ABCIXIMAB (ReoPro)

MECHANISM OF ACTION:
Prevents the aggregation of platelets by inhibiting the integrin GP IIb/IIIa receptor.

INDICATIONS:
• UA/NSTEMI patients undergoing planned or emergent PCI

ADVERSE REACTIONS:
• Bleeding from the GI tract
• Internal bleeding
• Intracranial hemorrhage
• Hypotension
• Stroke
• Anaphylactic shock
ABCIXIMAB (ReoPro)

CONTRAINDICATIONS:
- Bleeding from any source
- Severe uncontrolled hypertension
- Surgery or trauma within the previous 6 weeks
- Stroke within the previous 30 days
- Renal failure
- Thrombocytopenia
- Intracranial mass

DOSAGE:
UA/NSTEMI with Planned PCI within 24 Hours:
- 0.25 mg/kg IV, IO (10 to 60 minutes prior to procedure), then 0.125 mcg/kg/min IV, IO infusion for 12 to 24 hours

Percutaneous Coronary Intervention Only:
- 0.25 mg/kg IV, IO, then 10 mcg/min IV, IO infusion
ACTIVATED CHARCOAL

MECHANISM OF ACTION:
When certain chemicals and toxins are in proximity to the activated charcoal, the chemical will attach to the surface of the charcoal and become trapped.

INDICATIONS:
• Toxic ingestion

ADVERSE REACTIONS:
• Nausea/vomiting
• Constipation or diarrhea
• If aspirated into the lungs, charcoal can induce a potentially fatal form of pneumonitis.
ACTIVATED CHARCOAL

CONTRAINDICATIONS:
• Ingestion of acids
• Alkalis
• Ethanol
• Methanol
• Cyanide
• Ferrous sulfate or other iron salts
• Lithium
• Coma
• GI obstruction

DOSAGE:
Adult: 50 to 100 g/dose
Pediatric: 1 to 2 g/kg
**ADENOSINE (ADENOCARD)**

**MECHANISM OF ACTION:**
Slows the conduction of electrical impulses at the AV node.

**INDICATIONS:**
- Stable reentry SVT
- Does not convert AF, atrial flutter, or VT

**ADVERSE REACTIONS:**
- Common adverse reactions are generally mild and short-lived.
- Sense of impending doom
- Complaints of flushing
- Chest pressure
- Throat tightness
- Numbness
- May be a brief episode of asystole after administration
CONTRAINDICATIONS:
- Sick sinus syndrome
- Second- or third-degree heart block
- Poison- or drug-induced tachycardia

DOSAGE:

**Note:** Adenosine should be delivered only by rapid IV bolus with a peripheral IV or directly into a vein, in a location as close to the heart as possible, preferably in the antecubital fossa. Administration of adenosine should be immediately followed by a saline flush, and then the extremity should be elevated.

**Adult:**
- 6 mg rapid IV, IO (over a 1- to 3-second period) immediately followed by a 20-mL rapid saline flush
- If the first dose does not eliminate the rhythm in 1 to 2 minutes, 12 mg rapid IV, IO; repeat a second time if required

**Pediatric:**
- For children $>50$ kg: same as adult dosing.
- For children $<50$ kg: 0.1 mg/kg IV, IO (max dose: 6 mg) immediately followed by a $\geq 5$-mL rapid saline flush; may repeat at 0.2 mg/kg (max dose: 12 mg)
ALBUMIN

MECHANISM OF ACTION:
Increases oncotic pressure in intravascular space.

INDICATIONS:
• Expand intravascular volume

ADVERSE REACTIONS:
• Allergic reaction in some patients
• An excessive volume of fluid can result in CHF and pulmonary edema in susceptible patients.

CONTRAINDICATIONS:
• Severe anemia or cardiac failure in the presence of normal or increased intravascular volume
• Solution appears turbid or if 4 hours has elapsed since the container was opened
• Known sensitivity
DOSAGE:
Two preparations: 500 mL of a 5% solution and 100 mL of a 25% solution

Adult:
• 5% albumin: 500 to 1000 mL IV, IO
• 25% albumin: 50 to 200 mL IV, IO

Pediatric:
• 5% albumin: 12 to 20 mL IV, IO; the initial dose may be repeated in 15 to 30 minutes if the clinical response is inadequate.
• 25% albumin: 2.5 to 5 mL/kg IV, IO
• Alternatively, one may administer based on grams of albumin at 0.5 to 1 g/kg/dose IV, IO; may repeat as needed (max dose: 6 g/kg/day).
ALBUTEROL (PROVENTIL, VENTOLIN)

MECHANISM OF ACTION:
Binds and stimulates beta$_2$ receptors, resulting in relaxation of bronchial smooth muscle.

INDICATIONS:
• Asthma, bronchitis, COPD

ADVERSE REACTIONS:
• Hyperglycemia
• Hypokalemia
• Palpitations, anxiety, insomnia
• Sinus tachycardia
• Tremor
• Nausea/vomiting
• Throat irritation, dry mouth, epistaxis
• Hypertension
• Dyspepsia
• Headache
• Paradoxical bronchospasm

CONTRAINDICATIONS:
• Angioedema
• Sensitivity to albuterol or levalbuterol
**ALBUTEROL (PROVENTIL, VENTOLIN)**

**DOSAGE:**

**Acute Bronchospasm:**

**Adult:**
- MDI: 4 to 8 puffs every 1 to 4 hours may be required.
- Nebulizer: 2.5 to 5 mg every 20 minutes (max: 3 doses). After the initial three doses, escalate the dose or start a continuous nebulization at 10 to 15 mg/hr.

**Pediatric:**
- MDI:
  - **4 years and older:** 2 inhalations every 4 to 6 hours. In some patients, however, 1 inhalation every 4 hours is sufficient.
  - **Younger than 4 years:** administer by nebulization.

**Nebulizer:**
- Older than 12 years: 0.5 mg/kg/hr
- Younger than 12 years: 0.15 mg/kg every 20 minutes (max: 3 doses) or 0.5 mg/kg per hour

**Asthma in Pregnancy:**
- MDI: 2 inhalations every 4 hours. In acute exacerbation, start with 2 to 4 puffs every 20 minutes.
- Nebulizer:
  - 2.5 mg (0.5 mL) by 0.5% nebulization solution.
  - Place 0.5 mL of the albuterol solution in 2.5 mL of sterile normal saline.
  - Flow is regulated to deliver the therapy over 5- to 20-minutes.
  - In refractory cases, some physicians order 10 mg nebulized over 60-minutes.
MECHANISM OF ACTION:
Binds and stimulates beta2 receptors, resulting in relaxation of bronchial smooth muscle, and antagonizes the acetylcholine receptor, producing bronchodilation.

INDICATIONS:
• Second-line treatment (if bronchodilator is ineffective) in COPD or severe acute asthma exacerbations during medical transport

ADVERSE REACTIONS:
• Headache
• Cough
• Nausea
• Arrhythmias
• Paradoxical acute bronchospasm
CONTRAINDICATIONS:
- Allergy to soybeans or peanuts
- Known sensitivity to atropine, albuterol, or their respective derivatives
- Used with caution in patients with asthma, hypertension, angina, cardiac arrhythmias, tachycardia, cardiovascular disease, congenital long QT syndrome, closed-angle glaucoma

DOSAGE:
- **Adult:** 2 puffs inhaled every 6 hours by MDI, with a maximum daily dose of 12 puffs/day
- **Pediatric:** Not recommended for pediatric patients
**AMINOPHYLLINE**

**MECHANISM OF ACTION:**
Relaxes the smooth muscle of the bronchial airways and pulmonary blood vessels and may also have antiinflammatory properties.

**INDICATIONS:**
- Bronchospasm

**ADVERSE REACTIONS:**
- Seizures
- Cardiac arrest
- Arrhythmias
- Nausea/vomiting
- Abdominal pain or cramping
- Headache
- Tachycardia
- Palpitations
- Anxiety
- Ventricular arrhythmias

**CONTRAINDICATIONS:**
- Known sensitivity
- Use with caution in liver disease, kidney disease, seizures, and cardiac arrhythmias
DOSAGE:
A loading dose is first administered, followed by an infusion.

Adult:
• Load with 5 mg/kg IV, IO slowly over a 20- to 30-minute period, followed by an infusion.
• An infusion rate of 0.4 mg/kg/hr is effective for a nonsmoker, but a patient who smokes can require a high infusion rate at 0.8 mg/kg/hr IV, IO.
• When treating patients with CHF, reduce the dose to 0.2 mg/kg/hr.

Pediatric:
• Load with 5 mg/kg slow IV, IO over a 20-minute period
• Older than 12 years: 0.4 mg/kg/hr IV, IO
• 10 to 12 years: 0.7 mg/kg/hr IV, IO
• 1 to 9 years: 0.8 to 1 mg/kg/hr IV, IO
• 6 months to 1 year: 0.6 to 0.7 mg/kg/hr IV, IO
• 6 to 24 weeks: 0.5 mg/kg/hr IV, IO
AMIODARONE (CORDARONE)

MECHANISM OF ACTION:
Acts directly on the myocardium to delay repolarization and increase the duration of the action potential.

INDICATIONS:
- Ventricular arrhythmias
- Second-line agent for atrial arrhythmias

ADVERSE REACTIONS:
- Burning at the IV site
- Hypotension
- Bradycardia

CONTRAINDICATIONS:
- Sick sinus syndrome
- Second- and third-degree heart block
- Cardiogenic shock
- When episodes of bradycardia have caused syncope
- Sensitivity to benzyl alcohol and iodine
AMIODARONE (CORDARONE)

DOSAGE:
Ventricular Fibrillation and Pulseless Ventricular Tachycardia:
Adult: 300 mg IV/IO; may be followed by one dose of 150 mg in 3 to 5 minutes
Pediatric: 5 mg/kg (max dose: 300 mg); may repeat 5 mg/kg IV, IO up to 15 mg/kg

Relatively Stable Patients with Arrhythmias such as Premature Ventricular Contractions or Wide Complex Tachycardias with a Strong Pulse:
Adult: 150 mg in 100 mL D5W IV, IO over a 10-minute period; may repeat in 10 minutes up to a maximum dose of 2.2 g over 24 hours
Pediatric: 5 mg/kg very slow IV, IO (over 20 to 60 minutes); may repeat in 5-mg/kg doses up to 15 mg/kg (max dose: 300 mg)
MECHANISM OF ACTION:
Blocks the enzyme responsible for the production of angiotensin II, resulting in a decrease in blood pressure.

INDICATIONS:
• Congestive heart failure
• Hypertension
• Postmyocardial infarction

ADVERSE REACTIONS:
• Headache
• Dizziness
• Fatigue
• Depression
• Chest pain
• Hypotension
• Palpitations
• Cough
• Dyspnea
• Upper respiratory infection
• Nausea/vomiting
• Rash
• Pruritus
• Angioedema
• Renal failure
ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITORS: CAPTOPRIL (CAPOTEN), ENALAPRIL (VASOTEC), LISINOPRIL (PRINIVIL, ZESTRIL), RAMIPRIL (ALTACE)

CONTRAINDICATIONS:
- Angioedema related to previous treatment with an ACE inhibitor
- Known sensitivity
- Use with caution in aortic stenosis, bilateral renal artery stenosis, hypertrophic obstructive cardiomyopathy, pericardial tamponade, elevated serum potassium levels, acute kidney failure

DOSAGE:
Medication is administered orally. Dosage is individualized.
**ASPIRIN, ASA**

**MECHANISM OF ACTION:**
This prevents the formation of a chemical known as thromboxane A₂, which causes platelets to clump together, or aggregate, and form plugs that cause obstruction or constriction of small coronary arteries.

**INDICATIONS:**
- Fever
- Inflammation
- Angina
- Acute MI
- Patients complaining of pain, pressure, squeezing, or crushing in the chest that may be cardiac in origin

**ADVERSE REACTIONS:**
- Anaphylaxis
- Angioedema
- Bronchospasm
- Bleeding
- Stomach irritation
- Nausea/vomiting

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ASPIRIN, ASA

CONTRAINDICATIONS:
- GI bleeding
- Active ulcer disease
- Hemorrhagic stroke
- Bleeding disorders
- Children with chickenpox or flulike symptoms
- Known sensitivity

DOSAGE:
Note: “Baby aspirin” 81 mg, standard adult aspirin dose 325 mg

Myocardial Infarction:
Adult: 160 to 325 mg PO (alternatively, four 81-mg baby aspirin are often given), 300-mg rectal suppository
Pediatric: 3 to 5 mg/kg/day to 5 to 10 mg/kg/day given as a single dose

Pain or Fever:
Adult: 325 to 650 mg PO (1 to 2 adult tablets) every 4 to 6 hours
Pediatric: 60 to 90 mg/kg/day in divided doses every 4 to 6 hours