (16.7 mg/mL).
  - Final concentration is ≤ 1.2 mg/mL.
  - Use non-PVC containers and tubing with 0.22-micron inline filter to administer.
- **Carboplatin** ______________ mg (AUC 6–7.5) IV on day 1
  - Available in 50-, 150-, and 450-mg lyopholized powder or 50-, 150-, 450-, and 600-mg solution (10 mg/mL).
  - Multidose vial stable for 15 days after first use.
  - Do not use aluminum needles, because precipitate will form.
  - Give carboplatin after paclitaxel to decrease toxicities.

**Major Side Effects**
- Hypersensitivity Reaction: Paclitaxel (30%–40%). Characterized by rash, urticaria, erythema, and pruritis. Bronchospasms and hypotension uncommon but may occur 1–4% of patients. Premedicate as described. Increased risk of hypersensitivity reactions in patients receiving more than seven courses of carboplatin therapy.
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia are cumulative and dose related. Can be dose limiting. G-CSF support recommended.
- GI Toxicities: Moderate to severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea occurs in 30%–40% of patients.
- Renal: Nephrotoxicity less common than with cisplatin and rarely symptomatic.
- Electrolyte imbalance: Decreases Mg²⁺, K⁺, Ca²⁺, Na⁺, and P.
- Neurotoxicity: Severe neuropathy with numbness and tingling in classic “stocking and glove” distribution. Proprioception, vibrating sense, and motor function loss can occur. Increased risk with cumulative dosing and longer infusions.
- Alopecia: Total loss of body hair occurs in nearly all patients.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 5 hours on day 1. Repeat cycle every 21 days until disease progression.

**Estimated number of visits:** Two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**
1. __________________________________
2. __________________________________

**Physician** ____________________________
**Date** ____________________________

**Patient Name** ____________________________
**ID Number** ____________________________

**Diagnosis** ____________________________
**Ht** ____________ **Wt** ____________ **M²** ____________
**Carboplatin + Docetaxel**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CA 125  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** Dexamethasone 8-mg PO bid for 3 days, starting the day before treatment  
5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS day of treatment  
**Administer:**

- **Carboplatin** ________ mg (AUC 6) IV on day 1  
  - Available in 50-, 150-, and 450-mg lyopolized powder or 50-, 150-, 450-, and 600-mg solution (10 mg/mL).  
  - Multidose vial stable for 15 days after first use.  
  - Do not use aluminum needle, because precipitate will form.  
  - Available in powder or solution. Discard reconstituted powder after 8 hours.  

- **Docetaxel** ________ mg (60 mg/m$^2$) IV on day 1  
  - Available in 20- or 80-mg doses; comes with own diluent. Do not shake.  
  - Reconstituted vials stable at room temperature or if refrigerated for 8 hours.  
  - Further dilute in 250 cc of D5W or 0.9% sodium chloride.  
  - Use non-PVC containers and tubings to administer.

**Major Side Effects**

- **Hypersensitivity Reaction:** Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Premedication with dexamethasone recommended. Carboplatin can cause rash, urticaria, erythema, and pruritus. Bronchospasm and hypotension are uncommon, but risk increases from 1% to 27% in patients receiving more than seven courses of carboplatin-based therapy.  
- **Bone Marrow Depression:** Neutropenia, thrombocytopenia, and anemia are dose related and can be dose limiting.  
- **GI Toxicities:** Moderate-to-severe nausea and vomiting within first 24 hours.  
- **Renal:** Nephrotoxicity less common than with cisplatin and rarely symptomatic.  
- **Electrolyte Imbalance:** Decreased Mg$^{2+}$, K, Ca$^{2+}$, and Na$^+$  
- **Neuropathy:** Neurologic dysfunction is infrequent, but there is increased risk in patients > 65 years old or those previously treated with cisplatin and receiving prolonged carboplatin treatment.  
- **Skin:** Alopecia is common and pruritic rash may occur with docetaxel. Nail changes, occurring in 11–40% of patients may include onycholysis (loss of nail). Keep nails clean, use nail hardeners, tea tree oil. Lotrimin if indicated.  
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**

- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1. Repeat cycle every 21 days.  
**Estimated number of visits:** Two visits per cycle. Request 6 months worth of visits.

**Dose Calculation by:**

1. __________________________________  
2. ____________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht Wt M$^2$
Gemcitabine + Liposomal Doxorubicin

Baseline laboratory tests: CBC: Chemistry panel, LFTs, and CA 125
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral 5-HT3 or IV 5-HT3 and dexamethasone 10 mg in 100 cc of NS
Administer:

**Gemcitabine** 
- Available in 1-g or 200-mg vials, reconstitute with 0.9% sodium chloride.
- USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

**Liposomal doxorubicin**
- Available as a 2-mg/mL solution in 20- or 50-mg vials.
- Further dilute drug (doses up to 90 mg) in 250 cc of D5W.

Major Side Effects
- **Infusion Reaction:** Flushing, dyspnea, facial swelling, headache, back pain, tightness in the chest and throat, and/or hypotension with liposomal doxorubicin. Usually occurs during first treatment and is seen in 5%–10% of patients. Resolves quickly after infusion stopped.
- **Bone Marrow Depression:** Leukopenia occurs in 63–91% of patients, with anemia (73%), with grades 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time of gemcitabine (> 60 minutes) is associated with higher toxicities.
- **GI Toxicities:** Nausea and vomiting are usually mild to moderate (70%). Stomatitis occurs in 7% of patients and diarrhea in 8%; both are usually mild.
- **Cardiac:** Acutely, pericarditis and/or myocarditis, electrocardiographic changes, or arrhythmias. Not dose related. With high cumulative doses > 550 mg/m2, cardiomyopathy may occur. Increased risk of cardiotoxicity when liposomal doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- **Skin:** Manifested as hand-foot syndrome with skin rash, swelling, erythema, pain, and/or desquamation. Occurs in 3.4% of patients and is dose related. Edema occurs in 30% of patients. Alopecia is rare. Hyperpigmentation of nails, urticaria, and radiation recall can occur.
- **Flulike Syndrome** (20%) with fever in absence of infection 6–12 hours after treatment (40%).
- **Hepatic:** Elevation of serum transaminase and bilirubin levels.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour weekly for 3 weeks. Repeat cycle every 4 weeks.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by:
1. 
2. 

Physician
Date
Patient Name
ID Number

Diagnosis
Ht
Wt
M²
**Gemcitabine + Cisplatin**

**Baseline laboratory tests:** CBC, Chemistry panel, LFTs, and CA 19-9

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gemcitabine</td>
<td>_________ mg (800–1000 mg/m²) IV on days 1 and 8</td>
</tr>
<tr>
<td></td>
<td>• Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP</td>
</tr>
<tr>
<td></td>
<td>(5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.</td>
</tr>
<tr>
<td>Cisplatin</td>
<td>_________ mg (30 mg/m²) IV on days 1 and 8</td>
</tr>
<tr>
<td></td>
<td>• Available in 1 mg/mL.</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Further dilute solution with 250 cc or more 0.9% sodium chloride.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Hematologic:** Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.

- **GI Symptoms:** Moderate-to-severe nausea and vomiting; may be acute or delayed. Diarrhea and/or mucositis (15%–20%).

- **Flulike Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).**

- **Renal:** Nephrotoxicity is dose related with cisplatin and occurs at 10–20 days. Risk may be reduced with adequate hydration.

- **Neurotoxicity:** Neuropathy with numbness, tingling, and sensory loss in classic “stocking and glove” distribution. Proprioception, vibrating sense, and motor function loss can occur. Increased risk with cumulative doses and more frequent in longer infusions.

- **Electrolyte Imbalance:** Decreased Mg²⁺, K, Ca²⁺, Na⁺, and P.

- **Hepatic:** Elevation of serum transaminase and bilirubin levels.

- **Skin:** Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.

- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on days 1 and 15, and 1 hour on day 8. Repeat cycle every 21 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. _____________________________ 2. _____________________________

______________________________ ________________________________
Physician Date

______________________________ ________________________________
Patient Name ID Number

______________________________ ________________________________
Diagnosis Ht Wt M²
### Single-Agent Regimens

**Altretamine (Hexalen)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, CA 125</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT&lt;sub&gt;3&lt;/sub&gt;</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Altretamine</strong> ______ mg (260 mg/m&lt;sup&gt;2&lt;/sup&gt;/day) PO in four divided doses (after meals and at bed time)</td>
</tr>
<tr>
<td></td>
<td>• Available in 50-mg gelatin capsules for oral use.</td>
</tr>
<tr>
<td><strong>Major Side Effects</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bone Marrow Suppression: Dose limiting toxicity; nadir occurs at 21–28 days and rapid recovery within 1 week of cessation of drug.</td>
</tr>
<tr>
<td></td>
<td>• GI Toxicities: Nausea and vomiting in 30% of patients; is usually mild to moderate. Worsens with increasing cumulative doses of drug. Usual dose-limiting toxicity. Diarrhea and cramps may also be dose limiting.</td>
</tr>
<tr>
<td></td>
<td>• Neurotoxicities. Peripheral sensory neuropathy occurs in 31% of patients and is moderate to severe in 9% of patients.</td>
</tr>
<tr>
<td></td>
<td>• CNS: Agitation, confusion, hallucinations, depression, mood disorders, and Parkinson-like symptoms may occur and are usually reversible. Neurological effects are more common with continuous dosing &gt; 3 months rather than pulse dosing.</td>
</tr>
<tr>
<td></td>
<td>• Skin: Rashes, pruritus, eczematous skin lesions may occur but are rare.</td>
</tr>
<tr>
<td></td>
<td>• Renal: Elevations in blood urea nitrogen (BUN) (9%) or creatinine (7%) can occur.</td>
</tr>
<tr>
<td></td>
<td>• Reproductive: Pregnancy category D. Breast feeding should be avoided.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiate antiemetic protocol:</th>
<th>Mildly to moderately emetogenic protocol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive drugs:</td>
<td>□ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)</td>
</tr>
<tr>
<td></td>
<td>□ loperamide (Imodium)  □ epoetin alfa (Procrit)</td>
</tr>
<tr>
<td></td>
<td>□ darbepoetin alfa (Aranesp)  □ diphenoxylate/atropine sulfate (Lomotil)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment schedule:</th>
<th>No chair time. Repeat cycle every 14–21 days.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number of visits:</td>
<td>One per cycle.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dose Calculation by:</th>
<th>1. __________________________ 2. __________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>Date</td>
</tr>
<tr>
<td>Patient Name</td>
<td>ID Number</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Ht  Wt  M&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
**Liposomal Doxorubicin (Doxil)**

**Baseline laboratory tests:** CBC, Chemistry, CA 125

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS.

**Administer:** Liposomal doxorubicin ______ mg (50 mg/m²) IV over 1 hour on day 1

- Available as a 2-mg/mL solution in 20- or 50-mg vials
- Further dilute drug (doses up to 90 mg) in 250 cc of D5W.

**Major Side Effects**

- Infusion Reaction: Flushing, dyspnea, facial swelling, headache, back pain, tightness in the chest and throat, and/or hypotension. Usually occurs during first treatment and is seen in 5%–10% of patients. Resolves quickly after infusion stopped.
- Bone Marrow Depression: Dose-limiting toxicity in the treatment of HIV-infected patients. Leukopenia occurs in 91% of patients, with anemia and thrombocytopenia less common.
- GI Toxicities: Nausea and vomiting are usually mild to moderate. Stomatitis occurs in 7% of patients and diarrhea in 8%; both are usually mild.
- Cardiac: Acutely, pericarditis and/or myocarditis, electrocardiographic changes, or arrhythmias. Not dose related. With high cumulative doses > 550 mg/m², cardiomyopathy may occur. Increased risk of cardiotoxicity when liposomal doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- Skin: Skin toxicity manifested as hand-foot syndrome with skin rash, swelling, erythema, pain, and/or desquamation. Occurs in 3.4% of patients and is dose related. Hyperpigmentation of nails, skin rash, urticaria, and radiation recall occur. Alopecia occurs in 9% of patients with Kaposi's sarcoma.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1. Repeat cycle every 28 days.

**Estimated number of visits:** Two visits per cycle. Request four cycles worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

______________________________ ________________
Physician Date

______________________________
Patient Name ID Number

______________________________
Diagnosis

Ht Wt M²
Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg2+) and CA 125
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel _________ mg (135 mg/m²) IV over 3 hours on day 1
• Final concentration is ≤ 1.2 mg/mL.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Major Side Effects
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• GI Toxicity: Nausea and vomiting occur in 52% of patients, mild and preventable with anitmetics. Diarrhea in 38% of patients and stomatitis in 31%.
• Neurotoxicity: Severe neuropathy with numbness, tingling, and sensory loss in arms and legs. Proprioception and vibratory sense and loss of motor function can occur. Paresthesias are dose related and can be severe, requiring pain medication or neurontin. More frequent with longer infusions and at doses > 175 mg/m².
• Ototoxicity occurs in > 30% beginning with high-frequency hearing.
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours on day 1. Repeat every 21 days as tolerated or until disease progression
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. __________________________________________
_____________________________________________ ______________________________________________________
Physician Date
_____________________________________________ ______________________________________________________
Patient Name ID Number
_____________________________________________ ________________/ ________________/ ________________
Diagnosis Ht Wt M²
Topotecan

Baseline laboratory tests: CBC, Chemistry panel, LFTs, and CA 125
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premarketate: 5-HT3 and dexamethasone 10 mg in 100 cc of NS
Administer: Topotecan __________ mg (1.5 mg/m²) IV on days 1–5
• Available as a 4-mg vial.
• Reconstitute vial with 4 mL of sterile water for injection.
• Further dilute in 0.9% sodium chloride or D5W.
• Use immediately.

Major Side Effects
• Hematologic: Severe grade 4 myelosuppression occurs during the first course of therapy in 60% of patients. Dose-limiting toxicity. Typical nadir occurs at days 7–10 with full recovery by days 21–28. If severe neutropenia occurs, reduce dose by 0.25 mg/m² for subsequent doses, or may use G-CSF to prevent neutropenia 24 hours after last day of topotecan therapy.
• GI Toxicities: Nausea and vomiting, mild to moderate and dose related. Occurs in 60%–80% of patients. Diarrhea occurs in 42% of patients, and constipation occurs in 39%. Abdominal pain may occur in 33% of patients.
• Hepatic Toxicity: Evidence of increased drug toxicity in patients with low protein levels and hepatic dysfunction. Dose reductions may be necessary.
• Renal: Use with caution in patients with abnormal renal function. Dose reduction is necessary in this setting. Microscopic hematuria occurs in 10% of patients.
• Skin: Alopecia.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: 
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on days 1–5. Repeat every 21 days until disease progression.
Estimated number of visits: Six visits per cycle. Request three cycles.

Dose Calculation by: 1. _______________ 2. _______________

Physician __________________________ Date __________________________
Patient Name ______________________ ID Number ______________________
Diagnosis Ht ______ Wt ______ M² ______
Gemcitabine

Baseline laboratory tests: CBC, Chemistry panel, LFTs, and CA 125
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine

OR
5-HT3 and dexamethasone 10 mg in 100 cc of NS

Administer: Gemcitabine _______ mg (800 mg/m²) IV weekly for 3 weeks

- Available in 1-g or 200-mg vials, reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

Major Side Effects

- Infusion Reactions: Characterized by flushing, facial swelling, headache, dyspnea and/or hypotension. Usually related to rate of infusion and resolves with discontinuation of infusion.
- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grades 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time (>60 minutes) is associated with higher toxicities.
- GI Symptoms: Mild to moderate nausea and vomiting (70%), diarrhea, and/or mucositis (15%–20%).
- Flulike Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).
- Hepatic: Elevation of serum transaminase and bilirubin levels.
- Pulmonary Toxicities: Mild dyspnea or drug induced pneumonitis may occur.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.

Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour weekly for 3 weeks. Repeat cycle every 4 weeks.

Estimated number of visits: Six visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 

1. ____________________________ 2. ____________________________ 3. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

________________________/________________________/________________________
Ht ____________________________ Wt ____________________________ M² ____________________________

Diagnosis ____________________________
### Etoposide

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and CA 125  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** Oral phenothiazine or 5-HT₃.  
**Administer:** Etoposide _______ mg (50 mg/m²/day) PO days 1–21  
- Available in 50- or 100-mg capsules for oral use  
- May give as a single dose up to 400 mg; > 400 mg, divide dose into 2–4 doses.  
- Store in refrigerator.

**Major Side Effects**  
- Bone Marrow Depression: Nadir 10–14 days after drug dose, with recovery on days 21–22. Neutropenia may be severe.  
- GI Toxicities: Nausea and vomiting and anoxeria occur in 30%–40% of patients and is generally mild to moderate. More commonly observed with oral administration.  
- Skin: Alopecia observed in nearly two thirds of patients.  
- Neurotoxicities: Peripheral neuropathies may occur but are rare and mild.  
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
**Treatment schedule:** No chair time. Repeat cycle every 28 days as tolerated or until disease progression.  
**Estimated number of visits:** One to two visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**  
1. _____________  
2. _____________

---

**Physician**

Date

**Patient Name**

ID Number / / 

**Diagnosis**

Ht Wt M²
OVARIAN CANCER
(Germ Cell)

Combination Regimens

BEP: Bleomycin: 30 U IV on days 2, 9, and 16
Etoposide: 100 mg/m²/day IV on days 1–5
Cisplatin: 20 mg/m²/day IV on days 1–5
Repeat cycle every 21 days.¹³⁵⁰
Combination Regimens

**Etoposide + Bleomycin + Cisplatin (BEP)**

- **Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$)
- **Baseline procedures or tests:** PFTs and chest x-ray study at baseline and before each cycle of therapy
- **Initiate IV:** 0.9% sodium chloride
- **Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
  - Acetaminophen 30 minutes before bleomycin
- **Administer:**
  - **Bleomycin** 30 units IV push or infusion over 15 minutes on days 2, 9, and 16
    - A test dose of 2 units is recommended before the first dose to detect hypersensitivity.
    - Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water.
    - Reconstituted solution is stable for 24 hours at room temperature.
  - **Etoposide** _______ mg (100 mg/m$^2$) IV infusion over 1 hour on days 1–5
    - Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
    - May be further diluted in NS or D5W to final concentration of 0.1 mg/mL.
  - **Cisplatin** _______ mg (20 mg/m$^2$) IV infusion over 1–2 hours on days 1–5
    - Do not use aluminum needles, because precipitate will form.
    - Available in solution as 1 mg/mL.
    - Further dilute solution with 250 cc or more of NS.

**Major Side Effects**

- **Allergic Reaction:** Bleomycin—fever and chills observed in up to 25% of patients. True anaphylactic reactions are rare. Etoposide—bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion. Anaphylaxis may occur but is rare.
- **Bone Marrow Depression:** Myelosuppression can be a dose-limiting toxicity.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare.
- **Pulmonary Toxicities:** Pulmonary toxicity is dose limiting in bleomycin. Seen more frequently cumulative with bleomycin dose > 400 units.
- **Renal:** Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.
- **Electrolyte Imbalance:** Decreased Mg$^{2+}$, K, Ca$^{2+}$, Na$^+$, and P.
- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- **Ototoxicity:** High-frequency hearing loss and tinnitus.
- **Skin:** Alopecia
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on days 1, 1–5, and 1 hour on days 9 and 16. Repeat every 21 days.

**Estimated number of visits:** Seven visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. ____________________________

2. ____________________________

______________________________

Physician

______________________________

Date

______________________________

Patient Name

______________________________

ID Number

______________________________

Diagnosis

______________________________

Ht

______________________________

Wt

______________________________

M$^2$
**LOCALLY ADVANCED DISEASE**

5-Fluorouracil + Radiation Therapy

(Studied in the Gastrointestinal Tumor Study) ........................................................................567

Group [GITSG] Regimen

5-Fluorouracil: 500-mg/m²/day IV on days 1–3 and 29–31, then weekly beginning on day 71

Radiation therapy: Total dose, 4000 cGy

Chemotherapy and radiation therapy started on the same day and given concurrently.1,351

**METASTATIC DISEASE**

**Combination Regimens**

5-Fluorouracil + Leucovorin ............................................................................568

5-Fluorouracil: 425-mg/m² IV on days 1–5

Leucovorin: 20-mg/m² IV on days 1–5

Repeat cycle every 28 days.1,352

Gemcitabine + Capecitabine............................................................................569

Gemcitabine: 1000-mg/m² IV on days 1 and 8

Capecitabine: 650-mg/m² PO bid on days 1–14

Repeat cycle every 21 days.1,353

Gemcitabine + Docetaxel + Capecitabine (GTX) ................................................570

Gemcitabine: 750-mg/m² IV over 75 minutes on days 4 and 11

Docetaxel: 30-mg/m² IV on days 4 and 11

Capecitabine: 1000–1500 mg/m² PO bid on days 1–14

Repeat cycle every 2 weeks.1,354

Gemcitabine + Cisplatin..................................................................................572

Gemcitabine: 1000-mg/m² IV on days 1, 8, and 15

Cisplatin: 50-mg/m² IV on days 1 and 15

Repeat cycle every 28 days.1,355
<table>
<thead>
<tr>
<th>Combination</th>
<th>Description</th>
<th>Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gemcitabine + Cisplatin (Modified)</strong></td>
<td>Gemcitabine: 600–750 mg/m² IV on days 1 and 15&lt;br&gt;Cisplatin: 25-mg/m² IV on days 1 and 15</td>
<td>Repeat cycle every 28 days.¹,³⁵⁶</td>
</tr>
<tr>
<td><strong>Gemcitabine + Cisplatin (Fixed Dose Rate)</strong></td>
<td>Gemcitabine: 1000-mg/m² IV on days 1 and 8&lt;br&gt;Cisplatin: 20-mg/m² IV on days 1 and 8</td>
<td>Repeat cycle every 28 days¹,³⁵⁷,³⁵⁸</td>
</tr>
<tr>
<td><strong>Gemcitabine + Oxaliplatin</strong></td>
<td>Gemcitabine: 1000-mg/m² IV over 100 minutes at 10 mg/m²/min on day 1&lt;br&gt;Oxaliplatin: 100-mg/m² over 2 hours on day 2.</td>
<td>Repeat cycle every 2 weeks.¹,³⁵⁹</td>
</tr>
<tr>
<td><strong>Gemcitabine + Irinotecan</strong></td>
<td>Gemcitabine: 1000-mg/m² IV over 30 minutes on days 1 and 8&lt;br&gt;Irinotecan: 100-mg/m² IV over 90 minutes on days 1 and 8</td>
<td>Repeat cycle every 21 days.¹,³⁶⁰</td>
</tr>
<tr>
<td><strong>FAM</strong></td>
<td>5-Fluorouracil: 600-mg/m² IV on days 1, 8, 29, and 36&lt;br&gt;Doxorubicin: 30-mg/m² IV on days 1 and 29&lt;br&gt;Mitomycin: 10-mg/m² IV on day 1</td>
<td>Repeat cycle every 56 days.¹,³⁶¹</td>
</tr>
<tr>
<td><strong>Gemcitabine + Erlotinib (Tarceva)</strong></td>
<td>Gemcitabine: 1000-mg/m² IV weekly for 7 weeks, then 1 week rest, subsequent cycles&lt;br&gt;1000-mg/m² IV weekly for 3 weeks with 1 week rest&lt;br&gt;Erlotinib: 100-mg PO daily</td>
<td>Repeat 3-week cycles every 28 days.¹,³⁶²</td>
</tr>
<tr>
<td><strong>5-Fluorouracil + Streptozocin + Mitomycin</strong></td>
<td>5-Fluorouracil: 600-mg/m² IV on days 1, 8, 29, and 36&lt;br&gt;Streptozocin: 1000-mg/m² IV over 1 hour on days 1, 8, 29, and 36&lt;br&gt;Mitomycin: 10-mg/m² IV bolus on day 1</td>
<td>Repeat cycle every 72 days.¹,³⁶³</td>
</tr>
</tbody>
</table>
Single-Agent Regimens

**Gemcitabine**

- Gemcitabine: 1000-mg/m² IV weekly for 7 weeks, then 1-week rest
- Subsequent cycles 1000-mg/m² IV weekly for 3 weeks with 1-week rest
- Repeat 3-week cycle every 28 days.¹,³⁶⁴

**OR**

- Gemcitabine: 1000-mg/m² IV over 100 minutes at 10 mg/m²/min on days 1, 8, and 15
- Repeat cycle every 28 days.¹,³⁶⁵

**Capecitabine**

- Capecitabine: 1250-mg/m² PO bid on days 1–14
- Repeat cycle every 21 days.¹,³⁶⁶
LOCALLY ADVANCED DISEASE

5-Fluorouracil + Radiation Therapy (GITSG)

Baseline laboratory tests: CBC: Chemistry and CA 19-9
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT3
Administer: Fluorouracil __________ mg (500 mg/m²/day) IV on days 1–3 and 29–31, then weekly beginning on day 71
- Available 500 mg/10mL.
- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Radiation therapy:
- Total dose, 4000 cGy
- Chemotherapy and radiation therapy are started on the same day and given concurrently.

Major Side Effects
- Bone Marrow Depression: Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily for 5 or weekly regimens.
- GI Toxicities: Nausea and vomiting occur in 30%–50% of patients but is usually mild. Nausea and vomiting and dehydration may worsen through treatment may require IV hydration and additional antiemetics. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Local tissue irritation in radiation field progressing to desquamation can occur. Do not use oil-based lotions or creams in radiation field. Hyperpigmentation, photosensitivity, and nail changes may occur with 5-fluorouracil as well as hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision may occur with 5-fluorouracil.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 1 hour on days 1–3 and 29–31, then weekly beginning on day 71.
Estimated number of visits: Six visits first month. One visit weekly beginning week 10 and through the end of radiation therapy.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht ______ Wt ______ M² ______
METASTATIC DISEASE
Combination Regimens

5-Fluorouracil + Leucovorin (Mayo Clinic Regimen)

**Baseline laboratory tests:** CBC: Chemistry and CA 19-9

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** Oral phenothiazine or 5-HT3

**Administer:**

- **Leucovorin** __________ mg (20 mg/m²/day) IV bolus on days 1–5
  - Available in solution or powder. Reconstitute solution with sterile water. May further dilute with 0.9% sodium chloride or D5W.
  - Do not mix in same solution with 5-FU, because a precipitate will form.

- **5-FU** __________ mg (425 mg/m²/day) IV bolus 1 hour after start of leucovorin, days 1–5.
  - Available 500 mg/10mL.
  - No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

**Major Side Effects**

- **Bone Marrow Depression:** Nadir 10–14 days. Neutropenia, thrombocytopenia are dose related. Can be dose limiting for daily for 5 or weekly regimens.
- **GI Toxicities:** Nausea and vomiting occur in 30%–50% of patients but is usually mild. Mucositis and diarrhea can be severe and dose limiting.
- **Skin:** Alopecia is more common in the 5-day course and results in diffuse thinning of hair. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- **Ocular:** Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on days 1–5. Repeat cycle every 28 days for six cycles.

**Estimated number of visits:** Six visits per cycle. 36 per treatment course.

**Dose Calculation by:** 1. __________________________ 2. __________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht / Wt / M²
Gemcitabine + Capecitabine (Xeloda)

Baseline laboratory tests: CBC: Chemistry panel, LFTs, CA 19-9, and creatinine clearance
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT3 and dexamethasone 10 mg
Administer: Gemcitabine _________ mg (1000 mg/m²) IV on days 1 and 8
- Available in 1-g or 200-mg vials, reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

Capecitabine _________ mg (650 mg/m²) PO bid on days 1–14
- Available in 150 mg and 500 mg tablets. Do not cut tablets.
- Administer within 30 minutes of a meal with plenty of water.
- Monitor international normalized ratios (INRs) closely in patients taking warfarin; may increase INR.

Major Side Effects
- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grades 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.
- GI Symptoms: Mild-to-moderate nausea and vomiting (70%), diarrhea and/or mucositis (15%–20%). Diarrhea occurs in up to 40% with 12% being grade 3–4. Stomatitis is common, 3% of which is severe.
- Flulike Syndrome: (20%) with fever in absence of infection 6–12 hours after treatment (40%).
- Renal Insufficiency: Xeloda is contraindicated in patients with creatinine clearance < 30 mL/min. CRCL 30–50 mL/min at baseline should be dose reduced to 75% of total xeloda dose.
- Hepatic: Elevation of serum transaminase and bilirubin levels. Dose modifications may be required if hyperbilirubinemia occurs.
- Skin: Hand-foot syndrome (15%–20%). Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ loperamide (Imodium)
- □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour. Repeat weekly for 7 weeks, then 1-week rest. Then weekly for 3 weeks with 1 week off.
Repeat every 21 days until disease progression.

Estimated number of visits: Ten visits initial course (3 months). Three visits per month subsequent courses.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht ___________ Wt ___________ M² ___________
Gemcitabine + Docetaxel + Capecitabine (GTX)

Baseline laboratory tests: CBC: Chemistry panel, LFTs, and CA 19-9
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine

OR
5-HT3 and dexamethasone 10 mg in 100 cc of NS and dexamethasone 8-mg PO bid for 3 days, starting the day before treatment

Administer:

Gemcitabine ________ mg (750 mg/m²) IV over 75 minutes days 4 and 11
• Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
• Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

Docetaxel __________ mg (30 mg/m²) IV on days 4 and 11
• Available in 20- or 80-mg doses; comes with own diluent. Do not shake. Reconstituted drug stable at room temperature or if refrigerated for 8 hours.
• Further dilute in 250 cc of D5W or 0.9% sodium chloride.
• Use non-PVC containers and tubings to administer.

Capecitabine ________ mg (1000–1250 mg/m²) PO bid on days 1–14
• Available in 150 and 500 mg tablets. Do not cut tablets.
• Administer within 30 minutes of a meal with plenty of water.
• Monitor INRs closely in patients taking warfarin; may increase INR

Major Side Effects
• Hypersensitivity: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Characterized by skin rash, erythema, hypotension, dyspnea and/or bronchospasm. Usually occurs within first 2–3 minutes, usually after first dose. May be prevented with premedication with steroid and addition of diphenhydramine 50 mg IV and/or cimetidine 300 mg IV. Premedication with dexamethasone recommended.
• Hematologic: Myelosuppression is dose limiting.
• GI Symptoms: Mild to moderate nausea and vomiting, diarrhea, and mucositis. May require additional antiemetics and IV hydration.
• Sensory Neuropathy: Peripheral paresthesias and numbness (49%).
• Flulike Syndrome: (20%) with fever 6–12 hours after treatment.
• Hepatic: Elevation of serum transaminase and bilirubin levels.
• Skin: Pruritic rash and nail changes. Nail changes may include brown discoloration of nail beds and/or onycholysis (loss of nail). Keep nails clean. Use nail hardeners and tea tree oil. Lotrimin if indicated.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
• Mildly to moderately emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule:
Chair time 3 hours on days 4 and 11. Repeat cycle every 21–28 days until disease progression.

Estimated number of visits:
Three visits per cycle. Request three cycles worth of visits.
**Gemcitabine + Cisplatin**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry panel, LFTs, and CA 19-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT3 and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td>Gemcitabine _________ mg (1000 mg/m²) IV on days 1, 8, and 15</td>
</tr>
</tbody>
</table>

- Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

<table>
<thead>
<tr>
<th>Cisplatin _________ mg (50 mg/m²) IV on days 1 and 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Available 1 mg/mL.</td>
</tr>
<tr>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td>• Further dilute solution with 250 cc or more 0.9% sodium chloride.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.
- GI Symptoms: Moderate-to-severe nausea and vomiting; may be acute or delayed. Diarrhea and/or mucositis (15%–20%).
- Flulike Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).
- Renal: Nephrotoxicity is dose related with cisplatin and occurs at 10–20 days. Risk may be reduced with adequate hydration.
- Neurotoxicity: Sensory neuropathy; dose related. Neuropathy with numbness, tingling, and sensory loss in classic “stocking and glove” distribution. Proprioception, vibrating sense, and motor function loss can occur. Increased risk with cumulative doses and more frequent in longer infusions.
- Electrolyte Imbalance: Decreased Mg²⁺, K, Ca²⁺, Na⁺, and P.
- Hepatic: Elevation of serum transaminase and bilirubin levels.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on days 1 and 15, and 1 hour on day 8. Repeat cycle every 28 days.

**Estimated number of visits:** Four visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________________________________________________________
2. __________________________________________________________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ___________________________________________ Ht ______ Wt ______ M² ______
### Gemcitabine + Cisplatin (Modified)

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 19-9  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS  
**Administer:**

**Gemcitabine** __________ mg (600–750 mg/m²) IV on days 1 and 15  
- Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.  
- Reconstituted solution is stable 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.  

**Cisplatin** __________ mg (25–30 mg/m²) IV on days 1 and 15  
- Available in 1 mg/mL.  
- Do not use aluminum needles, because precipitate will form.  
- Further dilute solution with 250 cc or more 0.9% sodium chloride.

#### Major Side Effects

- **Hematologic:** Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.  
- **GI Symptoms:** Moderate-to-severe nausea and vomiting; may be acute or delayed. Diarrhea and/or mucositis (15%–20%).  
- **Flulike Syndrome** (20%) with fever in absence of infection 6–12 hours after treatment (40%).  
- **Renal:** Nephrotoxicity is dose related with cisplatin and occurs at 10–20 days. Risk may be reduced with adequate hydration.  
- **Neurotoxicity:** Sensory neuropathy; dose related. Neuropathy with numbness, tingling, and sensory loss in classic “stocking and glove” distribution. Proprioception, vibrating sense, and motor function loss can occur. Increased risk with cumulative doses and more frequent in longer infusions.  
- **Electrolyte Imbalance:** Decreased Mg²⁺, K⁺, Ca²⁺, Na⁺, and P.  
- **Hepatic:** Elevation of serum transaminase and bilirubin levels.  
- **Skin:** Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.  
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours. Repeat cycle every 28 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. ____________________________  
2. ____________________________

---

**Physician**  
**Date**

**Patient Name**  
**ID Number**  

**Diagnosis**  
Ht  
Wt  
M²
### Gemcitabine + Cisplatin (Fixed Dose Rate)

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 19-9

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose (mg)</th>
<th>Route</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gemcitabine</td>
<td>_________</td>
<td>IV on days 1 and 8</td>
<td>Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride. Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.</td>
</tr>
<tr>
<td>Cisplatin</td>
<td>_________</td>
<td>IV on days 1 and 8</td>
<td>Available 1 mg/mL. Do not use aluminum needles, because precipitate will form. Further dilute solution with 250 cc or more 0.9% sodium chloride.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Hematologic:** Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.

- **GI Symptoms:** Moderate-to-severe nausea and vomiting; may be acute or delayed. Diarrhea and/or mucositis (15%–20%).

- **Flulike Syndrome (20%)** with fever in absence of infection 6–12 hours after treatment (40%).

- **Renal:** Nephrotoxicity is dose related with cisplatin and occurs at 10–20 days. Risk may be reduced with adequate hydration.

- **Neurotoxicity:** Sensory neuropathy; dose related. Neuropathy with numbness, tingling, and sensory loss in classic “stocking and glove” distribution. Proprioception, vibrating sense, and motor function loss can occur. Increased risk with cumulative doses and more frequent in longer infusions.

- **Electrolyte Imbalance:** Decreased Mg²⁺, K, Ca²⁺, Na⁺, and P.

- **Hepatic:** Elevation of serum transaminase and bilirubin levels.

- **Skin:** Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia.

- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours. Repeat cycle every 21 days

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

Physician __________________________ Date __________________________

Patient Name ______________________ ID Number ______________________

Diagnosis __________________________ Ht ___________________ Wt __________ M² __________
**Gemcitabine + Oxaliplatin (GemOx)**

**Baseline laboratory tests:** CBC: Chemistry panel, LFTs, and CA 19-9  
**Baseline procedures or tests:** N/A

<table>
<thead>
<tr>
<th>Initiate IV:</th>
<th>0.9% sodium chloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premedicate:</td>
<td>5-HT3 and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
</tbody>
</table>

**Administer:**

- **Gemcitabine** ______ mg (1000 mg/m²) IV over 100 minutes (10 mg/m²/min) on day 1  
  - Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.  
  - Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

- **Oxaliplatin** ______ mg (100 mg/m²) IV over 2 hours on day 2  
  - Available in 50- and 100-mg vials.  
  - Do not use aluminum needles or chloride solutions.  
  - Reconstitute powder with bacteriostatic water for injection or D5W injection (10-cc 50-mg vial and 20-cc 100-mg vial); then further dilute in 250–500 cc of D5W.

**Major Side Effects**

- **Hematologic:** Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.

- **GI Symptoms:** Moderate-to-severe nausea and vomiting (70%). Diarrhea in 80%–90% of patients, mucositis in 15%–20%.

- **Neurotoxicity:** Peripheral sensory neuropathy with distal paresthesias can be dose-limiting. Acute dysesthesias in the laryngopharyngeal region can occur within hours or 1–3 days after therapy. Exposure to cold can exacerbate these symptoms. AVOID cold beverages and food as well as cold air.

- **Flulike Syndrome:** (20%) with fever in absence of infection 6–12 hours after treatment (40%).

- **Hepatic:** Elevation of serum transaminase and bilirubin levels.

- **Skin:** Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.

- **Delayed Hypersensitivity:** May occur after 10–12 cycles. Symptoms range from mild symptoms to anaphylaxis and severe hypersensitivity (characterized by dyspnea, hypotension, angioedema, and generalized urticaria).

- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1, and 3 hours on day 2. Repeat every 2 weeks until disease progression.

**Estimated number of visits:** Three visits per cycle. Request six cycles worth of visits.

**Dose Calculation by:**  
1. __________________________________  
2. __________________________________

**Physician**

**Patient Name**

**ID Number**

**Diagnosis**

<table>
<thead>
<tr>
<th>Ht</th>
<th>Wt</th>
<th>M²</th>
</tr>
</thead>
</table>
Gemcitabine + Irinotecan (Gemiri)

Baseline laboratory tests: CBC: Chemistry panel, LFTs, and CA 19-9
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT³ and dexamethasone 10 mg in 100 cc of NS
Atropine 0.5–1.0 mg IV unless contraindicated.
Administer: Gemcitabine _________ mg (1000 mg/m²) IV over 30 minutes on days 1 and 8
• Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
• Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.
Irinotecan __________ mg (100 mg/m²) IV on days 1 and 8
• Available in 2- and 5-mL vials (20 mg/mL).
• May dilute in 500 cc of D5W (preferred) or 0.9% sodium chloride.
• Administer over 90 minutes.

Major Side Effects
• Hematologic: Myelosuppression is dose limiting. Nadir occurs at days 7–10, recovery by days 21–28. GCSF recommended.
• GI Symptoms: Moderate-to-severe nausea and vomiting. Diarrhea, acute (cholinergic effect) or delayed, can be severe and should be aggressively treated and may be dose limiting, Mucositis (15%–20%).
• Flu-like Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).
• Hepatic: Elevation of serum transaminase and bilirubin levels.
• Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is mild.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 3 hours on days 1 and 8. Repeat cycle every 21 days until disease progression.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________
Physician __________________________ Date __________________________

Patient Name __________________________ ID Number __________________________

Diagnosis __________________________ Ht ______ Wt ______ M² ______
5-Fluorouracil + Doxorubicin + Mitomycin (FAM)

Baseline laboratory tests: CBC: Chemistry and CA 19-9
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer: Fluorouracil _________ mg (600 mg/m²/day) IV on days 1, 8, 29, and 36
• Available 500 mg/10mL.
• No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.
Doxorubicin _________ mg (30 mg/m²) IV on days 1 and 29
• Available 2 mg/mL.
• Potent vesicant
• Drug will form a precipitate if it is mixed with heparin or 5-FU.
Mitomycin _________ mg (10 mg/m²) IV bolus on day 1
• Available 5 mg (2 mg/mL) vial, 20- and 40-mg vials.
• Potent vesicant
• Dilute with sterile water to give a final concentration of 0.5 mg/mL. Reconstituted solution stable for 14 days is refrigerated or 7 days at room temperature

Major Side Effects
• Bone Marrow Depression: Dose-limiting and cumulative toxicity with leukopenia being more common than thrombocytopenia. Nadir counts are delayed at 4–6 weeks with mitomycin but occur at 10–14 days with doxorubicin.
• GI Toxicities: Nausea and vomiting in 50% of patients and are moderate to severe. Mucositis and diarrhea can be severe and dose limiting.
• Skin: Vesicants cause tissue necrosis if extravasated. Hyperpigmentation, photosensitivity, radiation recall, and nail changes may occur. Hand-foot syndrome can be dose limiting.
• Cardiac Toxicity: Acutely, pericarditis, myocarditis syndrome may occur. Later, cardiomyopathy in the form of CHF may occur (dose limit 550 mg/m²).
• Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
• GU: Hemolytic-uremic syndrome: Hematocrit <25%, platelets <100K, and renal failure (serum creatinine >1.6 mg/dL). Rare event (< 2%). Red-orange discoloration of urine for up to 48 hours after infusion of doxorubicin.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:

☐ pegfilgrastim (Neulasta) ☐ filgrastim (Neupogen)
☐ epoetin alfa (Procrit) ☐ darbepoetin alfa (Aranesp)
☐ loperamide (Imodium) ☐ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 to 2 hours on days 1, 8, 29, and 36. Repeat every 56 days until progression.
Estimated number of visits: Five visits per treatment course, CBC weekly.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________

Physician ____________________ Date ____________________

Patient Name __________________ ID Number __________________

Diagnosis _________________________ Ht __________ Wt __________ M² __________
### Gemcitabine + Erlotinib (Tarceva)

**Baseline laboratory tests:** CBC, Chemistry panel, LFTs  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** Oral phenothiazine or 5HT3 oral or IV  
**Administer:**
- **Gemcitabine:** 1000-mg/m² IV weekly for 7 weeks, then 1 week rest, subsequent cycles: 1000 mg/m² IV weekly for 3 weeks with 1 week rest  
  - Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.  
  - Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.  
- **Erlotinib:** 100-mg PO daily  
  - Available in 25-, 100-, and 150-mg tablets.  
  - Taken 1 hour prior to eating or 2 hours after eating.  
  - Dose reductions should be considered with hepatic and renal impairments.  
  - Dose modification: Decrease in 50 mg increments.  

### Major Side Effects
- **Hematologic:** Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.  
- **GI Symptoms:** Mild-to-moderate nausea and vomiting (70%), mucositis (15%–20%). Diarrhea is seen in 54% of patients, and is mild to moderate, only 6% grade 3.  
- **Flulike Syndrome** (20%) with fever in the absence of infection 6–12 hours after treatment (40%).  
- **Hepatic:** Elevation of serum transaminase and bilirubin levels.  
- **Skin Alterations:** Rash with tarceva, from maculopapular to pustular on the face, neck, chest, back, and arms affecting up to 75% of patients. Most rashes are mild to moderate beginning on day 8-10, maximizing in intensity by week 2, and gradually resolving by week 2. Use of skin treatments such as corticosteroids, topical clindamycin or minocycline have been used with varying results.  
- **Visual Alterations:** Conjuctivitis and dry eyes may occur and are mild to moderate (grade 1–2).  
- **Interstitial Lung Disease:** Seen in 1% of patients with 33% mortality. Symptoms include dyspnea, sometimes with cough or low grade fever, rapidly becoming more severe. This is a class effect. Drug should be stopped immediately in patients with worsening or unexplained pulmonary symptoms.  
- **Drug Interactions:** Inducers of the CYP3A4 pathway may increase metabolism of erlotinib and decrease plasma concentrations; and inhibitors of the CYP3A4 pathway may increase the metabolism of erlotinib and increase plasma concentrations.  
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.  

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.  
**Supportive drugs:**  
- pegfilgrastim (Neulasta)  
- filgrastim (Neupogen)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
**Treatment schedule:** Chair time 1 hour. Weekly for 7 weeks with 1 week rest, then weekly for 3-week increments, one week off. Repeat 3 week cycles every 28 days.  
**Estimated number of visits:** Weekly appointments throughout therapy, for treatment or blood counts. Request 6 months worth of visits.
Dose Calculation by: 1. __________________________________ 2. ____________________________________________

_____________________________________________________________________________________________________

Physician

_____________________________________________________________________________________________________

 Date

_____________________________________________________________________________________________________

Patient Name

_____________________________________________________________________________________________________

 ID Number

_____________________________________________________________________________________________________

Diagnosis

Ht Wt M²

Pancreatic Cancer 579
5-Fluorouracil + Streptozocin + Mitomycin (SMF)

Baseline laboratory tests: CBC: Chemistry and CA 19-9
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS
Administer:

- Fluorouracil _________ mg (600 mg/m²/day) IV on days 1, 8, 29, and 36
  - Available 500 mg/10mL.
  - No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

- Streptozocin ________ mg (1000 mg/m²) IV over 1 hour on days 1, 8, 29, and 36
  - 1-g vial; reconstitute with sterile water or 0.9% sodium chloride
  - Irritant; avoid contact with skin or extravasation.
  - Administer with 1–2 L of hydration to avoid renal toxicity.

- Mitomycin _________ mg (10 mg/m²) IV bolus on day 1
  - Available 5 mg/10 mL. 20- and 40-mg vials.
  - Potent vesicant
  - Dilute with sterile water to give a final concentration of 0.5 mg/mL. Reconstituted solution stable for 14 days if refrigerated or 7 days at room temperature

Major Side Effects

- Renal: Renal dysfunction occurs in 60% of patients receiving streptozocin. Usually transient proteinuria and azotemia, but may progress to permanent renal failure. Dose limiting.
- Bone Marrow Depression: Dose-limiting and cumulative toxicity, with leukopenia being more common than thrombocytopenia. Nadir counts are delayed at 4–6 weeks with mitomycin but occur at 7–14 days with streptozocin.
- GI Toxicities: Nausea and vomiting occur in up to 90% of patients and are moderate to severe. Mucositis and diarrhea can be severe and dose limiting.
- Skin: Vesicants cause tissue necrosis if extravasated. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Blood Glucose Levels: Hypoglycemia (20%) or hyperglycemia may occur.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Hemolytic-uremic Syndrome: Hematocrit < 25%, platelets < 100K, and renal failure (serum creatinine > 1.6 mg/dL). Rare event (< 2%). Hydrate with 1–2 liters of fluid.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- loperamide (Imodium)
- diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule:
Chair time 3 hours on days 1, 8, 29, and 36. Repeat every 72 days until disease progression.
Estimated number of visits:
Four visits per treatment course.

Dose Calculation by:
1. __________________________________ 2. ____________________________________________
_____________________________________________ ______________________________________________________
Physician Date
_____________________________________________ ______________________________________________________
Patient Name ID Number
_____________________________________________ ________________/ ________________/ ________________
Diagnosis Ht Wt M ²
Single-Agent Regimens

**Gemcitabine**

**Baseline laboratory tests:** CBC, Chemistry panel, LFTs
**Baseline procedures or tests:** N/A
**Initiate IV:** 0.9% sodium chloride
**Premedicate:** Oral phenothiazine
OR
5-HT₃ and dexamethasone 10 mg in 100 cc of NS

**Administer:** Gemcitabine ________ mg (1000 mg/m²) IV over 30 minutes weekly for 7 days, then 1-week rest.

Subsequent cycles:
Gemcitabine ________ mg (1000 mg/m²) IV weekly for 3 weeks with 1-week rest. Repeat 3 week cycle every 28 days
- Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable for 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

**Major Side Effects**

- Infusion Reactions: Characterized by flushing, facial swelling, headache, dyspnea and/or hypotension. Usually related to rate of infusion and resolves with discontinuation of infusion.
- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grades 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.
- GI Symptoms: Mild to moderate nausea and vomiting (70%), diarrhea, and/or mucositis (15%–20%).
- Flulike Syndrome (20%) with fever in absence of infection 6–12 hours after treatment (40%).
- Hepatic: Elevation of serum transaminase and bilirubin levels.
- Pulmonary Toxicities: Mild dyspnea or drug induced pneumonitis may occur.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour. (See schedules above.)

**Estimated number of visits:** Weekly. Request 2–3 months worth of visits.

**Dose Calculation by:**
1. __________________________________
2. __________________________________

_________________________  ______________________
Physician Date

_________________________  ______________________
Patient Name ID Number

_________________________  ______________________
Diagnosis Ht Wt M²
Pancreatic Cancer

**Capecitabine (Xeloda)**

**Baseline laboratory tests:** CBC, Chemistry, bilirubin, LFTs, and CEA

**Baseline procedures or tests:** N/A

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT3

**Administer:** Capecitabine _________ mg (1250 mg/m²) PO bid on days 1–14
  - Available in 150- and 500-mg tablets. Do not cut tablets.
  - Administer within 30 minutes of a meal with plenty of water.
  - Monitor INRs closely in patients taking warfarin; may increase INR

**Major Side Effects**

- GI Toxicities: Nausea and vomiting, in 30%–50% of patients, is usually mild to moderate. Diarrhea occurs in up to 40%, with 15% being grade 3–4. Stomatitis is common, 3% of which is severe.
- Bone Marrow Suppression: Less than 5-FU.
- Renal Insufficiency: Contraindicated in patients with creatinine clearance < 30 mL/min, CrCl 30–50 mL/min at baseline should have dose reduction to 75% of total dose.
- Skin: Hand-foot syndrome (palmar-planter erythrodysesthesia) seen in 15%–20% of patients. Characterized by tingling, numbness, pain, erythema, dryness, rash, swelling, increased pigmentation, and/or pruritus of the hands and feet. Less frequent in reduced doses.
- Ocular: Blepharitis, tear-duct stenosis, acute and chronic conjunctivitis.
- Hepatic: Elevations in serum bilirubin (20%–40%), alkaline phosphatase, and hepatic transaminase (SGOT, SGPT) levels. Dose modifications may be required if hyperbilirubinemia occurs.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- loperamide (Imodium)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** No chair time, treatment days 1–14. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle.

**Dose Calculation by:**

1. ___________________________ 2. ___________________________

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<th>Physician</th>
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<tr>
<td>Patient Name</td>
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Diagnosis

Ht  Wt  M²
## Combination Regimens

<table>
<thead>
<tr>
<th>Flutamide + Leuprolide(^{1,367})</th>
<th>586</th>
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<tbody>
<tr>
<td>Flutamide: 250-mg PO tid</td>
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<tr>
<td>Leuprolide: 7.5-mg IM every 28 days or 22.5-mg IM every 12 weeks</td>
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<table>
<thead>
<tr>
<th>Flutamide + Goserelin(^{1,368})</th>
<th>587</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flutamide: 250-mg PO tid</td>
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</tr>
<tr>
<td>Goserelin: 10.8-mg SC every 12 weeks</td>
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<tr>
<th>Estramustine + Etoposide</th>
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<tbody>
<tr>
<td>Estramustine: 15-mg/kg/day PO in four divided doses on days 1–21</td>
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<tr>
<td>Etoposide: 50-mg/m(^2)/day PO in two divided doses on days 1–21</td>
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<tr>
<td>Repeat cycle every 28 days(^{1,369})</td>
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<tr>
<th>Estramustine + Vinblastine</th>
<th>589</th>
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<tbody>
<tr>
<td>Estramustine: 600-mg/m(^2) PO daily on days 1–42</td>
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<tr>
<td>Vinblastine: 4-mg/m(^2) IV weekly for 6 weeks</td>
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<tr>
<td>Repeat cycle every 8 weeks(^{1,370})</td>
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<thead>
<tr>
<th>Paclitaxel + Estramustine</th>
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<tbody>
<tr>
<td>Paclitaxel: 120-mg/m(^2) IV continuous infusion on days 1–4</td>
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<tr>
<td>Estramustine: 600-mg/m(^2) PO daily, starting 24 hours before paclitaxel therapy</td>
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<tr>
<td>Repeat cycle every 21 days(^{1,371})</td>
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<tr>
<th>Mitoxantrone + Prednisone</th>
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<tbody>
<tr>
<td>Mitoxantrone: 12-mg/m(^2) IV on day 1</td>
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<tr>
<td>Prednisone: 5-mg PO bid daily</td>
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<tr>
<td>Repeat cycle every 21 days(^{1,372})</td>
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</table>
Docetaxel

Docetaxel: 35-mg/m² IV on day 2 of weeks 1 and 2
Estramustine: 420-mg PO for the first four doses and 280-mg PO for the next five doses on days 1–3 of weeks 1 and 2
Repeat cycle every 21 days.¹,³⁷³
Dexamethasone (Decadron) 4-mg PO bid on days 1–3 of weeks 1 and 2.

Docetaxel + Estramustine

Docetaxel + Prednisone

Docetaxel: 75-mg/m² IV on day
Prednisone: 5-mg PO daily
Repeat cycle every 21 days for up to a total of 10 cycles.¹,³⁷⁴

Single-Agent Regimens

Paclitaxel

Paclitaxel: 135–170 mg/m² IV as a 24-hour infusion on day 1
Repeat cycle every 3 weeks.¹,³⁷⁵
OR
Paclitaxel: 150-mg/m² IV as a 1-hour infusion weekly for 6 weeks
Repeat cycle every 8 weeks.¹,³⁷⁶

Docetaxel

Docetaxel: 75-mg/m² IV on day 1
Repeat cycle every 21 days.¹,³⁷⁷
OR
Docetaxel: 20–40 mg/m² weekly for 3 weeks
Repeat cycle every 4 weeks.¹,³⁷⁷

Estramustine

Estramustine: 14-mg/kg/day PO in three to four divided doses¹,³⁷⁸

Goserelin (Zoladex)

Goserelin: 3.6-mg SC on day 1; repeat cycle every 28 days.¹,³⁷⁹
OR
Goserelin: 10.8-mg SC on day 1; repeat cycle every 12 weeks.¹,³⁷⁹

Leuprolide (Lupron)

Leuprolide: 7.5-mg IM on day 1; repeat cycle every 28 days.¹,³⁸⁰
OR
Leuprolide: 22.5-mg IM on day 1; repeat cycle every 12 weeks.¹¹,³⁸¹
<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose Details</th>
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<tbody>
<tr>
<td>Bicalutamide</td>
<td>50-mg PO bid. In patients who do not respond to other antiandrogen agents, may start with a higher dose of 150-mg PO daily.</td>
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<tr>
<td>Flutamide</td>
<td>250-mg PO tid.</td>
</tr>
<tr>
<td>Nilutamide</td>
<td>300-mg PO on days 1–30; then 150-mg PO daily.</td>
</tr>
<tr>
<td>Prednisone</td>
<td>5-mg PO bid.</td>
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<tr>
<td>Ketoconazole</td>
<td>1200-mg PO daily.</td>
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<tr>
<td>Aminoglutethimide</td>
<td>250-mg PO qid; if tolerated, may increase to 500-mg PO qid.</td>
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</table>
Combination Regimens

**Flutamide + Leuprolide**

**Baseline laboratory tests:** CBC, Chemistry, LFTs, and prostate-specific antigen (PSA)

**Baseline procedures or tests:** None

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT$_3$ if nausea occurs

**Administer:**

- **Flutamide** 250-mg PO tid (three times per day)
  - Available in 125-mg capsules for oral use
  - Monitor patients taking warfarin carefully; increased anticoagulant effect may occur.

- **Leuprolide** 7.5-mg IM every 28 days or 22.5-mg IM every 12 weeks
  - Use syringes, diluent, kit provided by manufacturer.

**Major Side Effects**

- GI Toxicities: Nausea and vomiting occur in 10% of patients. Diarrhea occurs in 10% of patients, and if it is severe, flutamide may need to be discontinued.

- Sexual Function: Decreased libido and impotence in 33% of patients. Gynecomastia occurs in 10% of patients.

- Tumor Flare: May occur in up to 20% of patients, usually within the first 2 weeks of starting therapy. May observe increased bone pain, urinary retention, or back pain with spinal cord compression. May be prevented by pretreating with an antiandrogen agent such as flutamide. High-risk patients (those with painful bone metastases or those with impending ureteral obstruction and/or spinal cord compression) start flutamide at least 2 weeks before starting leuprolide.

- Hot Flashes: Occur in 60% of patients. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention.

- Hepatic Toxicity: Transient elevations in serum transaminase levels are rare but may necessitate discontinuation of therapy.

- Renal: Use with caution in patients with abnormal renal function. Leuprolide can increase BUN and creatinine levels. Peripheral edema secondary to sodium retention.

- Lab Values: Elevated serum cholesterol levels.

- GU Effects: Yellow-green discoloration of urine with flutamide.

- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Treatment schedule:** Office visits every 4 or 12 weeks for leuprolide injections

**Estimated number of visits:** Monthly while taking treatment

**Dose Calculation by:** 1. __________________________ 2. __________________________

**Physician Name**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht: __________  Wt: __________  M$^2$: __________
<table>
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<tr>
<th>Flutamide + Goserelin</th>
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<td><strong>Baseline laboratory tests:</strong></td>
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<td><strong>Baseline procedures or tests:</strong></td>
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<tr>
<td><strong>Initiate IV:</strong></td>
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<tr>
<td><strong>Premedicate:</strong></td>
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</table>
| **Administer:** | **Flutamide** 250-mg PO tid (three times per day)  
- Available in 125-mg capsules for oral use.  
- Monitor patients taking warfarin carefully. Increased anticoagulant effect may occur.  
| **Goserelin** 10.8-mg SQ every 12 weeks  
- Inject into upper abdomen parallel to the abdominal wall.  
- May use lidocaine before injection if ordered. |
| **Major Side Effects** |
| • GI Toxicities: Nausea and vomiting occur in 10% of patients. Diarrhea occurs in 10% of patients, and if it is severe, flutamide may need to be discontinued. |
| • Sexual Function: Decreased libido and impotence in 33% of patients. Gynecomastia occurs in 10% of patients. |
| • Tumor Flare: May occur in up to 20% of patients, usually within the first 2 weeks of starting therapy. May observe increased bone pain, urinary retention, or back pain with spinal cord compression. May be prevented by pretreating with an antiandrogen agent, such as flutamide. High-risk patients (those with painful bone metastases or those with impending ureteral obstruction and/or spinal cord compression) should start flutamide at least 2 weeks before starting leuprolide. |
| • Hot Flashes: Occur in 50% of patients. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention. |
| • Hepatic Toxicity: Transient elevations in serum transaminases are rare but may necessitate discontinuation of therapy. |
| • Renal: Use with caution in patients with abnormal renal function. Leuprolide can increase BUN and creatinine levels. |
| • Laboratory Values: Elevated serum cholesterol levels. |
| • Genitourinary Effects: Yellow-green discoloration of urine with flutamide. |

| Initiate antiemetic protocol: | Mildly emetogenic protocol. |
| Supportive drugs: | ☐ loperamide (Imodium) ☐ diphenoxylate/atropine sulfate (Lomotil) |
| **Treatment schedule:** | Office visits every 12 weeks for leuprolide injections |
| **Estimated number of visits:** | Monthly during treatment. |

<table>
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<th>Dose Calculation by:</th>
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**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

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Estramustine + Etoposide

Baseline laboratory tests: CBC, Chemistry, LFTs, and PSA

Baseline procedures or tests: None

Initiate IV: N/A

Premedicate: Oral phenothiazine or 5-HT3.

Administer:

**Estramustine** ________ mg (15 mg/kg/day) PO in four divided doses on days 1–21
- Available in 140-mg capsules.
- Store in refrigerator, may be stored at room temperature for 24–48 hours.
- Take at least 1 hour before or 2 hours after meals.
- Milk products and calcium-rich foods may impair absorption of drug.
- Contraindicated in patients with thrombophlebitis or thromboembolic disorder.

**Etoposide** ________ mg (50 mg/m²/day) PO in two divided doses on days 1–21
- Available in 50- or 100-mg capsules for oral use.
- Store capsules in refrigerator.
- Monitor patients on warfarin closely, may prolong PT/INR.

**Major Side Effects**

- GI Toxicities: Nausea and vomiting occur within 2 hours of ingestion; are usually mild to moderate. Intractable vomiting may occur after prolonged therapy (6–8 weeks). Diarrhea occurs in 10%–25% of patients.
- Sexual Function: Gynecomastia occurs in 50% of patients. Breast tenderness may occur.
- Myelosuppression: Nadir 10–14 days after treatment. Dose-limiting toxicity with leukopenia more common than thrombocytopenia.
- Hot Flashes: Occur in 60% of patients. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention.
- Hepatic Toxicity: Mild abnormalities in liver function test results may occur (elevations in lactate dehydrogenase, SGOT, bilirubin levels) with or without jaundice but are usually self-limiting.
- Renal Toxicity: Use with caution in patients with abnormal renal function; dose reduction recommended. Renal status should be closely monitored during therapy.
- Skin: Rash, pruritus, dry skin, peeling skin of fingertips, thinning hair, and night sweats.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**
- ☐ pegfilgrastim (Neulasta)
- ☐ filgrastim (Neupogen)
- ☐ loperamide (Imodium)
- ☐ epoetin alfa (Procrit)
- ☐ darbepoetin alfa (Aranesp)
- ☐ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Office visits weekly for CBC. Repeat cycle every 28 days.

**Estimated number of visits:** Four visits per cycle. Request three cycles worth.

**Dose Calculation by:** 1. ___________________________ 2. ___________________________

**Physician** ________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________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Estramustine + Vinblastine

Baseline laboratory tests: CBC, Chemistry, LFTs, and PSA
Baseline procedures or tests: None
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT3.
Administer: Estramustine ________ mg (600 mg/m²) PO daily on days 1–42
• Available in 140-mg capsules.
• Store in refrigerator; may be stored at room temperature for 24–48 hours.
• Take at least 1 hour before or 2 hours after meals.
• Milk products and calcium-rich foods may impair absorption of drug.
• Contraindicated in patients with thrombophlebitis or thromboembolic disorder
Vinblastine ________ mg (4 mg/m²) IV weekly for 6 weeks
• Vesicant
• Available in 10-mg vials for IV use.
• Reduces blood levels of phenytoin; monitor patients for therapeutic dosing.

Major Side Effects
• GI Toxicities: Nausea and vomiting occur within 2 hours of ingestion; are usually mild. Intractable vomiting may occur after prolonged therapy (6–8 weeks). Diarrhea occurs in 15%–25% of patients. However, abdominal pain, constipation, or adynamic ileus may occur. Stomatitis is uncommon but can be severe.
• Sexual Function: Gynecomastia occurs in 50% of patients. Breast tenderness may occur.
• Myelosuppression: Nadir 4–10 days after treatment. Neutrophils greatly affected. Thrombocytopenia may be severe in patients who have undergone prior XRT or chemotherapy.
• Cardiovascular: CHF, cardiac ischemia, and thromboembolism have occurred but are rare.
• Hepatic Toxicity: Contraindicated in patients with severe liver disease. Dose reduction may be necessary in the presence of hepatic failure.
• Skin: Rash, pruritus, dry skin, peeling skin of fingertips, and night sweats. Alopecia is mild and reversible in 45%–50% of patients.
• Reproductive: Likely to cause azoospermia. Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ loperamide (Imodium) □ epoetin alfa (Procrit)
□ darbepoetin alfa (Aranesp) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour weekly for 6 weeks. Repeat cycle every 8 weeks.
Estimated number of visits: Weekly. Request three cycles worth.

Dose Calculation by: 1. __________________________________ 2. ___________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
Physician ___________________________ Date ___________________________
Patient Name ______________________ ID Number ______________________
_____________________________ / _______________ / _______________
Diagnosis Ht Wt M²
Paclitaxel + Estramustine

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$) and PSA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
AND
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS before paclitaxel day 1
Oral phenothiazine or 5-HT$_3$ before estramustine on subsequent days
Administer: Paclitaxel ________ mg (120 mg/m$^2$) IV continuous infusion days 1–4
• Available in 30- and 300-mg (6 mg/mL) and 100-mg (16.7 mg/mL) vials.
• Final concentration is $\leq$ 1.2 mg/mL.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.
Estramustine ________ mg (600 mg/m$^2$) PO daily; start 24 hours before paclitaxel
• Available in 140-mg capsules.
• Store in refrigerator; may be stored at room temperature for 24–48 hours
• Take at least 1 hour before or 2 hours after meals.
• Milk products and calcium-rich foods may impair absorption of drug.

Major Side Effects
• Hypersensitivity Reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• GI Toxicities: Nausea and vomiting occur within 2 hours of ingestion; usually mild to moderate. Intractable vomiting may occur after prolonged therapy. Diarrhea occurs in 15%–25% of patients.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 15–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias in classic “stocking and glove” distribution. Proprioception, vibrating sense, and motor function loss may occur. More frequent with longer infusions and at doses $>175$ mg/m$^2$.
• Sexual Function: Gynecomastia occurs in 50% of patients. Breast tenderness.
• Hepatic toxicity: Mild abnormalities (elevations) in LFT results with or without jaundice.
• Skin: Alopecia in nearly all patients. Rash, pruritus, dry skin, peeling skin of fingertips, and night sweats.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
□ loperamide (Imodium) □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 2 hours. Repeat every 21 days as tolerated or until disease progression.
Estimated number of visits: Three visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

Physician Date

Patient Name ID Number

__________________________________________ ________________________________
Diagnosis Ht Wt M$^2$
# Mitoxantrone + Prednisone

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry, LFTs, and PSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>MUGA scan</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>N/A</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT&lt;sub&gt;3&lt;/sub&gt; if nausea occurs</td>
</tr>
<tr>
<td>Administer:</td>
<td>Mitoxantrone __________ mg (12 mg/m&lt;sup&gt;2&lt;/sup&gt;) IV on day 1</td>
</tr>
<tr>
<td>•</td>
<td>Vesicant</td>
</tr>
<tr>
<td>•</td>
<td>Available as a dark blue solution in multidose 2-mg/mL vials.</td>
</tr>
<tr>
<td>•</td>
<td>Store at room temperature; precipitate forms when refrigerated. Precipitate can be dissolved when vial is warmed to room temperature.</td>
</tr>
<tr>
<td>•</td>
<td>May be diluted in at least 50 mL of D5W or 0.9% sodium chloride</td>
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<tr>
<td>•</td>
<td>Solution is stable at room temperature for at least 48 hours.</td>
</tr>
<tr>
<td>Prednisone</td>
<td>5-mg PO bid daily</td>
</tr>
<tr>
<td>•</td>
<td>Available in 5-mg tablet.</td>
</tr>
<tr>
<td>•</td>
<td>Administer with meals or an antacid.</td>
</tr>
</tbody>
</table>

## Major Side Effects
- Bone Marrow Suppression: Myelosuppression is a dose-limiting toxicity. Nadir at 10–14 days; greater in elderly or pretreated patients.
- GI Toxicities: Gastric irritation. May increase appetite and cause weight gain. Nausea and vomiting frequent, usually mild. Mucositis and diarrhea common, not severe. Use with caution in patients with abnormal liver function. Dose modification should be considered for mitoxantrone.
- Infection: Increased susceptibility to infections; may mask infections.
- Cardiotoxicity: Cardiomyopathy in cumulative doses greater than 140 mg/m<sup>2</sup> similar to but less severe than those of doxorubicin.
- Fluid/electrolyte Imbalance: CHF, hypertension, and edema. Hypokalemia and hypocalcemia may occur because of increased excretion of potassium and calcium.
- Musculoskeletal: Osteoporosis, loss of muscle mass, muscle weakness, tendon rupture, pathological fractures, and aseptic necrosis of the heads of the humerus and femur can occur. However, usually occurs with long-term, high-dose therapy.
- Adrenal: Rapid cessation of therapy leads to adrenal insufficiency.
- Optic Toxicities: Cataracts or glaucoma may develop with prolonged use.
- Behavioral: Emotional lability, insomnia, mood swings, euphoria, and psychosis
- Skin: Tissue necrosis with extravasation. Alopecia observed in 40% of patients. Blue discoloration of fingernails, sclera, and urine for 1–2 days after treatment.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.

Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ loperamide (Imodium)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule:
Chair time 1 hour on day 1. Repeat cycle every 21 days.

Estimated number of visits:
Two visits per cycle. Request four cycles worth of visits. Note: Need weekly CBCs.

Dose Calculation by:
1. __________________________ 2. __________________________

______________________________ ______________________________
Physician Date

______________________________ ______________________________
Patient Name ID Number

______________________________ ______________________________
Diagnosis Ht Wt M<sup>2</sup>
Docetaxel + Estramustine

Baseline laboratory tests:
CBC: Chemistry (including Mg$^{2+}$) and PSA
Baseline procedures or tests:
N/A
Initiate IV:
0.9% sodium chloride
Premedicate:
Dexamethasone 4-mg PO bid on days 1–3 of weeks 1 and 2
Oral phenothiazine or 5-HT$_3$ days 1–3 of weeks 1 and 2
Administer:
Docetaxel ________ mg (35 mg/m$^2$) IV on day 2 of weeks 1 and 2
• Comes in 20 or 80 mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or if refrigerated for 8 hours.
• Further dilute in 250 cc of D5W or 0.9% sodium chloride.
• Use non-PVC containers and tubing to administer
Estramustine PO tid (three times per day) on days 1–3 weeks 1 and 2 (420 mg first four doses, 280 mg next five doses)
• Available in 140-mg capsules.
• Store in refrigerator; may be stored at room temperature for 24–48 hours.
• Take at least 1 hour before or 2 hours after meals.
• Milk products and calcium-rich foods may impair absorption of drug.

Major Side Effects
• Hypersensitivity Reactions: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Characterized by generalized skin rash, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs in the first 10 minutes of infusion with first or second treatment. Treat with hydrocortisone IV, dipheahydrum 50 mg IV and/or cimetidine 300 mg IV. Premedication with dexamethasone recommended.
• Bone Marrow Depression: Neutropenia is dose limiting, with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia also occur.
• GI Toxicities: Nausea and vomiting occur within 2 hours of ingestion and are usually mild to moderate. Intractable vomiting may occur after prolonged therapy. Diarrhea occurs in 15%–25% of patients.
• Neuropathy: Peripheral neuropathy may affect up to 49% of patients. Sensory alterations are paresthesias in a glove and stocking distribution and numbness.
• Fluid Balance: Fluid retention syndrome. Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Occurs in about 50% of patients. Premedication with dexamethasone effective in preventing or minimizing occurrences.
• Sexual Function: Gynecomastia occurs in 50% of patients. Breast tenderness.
• Hepatic Toxicity: Mild abnormalities (elevations) in LFT results may occur with or without jaundice.
• Laboratory Tests: Abnormal Ca$^{2+}$ and P levels may occur.
• Skin: Alopecia occurs in 80% of patients. Nail changes, rash, and dry, pruritic skin seen. Nail changes may include brown discoloration of nail beds, onycholysis (loss of nail) may occur. Keep nails clean, use tea tree oil and nail hardener. Lotromin if indicated. Hand-foot syndrome has also been reported.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
□ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)  □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time hour on day 2 weeks 1 and 2. Repeat cycle every 21 days.
Estimated number of visits: Three visits per cycle. Request four cycles worth of visits.
Dose Calculation by: 1. ______________________________  2. ______________________________

Physician

Date

Patient Name

ID Number

_________________________/ __________________________/ ____________
Ht  Wt  M^2

Diagnosis: Prostate Cancer 593
Prostate Cancer

Docetaxel + Prednisone

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\)) and PSA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) or oral phenothiazine
Administer: Docetaxel ________ 75 mg/m\(^2\) IV on day 1

Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature, refrigerated for 8 hours
• Further dilute in 250 cc of D5W or 0.9% sodium chloride.
• Use non-PVC containers and tubing to administer.

Prednisone 5-mg PO bid
• Available in 5-mg tablet.
• Administer with meals or an antacid.

Major Side Effects

• GI Toxicities: Gastric irritation due to increased secretion of hydrochloric acid and decreased secretion of protective gastric mucus. May increase appetite and cause weight gain.
• Infection: Steroids increase susceptibility to infections and tuberculosis, may mask or aggravate infection, and may prolong or delay healing of injuries.
• Fluid/electrolyte Imbalance: Sodium and water retention may occur and lead to CHF, hypertension, and edema in susceptible patients. Hypokalemia and hypocalcemia may occur because of increased excretion of potassium and calcium.
• Fluid Retention Syndrome: Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Occurs in about 50% of patients. Concurrent administration with oral prednisone in this protocol may be effective in preventing or minimizing occurrences.
• Musculoskeletal: Osteoporosis may occur with long-term use. Loss of muscle mass, muscle weakness (steroid myopathy), tendon rupture, pathological fractures, and aseptic necrosis of the heads of the humerus and femur can occur. However, usually occurs with long-term, high-dose therapy.
• Adrenal: Long-term therapy leads to suppression of normal adrenal function. Rapid cessation of therapy leads to adrenal insufficiency.
• Optic Toxicities: Cataracts or glaucoma may develop with prolonged use. Risk of ocular infections from virus or fungi is increased.
• Behavioral: Emotional lability, insomnia, mood swings, euphoria, and psychosis may occur, causing ineffective coping and role-relationship problems.
• Hypersensitivity Reactions: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Characterized by generalized skin rash, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs in the first 10 minutes of infusion with first or second treatment. Treat with hydrocortisone IV, dipheahydrum 50 mg IV and/or cimetidine 300 mg IV. Premedication with dexamethasone recommended.
• Bone Marrow Depression: Neutropenia is dose-limiting, with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia also occur.
• GI Toxicities: Nausea and vomiting are mild to moderate. Mucositis and diarrhea occur in 40% of patients.
• Neuropathy: Peripheral neuropathy may affect up to 49% of patients. Sensory alterations are paresthesias in a glove and stocking distribution and numbness.
• Skin: Alopecia occurs in 80% of patients. Nail changes, rash, and dry, pruritic skin seen. Nail changes may include brown discoloration of nail beds, onycholysis (loss of nail) may occur. Keep nails clean, use tea tree oil and nail hardener. Lotromin if indicated. Hand-foot syndrome has also been reported.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days OR every 4 weeks.
Estimated number of visits: Weekly. Request three cycles worth of visits.

Dose Calculation by: 1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ____________________________ Ht __________ Wt __________ M^2 __________
Single-Agent Regimens

Paclitaxel

Baseline laboratory tests: CBC: Chemistry (including Mg$^{2+}$) and PSA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
Diphenhydramine 25–50 mg and cimetidine 300 mg in 100 cc of NS
Administer: Paclitaxel _________ mg (135–170 mg/m$^2$) IV over 24 hours on day 1 every 3 weeks
• Available in 30- and 300-mg (6 mg/mL) or 100-mg (16.7 mg/mL) vials.
• Final concentration is $\leq$ 1.2 mg/mL.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.
OR
Paclitaxel _________ mg (150 mg/m$^2$) IV over 1 hour on day 1 weekly for 6 weeks
• Available in 30- and 300-mg (6 mg/mL) or 100-mg (16.7 mg/mL) vials.
• Final concentration is $\leq$ 1.2 mg/mL.
• Use non-PVC containers and tubing with 0.22-micron inline filter for administration.

Major Side Effects
• Hypersensitivity reaction: Occurs in 20%–40% of patients. Characterized by generalized skin rash, flushing, erythema, hypotension, dyspnea, and/or bronchospasm. Usually occurs within the first 2–3 minutes of infusion and almost always within the first 10 minutes. Premedicate as described.
• Bone Marrow Depression: Dose-limiting neutropenia with nadir at days 8–10 and recovery by days 13–21. Decreased incidence of neutropenia with 3-hour schedule when compared with 24-hour schedule. G-CSF support recommended.
• Neurotoxicity: Severe neuropathy with numbness and tingling in classic “stocking and glove” distribution. Proprioception, vibrating sense, and motor function loss can occur. Increased risk with cumulative dosing and longer infusions.
• GI Toxicity: Mucositis and/or diarrhea seen in 30–40% of patients. Nausea and vomiting is mild to moderate.
• Alopecia: Total loss of body hair occurs in nearly all patients.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 2 hours. Repeat every 21 days as tolerated or every 8 weeks for hourly dosing until disease progression
Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________ 2. __________________________

_____________________________________________ ______________________________________________________
Physician Date

_____________________________________________ ________________/ ________________/ ________________
Patient Name ID Number

_____________________________________________ ______________________________________________________
Diagnosis          Ht          Wt          M$^2$
Docetaxel

Baseline laboratory tests: CBC: Chemistry (including Mg^{2+}) and PSA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: Dexamethasone 8-mg bid for 3 days, starting the day before treatment
Oral phenothiazine or 5-HT₃
Administer: Docetaxel ________ mg (75 mg/m²) IV on day 1 every 21 days
OR
Docetaxel ________ mg (20–40 mg/m²) IV weekly × 3 weeks, repeat every 4 weeks

• Comes in 20- or 80-mg blister packs with own diluent. Do not shake. Reconstituted vials stable at room temperature or if refrigerated for 8 hours
• Further dilute in 250 cc of D5W or 0.9% sodium chloride.
• Use non-PVC containers and tubing to administer.

Major Side Effects
• Hypersensitivity: Severe hypersensitivity reactions with docetaxel in 2%–3% of patients. Characterized by skin rash, erythema, hypotension, dyspnea and/or bronchospasm. Usually occurs within first 2–3 minutes, usually after first dose. May be prevented with premedication with steroid and addition of diphenhydramine 50 mg IV and/or cimetidine 300 mg. IV. Premedication with dexamethasone recommended.
• Bone Marrow Depression: Neutropenia is dose-limiting, with nadir at days 7–10 and recovery by day 14. Thrombocytopenia and anemia also occur.
• GI Toxicities: Nausea and vomiting are mild to moderate. Mucositis and diarrhea occur in 40% of patients.
• Neuropathy: Peripheral neuropathy may affect up to 49% of patients. Sensory alterations are paresthesias in a glove and stocking distribution and numbness. Risk increases with cumulative doses.
• Fluid Balance: Fluid retention syndrome. Symptoms include weight gain, peripheral and/or generalized edema, pleural effusion, and ascites. Occurs in about 50% of patients. Premedication with dexamethasone effective in preventing or minimizing occurrences.
• Skin: Pruritic rash and nail changes. Nail changes may include brown discoloration of nail beds and/or onycholysis (loss of nail). Keep nails clean. Use nail hardeners and tea tree oil. Lotrimin if indicated.
• Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)

Treatment schedule: Chair time 2 hours on day 1. Repeat cycle every 21 days OR every 4 weeks.
Estimated number of visits: Two OR four visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________
Physician Date

_____________________________________________ ________________/ ________________/ ________________
Patient Name ID Number

_____________________________________________ ______________________________________________________
Diagnosis Ht Wt M²
**Estramustine**

**Baseline laboratory tests:** CBC, Chemistry, LFTs, and PSA

**Baseline procedures or tests:** None

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT₃.

**Administer:** Estramustine _________ mg (14 mg/kg/day) PO in three to four divided doses

- Available in 140-mg capsules.
- Store in refrigerator; may be stored at room temperature for 24–48 hours.
- Take at least 1 hour before or 2 hours after meals.
- Milk products and calcium-rich foods may impair absorption of drug.
- Contraindicated in patients with thrombophlebitis or thromboembolic disorder

**Major Side Effects**

- GI Toxicities: Nausea and vomiting occur within 2 hours of ingestion; are usually mild to moderate. Intractable vomiting may occur after prolonged therapy (6–8 weeks). Diarrhea occurs in 15%–25% of patients.
- Sexual Function: Gynecomastia occurs in 50% of patients. Breast tenderness.
- Myelosuppression: Rare.
- Hepatic Toxicity: Mild abnormalities in liver function tests may occur (elevations in lactate dehydrogenase, SGOT, bilirubin levels) with or without jaundice, but are usually self-limiting.
- Laboratory Values: Abnormal Ca and P levels may occur.
- Skin: Rash, pruritus, dry skin, peeling skin of fingertips, thinning hair, and night sweats.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- loperamide (Imodium)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Office visits every 1–2 weeks for evaluation by physician.

**Estimated number of visits:** Two visits per month. Request 3 months worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

**Physician**

______________________________ **Date**

**Patient Name**

______________________________ **ID Number**

______________________________

**Diagnosis**

Ht ___________ Wt ___________ M² ___________
Goserelin (Zoladex)

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and PSA
**Baseline procedures or tests:** None
**Initiate IV:** N/A
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs
**Administer:**
- **Goserelin** 3.6-mg SC every 28 days
- OR
  - **Goserelin** 10.8-mg SQ every 12 weeks
    - Inject into upper abdomen parallel to the abdominal wall.
    - May use lidocaine before injection if ordered.

**Major Side Effects**
- GI Toxicities: Nausea and vomiting rarely occur and are usually mild. Constipation or diarrhea occurs in < 5% of patients.
- Sexual Function: Decreased libido and impotence in 33% of patients. Gynecomastia occurs in 10% of patients.
- Tumor Flare: May occur in up to 20% of patients, usually within the first 2 weeks of start of therapy. May observe increased bone pain, urinary retention, or back pain with spinal cord compression. May be prevented by pretreating with an antiandrogen agent. High-risk patients (those with painful bone metastases or those with impending ureteral obstruction and/or spinal cord compression) should start antiandrogen therapy at least 2 weeks before starting drug.
- Hot Flashes: Occur in 50% of patients. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention.
- Hepatic Toxicity: Transient elevations in serum transaminases are rare but may necessitate discontinuation of therapy.
- Laboratory Values: Elevated serum cholesterol levels.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly emetogenic protocol.
**Supportive drugs:**
- loperamide (Imodium)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**
Office visits every 28 days OR every 12 weeks for injections.

**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:**
1. __________________________________ 2. ____________________________________________

[Signature]

Patient Name

ID Number

Diagnosis

Ht | Wt | M²
Leuprolide (lupron)

Baseline laboratory tests: CBC: Chemistry, LFTs, and PSA
Baseline procedures or tests: None
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT₃ if nausea occurs
Administer: Leuprolide 7.5-mg IM every 28 days
OR
Leuprolide 22.5-mg IM every 12 weeks
• Use syringes, diluent, kit provided by manufacturer

Major Side Effects
• GI Toxicities: Nausea and vomiting rarely observed
• Sexual function: Decreased libido and impotence. Gynecomastia occurs in 3%-6.9% of patients.
• Tumor Flare: May occur in up to 20% of patients, usually within the first 2 weeks of start of therapy. May observe increased bone pain, urinary retention, or back pain with spinal cord compression. May be prevented by pretreating with an antiandrogen agent. High-risk patients (those with painful bone metastases or those with impending ureteral obstruction and/or spinal cord compression) should start antiandrogen therapy at least 2 weeks before starting leuprolide.
• Hot Flashes: Occur in 67.9% of patients. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention.
• Myelosuppression: Rare
• Renal: Use with caution in patients with abnormal renal function. Leuprolide can increase BUN and creatinine levels.
• Laboratory Values: Elevated serum cholesterol levels.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
☐ loperamide (Imodium) ☐ epoetin alfa (Procrit)
☐ darbepoetin alfa (Aranesp) ☐ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Office visits every 4 or 12 weeks for leuprolide injections.
Estimated number of visits: Monthly during treatment.

Dose Calculation by: 1. ____________________________ 2. ____________________________

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________________________

Diagnosis ____________________________ Ht / Wt / M²
**Bicalutamide**

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and PSA  
**Baseline procedures or tests:** None  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs  
**Administer:** Bicalutamide 50-mg PO bid  
- In patients who do not respond to other antiandrogen agents, may start with a higher dose of 150-mg PO daily.  
- Available as a 50-mg white, film-coated tablet for oral use.  
- Monitor patients taking warfarin carefully; can increase anticoagulant effect.

**Major Side Effects**  
- **GI Toxicities:** Nausea, vomiting, and diarrhea are rarely observed. Constipation observed in 10% of patients.  
- **Sexual Function:** Decreased libido, impotence, gynecomastia, nipple pain, and galactorrhea occur in 50% of patients.  
- **Hot Flashes:** Occur in 67.9% of patients. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention.  
- **Myelosuppression:** Rare.  
- **Hepatic:** Use with caution in patients with abnormal liver function. Monitor LF at baseline and throughout treatment.  
- **Renal:** No dose modification needed for renal dysfunction.  
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**  
- loperamide (Imodium)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Daily until disease progression.

**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:**  
1.  
2.  

Physician:  
Date:  

Patient Name:  
ID Number:  

Diagnosis:  
Ht:  
Wt:  
M²:  

Prostate Cancer
### Flutamide

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and PSA  
**Baseline procedures or tests:** None  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃  
**Administer:** Flutamide 250-mg PO tid (three times per day)  
- Available in 125-mg capsules for oral use.  
- Use with caution in patients taking warfarin; may increase anticoagulation effect.

**Major Side Effects**  
- **GI Toxicities:** Nausea, vomiting, and diarrhea observed in 10% of patients. If severe diarrhea occurs, flutamide may need to be discontinued.  
- **Sexual Function:** Decreased libido and impotence in 33% of patients. Gynecomastia occurs in 10% of patients.  
- **Hot Flashes:** Occur in 60% of patients. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention.  
- **Myelosuppression:** Rare  
- **Hepatic:** Transient elevations in serum transaminase levels are rare but may necessitate discontinuation of therapy if levels are two to three times the upper limit of normal.  
- **Renal:** Increased BUN and creatinine levels. Yellow-green discoloration of urine.  
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- ☐ loperamide (Imodium)  
- ☐ epoetin alfa (Procrit)  
- ☐ darbepoetin alfa (Aranesp)  
- ☐ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** Daily until disease progression.  
**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:**  
1. ______________________________  
2. ______________________________

______________________________  ______________________________
Physician  Date

______________________________  ______________________________
Patient Name  ID Number

______________________________  ______________________________  ______________________________
Diagnosis  Ht  Wt  M²
Nilutamide

Baseline laboratory tests: CBC, Chemistry, LFTs, and PSA
Baseline procedures or tests: None
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT₃
Administer: Nilutamide 300-mg PO on days 1–30; then 150-mg PO daily
- Available in 50- and 150-mg tablets for oral use.
- Use with caution in patients taking warfarin; may cause increased anticoagulation effects.
- Treatment should begin the day of or the day after surgical castration.

Major Side Effects
- GI Toxicities: Nausea and anorexia occur infrequently. Constipation.
- Sexual Function: Decreased libido, impotence, gynecomastia, nipple pain, and galactorrhea
- Hot Flashes: Occur in 28% of patients and are the most common side effect. Clonidine 0.1–0.2 mg PO daily, megestrol acetate (Megace) 20-mg PO bid, or soy tablets 1 PO tid may be successful in treatment or prevention.
- Alcohol: Patients should be advised to abstain from alcohol while taking nilutamide because of increased risk of intolerance.
- Respiratory: Contraindicated in patients with severe respiratory insufficiency. Dyspnea is rare but is related to interstitial pneumonitis, a serious side effect of the drug. Pneumonitis usually observed within the first 3 months of treatment; incidence may be higher in patients of Asian descent.
- Vision: Impaired adaptation to dark, abnormal vision, and alterations in color vision occur in up to 57% of patients.
- Reproduction: Pregnancy category C.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- loperamide (Imodium)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)
- diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Daily until disease progression.
Estimated number of visits: Monthly during treatment.

Dose Calculation by:
1. ______________________________ 2. ______________________________

Physician ______________________________ Date ______________________________

Patient Name ______________________________ ID Number ______________________________

Diagnosis ______________________________ Ht __________ Wt __________ M² ________
**Prednisone**

**Baseline laboratory tests:** CBC, Chemistry, LFTs, and PSA  
**Baseline procedures or tests:** None  
**Initiate IV:** N/A  
**Premedicate:** N/A  
**Administer:** Prednisone 5-mg PO bid  
- Available in 5-mg tablet.  
- Administer with meals or an antacid.

**Major Side Effects**

- **GI Toxicities:** Gastric irritation due to increased secretion of hydrochloric acid and decreased secretion of protective gastric mucus. May increase appetite and cause weight gain.
- **Infection:** Steroids increase susceptibility to infections and tuberculosis, may mask or aggravate infection, and may prolong or delay healing of injuries.
- **Fluid/electrolyte Imbalance:** Sodium and water retention may occur and lead to CHF, hypertension, and edema in susceptible patients. Hypokalemia and hypocalcemia may occur because of increased excretion of potassium and calcium.
- **Musculoskeletal:** Osteoporosis may occur with long-term use. Loss of muscle mass, muscle weakness (steroid myopathy), tendon rupture, pathological fractures, and aseptic necrosis of the heads of the humerus and femur can occur. However, usually occurs with long-term, high-dose therapy.
- **Adrenal:** Long-term therapy leads to suppression of normal adrenal function. Rapid cessation of therapy leads to adrenal insufficiency.
- **Optic Toxicities:** Cataracts or glaucoma may develop with prolonged used. Risk of ocular infections from virus or fungi is increased.
- **Behavioral:** Emotional lability, insomnia, mood swings, euphoria, and psychosis may occur, causing ineffective coping and role-relationship problems.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- loperamide (Imodium)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** No chair time. Treatment daily as tolerated or until disease progression.  
**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:**  
1. __________________________  
2. __________________________

__________________________ Date

__________________________

__________________________

__________________________

**Patient Name** ID Number  
__________________________/__________________________/__________________________

**Diagnosis**  
Ht Wt M²
Ketoconazole

**Baseline laboratory tests:** CBC: Chemistry, LFTs, and PSA  
**Baseline procedures or tests:** None  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs  
**Administer:** **Ketoconazole** 1200-mg PO daily  
  • Store in tightly closed container at < 40°C (104°F).  
  • May take with meals to decrease GI side effects.  
  • Do not give antacids, cimetidine, ranitidine, famotidine, sucralfate, or other drugs that increase gastric pH for at least 2 hours after taking ketoconazole.

**Major Side Effects**  
• Sexual Function: Breast enlargement and tenderness may occur in some men, lasting weeks to duration of therapy. Oligospermia, azoospermia, decreased libido, and impotence may also occur.  
• GI Side Effects: Nausea and vomiting occur in 3%–10% of patients. Anorexia affects about 10% of patients. Diarrhea, abdominal pain, flatulence, and constipation may occur less frequently.  
• Hepatic Toxicities: Abnormalities (elevations) in LFT results may occur. Hepatotoxicity is less common, is usually reversible, and is rarely fatal.  
• Skin: Rash, dermatitis, purpura, urticaria occur in 1% of patients.  
• CNS Effects: Dizziness, headache, nervousness, insomnia, lethargy, somnolence, and paresthesia have occurred in about 1% of patients.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.  
**Supportive drugs:**  
- loperamide (Imodium)  
- epoetin alfa (Procrit)  
- darbepoetin alfa (Aranesp)  
- diphenoxylate/atropine sulfate (Lomotil)  
**Treatment schedule:** No chair time. Treatment is daily as tolerated or until disease progression.  
**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:**  
1. __________________________________  2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht Wt M²
### Aminoglutethimide (Cytadren)

**Baseline laboratory tests:** CBC: Chemistry, LFTs, thyroid function tests, and PSA  
**Baseline procedures or tests:** None  
**Initiate IV:** N/A  
**Premedicate:** Oral phenothiazine or 5-HT₃ if nausea occurs  
**Administer:**
- **Aminoglutethimide** 250-mg PO qid  
**OR**
- **Aminoglutethimide** 500 mg PO qid  
  - If tolerated, may increase to 500-mg PO qid.  
  - Available as 250-mg tablets for oral use.  
  - Decreases levels of warfarin, phenytoin, phenobarbital, theophylline, medroxyprogesterone, digoxin, and dexamethasone (Decadron) by enhancing their metabolism.  
  - **Administer hydrocortisone along with drug to prevent adrenal insufficiency.** Usual dose is 40-mg PO qd, although higher doses (100 mg) are sometimes used during the initial 2 weeks of therapy to reduce frequency of adverse events.  

#### Major Side Effects
- **Skin:** Maculopapular skin rash, usually occurring in the first week of therapy. Self-limited with resolution in 5–7 days, and discontinuation of therapy is not necessary. May be accompanied by malaise and low-grade fever.  
- **Sensory:** Fatigue, lethargy, and somnolence. Occurs in 40% of patients, and onset is within the first week of therapy. Dizziness, nystagmus, and ataxia are less common.  
- **GI Toxicities:** Mild nausea and vomiting occur in 10%–13% of patients.  
- **Hypothyroidism:** Monitor thyroid function.  
- **Adrenal Insufficiency:** Occurs in the absence of hydrocortisone replacement. Presents as postural hypotension, hyponatremia, and hyperkalemia.  
- **Myelosuppression:** Leukopenia and thrombocytopenia rarely occur.  
- **Reproduction:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.
**Supportive drugs:**
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ loperamide (Imodium)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:** No chair time. Treatment is daily as tolerated or until disease progression.  
**Estimated number of visits:** Biweekly during treatment

**Dose Calculation by:**  
1. _____________________________ 2. _____________________________

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**Physician**

**Date**

**Patient Name**

**ID Number**

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**Diagnosis**

**Ht** **Wt** **M²**
Combination Regimens

**Interferon-α-2a + IL-2** ................................................................. 608
Interferon-α-2a: 9 MU SC on days 1–4, weeks 1–4
Interleukin-2: 12 MU SC on days 1–4, weeks 1–4
Repeat cycle every 6 weeks.\(^1\)\(^,\)\(^3\)\(^8\)\(^7\)

**5-Fluorouracil + Gemcitabine** ...................................................... 610
5-Fluorouracil: 150-mg/m\(^2\)/day IV continuous infusion on days 1–21
Gemcitabine: 600-mg/m\(^2\) IV on days 1, 8, and 15.
Repeat cycle every 28 days.\(^1\)\(^,\)\(^3\)\(^8\)\(^8\)

Single-Agent Regimens

**Low-Dose IL-2** ............................................................................ 611
Interleukin-2: 3 MU/day IV continuous infusion on days 1–5
Repeat cycle every 14 days for 1 month.\(^1\)\(^,\)\(^3\)\(^8\)\(^9\)

**Interferon-α-2a** ........................................................................... 613
Interferon-α-2a: 5–15 MU SC daily or 3–5 times per week\(^1\)\(^,\)\(^3\)\(^9\)\(^0\)

**Nexavar** .................................................................................... 614
Nexavar: 400 mg (2 × 200 mg tablets) PO bid

**Sutent** ....................................................................................... 615
Sutent: 50 mg PO per day, 4 weeks on 2 weeks off
Combination Regimens

**Interferon-α-2a + IL-2**

**Baseline laboratory tests:** CBC: Chemistry (including LFTs)

**Baseline procedures or tests:** N/A

**Initiate IV:** N/A

**Premedicate:** Oral phenothiazine or 5-HT<sub>3</sub>

**Administer:**

- **Interferon-α-2a** 9 MU SC on days 1–4, weeks 1–4
  - Available in multidose pens 6 doses of 3 MU (18 MU) or 5 MU (30 MU) or 10 MU (60 MU).
  - Keep refrigerated.

- **Interleukin-2** 12 MU SC on days 1–4, weeks 1–4
  - Available in lyophilized vials containing 22 MU.
  - Reconstitute with 1.2 mL sterile water to final concentration of 18 MU/mL.
  - Stable for 48 hours refrigerated.

**Major Side Effects**

- **Flulike Symptoms:** Fever, chills, headache, myalgias, and arthralgias. Occurs in 80%–90% of patients. Symptoms can be managed with acetaminophen, nonsteroidal anti-inflammatory drugs, and increased oral fluid intake.

- **Bone Marrow Depression:** Myelosuppression with anemia, mild leukopenia, and thrombocytopenia.

- **GI Toxicities:** Nausea and diarrhea are mild, vomiting is rare. Diarrhea is common, can be severe, and may require bicarbonate replacement. Anorexia occurs in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur. Stomatitis is common but mild.

- **Renal/hepatic:** Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Direct tubular cell injury and decreased renal blood flow occur with cumulative doses of IL-2. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities.

- **Vascular Leak Syndrome:** Characterized by weight gain, arrhythmias, and/or tachycentias, hypotension, edema, oliguria, and renal insufficiency, pleural effusions and pulmonary congestion.

- **Neuro:** Somnolence, delirium, and confusion are common but usually resolve after interleukin-2 is stopped. More common with continuous infusion.

- **Cardiotoxicity:** Chest pain, arrhythmias, and CHF are rare.

- **Skin:** Alopecia is partial. Diffuse erythematous rash, which may desquamate. Pruritus (with or without rash) and irritation at injection site.

- **Reproductive:** Pregnancy category C.

**Initiate antiemetic protocol:**

Mildly emetogenic protocol.

**Supportive drugs:**

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1 for self-injection teaching. Repeat every 6 weeks.

**Estimated number of visits:** One per week for laboratory tests. Request 12 weeks worth of visits. May require extra visits for hydration.
Dose Calculation by:

1. ____________________________  2. ____________________________

_____________________________  ________________________________
Physician                      Date

_____________________________  ________________________________
Patient Name                   ID Number

_____________________________  ________________________________
Diagnosis                      Ht    Wt    M²
5-Fluorouracil + Gemcitabine

Baseline laboratory tests: CBC, Chemistry, and CEA
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT3
Administer: 5-Fluorouracil __________ mg (150 mg/m²/day) IV continuous infusion on days 1–21
- Available 500 mg/mL
- No dilution required. Can be further diluted with 0.9% sodium chloride or D5W.

Gemcitabine __________ mg (600 mg/m²) IV on days 1, 8, and 15
- Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

Major Side Effects
- Hematologic: Leukopenia, thrombocytopenia, and anemia, with grades 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days with recovery at 21 days. Prolonged infusion time of Gemcitabine (> 60 minutes) is associated with higher toxicities.
- GI Symptoms: Mild to moderate nausea and vomiting, diarrhea, and/or mucositis, and diarrhea can be severe and dose limiting.
- Flulike Syndrome with fever in absence of infection 6–12 hours after treatment.
- Hepatic: Elevation of serum transaminase and bilirubin levels.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema can occur. Alopecia is rare, but diffuse thinning of hair may occur. Hyperpigmentation, photosensitivity, and nail changes may occur. Hand-foot syndrome can be dose limiting.
- Ocular: Photophobia, increased lacrimation, conjunctivitis, and blurred vision.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs:
- Pegfilgrastim (Neulasta)
- Filgrastim (Neupogen)
- Epoetin alfa (Procrit)
- Darbepoetin alfa (Aranesp)
- Loperamide (Imodium)
- Diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Chair time 1 hour days 1, 8, and 15. Repeat cycle every 28 days until disease progression.
Estimated number of visits: Four visits per cycle. Request three to four cycles worth of visits.

Dose Calculation by: 1. ____________________________________________________________________________ 2. ____________________________________________________________________________

Physician ____________________ Date ____________________

Patient Name __________________ ID Number __________________

Diagnosis __________________________ ____________________________

Ht __________ Wt __________ M² ______
Single-Agent Regimens

Low-Dose IL-2 (Aldesleukin)

Baseline laboratory tests: CBC: Chemistry (including LFTs)
Baseline procedures or tests: Central line placement
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine or 5-HT$_3$

**Administer:** Interleukin-2 3 MU/day IV continuous infusion on days 1–5
- Available in lyophilized vials containing 22 MU.
- Reconstitute with 1.2 mL of sterile water to a final concentration of 18 MU/mL.
- For IV use, further dilute drug with D5W; aggregation of IL-2 occurs in 0.9% sodium chloride or bacteriostatic water.
- Reconstituted solution is stable for 48 hours on refrigeration.

**Major Side Effects**
- Flulike Symptoms: Fever, chills, headache, malaise, myalgias, and arthralgias. Occurs in all patients. Symptoms can be managed with acetaminophen, nonsteroidal anti-inflammatory drugs, and increased oral fluid intake.
- Capillary Leak Syndrome: Peripheral edema, CHF, pleural effusions, and pericardial effusions may occur and are reversible once treatment is stopped. Peripheral vasodilation, decreased systemic vascular resistance, and hypotension may lead to decreased renal perfusion. A decrease in systolic blood pressure occurs 2–12 hours after the start of therapy and progresses to significant hypotension with hypoperfusion. **Syndrome seen in high-dose therapy.**
- Pulmonary Toxicities: Dyspnea, tachypnea. Pulmonary edema may occur with hypoxia, as a result of fluid shifts.
- Bone Marrow Depression: Myelosuppression with anemia, thrombocytopenia, and neutropenia. Severe anemia occurs in 70% of patients, requiring transfusion. Thrombocytopenia common but rarely requires transfusion.
- GI Toxicities: Nausea and vomiting are mild. Diarrhea is common, can be severe, and may require bicarbonate replacement. Stomatitis is common but mild.
- Renal Toxicities: Direct tubular cell injury and decreased renal blood flow with cumulative doses. Oliguria, proteinuria, and increased serum creatinine and BUN levels. Anuria occurs in 38% of patients: renal dysfunction is reversible after drug discontinuation.
- Hepatic Toxicities: Abnormal (elevations) LFT results. Hepatomegaly and hypoalbuminemia.
- Skin: All patients develop diffuse erythematous rash, which may desquamate. Pruritus may occur with or without rash.
- Reproduction: Pregnancy category C.

**Initiate antiemetic protocol:** Mildly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1. Repeat cycle every 14 days for 1 month.

**Estimated number of visits:** One visit per cycle. Two for course.
612  Renal Cell Cancer

Dose Calculation by: 1. _______________________________  2. _______________________________

__________________________  ____________________________
Physician                      Date

__________________________  ____________________________
Patient Name                   ID Number

__________________________  ____________________________  ____________________________
Diagnosis                     Ht          Wt          M²
Interferon-α-2a

Baseline laboratory tests: CBC: Chemistry (including LFTs)
Baseline procedures or tests: N/A
Initiate IV: N/A
Premedicate: Oral phenothiazine or 5-HT3 Acetaminophen 325 or 500 mg 2 tablets PO
Administer: Interferon-α-2a ________ MU (5–15 MU) SC daily or three to five times per week
• Available in multidose pens 6 doses of 3 MU (18 MU) or 5 MU (30 MU) or 10 MU (60 MU).
• Keep refrigerated.

Major Side Effects
• Flulike Symptoms: Fever, chills, headache, myalgias, and arthralgias. Occur in 80%–90% of patients. Onset 3–4 hours after injection and lasting for up to 8–9 hours. Incidence decreases with subsequent injections. Symptoms can be managed with acetaminophen and increased oral fluid intake.
• Bone Marrow Depression: Myelosuppression with mild leukopenia and thrombocytopenia.
• GI Toxicities: Nausea and diarrhea are mild; vomiting is rare. Anorexia occurs in 46%–65% of patients and is cumulative and dose limiting. Taste alteration and xerostomia may occur.
• Renal/hepatic: Renal toxicity is uncommon and is manifested by mild proteinuria and hypocalcemia. Acute renal failure and nephrotic syndrome have been reported in rare instances. Mild transient elevations in serum transaminase levels. Dose-dependent toxicity observed more frequently in the presence of pre-existing liver abnormalities.
• Cardiotoxicity: Chest pain, arrhythmias, and CHF are rare.
• Skin: Alopecia is partial. Dry skin, pruritus, and irritation at injection site.
• Reproductive: Pregnancy category C.

Initiate antiemetic protocol: Mildly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 1 hour on day 1 for self-injection teaching
Estimated number of visits: One visit per week for laboratory tests. Request 12 weeks worth of visits. May require extra visits for hydration.

Dose Calculation by: 1. __________________________________________________________________________ 2. __________________________________________________________________________

______________________________  ______________________________
Physician                                      Date

______________________________  ______________________________
Patient Name                                       ID Number

______________________________  ______________________________
Diagnosis                                      Ht   Wt   M²
**Nexavar (Sorafenib)**

**Baseline laboratory tests:** CBC: Chemistry with P, LFT

**Premedicate:** Oral phenothiazine

**Administer:** Nexavar 400 mg (2 × 200-mg tab) PO BID
- Available in 200-mg tablets.
- Must be taken without food (at least one hour before or two hours after administration).
- Dose modification: Decrease to 400 mg (2 tablets) one time per day.

**Major Side Effects**
- Skin Reaction: Rash on trunk and neck, red raised rash with pruritis and can resolve after first 6 weeks of therapy. There is no correlation between developing a rash and response rates.
- Hand- and Foot Skin Reaction: May start with hardened callouses and turn into blisters with moist desquamation, ulceration with severe pain and sloughing of skin. Grade 3 hand and foot requires interruption/discontinuation of drug therapy. Resume at 50% of the dose when symptom resolve. May be able to increase dose if tolerated.
- Gastrointestinal: Diarrhea 43%, nausea and vomiting 23%–16%, (5HT₃’s were not used in clinical trials), constipation 15% all grades 1 and 2. Mucositis, stomatitis, dyspepsia, and dysphagia are common.
- Cardiac: Hypertension: 15%, grade 3 only 3% (20% increase in systolic blood pressure). Monitor blood pressure weekly for 6 weeks. May resolve on its own after 6 weeks, or treat for hypertension as necessary.
- Hemorrhagic Events: Most common is splinter hemorrhages of the nails.
- Multiple Drug Interactions: CYP2B6 and CYP28 pathway. INR may increase with patients on warfarin therapy.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Daily as tolerated until disease progression.

**Estimated number of visits:** Monthly during treatment.

**Dose Calculation by:**
1. ____________________________ 2. ____________________________
   
   ____________________________  ____________________________  ____________________________
   
   Physician Date

   ____________________________  ____________________________
   
   Patient Name ID Number

   ____________________________  ____________________________  ____________________________
   
   Diagnosis Ht Wt M
Sutent (Sunitinib malate)

Baseline laboratory tests: CBC, Chemistry with P, LFT

Premedicate: Oral phenothiazine or 5-HT3

Administer: Sutent 50-mg PO per day, 4 weeks on 2 weeks off.

• Available in 12.5-, 25- and 50-mg capsules.
• May be taken with or without food.
• Dose modification: Increase or decrease by 12.5 mg based on individual safety and tolerance.

Major Side Effects

• Bone Marrow Depression: Neutropenia occurs in 39–45%, anemia 25–37%, and thrombocytopenia in 18–19% of patients.
• Potential Activity Intolerance: Fatigue occurs in 22–38% of patients.
• Skin Alterations: Skin discoloration, dryness, thickness or cracking of the skin, blisters or rash on palms of hands and soles of feet.
• Gastrointestinal: Diarrhea 81%, nausea and vomiting 49%–63%, stomatitis 58%, constipation 41%, and abdominal pain 57%.
• Cardiac: 15% of patients had decreases in Left Ventricular Ejection Fraction Dysfunction (LVEF). Monitor for signs and symptoms of congestive heart failure (CHF). Patients with cardiac history should have a baseline LVEF.
• Hypertension: 15%, grade 3, 4%
• Hemorrhagic Events: Epistaxis is the most common hemorrhagic event, bleeding from all sites 37%.
• Musculoskeletal: Arthralgia 24%, back pain 23%, and myalgias 28%.
• Multiple Drug Interactions: CYP3A4 pathway.
• Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.

Supportive drugs: 

□ loperamide (Imodium)  
□ diphenoxylate/atropine sulfate (Lomotil)

Treatment schedule: Daily as tolerated until disease progression.

Estimated number of visits: Monthly during treatment.

Dose Calculation by: 1. 2.

Physician ______________________________ ______________________________

Date ______________________________ ______________________________

Patient Name ______________________________ ______________________________

ID Number ______________________________ ______________________________

Diagnosis ______________________________ ______________________________

Ht ______________________________ Wt ______________________________ M²
### Combination Regimens

#### AD

Doxorubicin: 15-mg/m²/day IV continuous infusion on days 1–4  
Dacarbazine: 250-mg/m²/day IV continuous infusion on days 1–4  
Repeat cycle every 21 days. \(^{1,393}\)

#### MAID

Mesna: 2500-mg/m²/day IV continuous infusion on days 1–4  
Doxorubicin: 20-mg/m²/day IV continuous infusion on days 1–3  
Ifosfamide: 2500-mg/m²/day IV continuous infusion on days 1–3  
Dacarbazine: 300-mg/m²/day IV continuous infusion on days 1–3  
Repeat cycle every 21 days. \(^{1,394}\)

#### CYVADIC

Cyclophosphamide: 500-mg/m² IV on day 1  
Vincristine: 1.5-mg/m² IV on day 1 (maximum, 2 mg)  
Doxorubicin: 50-mg/m² IV on day 1  
Dacarbazine: 750-mg/m² IV on day 1  
Repeat cycle every 21 days. \(^{1,395}\)

#### CAV Alternating with IE (Ewing’s Sarcoma)

Cyclophosphamide: 1200-mg/m² IV on day 1  
Doxorubicin: 75-mg/m² IV on day 1  
Vincristine: 2-mg IV on day 1  
AND  
Ifosfamide: 1800-mg/m² IV on days 1–5  
Etoposide: 100-mg/m² IV on days 1–5  
Alternate CAV with IE every 21 days for a total of 17 cycles. \(^{1,396}\)

### Single-Agent Regimens

#### Doxorubicin

Doxorubicin: 75-mg/m² IV on day 1  
Repeat cycle every 21 days. \(^{1,395}\)
Gemcitabine: 1000-mg/m² IV weekly for 7 weeks, then 1-week rest
Subsequent cycles 1000-mg/m² IV weekly for 3 weeks with 1-week rest
Repeat 3-week cycle every 28 days.¹,³⁹⁷

Imatinib (Gleevec): 400-mg/day PO
Continue treatment until disease progression.¹,³⁹⁸
Combination Regimens

**Doxorubicin + Dacarbazine (AD)**

**Baseline laboratory tests:** CBC: Chemistry

**Baseline procedures or tests:** Central line placement, MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT<sub>3</sub> and dexamethasone 20 mg in 100 cc of NS.

**Administer:**

- **Doxorubicin** _____ mg (15 mg/m<sup>2</sup>) IV continuous infusion days 1–4
  - Potent vesicant
  - Available as a 2-mg/mL solution
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

- **Dacarbazine** _____ mg (250 mg/m<sup>2</sup>) IV continuous infusion on days 1–4
  - Potent vesicant
  - Available in 100- and 200-mg vials for IV use. Reconstitute with sterile water or 0.9% sodium chloride. Solution should be yellow; discard if it turns pink or red.
  - Stable for 8 hours at room temperature, 72 hours if refrigerated

**Major Side Effects**

- **Bone Marrow Depression:** Myelosuppression is a dose-limiting toxicity.

- **GI Toxicities:** Nausea and vomiting can be severe; aggressive antiemetic therapy is strongly recommended.

- **Flulike Syndrome:** Fever, chills malaise, myalgias, and arthralgias.

- **GU Toxicities:** Discoloration of urine from pink to red for up to 48 hours after doxorubicin.

- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m<sup>2</sup>, cardiomyopathy may occur.

- **Skin:** Extravasation of either drug causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia likely.

- **CNS:** Paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and seizures have been observed.

- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Highly emetogenic protocol.

**Supportive drugs:**

- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** One visit per cycle. Request three cycles worth of visits.

**Dose Calculation by:** 1. ___________________________ 2. ___________________________

**Physician** ___________________________ **Date**

**Patient Name** ___________________________ **ID Number** ___________________________

**Diagnosis** ___________________________ **Ht** ________________ **Wt** ________________ **M<sup>2</sup>** ________________
### Mesna + Doxorubicin + Ifosfamide + Dacarbazine (MAID)

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$)

**Baseline procedures or tests:** Central line placement, MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS (days 1–4)

**Administer:**

- **Mesna** ________ mg (2500 mg/m$^2$/day) IV continuous infusion days 1–4
  - Available in 200 mg glass ampule, 100 mg/mL or 1000 mg multidose vial.
  - Refrigerate and use reconstituted solution within 6 hours. Diluted solution is stable for 24 hours at room temperature.

- **Doxorubicin** ________ mg (20 mg/m$^2$/day) IV continuous infusion on days 1–3
  - Potent vesicant
  - Available in a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

- **Ifosfamide** ________ mg (2500 mg/m$^2$) IV continuous infusion on days 1–3
  - Available in 1 and 3 gram single dose vials. Use within 24 hours.
  - Reconstitute powder with sterile water for injection; discard unused portion after 8 hours.
  - May further dilute in D5W or 0.9% sodium chloride.

- **Dacarbazine** ________ mg (300 mg/m$^2$) IV continuous infusion on days 1–3
  - Potent vesicant
  - Available in 100- and 200-mg vials for IV use. Reconstitute with sterile water or 0.9% sodium chloride. Solution should be yellow; discard if it turns pink or red.
  - Stable for 8 hours at room temperature, 72 hours if refrigerated.

**Major Side Effects**

- Bone Marrow Depression: Myelosuppression can be dose limiting.
- Flulike Syndrome: Fever, chills, malaise, myalgias, and arthralgias. That may last several days after treatment.
- GI Toxicities: Moderate-to-severe nausea and vomiting. Mucositis and/or diarrhea occurs in 30%–40% of patients.
- GU Toxicities: Bladder irritation—hemorrhagic cystitis with hematuria, dysuria, urinary frequency. Renal toxicity—increased BUN and serum creatinine levels, decreased urine creatinine clearance, acute tubular necrosis, pyelonephritis, glomerular dysfunction, and metabolic acidosis. Risk may be reduced with adequate hydration.
- Neurotoxicity: Lethargy, confusion, seizure, cerebellar ataxia, weakness, hallucinations, and cranial nerve dysfunction.
- CNS: Somnolence, confusion, depressive psychosis, or hallucinations (12%)
- Skin Alterations: Alopecia with photosensitivity and radiation recall. Total loss of body hair occurs in nearly all patients.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- [ ] pegfilgrastim (Neulasta)
- [ ] filgrastim (Neupogen)
- [ ] epoetin alfa (Procrit)
- [ ] darbepoetin alfa (Aranesp)

**Treatment schedule:** Refill/mix infusion daily. 1 hour daily for four days. Weekly CBCS. Repeat every 21 days.

**Estimated number of visits:** Five visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

   __________________________________________________________________________

   __________________________________________________________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

   __________ / __________ / __________

**Diagnosis**

   Ht  Wt  M$^2$
**Cyclophosphamide + Vincristine + Doxorubicin + Dacarbazine (CYVADIC)**

**Baseline laboratory tests:** CBC: Chemistry

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

** Premedicate:** 5-HT3 and dexamethasone 20 mg in 100 cc of NS.

**Administer:**
- **Cyclophosphamide** ________ mg (500 mg/m²) IV on day 1
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Dilute with sterile water. Shake well to ensure that all particles completely dissolve.
  - Reconstituted solution is stable for 24 hours at room temperature and for 6 days if refrigerated.

- **Vincristine** ________ mg (1.5 mg/m²) IV on day 1.
  - Maximum dose is 2 mg.
  - Vesicant
  - Available in 1-, 2-, or 5-mg vials. Refrigerate until use.

- **Doxorubicin** __________ mg (50 mg/m²) IV on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution.
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

- **Dacarbazine** __________ mg (750 mg/m²) IV on day 1
  - Potent vesicant
  - Available in 100- and 200-mg vials for IV use. Reconstitute with sterile water or 0.9% sodium chloride. Solution should be yellow; discard if it turns pink or red.
  - Stable for 8 hours at room temperature, 72 hours if refrigerated.

**Major Side Effects**

- **Bone Marrow Depression:** Myelosuppression is a dose-limiting toxicity.
- **GI Toxicities:** Nausea and vomiting can be severe; aggressive antiemetic therapy is strongly recommended. Constipation, abdominal pain, or paralytic ileus. Aggressive bowel program suggested.
- **Flulike Syndrome:** Fever, chills malaise, myalgias, and arthralgias.
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses of doxorubicin > 550 mg/m², cardiomyopathy may occur.
- **GU Toxicities:** Bladder toxicity in the form of hemorrhagic cystitis, dysuria, and increased urinary frequency occurs in 5%–10% of patients. Risk may be reduced with adequate hydration. Discoloration of urine from pink to red for up to 48 hours after doxorubicin.
- **Skin:** Extravasation of doxorubicin or vincristine causes severe tissue damage. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- **Neuropathies:** Peripheral neuropathies as a result of toxicity to nerve fibers. Automatic nervous system dysfunction or thostasis, sphincter problems and paralytic ileus. Bone, back, limb, jaw, and partial gland pain may occur.
- **CNS:** Paresthesias, neuropathies, ataxia, lethargy, headache, confusion, and seizures have been observed.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 4 hours on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** One visit per cycle. Request three cycles worth of visits.
Dose Calculation by: 1. ___________________________ 2. ___________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ______________________________________________________

Patient Name ID Number

_____________________________________________ ________________/ ________________/ ________________

Diagnosis Ht  Wt  M^2
Cyclophosphamide + Doxorubicin + Vincristine (CAV) Alternating with Ifosfamide + Etoposide (IE)

Baseline laboratory tests:
- CBC: Chemistry and LFTs

Baseline procedures or tests:
- MUGA scan

Initiate IV:
- 0.9% sodium chloride

Premedicate:
- 5-HT3 and dexamethasone 20 mg in 100 cc of NS.

Administer: CAV
- Cyclophosphamide __________ mg (1200 mg/m²) IV on day 1
  - Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
  - Dilute with sterile water and shake well to ensure that solution completely dissolves.
  - Reconstituted solution stable for 24 hours at room temperature, 6 days if refrigerated.

- Doxorubicin __________ mg (75 mg/m²) IV on day 1
  - Potent vesicant
  - Available as a 2-mg/mL solution
  - Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

- Vincristine __________ 2-mg IV on day 1
  - Vesicant
  - Available in 1-, 2-, and 5-mg vials.
  - Refrigerate vials until use.

Alternate every 21 days with:
- Ifosfamide _______ 1800-mg/m² IV on days 1–5
  - Available in 1- and 3-g vials.
  - Reconstitute with sterile water. Further dilute to concentrations of 0.6–20 mg/mL in D5W or NS.
  - Stable for 24 hours if refrigerated.
  - Drug interactions phenobarbital, phenytoin, cimetidine, and allopurinol increase toxicity. Ifosfamide may enhance anticoagulant effects of warfarin.

Mesna
- 15 minutes before, 4 and 8 hours after, ifosfamide dose or Mesna tablets at 40% of ifosfamide dose at 2 and 6 hours after ifosfamide.

Etoposide _______ 100-mg/m²/day IV over 1–2 hours on days 1–5
- Etoposide (VePesid) 5 cc/100 mg; etoposide phosphate diethanolate (Etopophos) reconstitute with 5–10 mL of NS, D5W, sterile water, bacteriostatic sterile water, or bacteriostatic NS with benzyl alcohol to 20 mg/mL or 10 mg/mL, respectively. Further dilute to final concentration NS or to final concentration of 0.1 mg/mL.

Major Side Effects
- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all seen; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis and diarrhea (10%); not dose limiting. Constipation, abdominal pain, or paralytic ileus as a result of nerve toxicity.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses of doxorubicin > 550 mg/m², cardiomyopathy may occur. Cyclophosphamide may increase the risk of doxorubicin-induced cardiotoxicity.
- Neurotoxicities: Peripheral neuropathies as a result of toxicity to nerve fibers. Cranial nerve dysfunction may occur (rare), as well as jaw pain, diplopia, vocal cord paresis, mental depression, and metallic taste.
- Altered Urinary Elimination: Hemorrhagic cystitis, hematuria; occurrence preventable with uroprotection and hydration with 2–3 L per day. Monitor BUN and serum creatinine levels. Uroprotection with mesna 20% of ifosfamide dose and hydration to prevent bladder toxicity. Risk may be reduced with adequate hydration.
- Hepatic: Use with caution in patients with abnormal liver function. Dose reduction is required in the presence of liver dysfunction.
- Bladder Toxicities: Hemorrhagic cystitis, dysuria, and urinary frequency. Red-orange discoloration of urine; resolves by 24–48 hours.
• Skin: Extravasation of vesicants causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia.
• Sensory/perceptual Alterations: Lethargy and confusion at high doses of ifosfamide, usually lasting 1–8 hours and is reversible.
• Reproductive: Pregnancy category D. Breast feeding should be avoided. Impotence may occur.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.
**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 2 hours on day 1 with CAV, 3–4 hours with IE. Alternate CAV with IE every 21 days for a total of 17 cycles.

**Estimated number of visits:** Two visits for each CAV and six visits for each IE

**Dose Calculation by:**

1. ________________________________ 2. ________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________/ ________________/ ________________

Patient Name ID Number

_____________________________________________ ______________________________________________________

Diagnosis Ht Wt M²
Single-Agent Regimens

**Doxorubicin (Soft Tissue Sarcoma)**

**Baseline laboratory tests:** CBC: Chemistry  
**Baseline procedures or tests:** MUGA scan, central line placement  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS  
**Administer:**  
**Doxorubicin** __________ mg (75 mg/m²) IV on day 1  
- Potent vesicant  
- Available as a 2-mg/mL solution.  
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

### Major Side Effects

- **Bone Marrow Depression:** WBC and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe but is less severe with weekly dosing.  
- **GI Toxicities:** Nausea and vomiting are moderate to severe and occur in 44% of patients. Stomatitis occurs in 10% of patients but is not dose limiting.  
- **GU Toxicity:** Red-orange discoloration of urine, resolves in 24–48 hours.  
- **Cardiac:** Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m², cardiomyopathy may occur. Increased risk of cardiotoxicity when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.  
- **Skin:** Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses > 50 mg/m².  
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:**  
- □ pegfilgrastim (Neulasta)  
- □ filgrastim (Neupogen)  
- □ epoetin alfa (Procrit)  
- □ darbepoetin alfa (Aranesp)  
**Treatment schedule:** Chair time 1 hour on day 1. Repeat cycle every 21 days.  
**Estimated number of visits:** Two visits per cycle. CBC day 10–14. Request four cycles worth of visits.

**Dose Calculation by:**  
1. __________________________________  
2. __________________________________

______________________________  
Physician Date

______________________________  
Patient Name ID Number

______________________________  
Diagnosis Ht Wt M²
Gemcitabine (Soft Tissue Sarcoma)

Baseline laboratory tests: CBC: Chemistry panel, LFTs
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: Oral phenothiazine

OR
5-HT₃ and dexamethasone 10 mg in 100 cc of NS

Administer: Gemcitabine ________ mg (1000 mg/m²) IV over 30 minutes weekly
- Available in 1-g or 200-mg vials; reconstitute with 0.9% sodium chloride USP (5 cc for 200 mg, 25 cc for 1 g). Further dilute in 0.9% sodium chloride.
- Reconstituted solution is stable 24 hours at room temperature. DO NOT refrigerate, because precipitate will form.

Major Side Effects
- Hematologic: Leukopenia (63%), thrombocytopenia (36%), and anemia (73%), with grade 3 and 4 thrombocytopenia more common in elderly patients. Myelosuppression is dose limiting. Nadir occurs in 10–14 days, with recovery at 21 days. Prolonged infusion time (> 60 minutes) is associated with higher toxicities.
- GI Symptoms: Mild-to-moderate nausea and vomiting (70%), diarrhea, and/or mucositis (15%–20%).
- Flulike Syndrome: (20%) with fever in absence of infection 6–12 hours after treatment (40%).
- Hepatic: Elevation of serum transaminase and bilirubin levels.
- Skin: Pruritic, maculopapular skin rash, usually involving trunk and extremities. Edema occurs in 30% of patients. Alopecia is rare.
- Reproduction: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Mildly to moderately emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule:
Chair time 1 hour. Repeat weekly for 7 weeks, then 1-week rest; then weekly for 3 weeks with 1 week off.
Repeat 3 weeks on, 1 week off until disease progression.

Estimated number of visits: Weekly for 3 months. Three visits per month subsequent courses.

Dose Calculation by:

1. __________________________________ 2. __________________________________________

_____________________________ ______________________________________________________
Physician Date

_____________________________ ________________/ ________________/ ________________
Patient Name ID Number

_____________________________ __________________________ / __________________________ / __________________________ 
Diagnosis Ht Wt M²
**Imatinib (Gleevec)**

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<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry and LFTs</th>
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<tr>
<td>Baseline procedures or tests:</td>
<td>c-kit (CD117) expression</td>
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<tr>
<td>Initiate IV:</td>
<td>N/A</td>
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<tr>
<td>Premedicate:</td>
<td>Oral phenothiazine or 5-HT&lt;sub&gt;3&lt;/sub&gt;</td>
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<td>Administer:</td>
<td><strong>Imatinib</strong> 400-mg PO per day</td>
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<td>- May increase dose to 600-mg PO per day if no response.</td>
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<td>- Available in 100- or 400-mg capsules.</td>
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<td>- Monitor INRs closely in patients taking warfarin; inhibits metabolism of warfarin.</td>
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**Major Side Effects**

- **GI Toxicities:** Nausea and vomiting, 40%–50% of patients. Usually relieved when the drug is taken with food. Diarrhea observed in 25%–30% of patients.
- **Bone Marrow Suppression:** Myelosuppression, neutropenia, and thrombocytopenia common and can be dose related.
- **Fluid/electrolyte Imbalance:** Fluid retention is common, especially in the elderly. Periorbital and lower extremity edema primarily occurs. However, pleural effusions, ascites, rapid weight gain, and pulmonary edema may develop. Hypokalemia reported in 2%–12% of patients.
- **Laboratory Values:** Mild, transient elevation in serum transaminase and bilirubin levels.
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Mildly to moderately emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ loperamide (Imodium)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
- □ diphenoxylate/atropine sulfate (Lomotil)

**Treatment schedule:**
Daily as tolerated until disease progression.

**Estimated number of visits:**
Monthly during treatment.

**Dose Calculation by:**
1. ____________________________ 2. ____________________________

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### Adjuvant Therapy

#### PEB

Cisplatin: 20-mg/m² IV on days 1–5  
Etoposide: 100-mg/m² IV on days 1–5  
Bleomycin: 30 U IV on days 2, 9, and 16  
Repeat cycle every 28 days for a total of two cycles.  
Adjuvant therapy for stage II testicular cancer treated with orchiectomy and retroperitoneal lymph node dissection.

### Advanced Disease

#### BEP

Bleomycin: 30 U IV on days 2, 9, and 16  
Etoposide: 100-mg/m² IV on days 1–5  
Cisplatin: 20-mg/m² IV on days 1–5  
Repeat cycle every 21 days.

#### EP

Etoposide: 100-mg/m² IV on days 1–5  
Cisplatin: 20-mg/m² IV on days 1–5  
Repeat cycle every 21 days.

#### PVB

Cisplatin: 20-mg/m² IV on days 1–5  
Vinblastine: 0.15-mg/kg IV on days 1 and 2  
Bleomycin: 30 units IV on days 2, 9, and 16  
Repeat cycle every 21 days.

#### VAB-6

Vinblastine: 4-mg/m² IV on day 1  
Dactinomycin: 1-mg/m² IV on day 1  
Bleomycin: 30 U IV on day 1, then 20 U/m² continuous infusion on days 1–3  
Cisplatin: 20-mg/m² IV on day 4  
Cyclophosphamide: 600-mg/m² IV on day 1  
Repeat cycle every 21 days.
Salvage Regimens

**VeIP**

- Vinblastine: 0.11-mg/kg IV on days 1 and 2
- Ifosfamide: 1200-mg/m² IV on days 1–5
- Cisplatin: 20-mg/m² IV on days 1–5
- Mesna: 400-mg/m² IV, given 15 minutes before first ifosfamide dose, then 1200-mg/m²/day IV continuous infusion for 5 days
- Repeat cycle every 21 days.¹⁴⁰⁴

**VIP**

- Etoposide (VP-16): 75-mg/m² IV on days 1–5
- Ifosfamide: 1200-mg/m² IV on days 1–5
- Cisplatin: 20-mg/m² IV on days 1–5
- Mesna: 400-mg/m² IV, given 15 minutes before first ifosfamide dose, then 1200-mg/m²/day IV continuous infusion for 5 days
- Repeat cycle every 21 days.¹⁴⁰⁵
## Adjuvant Therapy

### Cisplatin + Etoposide + Bleomycin (PEB)

**Baseline laboratory tests:** CBC: Chemistry (including Mg²⁺)

**Baseline procedures or tests:** PFTs and chest x-ray study at baseline and before each cycle of therapy

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT₃ and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

**Cisplatin** _________ mg (20 mg/m²) IV infusion over 1–2 hours on days 1–5
- Do not use aluminum needles, because precipitate will form.
- Available in solution as 1 mg/mL.
- Further dilute solution with 250 cc or more of NS.

**Etoposide** _________ mg (100 mg/m²) IV infusion over 1 hour on days 1–5
- Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
- May be further diluted in NS or D5W to final concentration of 0.1 mg/mL.

**Bleomycin** 30 units IV push or infusion over 15 minutes on days 2, 9, and 16
- A test dose of 2 units is recommended before the first dose to detect hypersensitivity.
- Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water.
- Reconstituted solution is stable for 24 hours at room temperature.

### Major Side Effects

- **Allergic Reaction:** Bleomycin—fever and chills observed in up to 25% of patients. True anaphylactic reactions are rare. Etoposide—bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion. Anaphylaxis may occur but is rare.
- **Bone Marrow Depression:** Myelosuppression can be a dose-limiting toxicity.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare.
- **Pulmonary Toxicities:** Pulmonary toxicity is dose limiting in bleomycin. Seen more frequently in cumulative dose > 400 units with bleomycin.
- **Renal:** Nephrotoxicity is dose related with cisplatin and presents at 10–20 days.
- **Electrolyte Imbalance:** Decreased Mg²⁺, K, Ca²⁺, Na⁺, and P.
- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- **Ototoxicity:** High-frequency hearing loss and tinnitus
- **Skin:** Alopecia
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

### Initiate antiemetic protocol:
Moderately to highly emetogenic protocol.

**Supportive drugs:**
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

### Treatment schedule:
Chair time 3 hours on days 1, 1–5, and 1 hour on days 9 and 16. Repeat every 28 days for two cycles.

### Estimated number of visits:
Seven visits per cycle. Request two cycles worth of visits.

### Dose Calculation by:
1. __________________________________ 2. ____________________________________________

---

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht Wt M²
## Advanced Disease

### Etoposide + Bleomycin + Cisplatin (BEP)

| Baseline laboratory tests:                     | CBC: Chemistry (including Mg\(^{2+}\))  |
| Baseline procedures or tests:                  | PFTs and chest x-ray study at baseline and before each cycle of therapy |
| Initiate IV:                                   | 0.9% sodium chloride                     |
| Premedicate:                                  | 5-HT3 and dexamethasone 10–20 mg in 100 cc of NS |
|                                               | Acetaminophen 30 minutes before bleomycin |

**Administer:**

| Bleomycin 30 units IV push or infusion over 15 minutes on days 2, 9, and 16 |
| • A test dose of 2 units is recommended before the first dose to detect hypersensitivity. |
| • Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water. |
| • Reconstituted solution is stable for 24 hours at room temperature. |

| Etoposide \(_________\) mg (100 mg/m\(^2\)) IV infusion over 1 hour on days 1–5 |
| • Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration. |
| • May be further diluted in NS or D5W to final concentration of 0.1 mg/mL. |

| Cisplatin \(_________\) mg (20 mg/m\(^2\)) IV infusion over 1–2 hours on days 1–5 |
| • Do not use aluminum needles, because precipitate will form. |
| • Available in solution as 1 mg/mL. |
| • Further dilute solution with 250 cc or more of NS. |

### Major Side Effects

- **Allergic Reaction**: Bleomycin—fever and chills observed in up to 25% of patients. True anaphylactic reactions are rare. Etoposide—bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion. Anaphylaxis may occur but is rare.
- **Bone Marrow Depression**: Myelosuppression can be a dose-limiting toxicity.
- **GI Toxicities**: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare.
- **Pulmonary Toxicities**: Pulmonary toxicity is dose limiting in bleomycin. Seen more frequently in cumulative dose > 400 units with bleomycin.
- **Renal**: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.
- **Electrolyte Imbalance**: Decreased Mg\(^{2+}\), K, Ca\(^{2+}\), Na\(^+\), and P.
- **Neurotoxicity**: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- **Otitotoxicity**: High-frequency hearing loss and tinnitus.
- **Skin**: Alopecia
- **Reproductive**: Pregnancy category D. Breast feeding should be avoided.

### Initiate antiemetic protocol:

Mildly to highly emetogenic protocol.

### Supportive drugs:

- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

### Treatment schedule:

Chair time 3 hours on days 1, 1–5, and 1 hour on days 9 and 16. Repeat every 21 days.

### Estimated number of visits:

Seven visits per cycle. Request three cycles worth of visits.

### Dose Calculation by:

1. __________________________________ 2. ____________________________________________

<table>
<thead>
<tr>
<th>Physician</th>
<th>Date</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Patient Name</th>
<th>ID Number</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Ht</th>
<th>Wt</th>
<th>M(^2)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
**Etoposide + Cisplatin (EP)**

**Baseline laboratory tests:** CBC: Chemistry (including Mg$^{2+}$) and CEA  
**Baseline procedures or tests:** N/A  
**Initiate IV:** 0.9% sodium chloride  
**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS  
**Administer:**  

<table>
<thead>
<tr>
<th><strong>Etoposide</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>mg (100 mg/m$^2$) IV infusion over 1 hour on days 1–5</td>
</tr>
<tr>
<td>• Available in 100-mg vials, when reconstituted with 5 or 10 mL of NS, D5W or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.</td>
</tr>
<tr>
<td>• May be further diluted in NS or D5W to final concentration of 0.1 mg/mL.</td>
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<table>
<thead>
<tr>
<th><strong>Cisplatin</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>mg (20 mg/m$^2$) IV infusion over 1–2 hours on days 1–5</td>
</tr>
<tr>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td>• Available in solution as 1 mg/mL.</td>
</tr>
<tr>
<td>• Further dilute solution with 250 cc or more of NS.</td>
</tr>
</tbody>
</table>

**Major Side Effects**  
- Allergic Reaction: Bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion. Anaphylaxis may occur but is rare.  
- Bone Marrow Depression: Myelosuppression can be a dose-limiting toxicity.  
- GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare.  
- Renal: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.  
- Electrolyte Imbalance: Decreased Mg$^{2+}$, K, Ca$^{2+}$, Na$^+$, and P.  
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.  
- Ototoxicity: High-frequency hearing loss and tinnitus  
- Skin: Alopecia  
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.  
**Supportive drugs:** □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen) □ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)  
**Treatment schedule:** Chair time 2 hours on days 1–5. Repeat cycle every 21 days.  
**Estimated number of visits:** Five visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**  
1.  
2.  

Physician  
Date  
Patient Name  
ID Number  
Diagnosis  
Ht  
Wt  
M$^2$
Cisplatin + Vinblastine + Bleomycin (PVB)

Baseline laboratory tests:
- CBC: Chemistry (including Mg$^{2+}$)

Baseline procedures or tests:
- PFTs and chest x-ray study baseline and before each cycle of therapy

Initiate IV:
- 0.9% sodium chloride

Premedicate:
- 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS
- Acetaminophen 30 minutes before bleomycin

Administer:
- Cisplatin: _________ mg (20 mg/m$^2$) IV infusion on days 1–5
  - Do not use aluminum needles, because precipitate will form.
  - Available in solution as 1 mg/mL.
  - Further dilute solution with 250 cc or more of NS.

- Vinblastine: _________ mg (0.15 mg/kg) IV push on days 1 and 2
  - Vesicant
  - Available in 10-mg vials.
  - Store in refrigerator until use.

- Bleomycin: 30 units IV push or infusion on days 2, 9, and 16
  - A test dose of 2 units is recommended before the first dose to detect hypersensitivity.
  - Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water.
  - Reconstituted solution is stable for 24 hours at room temperature.

Major Side Effects
- Allergic Reaction: Bleomycin—fever and chills observed in up to 25% of patients. True anaphylactic reactions are rare.
- Bone Marrow Depression: Myelosuppression can be a dose-limiting toxicity.
- GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (>24 hours). Mucositis and diarrhea are rare. Constipation resulting from neurotoxicity, abdominal pain, or paralytic ileus.
- Pulmonary Toxicities: Pulmonary toxicity is dose limiting in bleomycin.
- Renal: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.
- Electrolyte Imbalance: Decreases Mg$^{2+}$, K$^+$, Ca$^{2+}$, Na$^+$, and P.
- Neurotoxicity: Paresthesias, peripheral neuropathy, depression, headache, malaise, jaw pain, urinary retention, tachycardia, orthostatic hypotension, and seizures can occur in high doses or with prolonged therapy.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Skin: Alopecia
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol:
- Moderately to highly emetogenic protocol.

Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

Treatment schedule:
- Chair time 3 hours on days 1–5, and 1 hour on days 9 and 16. Repeat every 21 days.

Estimated number of visits:
- Seven visits per cycle. Request three cycles worth of visits.

Dose Calculation by:

1. __________________________________ 2. ____________________________________________
   _______________________________________________ ______________________________________________________

Physician Date

Patient Name ID Number

Diagnosis Ht Wt M$^2$
**Vinblastine + Dactinomycin + Bleomycin (VAB-6)**

**Baseline laboratory tests:** CBC: Chemistry panel (including Mg²⁺)

**Baseline procedures or tests:** PFTs and chest x-ray study at baseline and before each cycle of therapy.

**Initiate IV:**
- 0.9% sodium chloride

**Premedicate:**
- 5-HT₃ and dexamethasone 20 mg in 100 cc of NS
- Acetaminophen 30 minutes before bleomycin

**Administer:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose (mg)</th>
<th>Route</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinblastine</td>
<td>_________</td>
<td>IV push on day 1</td>
<td>Vesicant</td>
</tr>
<tr>
<td></td>
<td>(4 mg/m²)</td>
<td></td>
<td>Available in 10-mg vials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Store in refrigerator until use.</td>
</tr>
<tr>
<td>Dactinomycin</td>
<td>_________</td>
<td>IV infusion on day 1</td>
<td>Vesicant</td>
</tr>
<tr>
<td></td>
<td>(1 mg/m²)</td>
<td></td>
<td>Available as a lyophilized powder in vials containing 0.5 mg of dactinomycin and 20 mg of mannitol for IV use</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Add sterile water to give a final concentration of 500 mcg/mL. Use preservative-free water to avoid formation of a precipitate.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Can be further diluted in D5W or NS for IV infusion or bolus</td>
</tr>
<tr>
<td>Bleomycin</td>
<td>30 units</td>
<td>IV push or infusion over 15 minutes on day 1, then</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>20 units/m²) IV continuous infusion on days 1–3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A test dose of 2 units is recommended before the first dose to detect hypersensitivity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Available as a powder in 15- or 30-unit sizes. Dilute powder in 0.9% sodium chloride or sterile water.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reconstituted solution is stable for 24 hours at room temperature.</td>
</tr>
<tr>
<td>Cisplatin</td>
<td>_________</td>
<td>IV infusion over 1 hour on day 1</td>
<td>Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>(20 mg/m²)</td>
<td></td>
<td>Available in solution as 1 mg/mL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Further dilute in 250 cc or more of NS.</td>
</tr>
<tr>
<td>Cyclophosphamide</td>
<td>_________</td>
<td>IV infusion over 1 hour on day 1</td>
<td>Available in 100-, 200-, 500-, 1000-, and 2000-mg vials for IV use.</td>
</tr>
<tr>
<td></td>
<td>(600 mg/m²)</td>
<td></td>
<td>Dilate vials with sterile water.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Important to shake well so that the solution is completely dissolved.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- **Allergic Reaction:** Bleomycin—fever and chills observed in up to 25% of patients. True anaphylactic reactions are rare.
- **Bone Marrow Depression:** Myelosuppression can be a dose-limiting toxicity.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting, acute or delayed. Irritation and ulceration may occur along the entire GI mucosa. Diarrhea with or without cramps. Anorexia common. Constipation, abdominal pain, or ileus.
- **Pulmonary Toxicities:** Pulmonary toxicity is dose limiting in bleomycin. Seen more frequently in cumulative dose > 400 units with bleomycin.
- **Hepatic:** Hepatotoxicity dose reduction may be necessary.
- **Renal/urinary:** Nephrotoxicity or hemorrhagic cystitis possible. Dose reduction may be needed for alterations in renal function. Risk may be reduced with adequate hydration.
- **Electrolyte Imbalance:** Decreases Mg²⁺, K⁺, Ca²⁺, Na⁺, and P.
- **Neurotoxicity:** Paresthesias, peripheral neuropathy, depression, headache, jaw pain, urinary retention, tachycardia, orthostatic hypotension, and seizures.
- **Skin:** Tissue damage if extravasation of dactinomycin occurs. Alopecia. Hyperpigmentation, radiation recall, photosensitivity, rash, and nail changes.
- **Flulike Symptoms:** Malaise, myalgia, fever, depression.
- **Reproductive:** Pregnancy category D. Breastfeeding should be avoided.
Initiate antiemetic protocol: Moderately to highly emetogenic protocol.

Supportive drugs:  □ pegfilgrastim (Neulasta)  □ filgrastim (Neupogen)
□ epoetin alfa (Procrit)  □ darbepoeitin alfa (Aranesp)

Treatment schedule: Chair time 2 hours on day 1, and 3 hours on day 4. Repeat cycle every 21 days.

Estimated number of visits: Two visits per cycle. Request three cycles worth of visits.

Dose Calculation by:  1. __________________________________  2. ____________________________________________

________________________________________________________________________

Physician                        Date

________________________________________________________________________

Patient Name                        ID Number

________________________________________________________________________

Diagnosis                          ____________________________________________

                                      Ht  Wt  M²
Salvage Regimens

Vinblastine + Ifosfamide + Cisplatin + Mesna (VeIP)

Baseline laboratory tests: CBC: Chemistry (including Mg^{2+})
Baseline procedures or tests: Central line placement for continuous infusion
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT	extsubscript{3} and dexamethasone 20 mg in 100 cc of NS
Administer: Vinblastine ________ mg (0.11 mg/kg) IV on days 1 and 2

• Vesicant
• Available in 10-mg vials
• Store in refrigerator until
Ifosfamide ________ mg (1200 mg/m	extsuperscript{2}) IV on days 1–5

• Reconstitute powder with sterile water for injection; discard unused portion after 8 hours.
• May further dilute in D5W or 0.9% sodium chloride
Cisplatin ________ mg (20 mg/m	extsuperscript{2}) IV on days 1–5

• Do not use aluminum needles, because precipitate will form.
• Further dilute solution with 250 cc or more of NS.
Mesna ________ mg (400 mg/m	extsuperscript{2}) IV, given 15 minutes before first ifosfamide dose, then
Mesna ________ mg (1200 mg/m	extsuperscript{2}/day) IV continuous infusion for 5 days

• Available in 200-mg ampules or 1000-mg multidose vial for IV use.
• Dilute with D5W, D5NS, or NS.
• Reconstituted solution is stable for 24 hours at room temperature.

Major Side Effects

• Bone Marrow Depression: Myelosuppression is cumulative and dose related. Can be dose limiting. G-CSF support recommended.
• GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis and/or diarrhea may occur. Constipation, abdominal pain, ileus rare.
• Renal: Nephrotoxicity and/or hemorrhagic cystitis possible. Mesna and vigorous hydration necessary to prevent.
• Electrolyte Imbalance: Decreases Mg^{2+}, K^{+}, Ca^{2+}, Na^{+}, and P.
• Neurotoxicity: Sensory neuropathy with numbness and paresthesias in classic “stocking and glove” distribution.
• CNS: Somnolence, confusion, depressive psychosis, or hallucinations with ifosfamide. Paresthesias, jaw pain, urinary retention, and tachycardia occur with vinblastine but are less frequent than with other vinca alkaloids.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs: □ pegfilgrastim (Neulasta) □ filgrastim (Neupogen)
□ epoetin alfa (Procrit) □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 4 hours on day 1, and 3 hours on days 2–5. Repeat cycle every 21 days.

Estimated number of visits: Five visits per cycle. Request three cycles worth of visits.

Dose Calculation by: 1. ____________________ 2. ____________________

______________________________  ______________________________
Physician Date

______________________________  ______________________________
Patient Name ID Number

______________________________  ______________________________
Diagnosis Ht Wt M^{2}
Etoposide + Ifosfamide + Cisplatin + Mesna (VIP)

Baseline laboratory tests:
CBC: Chemistry (including Mg\(^{2+}\))

Baseline procedures or tests:
Central line placement for continuous infusion.

Initiate IV:
0.9% sodium chloride

Premedicate:
5-HT\(_3\) and dexamethasone 20 mg in 100 cc of NS

Administer:
- **Etoposide** __________ mg (75 mg/m\(^2\)) IV over 30–60 minutes on days 1–5
  - Available in solution or powder.
  - May be further diluted in NS or D5W to a final concentration of 0.1 mg/mL.

- **Ifosfamide** __________ mg (1200 mg/m\(^2\)) IV on days 1–5
  - Reconstitute powder with sterile water for injection; discard unused portion after 8 hours.
  - May further dilute in D5W or 0.9% sodium chloride.

- **Cisplatin** __________ mg (20 mg/m\(^2\)) IV over 1 hour on days 1–5
  - Do not use aluminum needles, because precipitate will form.
  - Further dilute solution with 250 cc or more of NS.

- **Mesna** ______ mg (400 mg/m\(^2\)) IV, given 15 minutes before first ifosfamide dose, then
- **Mesna** ______ mg (1200 mg/m\(^2\)/day) IV continuous infusion for 5 days
  - Available in 200-mg ampules or 1000-mg multidose vial for IV use.
  - Dilute with D5W, D5NS, or NS.
  - Reconstituted solution is stable for 24 hours at room temperature.

**Major Side Effects**
- Bone Marrow Depression: Myelosuppression is cumulative and dose related. Can be dose limiting.
- GI Toxicities: Moderate-to-severe nausea and vomiting may be acute or delayed. Mucositis, diarrhea, and anorexia may occur. Metallic taste common.
- Hepatic: Use etoposide with caution in patients with abnormal liver function. Dose reduction is recommended in this setting.
- Cardiovascular Toxicities: Hypotension if etoposide infused too rapidly.
- Renal: Nephrotoxicity and/or hemorrhagic cystitis possible. Mesna and vigorous hydration necessary to prevent. Dose reduction may be necessary.
- Electrolyte Imbalance: Decreases Mg\(^{2+}\), K\(^+\), Ca\(^{2+}\), Na\(^+\), and PO\(_4\)\(^{3-}\)
- Neurotoxicity: Sensory neuropathy with numbness and paresthesias in classic “stocking and glove” distribution.
- CNS: Somnolence, confusion, depressive psychosis, or hallucinations with ifosfamide.
- Hypersensitivity reaction: Chills, fever, bronchospasm, dyspnea, tachycardia, facial and tongue swelling, and hypotension with etoposide.
- Skin: Total alopecia occurs in nearly all patients. Radiation recall, skin changes.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:**
Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:**
Chair time 5 hours on day 1, and 4 hours on days 2–5. Repeat cycle every 21 days.

**Estimated number of visits:**
Five visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:**
1. \\
2.

---

Physician ____________________________ Date ____________________________

Patient Name ____________________________ ID Number ____________

Diagnosis ____________________________ Ht: ____________ Wt: ____________ M\(^2\): ____________
**CAP**

Cyclophosphamide: 500-mg/m² IV on day 1  
Doxorubicin: 50-mg/m² IV on day 1  
Cisplatin: 50-mg/m² IV on day 1  
Repeat cycle every 21 days.1,406

**Cisplatin + Etoposide**

Cisplatin: 60-mg/m² IV on day 1  
Etoposide: 120-mg/m² IV on days 1–3  
Repeat cycle every 21 days.1,407

**ADOC**

Cisplatin: 50-mg/m² IV on day 1  
Doxorubicin: 40-mg/m² IV on day 1  
Vincristine: 0.6-mg/m² IV on day 3  
Cyclophosphamide: 700-mg/m² IV on day 4  
Repeat cycle every 28 days.1,408
Cyclophosphamide + Doxorubicin + Cisplatin (CAP)

Baseline laboratory tests: CBC: Chemistry (including Mg\(^{2+}\))
Baseline procedures or tests: N/A
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS
Administer:

**Cyclophosphamide** ________ mg (500 mg/m\(^2\)) IV over 1 hour on day 1
- Available in 100-, 200-, 500-, 1000-, and 2000-mg vials.
- Dilute with sterile water. Shake well to ensure that all particles completely dissolve.
- Reconstituted solution is stable for 24 hours at room temperature and for 6 days refrigerated.

**Doxorubicin** ________ mg (50 mg/m\(^2\)) IV push on day 1
- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Cisplatin** ________ mg (50/m\(^2\)) IV over 1–3 hours on day 1
- Do not use aluminum needles, because precipitate will form.
- Available in solution as 1 mg/mL.
- Further dilute solution with 250 cc or more of NS.

**Major Side Effects**
- Bone Marrow Depression: Neutropenia, thrombocytopenia, and anemia occur equally in 25%–30% of patients. Leukopenia and thrombocytopenia are dose related.
- GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis may occur.
- GU Toxicities: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Bladder toxicity in the form of hemorrhagic cystitis, dysuria, and increased urinary frequency. Red-orange discoloration of urine up to 48 hours after doxorubicin.
- Electrolyte Imbalance: Decreased Mg\(^{2+}\), K, Ca\(^{2+}\), Na\(^+\), and P.
- Cardiotoxicity: Acutely, pericarditis or myocarditis may occur. Later, cardiomyopathy in the form of CHF may occur.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus.
- Skin: Extravasation of doxorubicin causes severe tissue damage. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)
Treatment schedule: Chair time 3 hours on day 1. Repeat cycle every 28 days.
Estimated number of visits: One visit per cycle. Request six cycles worth of visits.

**Dose Calculation by:**
1. ______________________________ 2. ______________________________

Physician ______________________________ Date ______________________________

Patient Name ______________________________ ID Number ______________________________

Diagnosis ______________________________ Ht ______ Wt ______ M\(^2\) ______
# Cisplatin + Etoposide

**Baseline laboratory tests:** CBC: Chemistry (including Mg\(^{2+}\)) and CEA

**Baseline procedures or tests:** N/A

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT\(_3\) and dexamethasone 10–20 mg in 100 cc of NS

**Administer:**

- **Cisplatin** _________ mg (60 mg/m\(^2\)) IV over 1–2 hours on day 1
  - Do not use aluminum needles, because precipitate will form.
  - Available in solution as 1 mg/mL.
  - Further dilute solution with 250 cc or more of NS.

- **Etoposide** _________ mg (120 mg/m\(^2\)) IV over 1 hour on days 1–3
  - Available in 100-mg vials; when reconstituted with 5 or 10 mL of NS, D5W or sterile water with benzyl alcohol makes a 20- or 10-mg/mL solution. Also available in solution as a 20-mg/mL concentration.
  - May be further diluted in NS or D5W to final concentration of 0.1 mg/mL.

**Major Side Effects**

- **Allergic Reaction:** Bronchospasm, with or without fever, chills. Hypotension may occur during rapid infusion of etoposide. Anaphylaxis may occur but is rare.
- **Bone Marrow Depression:** Myelosuppression can be a dose-limiting toxicity.
- **GI Toxicities:** Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (> 24 hours). Mucositis and diarrhea are rare.
- **Renal:** Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.
- **Electrolyte Imbalance:** Decreased Mg\(^{2+}\), K, Ca\(^{2+}\), Na\(^{+}\), and P.
- **Neurotoxicity:** Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- **Ototoxicity:** High-frequency hearing loss and tinnitus.
- **Skin:** Alopecia
- **Reproductive:** Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**

- [ ] pegfilgrastim (Neulasta)
- [ ] filgrastim (Neupogen)
- [ ] epoetin alfa (Procrit)
- [ ] darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1, and 1 hour on days 2 and 3. Repeat cycle every 21 days.

**Estimated number of visits:** Three visits per cycle. Request three cycles worth of visits.

**Dose Calculation by:** 1. __________________________ 2. __________________________

---

**Physician**

**Date**

**Patient Name**

ID Number

Ht / Wt / M\(^2\)

**Diagnosis**
**Cisplatin + Doxorubicin + Vincristine + Cyclophosphamide (ADOC)**

<table>
<thead>
<tr>
<th>Baseline laboratory tests:</th>
<th>CBC: Chemistry (including Mg^{2+})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline procedures or tests:</td>
<td>N/A</td>
</tr>
<tr>
<td>Initiate IV:</td>
<td>0.9% sodium chloride</td>
</tr>
<tr>
<td>Premedicate:</td>
<td>5-HT3 and dexamethasone 10–20 mg in 100 cc of NS</td>
</tr>
<tr>
<td>Administer:</td>
<td><strong>Cisplatin</strong> _________ mg (50 mg/m²) IV over 1–2 hours on day 1</td>
</tr>
<tr>
<td></td>
<td>• Do not use aluminum needles, because precipitate will form.</td>
</tr>
<tr>
<td></td>
<td>• Available as a 1-mg/mL solution</td>
</tr>
<tr>
<td></td>
<td>• Further dilute in 250 cc or more of NS.</td>
</tr>
<tr>
<td></td>
<td><strong>Doxorubicin</strong> _________ mg (40 mg/m²) IV push on day 1</td>
</tr>
<tr>
<td></td>
<td>• Potent vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available as a 2-mg/mL solution</td>
</tr>
<tr>
<td></td>
<td>• Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.</td>
</tr>
<tr>
<td></td>
<td><strong>Vincristine</strong> _________ mg (0.6 mg/m²) IV on day 3</td>
</tr>
<tr>
<td></td>
<td>• Vesicant</td>
</tr>
<tr>
<td></td>
<td>• Available in 1-, 2-, or 5-mg vials. Refrigerate until use.</td>
</tr>
<tr>
<td></td>
<td><strong>Cyclophosphamide</strong> _________ mg (700 mg/m²) IV over 1 hour on day 4</td>
</tr>
<tr>
<td></td>
<td>• Available in 100-, 200-, 500-, 1000-, or 2000- mg vials</td>
</tr>
<tr>
<td></td>
<td>• Dilute with sterile water. Shake well to ensure that all particles completely dissolve.</td>
</tr>
<tr>
<td></td>
<td>• Reconstituted solution is stable for 24 hours at room temperature, and 6 days if refrigerated.</td>
</tr>
</tbody>
</table>

**Major Side Effects**

- Bone Marrow Depression: Myelosuppression can be dose limiting.
- GI Toxicities: Moderate-to-severe nausea and vomiting. May be acute (first 24 hours) or delayed (>24 hours). Mucositis may occur. Constipation, abdominal pain, and paralytic ileus possible. Aggressive bowel protocol recommended.
- GU: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Bladder toxicity in the form of hemorrhagic cystitis, dysuria, and increased urinary frequency. Risk may be reduced with adequate hydration.
- Electrolyte imbalance: Decreases in electrolytes expected.
- Cardiotoxicity: Acutely, pericarditis or myocarditis may occur. Later, cardiomyopathy in the form of CHF may occur.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- Skin: Extravasation of doxorubicin or vincristine causes severe tissue damage. Hyperpigmentation, photosensitivity, and radiation recall occur. Alopecia.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol.

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 3 hours on day 1, 1 hour on day 3, and 2 hours on day 4. Repeat cycle every 28 days.

**Estimated number of visits:** Four visits per cycle. CBC day 10–14. Request three cycles worth of visits.

**Dose Calculation by:**

1. __________________________________ 2. ____________________________________________

_____________________________________________ ______________________________________________________

Physician Date

_____________________________________________ ________________/ ________________/ ________________

Patient Name ID Number

Diagnosis Ht Wt M 2
THYROID CANCER

Combination Regimen

**Doxorubicin + Cisplatin**

Doxorubicin: 60-mg/m² IV on day 1
Cisplatin: 40-mg/m² IV on day 1
Repeat cycle every 21 days. ¹, ⁴⁰⁹

Single-Agent Regimen

**Doxorubicin**

Doxorubicin: 60-mg/m² IV on day 1
Repeat cycle every 21 days. ¹, ⁴⁰⁹
Combination Regimen

Doxorubicin + Cisplatin

Baseline laboratory tests: CBC: Chemistry (including Mg^{2+})
Baseline procedures or tests: MUGA scan
Initiate IV: 0.9% sodium chloride
Premedicate: 5-HT\textsubscript{3} and dexamethasone 20 mg in 100 cc of NS
Administer:

Doxorubicin __________ mg (60 mg/m\textsuperscript{2}) IV push on day 1

- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

Cisplatin __________ mg (40 g/m\textsuperscript{2}) IV over 1–2 hours on day 1

- Do not use aluminum needles, because precipitate will form.
- Available in solution as 1 mg/mL.
- Further dilute solution with 250 cc or more of NS.

Major Side Effects

- Bone Marrow Depression: Leukopenia, thrombocytopenia, and anemia all occur; may be severe.
- GI Toxicities: Nausea and vomiting are moderate to severe and can be acute or delayed. Stomatitis occurs in 10% of patients but is not dose limiting.
- GU Toxicities: Red-orange discoloration of urine for up to 48 hours after doxorubicin.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m\textsuperscript{2}, cardiomyopathy may occur. Increased risk of cardiotoxicity when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- Renal: Nephrotoxicity is dose related with cisplatin and presents at 10–20 days. Risk may be reduced with adequate hydration.
- Electrolyte Imbalance: Decreased Mg\textsuperscript{2+}, K, Ca\textsuperscript{2+}, Na\textsuperscript{+}, and P.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses > 50 mg/m\textsuperscript{2}.
- Neurotoxicity: Dose-limiting toxicity, usually in the form of peripheral sensory neuropathy. Paresthesias and numbness in a classic “stocking glove” pattern.
- Ototoxicity: High-frequency hearing loss and tinnitus with cisplatin.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

Initiate antiemetic protocol: Moderately to highly emetogenic protocol.
Supportive drugs:
- pegfilgrastim (Neulasta)
- filgrastim (Neupogen)
- epoetin alfa (Procrit)
- darbepoetin alfa (Aranesp)

Treatment schedule:
Chair time 3 hours on day 1. Repeat cycle every 21 days.
Estimated number of visits: Two visits per cycle. CBC day 10–14. Request four cycles worth of visits.

Dose Calculation by:
1. ________________________________ 2. ________________________________

_____________________________ ________________________________
Physician Date

_____________________________
Patient Name ID Number

_____________________________ _______________________________ / / 
Diagnosis Ht Wt M\textsuperscript{2}
Single-Agent Regimen

**Doxorubicin**

**Baseline laboratory tests:** CBC: Chemistry

**Baseline procedures or tests:** MUGA scan

**Initiate IV:** 0.9% sodium chloride

**Premedicate:** 5-HT$_3$ and dexamethasone 10–20 mg in 100 cc of NS

**Administer:** **Doxorubicin** __________ mg (60 mg/m$^2$) IV on day 1

- Potent vesicant
- Available as a 2-mg/mL solution.
- Doxorubicin will form a precipitate if it is mixed with heparin or 5-FU.

**Major Side Effects**

- Bone Marrow Depression: WBC and platelet nadir 10–14 days after drug dose, with recovery from days 15–21. Myelosuppression may be severe but is less severe with weekly dosing.
- GI Toxicities: Nausea and vomiting are moderate to severe and occur in 44% of patients. Stomatitis occurs in 10% of patients but is not dose limiting.
- GU Toxicities: Red-orange discoloration of urine for up to 48 hours after doxorubicin.
- Cardiac: Acutely, pericarditis-myocarditis syndrome may occur. With high cumulative doses > 550 mg/m$^2$, cardiomyopathy may occur. Increased risk of cardiotoxicity when doxorubicin is given with trastuzumab (Herceptin) or mitomycin.
- Skin: Extravasation of doxorubicin causes severe tissue destruction. Hyperpigmentation, photosensitivity, and radiation recall occur. Complete alopecia occurs with doses > 50 mg/m$^2$.
- Reproductive: Pregnancy category D. Breast feeding should be avoided.

**Initiate antiemetic protocol:** Moderately to highly emetogenic protocol

**Supportive drugs:**
- □ pegfilgrastim (Neulasta)
- □ filgrastim (Neupogen)
- □ epoetin alfa (Procrit)
- □ darbepoetin alfa (Aranesp)

**Treatment schedule:** Chair time 1 hour on day 1. Repeat cycle every 21 days.

**Estimated number of visits:** Two visits per cycle. CBC day 10–14. Request four cycles worth of visits.

**Dose Calculation by:**

1. ____________________________ 2. ____________________________

**Physician**

**Date**

**Patient Name**

**ID Number**

**Diagnosis**

Ht Wt M$^2$