

Pharmacotherapeutics for Advanced Nursing Practice

Featured Presenters:

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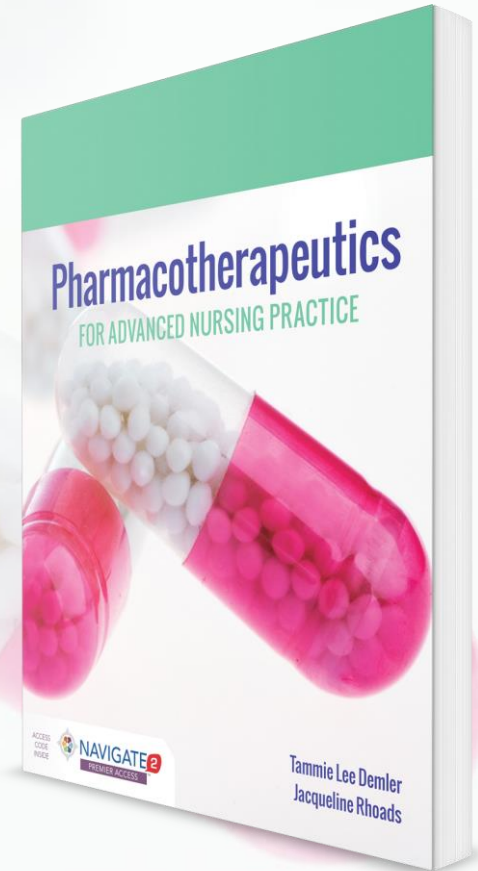
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About the Text

- Reliable, efficient “at a glance” and “need to know” drug information
- Therapeutic guidance on the use of majority of medications available on the U.S. market
- Addresses the individual needs of those seeking knowledge about medications



Target Audience

- Practitioners looking for a “go-to reference”
- Nursing Students
- Faculty with medication related topics in the curriculum



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Chapter Organization

14 chapters, categorized by AHFS categories

AHFS Therapeutic Categories

Antihistamine agents	Electrolytic, caloric & water balance agents
Anti-infective agents	Respiratory agents
Antineoplastic agents	Eye, ear, nose and throat preparations
Autonomic agents	Gastrointestinal agents
Blood formation, coagulation & thrombosis agents	Hormone and Synthetic Substitutes
Cardiovascular agents	Skin and mucous membrane agents
Central nervous system agents	Smooth muscle relaxants



Text Layout

Chapter overview

Narrative describing why drugs work in the primary body system and also cross reference to other body systems, where applicable

Tips from the field

Features “real world applications” from the perspective of the authors

Companion drug grids

Describe the drugs included in that category (brand/generic names, FDA approved indication for use, usual dosage ranges, precautions and clinical pearls)









Symbols

- BBW
- Special dosing
- QTc warnings



Overview of Text: Design

Symbols

- | | |
|---|---|
|  Renal impairment: Dose adjustment is recommended. |  Beers list criteria (avoid in elderly patients). |
|  Hepatic impairment: Dose adjustment is recommended. |  FDA-approved pediatric doses are available. |
|  Black box warning exists for this drug. |  FDA-approved geriatric doses are available. |
|  QTc prolongation effects have been reported. |  See primary body system. |

Central Nervous System Agents

Universal prescribing alerts:

- Known serious hypersensitivity to the specific drug or any other component of product/formulation selected warrants a contraindication for its use.
- Adverse reactions associated with the use of some **central nervous system agents** include dizziness, drowsiness, vertigo, and fatigue; these agents may also impair the ability to perform tasks requiring mental alertness. Caution should always be recommended when using any new drug for the first time, when there is a dose change, and for continued use of known offending agents.
- Doses expressed are for usual adult dosage ranges only. "Geriatric doses" are assumed to be the same as adult doses unless otherwise noted with a symbol. Where FDA-approved, pediatric dosing is available, a symbol will guide the reader to additional prescribing references. Refer to real-time prescribing references for these age-specific doses.
- Use of CNS agents in pregnancy is based on weighing clinical risk versus benefit and safety concerns are not represented in this grid. Refer to the package insert (PI) for more information. Clinicians should continue to provide education about the reproductive risks of any medication and offer risk-reduction strategies (which may include contraceptive use) to women of childbearing age and understand that these reproductive risks may also extend to males. Other medications may decrease the effectiveness of oral contraceptives. Where necessary, an alternative means of birth control should be explored.
- Brand names are provided for those products still available on the market. Due to the ever-changing product availability, refer to the Food and Drug Administration (FDA) resources to confirm the actual brands available. This drug summary is intended for educational purposes only. Prescribing decisions should be based on real-time comprehensive drug databases that are updated on a regular basis.

Analgesic and Antipyretic Agents


Nonsteroidal Anti-inflammatory Agents

Universal prescribing alerts:

- Serious GI tract bleeding and ulceration have been reported without symptoms or warning. Use nonsteroidal anti-inflammatory agents (NSAIDs) with extreme caution in patients at higher risk of this adverse event including those with a prior history of GI bleeding, GI perforation, or ulcerative GI disease, the elderly, those in poor general health, heavy smokers and/or drinkers or debilitated patients and in those taking other high-risk medications such as concurrent oral corticosteroid therapy or anticoagulant therapy. For high-risk patients, alternate therapies that do not involve NSAIDs should be considered. These agents are stomach irritants; take with food.
- NSAIDs may interfere in the compensatory role that renal prostaglandins play in the maintenance of renal perfusion, thus causing potential renal toxicity. The administration of an NSAID may cause a dose-dependent reduction in prostaglandin formation and, secondarily, in renal blood flow, which may precipitate overt renal decompensation. Patients who are at highest risk of this toxicity are those with renal and/or hepatic impairment, renal failure, heart failure, hypovolemia (dehydration), those taking diuretics and ACE inhibitors, angiotensin II receptor antagonists (ARBs), or older patients. Monitor renal function and ensure proper hydration before using (and throughout use) of NSAIDs. Discontinuation of NSAID therapy is usually followed by renal recovery.
- Consider the cardiovascular risk and the potential treatment benefit prior to NSAID therapy initiation. All NSAIDs may exacerbate hypertension and congestive heart failure and may cause an increased risk of serious cardiovascular thrombotic events, myocardial infarction or stroke, which can be fatal.



Overview of Text: Design

Drug Name	FDA-Approved Indications	Adult Dosage Range	Precautions and Clinical Pearls
Generic Name Amphetamine Brand Name Evekeo Adzenys XR-ODT Dyanavel XR suspension 	ADHD Exogenous obesity (IR only) Narcolepsy (IR only)	Dose varies depending on product selected Illustrative oral dose for ADHD: IR tablet: 5 mg twice per day (MDD: 60 mg per day) XR ODT: 12.5 mg per day XR suspension: 2.5 to 5 mg per day (MDD: 20 mg per day)	<ul style="list-style-type: none"> • Use an oral dosing syringe when dosing the suspension • Shake the suspension well prior to administration • Administer with or without food; for exogenous obesity, administer 30 to 60 minutes before meals • Administer the first dose on awakening; administer additional doses at intervals of 4 to 6 hours; avoid late-evening dosing • Amphetamine serum levels may be reduced if taken with acidic food, juices, or vitamin C • Adderall is a mixture of amphetamine and dextroamphetamine • Available as multiple products that are not interchangeable. See the individual product for indications, dosing, and brand name. <p>Associated with:</p> <ul style="list-style-type: none"> • Contraindication for use in patients with history of substance abuse (including alcoholism)
Generic Name Benzphetamine Brand Name Regimex	Obesity (short-term adjunct)	Usual oral dose: 25 to 50 mg per day (MDD: 50 mg 3 times per day)	<ul style="list-style-type: none"> • Doses should be individualized based on patient response • Indications for obese patients is specific to BMI and presence of other risk factors such as hypertension, diabetes, and/or dyslipidemia; refer to PI • Amphetamines may elevate plasma corticosteroid levels and interfere with urinary steroid determinations • Certain drug interactions may require dose adjustment or avoidance of some combinations <p>Contraindications:</p> <ul style="list-style-type: none"> • Cardiac disease, glaucoma, cardiac disease, hyperthyroidism and substance abuse



Pedagogy

- Learning objectives
- Key terms
- Section summaries
- Case studies and conclusions
- Multiple choice questions and supplemental PowerPoint slides

Learning Objectives

- Identify current pharmacologic agents that are appropriate for each condition/diagnosis.
- Recommend optimal pharmacologic interventions based on patient-specific characteristics.
- Provide appropriate patient-specific counseling points and optimal overall medication management.

Key Terms: anthelmintic agents, antibacterial agents, aminoglycosides, cephalosporins, beta-lactams, carbapenems, cephamycins, monobactams, chloramphenicols, macrolides, erythromycins, ketolides, penicillins, aminopenicillins, penicillinase-resistant penicillins, extended-spectrum penicillins, quinolones, sulfonamides, tetracyclines, glycylicyclines, bacitracins, cyclic lipopeptides, glycopeptides, lincomycins, oxazolidinones, polymyxins, rifamycins, streptogramins, antifungal agents, allylamines, azoles, echinocandins, polyenes, pyrimidines, antimycobacterial agents, antituberculosis agents, antiviral agents, adamantanes, antiretroviral agents, HIV entry and fusion inhibitors, HIV protease inhibitors, HIV integrase inhibitors, HIV non-nucleoside reverse transcriptase inhibitors, HIV nucleoside and nucleotide reverse transcriptase inhibitors, interferons, monoclonal antibodies, neuraminidase inhibitors, nucleosides and nucleotides, HCV antiviral agents, HCV polymerase inhibitors, HCV protease inhibitors, HCV replication complex inhibitors, antiprotozoal agents



Rationale for Development

Why did we write this book?

- Provider demand for “simplification”
- Alert fatigue and “too much information”
- Provides an organized, consistent approach to the most critical “key” messages for using medications
- Not focused on any specific “area” of practice—perfect for a general specialist in all areas!



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Why The Market Needs This Text To Address This Gap

- Electronic databases provide overwhelming amounts of information often not clinically “prioritized”
- Source of information was needed to organize clinical decision making based on key message relative to the drugs, not impacted by opinion in guidelines
- Many current texts focus on specific therapeutic areas and expert “algorithms” and omit drugs still in use



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Benefit of This Text for Students

- Prescribers “in training”
- Decluttered, focused learning using key messages
- Opportunity to explore further in areas the student is interested in pursuing (guided self-directed learning)
- Case studies with conclusions to provoke further learning and to establish lessons learned











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How Does This Text Differ From Others?

- Decluttered, symbol driven easy to use tool
- Categorized by American Hospital Formulary Service
- Drugs often become “approved” for use in other categories which are cross referenced
- Old drugs not forgotten (guidelines change and older drugs seem to find their way back!)

Symbols

-  Renal impairment: Dose adjustment is recommended.
-  Hepatic impairment: Dose adjustment is recommended.
-  Black box warning exists for this drug.
-  QTc prolongation effects have been reported.
-  Beers list criteria (avoid in elderly patients).
-  FDA-approved pediatric doses are available.
-  FDA-approved geriatric doses are available.
-  See primary body system.



How Do We Differ From Others?

- Narrative chapters provide insight about why these drugs work at specific areas in the body
- Real life “tips from the field” summarize each chapter
- Universal prescribing alerts provide class related precautions to be applied
- Use of illustrative doses and most common uses



Tips from the Field

Worms

1. Diagnosis of tape worms and pinworms is generally made by detection of eggs in stool. Stool should be analyzed for the characteristic eggs, such as for the *Ascaris lumbricoides* “round worm.” Because of a very high egg burden, sample concentration techniques are generally not needed to make the diagnosis.
2. Patients may assist in diagnosis of pinworms with cellophane tape used to collect the eggs from the perianal area and collected in the morning before bathing or using the toilet. The tape is removed and brought in for examination under a microscope. The sensitivity of the tape test is about 50% for a one-time collection and 90% for three collections.

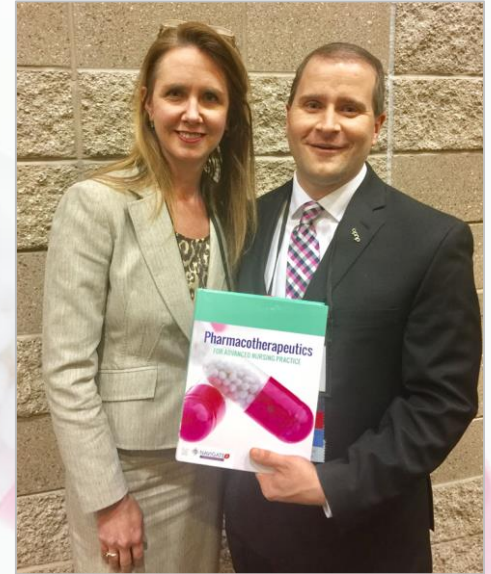
Other Pearls

1. Remember:
 - Systematic Approach for Selection of Antimicrobials (details provided in this chapter).
 - Refer to guidelines prior to ordering/administering subacute bacterial endocarditis (SBE) prophylaxis to patients as the criteria for use have become more restrictive in order to reduce the overuse and unnecessary use of antibiotics.
2. For most agents that require nebulized inhalation administration (such as tobramycin):
 - The solution for nebulization should not be administered parenterally (i.e., IM, SQ, or IV) as it is intended for inhaled administration only.
 - Do not dilute or mix with other medicines in the nebulizer (unless there are specific manufacturer's directions that offer these administration alternatives).
 - Administer *nebulized solution for inhalation* while the patient is sitting or standing upright and breathing normally through the mouthpiece of the nebulizer.
 - Encourage gradual inhalation over approximately 15 minutes, using a hand-held nebulizer as recommended by the specific product manufacturer. Full treatment dose has been administered when the mouthpiece makes a spitting noise for at least 1 minute and the nebulizer cup is empty.
3. For most agents that require administration of the powder for inhalation:
 - Capsules are for oral inhalation only; do not swallow the capsules.
 - Devices to use for powder inhalation are specific to product used.
 - Clean, store, and/or replace device according to manufacturer recommendations.
 - Encourage patients to keep a back-up device in reserve should the device they are currently using fails. Remind patients that capsules should not be removed from the package until ready to use.
 - Become familiar with stewardship programs and appropriate prescribing (refer to <http://www.cdc.gov/getsmart/community/improving-prescribing/outpatient-stewardship.html>).
4. For most agents that require reconstitution prior to use:
 - Many of these anti-infective agent injections are supplied as powder that must be reconstituted prior to administration.
 - It is important to read instructions on the specific diluent to use, and how long the product is good for once reconstituted.
 - Keep in mind that refrigerated storage of reconstituted injections often allows a longer beyond use date.
 - Always label and indicate date of reconstitution.



Why Students Will Love This Text

- Colorful symbols make content “feel” less intimidating
- Universal prescribing alerts provide reassurance that the most important points will not be missed
- Experts provide shared insight and field experiences



Tammie Lee with Chris Thomas, National President of The College of Psychiatric and Neurologic Pharmacists (CPNP) April 2017 (featured editor of our CNS chapter)



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Why Instructors Will Want to Adopt

- Will continue to be relevant
 - Future editions will “add new drugs” but will keep the older agents
- Can be used in an “instructor” specific manner
 - Can change slide template to add details to enhance your course
 - Consistent approach to bullets and tips from the field



Teaching Tips

Can focus course content many different ways:

- Drug targets and why certain agents work
- Features most critical black box warnings
- Drugs that require dose adjustments in renal and hepatic impairment
- FDA approved geriatric and pediatric dosing
- Can introduce basic PK/PD (QTc, drug interactions) without alienating students who fear this topic

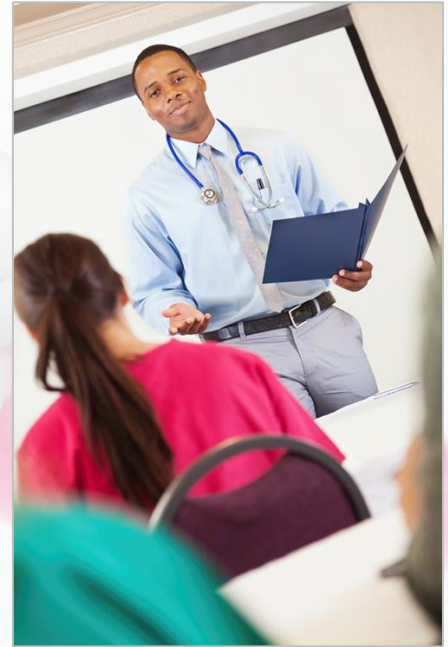


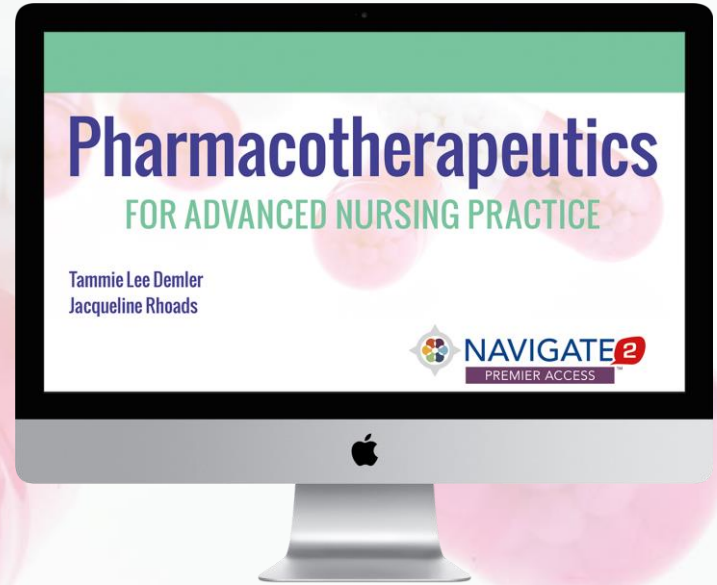
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