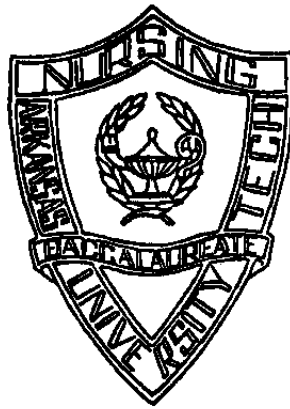


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ARKANSAS TECH UNIVERSITY

DEPARTMENT OF NURSING



PHARMACOLOGY

NUR 3703

Fall 2009

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ARKANSAS TECH UNIVERSITY  
DEPARTMENT OF NURSING

**COURSE:** NUR 3703

**TITLE:** PHARMACOLOGY

**CREDIT HOURS:** THREE (3) HOURS

**CONTACT HOURS:** THREE HOURS PER WEEK

**PLACEMENT:** FALL SEMESTER JUNIOR YEAR

**COURSE FACULTY:**

Linda Self, MS, MA, APN, CCRN

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Office hours: On bulletin board

**INSTRUCTIONAL RESOURCES:**

**Required Textbooks:**

Abrams, A., Pennington, S., Lawman, C. (2007) Clinical Drug Therapy: Rationales for Nursing Practice, 8<sup>th</sup> Edition. Study Guide to Accompany Clinical Drug Therapy

**COURSE DESCRIPTION:**

This course focuses on the relationships between the action of drugs, their effects and the contraindications for their administration. The relationship between specific patient needs and the type of drugs that would be effective to meet those needs will be analyzed. The nursing care related to each type of drug and the rationales for the care will be included.

## **Justification/Rationale for the Course**

By the completion of this course the student will progress toward program goals/outcomes 1, 2, 3, and 4.

This upper division professional nursing course provides opportunities for the student to apply knowledge and skills from the general education component and from nursing courses to the care of individuals and families.

## **Course Objectives:**

On successful completion of this course, the nursing student will be able to:

1. Understand the role of pharmacokinetics and pharmacodynamics in medication administration.
2. Utilize the nursing process in medication administration.
3. Discuss nursing implications associated with medication administration.
4. Identify patient education needs pertinent to medications.
5. Discuss side effects, adverse effects and precautionary measures to be taken with various medications.
6. Explore the legal and ethical issues associated with medication administration.

## **CONDUCT OF THE COURSE:**

### **Teacher Role:**

Demonstrator, Evaluator, Facilitator, Resource Person, Role Model, Communicator, and Supporter.

### **Student Role:**

Learner, Teacher, Advocate, Care Giver, and Communicator.

### **Teaching-Learning Strategies:**

Lecture and discussion, simulation, charts, diagrams, and audiovisual materials, and critical thinking activities.

### **Evaluation:**

#### 1. Grading Scale

A = 90 - 100

B = 80 - 89

C = 75 - 79

D = 68 - 74

F = 67 and below

2. A grade of "C" or above must be achieved in every nursing course in order to progress in the Nursing Program. There will be no rounding of grades. All tests and other assignments will be carried to the hundredth.

**Evaluation: (continued)**

3. You must complete all exams and quizzes with a cumulative grade of 75 to successfully complete the course.
4. A semester grade of "I" or "Incomplete" will be given to those students whose work is incomplete because of illness or other circumstances beyond the student's control. This grade will be assigned at the discretion of the instructor according to the amount of time missed, the ability of the student to complete the necessary assignments, and the quality of the student's previous work. (See Student Handbook)
5. Failure to meet course requirements will result in an "Incomplete" grade for the course.
6. Examinations will be taken at designated times. If a student cannot take the examination at the scheduled time, he/she is responsible for contacting the instructor making arrangements to make up the examination. Make-up examinations will be essay or objective in nature at the discretion of the instructor and will be scheduled on the first day the student returns to class.
7. Test and quiz questions will not routinely be “thrown out” nor will grades be scaled.
8. There will be no makeup quizzes. A missed quiz will constitute a zero.
9. Lowest quiz grade will be dropped.
10. Student must achieve a 75% average on tests and quizzes.

Written Examinations:

Six (6) Unit Tests.....	65%
Comprehensive Final Exam.....	20%
Quizzes.....	<u>15%</u>
	100%

Professional Activities.....Maximum of 2 points

## **Policies**

### **Class Attendance:**

1. Regular class attendance is considered essential if the student is to receive maximum benefit from the course. The student is responsible for attending all classes as scheduled **and on time**. Control of class attendance is vested in the teacher. Please refer to Tardy and Attendance Policy in Student Handbook for detailed information.
2. Students tardy to class are encouraged to be courteous to their fellow classmates and enter **only** at designated break times.
3. Only officially invited guests are to attend nursing classes.
4. Planned learning experiences outside the classroom are an integral part of the nursing course. These experiences will be announced at least three (3) weeks in advance and all students are expected to participate.

### **Dress and Behavior:**

1. The nursing student is expected to dress appropriately while attending class.
2. Smoking is not allowed in any classroom.
3. No eating in class.
4. Disruptive behavior will not be tolerated.
5. No recording devices in class without express permission from the instructor.
6. No wearing of hats, caps or hoods during class.

**NUR 3703 PHARMACOLOGY**  
**FOCUS A: Issues in Pharmacology**

**OBJECTIVES**

The student will:

1. Differentiate between pharmacology and drug therapy.
2. Distinguish between generic and trade names of drugs.
3. Define a prototypical drug.
4. Select authoritative sources of drug information.
5. Discuss major drug laws and standards.
6. Describe the main categories of controlled substances in relation to therapeutic use and potential for abuse.
7. Discuss nursing responsibilities in handling controlled substances correctly.
8. Explain the role of the U.S. Food and Drug Administration.
9. Analyze the potential impact of drug costs on drug therapy regimens.
10. Develop personal techniques for learning about drugs and using drug knowledge in client care.
11. Identify the main pathways and mechanisms by which drugs cross biologic membranes and move through the body.
12. Describe each process of pharmacokinetics.
13. Discuss clinical usefulness of measuring serum drug levels.
14. Give major characteristics of the receptor theory of drug action.
15. Differentiate between agonist and antagonist drugs.
16. Describe drug-related and client-related variables that affect drug actions.
17. Discuss mechanisms and potential effects of drug-drug interactions.
18. Identify signs and symptoms that may occur with adverse drug effects on major body systems.
19. Discuss general management of drug overdose and toxicity.

**NUR 3703 PHARMACOLOGY**  
**FOCUS A: Issues in Pharmacology (cont.)**

**OBJECTIVES**

The student will:

20. Discuss selected drug antidotes.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch.1, 2

**Before Class:**

Study Guide Ch. 1, 2

**NUR 3703 PHARMACOLOGY**  
**FOCUS B: Focus into Drug Therapy**

**OBJECTIVES**

The student will:

1. Give the seven rights of drug administration.
2. Discuss knowledge and skills needed to implement the seven rights.
3. List requirements of a complete drug order or prescription.
4. Accurately interpret drug orders containing common abbreviations.
5. Differentiate drug dosage forms for various routes of administration.
6. Discuss advantages and disadvantages of oral, parenteral, and topical routes of drug administration.
7. Identify supplies, techniques, and observations needed for safe and accurate administration by different routes.
8. Assess the client's condition in relation to age, weight, health status, and lifestyle habits likely to influence drug effects.
9. Obtain a medication history about the client's use of prescription, over-the-counter, and social drugs as well as herbal and dietary supplements.
10. Identify nonpharmacologic interventions to prevent or decrease the need for drug therapy.
11. Discuss interventions to increase benefits and decrease hazards of drug therapy.
12. Explain guidelines for rational choices of drugs, dosages, routes, and times if administration.
13. Observe clients for therapeutic and adverse responses to drug therapy.
14. Teach clients and family members how to use prescription and over-the-counter drugs safely and effectively.
15. When indicated, teach clients about the potential effects of herbal and dietary supplements.
16. Describe major considerations in drug therapy for clients with impaired renal or hepatic function.
17. Discuss application of the nursing process in home care settings.
18. Identify common systems of measurement and their equivalents.
19. Complete medication calculations using the metric system.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 3, 4

**Before Class:**

Study Guide Ch. 3, 4

**NUR 3703 PHARMACOLOGY**  
**FOCUS C: Digestive System Drugs**

**OBJECTIVES**

The student will:

1. Describe the main elements of peptic ulcer disease and gastroesophageal reflux disease.
2. Differentiate the types of drugs used to treat peptic ulcers and acid reflux disorders.
3. Discuss the advantages and disadvantages of proton pump inhibitors
4. Differentiate between prescription and over-the-counter uses of histamine-2 receptor blocking agents.
5. Discuss significant drug-drug interactions with cimetidine.
6. Describe characteristics, uses, and effects of selected antacids.
7. Discuss the rationale for using combination antacid products.
8. Teach clients nonpharmacologic measures to manage peptic ulcers and gastroesophageal reflux disease.
9. Identify clients at risk for developing nausea and vomiting.
10. Give guidelines for preventing, minimizing, or treating nausea and vomiting.
11. Differentiate the major types of antiemetic drugs.
12. Discuss characteristics, effects, and nursing process implications of selected antiemetic drugs.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 56, 59, 60, 61, 62

**Before Class:**

Study Guide Ch. 56, 59, 60, 61, 62

**NUR 3703 PHARMACOLOGY**  
**FOCUS D: Antimicrobial Drugs**

**OBJECTIVES**

The student will:

1. Identify populations who are at increased risk for development of infections.
2. Discuss common pathogens and methods of infection control.
3. Assess clients for local and systemic signs of infection.
4. Discuss common and potentially serious adverse effects of antimicrobial drugs.
5. Identify clients at increased risk for adverse drug reactions.
6. Discuss ways to increase benefits and decrease hazards of antimicrobial drug therapy.
7. Describe ways to minimize emergence of drug-resistant microorganisms.
8. State appropriate nursing implications for a client receiving an antimicrobial drug.
9. Discuss important elements of using antimicrobial drugs in children, older adults, those with renal or hepatic impairment, and those with critical illness.
10. Describe general characteristics of beta-lactam antibiotics.
11. Discuss penicillins in relation to effectiveness, safety, spectrum of antimicrobial activity, mechanism of action, indications for use, administration, observation or client response, and teaching of clients.
12. Differentiate among extended-spectrum penicillins.
13. Question clients about allergies before the initial dose of a penicillin.
14. Describe characteristics of beta-lactamase inhibitor drugs.
15. State the rationale for combining a penicillin and a beta-lactamase inhibitor drug.
16. Discuss similarities and differences between cephalosporins and penicillins.
17. Differentiate various cephalosporins in relation to antimicrobial spectrum, indications for use, and adverse effects.
18. Give major characteristics of carbapenems and monobactam drugs.
19. Apply principles of using beta-lactam antimicrobials in selected client situations.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 29, 30, 31, 32, 33

**Before Class:**

Study Guide Ch. 29, 30, 31, 32, 33

**NUR 3703 PHARMACOLOGY**  
**FOCUS E: Antimicrobial Drugs Continued**

**OBJECTIVES**

The student will:

1. Give characteristics of aminoglycosides in relation to effectiveness, safety, spectrum of antimicrobial activity, indications for use, administration, and observation of clients responses.
2. List factors influencing selection and dosage of aminoglycosides.
3. Discuss the importance of serum drug levels during aminoglycoside therapy.
4. Describe measures to decrease nephrotoxicity and ototoxicity with aminoglycosides.
5. Identify characteristics, uses, adverse effects, and nursing process implications of fluoroquinolones.
6. Discuss characteristics and specific uses of macrolide antibacterials.
7. Compare and contrast macrolides with other commonly used antibacterial drugs.
8. Apply principles of using macrolides in selected clients situations.
9. Discuss characteristics and clinical indications for using chloramphenicol, clindamycin, linezolid, metronidazole, quinupristin-dalfopristin, and vancomycin.
10. Discuss major characteristics and clinical uses of tetracyclines.
11. Recognize doxycycline as the tetracycline of choice for use in clients with renal failure.
12. Give characteristics, clinical uses, adverse effects, and nursing implications of selected sulfonamides.
13. Recognize trimethoprim-sulfamethoxazole as a combination drug that is commonly used for urinary tract and systemic infections.
14. Teach clients strategies for preventing, recognizing, and treating urinary tract infections.
15. Be familiar with names, indications and side effects of Lincosomide(s), Ketolide(s) and the cyclic lipopeptide(s).

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007)

**Before Class:**

**NUR 3703 PHARMACOLOGY**  
**FOCUS F: Antivirals, Fungal, TB, & Antiparasitics**

**OBJECTIVES**

The student will:

1. Describe characteristics of latent, active, and drug-resistant tuberculosis infections.
2. Identify populations at high risk for developing tuberculosis.
3. List characteristics, uses, effects, and nursing implications of using primary antitubercular drugs.
4. Give the rationale for multiple drug therapy in treatment of tuberculosis.
5. Discuss ways to increase adherence to antitubercular drug therapy regimens.
6. Differentiate the advantages and disadvantages of directly observed therapy (DOT).
7. Describe factors affecting the use of primary, secondary, and other drugs in the treatment of multidrug-resistant tuberculosis (MDR-TB).
8. Discuss *Mycobacterium avium* complex disease and the drugs used to prevent or treat it.
9. Identify characteristics of viruses.
10. Differentiate types of antiviral drugs used for herpes infections, human immunodeficiency virus (HIV) infections, influenza A, respiratory syncytial virus infections, Rotavirus.
11. Describe commonly used antiviral drugs in terms of indications for use, adverse effects, and nursing process implications.
12. Give the rationale for using combinations of drugs in treating HIV infection.
13. Provide guidelines for using antiviral drugs in special populations.
14. Discuss the drugs used to treat *Pneumocystis jiroveci* pneumonia in clients with acquired immunodeficiency syndrome (AIDS).
15. Discuss antibacterial drug therapy and immunosuppression as risk factors for development of fungal infections.
16. Describe commonly used antifungal drugs in terms of indications for use, adverse effects, and nursing process implications.
17. Give environmental and other major factors in prevention and recognition of selected parasitic diseases.

**NUR 3703 PHARMACOLOGY**  
**FOCUS E: Antivirals, Fungal, TB, & Antiparasitics (Cont.)**

**OBJECTIVES**

The student will:

18. Discuss assessment and treatment of pinworm infestations and pediculosis in school-aged children.
19. Teach clients techniques to prevent viral, fungal, and selected parasitic infections

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 34, 35, 36, 37

**Before Class:**

Study Guide Ch. 34, 35, 36, 37

**NUR 3703 PHARMACOLOGY**  
**FOCUS G: Respiratory System Drugs**

**OBJECTIVES**

The student will:

1. Describe the main pathophysiologic characteristics of asthma and other bronchoconstrictive disorders.
2. Give the uses and effects of bronchodilating drugs, including adrenergics, ipratropium, and theophylline.
3. Differentiate between short-acting and long-acting inhaled beta2-adrenergic agonists in terms of uses and nursing process implications.
4. Discuss the uses of anti-inflammatory drugs, including corticosteroids, leukotriene modifiers, and mast cell stabilizers.
5. Identify reasons for using inhaled drugs when possible.
6. Differentiate between “quick relief” and long-term control of asthma symptoms.
7. Discuss the use of antiasthmatic drugs in special populations.
8. Teach clients self-care and long-term control measures.
9. Delineate effects of histamine on selected body tissues.
10. Differentiate histamine receptors.
11. Describe the types of hypersensitivity or allergic reactions.
12. Discuss allergic rhinitis, allergic contact dermatitis, and drug allergies as conditions for which antihistamines are commonly used.
13. Identify the effects of histamine that are blocked by histamine-1 receptor antagonist drugs.
14. Differentiate first and second-generation antihistamines.
15. Describe antihistamines in terms of indications for use, adverse effects, and nursing process implications.
16. Discuss the use of antihistamines in special populations.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 43, 44, 45, 46

**Before Class:**

Study Guide Ch. 43, 44, 45, 46

**NUR 3703 PHARMACOLOGY**  
**FOCUS H: Reproductive Health Drugs**

**OBJECTIVES**

The student will:

1. Provide reasons for avoiding or minimizing drug therapy during pregnancy and lactation.
2. Describe selected teratogenic drugs.
3. Give guidelines for drug therapy of pregnancy-associated signs and symptoms.
4. Discuss guidelines for drug therapy of selected chronic disorders during pregnancy and lactation.
5. Discuss the safety of immunizations given during pregnancy.
6. Teach adolescent and young adult women to avoid prescribed and over-the-counter drugs when possible and to inform physicians and dentists if there is a possibility of pregnancy.
7. Discuss the role of the home care nurse working with the pregnant mother.
8. Discuss drugs used during labor and delivery in terms of their effects on the mother and newborn infant.
9. Describe abortifacients in terms of characteristics and nursing process implications.
10. Discuss effects of endogenous estrogens, progesterone, and progestins.
11. Describe benefits and risks of postmenopausal hormone replacement therapy.
12. Identify adverse effects associated with estrogens, progestins, and hormonal contraceptives.
13. Apply nursing process with clients taking estrogens, progestins, and hormonal contraceptives.
14. Apply nursing process with clients dealing with infertility.
15. Outline recommended drug regimens for common sexually transmitted diseases.
16. Discuss effects of endogenous androgens.
17. Give uses and effects of exogenous androgens and anabolic steroids.
18. Describe potential consequences of abusing androgens and anabolic steroids.

**NUR 3703 PHARMACOLOGY**  
**FOCUS H: Reproductive Health Drugs (Cont.)**

**OBJECTIVES**

The student will:

19. Counsel clients about the physiologic effects of the dietary supplements androstenedione, dehydroepiandrosterone (DHEA), and yohimbine.
20. Apply nursing process with clients using androgens.
21. Outline client teaching guidelines for clients with erectile dysfunction.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 27, 28

**Before Class:**

Study Guide Ch. 27, 28

**NUR 3703 PHARMACOLOGY**  
**FOCUS I: Nutrients & Weight Control Drugs**

**OBJECTIVES**

The student will:

1. Assess clients for risk factors and manifestations of fluid imbalances and undernutrition.
2. Evaluate the types and amounts of nutrients provided in commercial products for oral and tube feedings.
3. Collaborate with nutritionists and health care providers in designing and implementing nutritional support measures for undernourished or malnourished clients.
4. Minimize complications of enteral and parenteral nutrition.
5. Monitor laboratory reports that indicate nutritional status.
6. Assess clients for risk factors and manifestations of obesity.
7. Review health consequences of obesity.
8. Outline the management of obesity, including lifestyle changes and drugs to aid weight loss.
9. Identify the adverse effects of drugs used for obesity, including herbal and dietary supplements.
10. Assist clients who are overweight or obese to develop and maintain a safe and realistic weight loss program.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 57, 58

**Before Class:**

Study Guide Ch. 57, 58

## NUR 3703 PHARMACOLOGY

### FOCUS J: Pain Control Medications

#### OBJECTIVES

The student will:

1. Describe characteristics of pain.
2. Discuss the nurse's role in assessing and managing clients' pain.
3. List characteristics of narcotic analgesics in terms of mechanism of action, indications for use, and major adverse effects.
4. Use morphine sulfate as the prototype to discuss characteristics of narcotic analgesics.
5. Contrast the use of narcotic analgesics in opiate-naïve and opiate-tolerant clients.
6. Discuss the nursing process for using narcotic analgesics in specific populations.
7. Identify signs and symptoms of narcotic overdose and withdrawal and the treatment of each.
8. Teach clients about safe, effective use of narcotic analgesics.
9. Discuss the clinical use of narcotic antagonists.
10. Describe the role of prostaglandins in the etiology of pain, fever, and inflammation.
11. Discuss aspirin and other nonsteroidal anti-inflammatory drugs (NSAIDs) in terms of mechanisms of action, indications for use, contraindications to use, and the nursing process.
12. Compare and contrast aspirin, other NSAIDs, and acetaminophen in terms of indications for use and adverse effects.
13. Differentiate among antiplatelet, analgesic, and anti-inflammatory doses of aspirin.
14. Distinguish between traditional NSAIDs and cyclooxygenase-2 inhibitors.
15. Teach clients interventions to prevent or decrease adverse effects of aspirin, other NSAIDs, and acetaminophen.
16. Identify age-related considerations influencing the use of aspirin, NSAIDs, and acetaminophen.
17. Discuss recognition and management of acetaminophen toxicity.
18. Discuss the use of NSAIDs and antigout drugs.
19. Discuss the use of NSAIDs, triptans, and ergot antimigraine drugs.

#### LEARNING ACTIVITIES

##### **Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 6, 7

##### **Before Class:**

Study Guide Ch. 6, 7

**NUR 3703 PHARMACOLOGY**  
**FOCUS K: Antianxiety, Mood Disorders, Antipsychotics**

**OBJECTIVES**

The student will:

1. Identify characteristics, sources, and signs and symptoms of anxiety.
2. Discuss functions of sleep and consequences of sleep deprivation.
3. Describe nonpharmacologic interventions to decrease anxiety and insomnia.
4. List characteristics of benzodiazepine antianxiety and hypnotic drugs in terms of mechanism of action, indications for use, nursing process implications, and potential for abuse and dependence.
5. Describe strategies for preventing, recognizing, and treating benzodiazepine withdrawal reactions.
6. Contrast characteristics of selected nonbenzodiazepines and benzodiazepines.
7. Teach clients guidelines for rational, safe use of antianxiety and sedative-hypnotic drugs.
8. Discuss the use of flumazenil and other treatment measures for overdose of benzodiazepines.
9. Discuss common manifestations of psychotic disorders, including schizophrenia.
10. Identify characteristics of phenothiazines and related antipsychotics.
11. Compare characteristics of “atypical” antipsychotic drugs with those of typical phenothiazines and related antipsychotic drugs.
12. Describe the main elements of acute and long-term treatment of psychotic disorders.
13. State interventions to decrease adverse effects of antipsychotic drugs.
14. Give interventions to promote compliance with outpatient use of antipsychotic drugs.
15. Give major features of depression and bipolar disorder.
16. Identify characteristics of antidepressants in terms of mechanism of action, indications for use, adverse effects, principles of therapy, and nursing process implications.
17. Compare and contrast selective serotonin reuptake inhibitors with tricyclic antidepressants.
18. List selected characteristics of bupropion, mirtazapine, nefazodone, and venlafaxine.
19. Describe the use of lithium in bipolar disorder.

**NUR 3703 PHARMACOLOGY**  
**FOCUS K: Antianxiety, Mood Disorders, Antipsychotics (Cont.)**

**OBJECTIVES**

The student will:

20. Discuss interventions to increase safety of lithium therapy.
21. Describe the nursing role in preventing, recognizing, and treating overdoses of antidepressant drugs and lithium.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 8, 9, 10

**Before Class:**

Study Guide Ch. 8, 9, 10

**NUR 3703 PHARMACOLOGY**  
**FOCUS L: Antiseizures/Antiparkinson Drugs**

**OBJECTIVES**

The student will:

1. Identify types and potential causes of seizures.
2. Discuss major factors that influence the choice of an antiseizure drug for a client with a seizure disorder.
3. Differentiate characteristics and effects of commonly used antiseizure drugs.
4. Explain differences between older and newer antiseizure drugs.
5. Compare advantages and disadvantages of monotherapy and combination drug therapy for seizure disorders.
6. Apply the nursing process with clients receiving antiepileptic drugs.
7. Describe strategies for prevention and treatment of status epilepticus.
8. Describe major characteristics of Parkinson's Disease.
9. Differentiate between the types of commonly used antiparkinson drugs.
10. Identify therapeutic and adverse effects of dopaminergic and anticholinergic drugs.
11. Discuss the use of antiparkinson drugs in special populations.
12. Apply the nursing process with clients experiencing Parkinson's disease.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 11, 12

**Before Class:**

Study Guide Ch. 11, 12

**NUR 3703 PHARMACOLOGY**  
**FOCUS M: Muscle Relaxants, Substance Abuse, CNS Stimulants**

**OBJECTIVES**

The student will:

1. Discuss common symptoms and disorders for which skeletal muscle relaxants are used.
2. Differentiate uses and effects of selected skeletal muscle relaxants.
3. Describe nonpharmacologic interventions to relieve muscle spasm and spasticity.
4. Apply the nursing process with clients experiencing muscle spasm or spasticity.
5. Compare and contrast characteristics of dependence associated with alcohol, benzodiazepines, cocaine, and opiates.
6. Describe specific antidotes for overdoses of central nervous system (CNS) depressant drugs and the circumstances indicating their use.
7. Outline major elements of treatment for overdoses of commonly abused drugs that do not have antidotes.
8. Describe general characteristics of central nervous system (CNS) stimulant drugs.
9. Discuss reasons for decreased use of amphetamines for therapeutic purposes.
10. Give the rationale for treating attention deficit-hyperactivity disorder with CNS stimulant drugs.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 13, 14, 15

**Before Class:**

Study Guide Ch. 13, 14, 15

**NUR 3703 PHARMACOLOGY**  
**FOCUS N: Adrenergic/ Antiadrenergic**

**OBJECTIVES**

The student will:

1. Identify effects produced by stimulation of alpha - and beta-adrenergic receptors.
2. List characteristics of adrenergic drugs in terms of effects on body tissues, indications for use, adverse effects, nursing process implications, and observations of client responses.
3. Discuss use of epinephrine to treat anaphylactic shock, acute bronchospasm, and cardiac arrest.
4. Identify clients at risk for experiencing adverse effects from adrenergic drugs.
5. List commonly used over-the-counter (OTC) preparations and herbal preparations that contain adrenergic drugs.
6. Discuss nursing process for using adrenergic drugs in special populations.
7. Describe signs and symptoms of toxicity due to noncatecholamine adrenergic drugs.
8. Discuss treatment of overdose with noncatecholamine adrenergic drugs.
9. Teach the client about safe, effective use of adrenergic drugs.
10. List characteristics of antiadrenergic drugs in terms of effects on body tissues, indications for use, nursing process implications, and observation of client response.
11. Discuss alpha1-adrenergic blocking agents and alpha2-adrenergic agonists in terms of indications for use, adverse effects, and selected other characteristics.
12. Compare and contrast beta-adrenergic blocking agents in terms of cardioselectivity, indications for use, adverse effects, and selected other characteristics.
13. Teach clients about safe, effective use of antiadrenergic drugs.
14. Discuss the nursing process for using antiadrenergic drugs in special populations.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 5, 17, 18

**Before Class:**

Study Guide Ch. 5, 17, 18

**NUR 3703 PHARMACOLOGY**  
**FOCUS O: Cholinergics/Anticholinergics**

**OBJECTIVES**

The student will:

1. Identify effects and indications for use of selected cholinergic drugs.
2. Discuss drug therapy of myasthenia gravis.
3. Explain the use of cholinergic drug therapy for paralytic ileus and urinary retention.
4. Discuss drug therapy of Alzheimer's disease.
5. Describe major nursing care needs of clients receiving cholinergic drugs.
6. Explain signs, symptoms, and treatment of overdose with cholinergic drugs.
7. Discuss atropine and pralidoxime as antidotes for cholinergic drugs.
8. Discuss guidelines for using cholinergic drugs in special populations.
9. Teach clients about safe, effective use of cholinergic drugs.
10. List characteristics of anticholinergic drugs in terms of effects on body tissues, indications for use, nursing process implications, observation of client response, and teaching clients.
11. Discuss atropine as the prototype of anticholinergic drugs.
12. Identify clinical disorders and symptoms for which anticholinergic drugs are used.
13. Describe the mechanism by which atropine relieves bradycardia.
14. Review anticholinergic effects of antipsychotics, tricyclic antidepressants, and antihistamines.
15. Give principles of therapy and nursing process for using anticholinergic drugs in special populations.
16. Describe the signs and symptoms of atropine or anticholinergic drug overdose and its treatment.
17. Teach clients about the safe, effective use of anticholinergic drugs.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 19, 20

**Before Class:**

Study Guide Ch. 19, 20

**NUR 3703 PHARMACOLOGY**  
**FOCUS P: Endocrine-Thyroid**

**OBJECTIVES**

The student will:

1. Describe clinical uses of selected hormones.
2. Differentiate characteristics and functions of anterior and posterior pituitary hormones.
3. Discuss limitations of hypothalamic and pituitary hormones as therapeutic agents.
4. State the major nursing considerations in the care of clients receiving specific hypothalamic and pituitary hormones.
5. Describe the roles of parathyroid hormone, calcitonin, and vitamin D in regulating calcium metabolism.
6. Discuss recognition and management of hypercalcemia as a medical emergency.
7. Discuss the use of calcium and Vitamin D supplements, calcitonin, and bisphosphonate drugs in the treatment of osteoporosis.
8. Describe the indications for use of mineralocorticoids.
9. Describe physiologic effects of thyroid hormone.
10. Identify subclinical, symptomatic, and severe effects of inadequate or excessive thyroid hormone.
11. Give characteristics, uses, and effects of thyroid drugs.
12. Describe characteristics, uses, and effects of antithyroid drugs.
13. Discuss the influence of thyroid and antithyroid drugs on the metabolism of other drugs.
14. Teach clients self-care activities related to the use of thyroid and antithyroid drugs.
15. Describe characteristics, use, effects, and side effects of corticosteroids.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 21, 22, 23, 24, 25

**Before Class:**

Study Guide Ch. 21, 22, 24, 25

**NUR 3703 PHARMACOLOGY**  
**FOCUS Q: Antidiabetic Drugs**

**OBJECTIVES**

The student will:

1. Describe the major effects of endogenous insulin on body tissues.
2. Discuss the characteristics and uses of the insulins and insulin analogs.
3. Discuss the relationships among diet, exercise, and drug therapy in controlling diabetes.
4. Differentiate types of oral antidiabetic agents in terms of mechanisms of action, indications for use, adverse effects, and nursing process implications.
5. Explain the benefits of maintaining glycemic control in prevention of complications of diabetes.
6. State reasons for combinations of insulin and oral agents or different types of oral agents.
7. Assist clients or caregivers in learning how to manage diabetes care, including administration of antidiabetic medications.
8. Collaborate with diabetes educators, dietitians, and others in teaching self-care activities to clients with diabetes.
9. Assess and monitor clients' conditions in relation to diabetes and their compliance with prescribed management strategies.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 26

**Before Class:**

Study Guide Ch. 26

**NUR 3703 PHARMACOLOGY**  
**FOCUS R: Hematopoiesis/ Immune Drugs/Antineoplastics**

**OBJECTIVES**

The student will:

1. Give common characteristics of immunizations.
2. Discuss the importance of immunizations in promoting health and preventing disease.
3. List authoritative sources for immunization information.
4. Identify immunizations recommended for children.
5. Identify immunizations recommended for adults.
6. Discuss ways to promote immunization of all age groups.
7. Teach parents about recommended immunizations and record keeping.
8. Give the goals and methods of enhancing hematopoietic and immune functions.
9. Discuss the use of hemapoietic agents in the treatment of anemia and thrombocytopenia.
10. Describe the use of filgrastim and sargramostim in neutropenia and bone marrow transplantation.
11. Discuss interferons in terms of clinical uses, adverse effects, and nursing process implications.
12. Review physiologic effects of endogenous corticosteroids.
13. Discuss clinical indications for use of exogenous corticosteroids.
14. Describe characteristics and consequences of immunosuppression.
15. Give characteristics and uses of major immunosuppressant drugs in autoimmune disorders and organ transplantation.
16. Identify adverse effects of immunosuppressant drugs and long-term corticosteroid therapy.
17. Explain the pathophysiologic basis of adverse effects.
18. Apply the nursing process with a client receiving long-term systemic corticosteroid therapy and other immunosuppressant drugs, including teaching methods.
19. Describe the therapeutic actions, indications, most common adverse reactions and drug-drug interactions of each class of antineoplastic drugs.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 23, 38, 39, 40, 41, 42

**Before Class:**

Study Guide Ch. 23, 38, 39, 40, 41, 42

**NUR 3703 PHARMACOLOGY**  
**FOCUS S: CHF/Antidysrhythmics**

**OBJECTIVES**

The student will:

1. Describe major manifestations of heart failure (HF).
2. Differentiate the types of drugs used to treat HF.
3. List characteristics of digoxin in terms of effects on myocardial contractility and cardiac conduction, indications for use, and nursing process implications.
4. Differentiate digitalizing and maintenance doses of digoxin.
5. Identify therapeutic and excessive serum digoxin levels.
6. Identify clients at risk for development of digoxin toxicity.
7. Discuss interventions to prevent or minimize digoxin toxicity.
8. Explain the roles of potassium chloride, lidocaine, atropine, and digoxin immune fab in the management of digoxin toxicity.
9. Teach clients ways to increase safety and effectiveness of digoxin.
10. Differentiate between supraventricular and ventricular dysrhythmias in terms of etiology and hemodynamic effects.
11. Discuss the roles of beta-adrenergic blocking agents, calcium channel blockers, digoxin, and quinidine in the management of supraventricular tachydysrhythmias.
12. Give the effects of lidocaine in the management of ventricular tachycardia.
13. Describe adverse effects and nursing process implications related to the use of selected antidysrhythmic drugs.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 47, 48, 49

**Before Class:**

Study Guide Ch. 47, 48, 49

**NUR 3703 PHARMACOLOGY**  
**FOCUS T: Antianginals/Shock**

**OBJECTIVES**

The student will:

1. Describe general characteristics and types of antianginal drugs.
2. Discuss nitrate antianginal drugs in terms of indications for use, routes of administration, adverse effects, nursing process implications, and drug tolerance.
3. Differentiate between short-acting and long-acting dosage forms of nitrate antianginal drugs.
4. Discuss calcium channel blockers in terms of their effects on body tissues, clinical indications for use, common adverse effects, and nursing process implications.
5. Teach clients ways to prevent, minimize, or manage acute anginal attacks.
6. Describe factors that control blood pressure.
7. Identify clients at risk for development of hypovolemia and shock.
8. List common causes of hypotension and shock.
9. Discuss assessment of a client in shock.
10. Describe therapeutic and adverse effects of vasopressor drugs used in the management of hypotension and shock.

**LEARNING ACTIVITIES**

**Required Reading:**

Karch (2008) Ch. 50, 51

**Before Class:**

Study Guide Ch. 50, 51

**NUR 3703 PHARMACOLOGY**  
**FOCUS U: Hypertension/Diuretics**

**OBJECTIVES**

The student will:

1. Identify nonpharmacologic measures to control hypertension.
2. Review the effects of alpha-adrenergic blockers, beta-adrenergic blockers, calcium channel blockers, and diuretics in hypertension.
3. Discuss angiotensin-converting enzyme inhibitors and angiotensin II receptor antagonists in terms of mechanisms of action, indications for use, adverse effects, and nursing process implications.
4. Describe the rationale for using combination drugs in the management of hypertension.
5. Give interventions to increase therapeutic effects and minimize adverse effects of antihypertensive drugs.
6. Discuss the use of antihypertensive drugs in special populations.
7. List characteristics of diuretics in terms of mechanism of action, indications for use, principles of therapy, and nursing process implications.
8. Discuss major adverse effects of thiazide, loop, and potassium-sparing diuretics.
9. Identify clients at risk for developing adverse reactions to diuretic administration.
10. Differentiate between commonly used potassium-losing and potassium-sparing diuretics.
11. Discuss the rationale for concomitant use of a loop diuretic and a thiazide or related diuretic.
12. Teach clients to manage diuretic therapy effectively.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 52, 53

**Before Class:**

Study Guide Ch. 52, 53

**NUR 3703 PHARMACOLOGY**  
**FOCUS V: Blood Coagulation/Dyslipidemia**

**OBJECTIVES**

The student will:

1. Describe important elements in the physiology of hemostasis and thrombosis
2. Discuss potential consequences of blood clotting disorders.
3. Give characteristics and uses of anticoagulant, antiplatelet, and thrombolytic agents.
4. Compare and contrast heparin and warfarin in terms of indications for use, onset and duration of action, route of administration, blood tests used to monitor effects, and nursing process implications.
5. Teach clients on long-term warfarin therapy protective measures to prevent abnormal bleeding.
6. Discuss antiplatelet agents in terms of indications for use and effects on blood coagulation.
7. Describe thrombolytic agents in terms of indications and contraindications for use, routes of administration, and major adverse effects.
8. Describe systemic hemostatic agents for treating overdoses of anticoagulant and thrombolytic drugs.
9. Identify sources and functions of cholesterol and triglycerides.
10. Describe dyslipidemic drugs in terms of mechanism of action, indications for use, major adverse effects, and nursing process implications.
11. Teach clients pharmacologic and nonpharmacologic measures to prevent or reduce dyslipidemia.

**LEARNING ACTIVITIES**

**Required Reading:**

Abrams, Pennington, Lawman (2007) Ch. 54, 55

**Before Class:**

Study Guide Ch. 54, 55