

THE UNIVERSITY OF TEXAS AT TYLER
College of Nursing

NURS 3307: PHARMACOLOGICAL BASIS FOR NURSING

Course Syllabus
Spring 2008

FACULTY

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The content of this syllabus/WEB site is subject to change at the discretion of the faculty leaders according to current learning needs.

COURSE SCHEDULE: CLASS: MONDAYS 1:00 AM – 3:50 PM

<u>Week</u>	<u>Dates</u>	<u>Unit</u>	<u>Topic</u>
1	January 14	I	Introduction to Course Nursing Pharmacology Basics - Part I, (Chapters 1-3,6) Basic Math Review. Conversions (Blackboard) ERI for A & P opens 1/15/08 on WEB
	January 21		Martin Luther King Day - No Class
2	January 28	I	Nursing Pharmacology Basics - Part II, (Chapters 4-5,7-9) Quiz I
3	February 4	II	Autonomic Nervous System, Anti-inflammatory
4	February 11	III	Dosage Calculations Lecture Exam I
5	February 18	IV	Respiratory System
6	February 25	V	Central Nervous System ERI - A & P ENDS AT 12:00 MN TO TONIGHT
7.	March 3	V	Central Nervous System, Math Test
	March 10 – 15		SPRING BREAK FOR FACULTY AND STUDENTS
8	March 17	VI	EXAM 2 Cardiovascular and Diuretics
	March 21		Last Day to Drop / Withdraw from Course
9	March 24	VI	Cardiovascular (continued) (Make-up Math Test # 2, scheduled by campus)
10	March 31	VII	Anti-infectives, Antiviral “Current Event Paper” Due
11	April 7	VIII	Immune, Biologic Modifiers & Chemotherapeutic EXAM 3
12	April 14	IX X	Endocrine Miscellaneous: Eye & Ear, Dermatologic (Make-up Math Test #3, scheduled by campus)
13	April 21	XI	Reproductive Exam 4
14	April 28	XII	Gastrointestinal, Fluid and Electrolyte, Nutrition (Make-up Math Test # 4, scheduled by campus) (Math and ERI Testing must be <u>completed</u>)
15	May 6 (Tuesday)		COMPREHENSIVE FINAL EXAM, Passed A&P ERI Test 9.3.1 And Math Test

OVERVIEW OF NURS 3307 - Pharmacological Basis for Nursing**Semester Credit Hours: Three (3) lecture hours per week****Prerequisites: Admission to the nursing program, NURS 3303, NURS 3205 or concurrent enrollment.**

1.0 Course Description: Pharmacotherapeutic aspects of nursing care are introduced. Emphasis is on accuracy of drug calculation, pharmacological actions and responses associated with major drug classifications, patient assessment and patient/family medication education. Pharmacologic aspects are explored across the life span.

2.0 Course Objectives: Upon successful completion of the course the student will:

1. Explain the mechanism of action, indications for clinical use, common side effects and nursing implications of the major drug classifications.
2. Incorporate research findings with ethical and legal implications regarding the safe administration of medications.
3. Apply the principles of safe administration of medications.
4. Demonstrate interpersonal caring and knowledge pertinent to patient teaching about specific medications through the use of the critical thinking process.
5. Accurately calculate drug dosages and intravenous flow rates.

Approved: Faculty Organization - 11/99
Texas Board of Nurse Examiners – Fall 1999

3.0 Required and Recommended Texts:

1. College of Nursing. BSN/MSN guide for nursing students. Tyler: The University of Texas at Tyler. Note: Must be current version of student guide
2. Lilley, L., Harrington, S., & Snyder, J. (2007). *Pharmacology and the nursing process (5th Ed)*. St Louis: Mosby.
3. Snyder, J., (2007). *Study guide for pharmacology and the nursing process (5th Ed)*. St Louis: Mosby.
4. Use APA format for listing textbooks and articles. For assistance use: <http://owl.english.purdue.edu/owl/printable/560/>
5. Required Scantrons to be used for examinations: Look for the correct form which F-17255-PAR-L (there are 2 of the same color so make sure to look at the form. Institute for Safe Medication Practice is www.ismp.org
Textbook website is <http://evolve.elsevier.com/Lilley>
6. A drug reference guide is www.drugguide.com
7. University of Texas at Tyler Library - electronic databases: Nursing. Recommended reading articles may be accessed through this database.
8. Note: The required textbook chapter bibliographies list multiple applicable website references.

4.0 Disability Statement

If you have a disability, including a learning disability, for which you request an accommodation, please contact Ida MacDonald in the Disability Support Services

Office so that appropriate arrangements can be made. In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. For more information, call or visit the Student Services Office located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579). Additional information may also be obtained at the following UT Tyler Web address:
<http://www.uttyler.edu/disabilityservices>.

5.0 Examinations/Assignments and Grading Policy:

Completion of NURS 3307 is based on satisfactory attainment of didactic criteria. Any student failing to meet the course objectives and expectations must repeat the course and may not progress to the next level.

A. Grading Policy

The simple average of the exam grades, before weighted calculation is performed, must be 75% or above to pass the course. Grades will not be rounded when calculating the average (74.5 – 74.9 is not rounded to 75). Students with an exam average of 75 or higher will have course grades calculated based on the weighted calculation of the exams and other required course work.

- The values for each exam/quiz are as follows:

4 Exams and Final (19% each)	95%
1 quiz	1%
1 math test (90% correct requirement)	2%
1 written paper	<u>2%</u>
	100%

- Letter grade will be assigned according to the following scale:

A	90-100
B	80-89
C	75-79
D	60-74
F	Below 60

(Approved Faculty Organization: Fall 1999)

B. Grade Replacement Policy

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to file intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) repeats during his/her career at UT Tyler (2006-08 Catalog).

C. Paper/Assignment Re-grading Policy

Student assignments will not be re-graded. At the instructor's discretion, a draft may be written for review.

D. Examination and Examination Review Policy:

1. Attendance for an exam is mandatory.
2. If absence for an exam is necessary, the student is responsible for notifying the faculty prior to the exam with an acceptable reason.
3. Students will be allowed entry to the classroom after an exam has started only with faculty discretion.
4. Exams will be distributed at the time class is scheduled to begin.
5. All hats/caps must be removed during exam time. All personal items such as purses, books, backpacks, notebooks, and briefcases will be left in the front of the room during testing.
6. Silence will be enforced during the exam time. In order to avoid distraction during the exam, no one will be permitted to leave the room during the exam.
7. Make-up exams will only be given at the discretion of the faculty member and may be in a different format than the original exam.
8. Students will not share calculators during exams. Students will not bring their own calculators, cell phones, or any communicating devices into an examination.
9. Exam reviews will be conducted at the discretion of the faculty. Test review may be scheduled with the faculty during office hours and within 10 school days from the return of the exam grades.
10. Any student achieving an examination grade less than 75% must schedule an appointment with the faculty within 10 school days from the return of the exam grades.

E. Academic Integrity

1. Students are expected to assume full responsibility for the content and integrity of all academic work submitted as homework and examinations.
2. Students are advised to review the UT Tyler Academic Dishonesty Policy and Academic Integrity Policy in the Current College of Nursing Student handbook and Academic Integrity Policy for UT Tyler students at www.uttyler.edu; click on current students, then Vice-President for Student Affairs, then Student Guide for Conduct and Discipline at UT Tyler. These policies are fully endorsed and enforced by all faculty members within the College of Nursing.
3. Plagiarism, cheating, and collusion are unacceptable and if found violating any of these standards the student will be disciplined accordingly (See BSN/MSN Nursing Student Guide for definitions).
4. The College of Nursing reserves the right to dismiss students from the program for an infraction of a legal, moral, social, or safety nature, pursuant to the procedures detailed in the Regent's Rules.

6.0 Dress Code for the University of Texas, College of Nursing:

A. General: It is the philosophy of the College of Nursing that the student has a responsibility to be neatly groomed and modestly dressed. Appearances should promote good health, safety and general well-being of the student. Clothing should avoid brevity and/or design that is offensive to the dignity and rights of others. School officials have the right and responsibility to counsel with the student or take any other corrective action. Types of clothing (other than those specified in this document) may be worn at the direction of the nursing instructor for special events.

B. Classroom: Casual or every day business wear is recommended. This includes but is not limited to the following: Slacks or skirt; sweater, blouse, and shirt. Jeans as well as conservative shorts (mid-thigh or longer) may be worn, but avoid overly frayed or soiled. Shoes must be worn. See items to be avoided below.

C. Professional Presentations, Ceremonies/ Graduation: Business or dressy day social: suit, dress, dressy separates, jacket, ties, nice fabrics. Dress shoes. Avoid denim, jeans, t-shirt or other casual clothes. For workshops/seminars attended by students, business attire will be worn.

D. Items to be avoided in all School-related Functions (including but not limited to): Overly frayed, worn or soiled garments. Costume look, transparent blouses, bare midriff shirts, tank tops, spaghetti straps, muscle shirts, overtly sexual, gang colors or logos, facial or body piercing, obscene slogans or pictures, bedroom wear, short-shorts, short skirts, or clothing that may be offensive to others.

If the dress code rules are broken and a change of clothes is not available, the student may be removed from the school-related function for the remainder of the day. Appropriate disciplinary action will be taken for repeated violations of this code.

7.0 Course Information

A. General

1. If lecture outlines are used, they will be posted on Blackboard a minimum of two (2) working days prior to class and will be removed at midnight prior to class.
2. The clinical portion of the course syllabus, handouts, and any other required course materials will be placed on blackboard.
3. All submitted written material (papers, assignments, examinations, etc.) are the property of the College of Nursing. They will be maintained in an archived file in the College of Nursing.
4. The *BSN/MSN Nursing Student Guide* is available on the CON website at <http://www.uttyler.edu/nursing/>. The student must sign the statement indicating they have accessed the guide and return the signed Student Guide Affirmation Form to the program secretary for placement in the student file.
5. ERI Policy: Students must complete the Anatomy and Physiology ERI on-line by the due date listed in the schedule. Access the test on eriworld.com with your user name and password. You must pass the test at or above the national standard. Print your test results and bring in to your campus instructor.
6. All nursing students are required to use their student email accounts for all correspondence (Approved FO: 2/03)

8.0 Attached Forms to be Read, Signed and Submitted the First Day of Class

A. Student Affirmation Form

1. Each line must be initialed, signed, and dated for each course every semester.
2. The form will be placed in the student's file.

B. Audio/Video-Recording Agreement

1. Any student wishing to record a class must sign this agreement no later than the second week of classes each semester. An agreement must be signed for each course every semester.
2. Due to the confidential nature of some course content, the student will provide written documentation of the erasure of any recordings made during the current semester. Failure to return this written documentation to the faculty by the date of the final examination will result in a grade of "I" (Incomplete).

Student Affirmation Form

_____ I agree to protect the privacy of faculty, peers, patients, and family members of patients by not inappropriately disclosing confidential information about faculty, peers, patients or their family members that is disclosed to me in my capacity as a University of Texas at Tyler nursing student. In addition, I agree not to inappropriately disclose confidential information about any agency or institution that is disclosed to me in my capacity as a University of Texas at Tyler nursing student. I will adhere to HIPAA guidelines.

_____ I have/will read the syllabus of this nursing course I am taking this semester, and I understand the criteria established for grading my course work. I understand that my average on exams must be 75 or higher in order to attain a passing grade for the course.

_____ I agree that I will conduct myself in a manner that exhibits professional values and in accordance with the American Nurses Association (ANA) Code of Ethics for Nurses, the Texas Nurse Practice Act and UTT's Student Academic Dishonesty Policy.

_____ I will maintain and uphold the academic integrity policy of the College of Nursing and will not condone or participate in any activities of academic dishonesty including, but not limited to, plagiarism, cheating, stealing, or copying another's assigned work.

_____ I will not recreate any items or portions of any exam for my own use, or for use by others during my enrollment in the College of Nursing

_____ I will not accept or access any unauthorized information related to any exam administered during my enrollment in the College of Nursing.

_____ I will sign only my own papers and other documents and will not sign any other student's name to anything, including class rolls.

_____ I will not allow any other student access to any of my paperwork for the purpose of copying.

 Student's Signature Date

 Student's Printed Name Course NURS 3307

Approved: University of Texas System-Spring 1996
 Faculty Organization-Spring 1996
 Faculty Organization: December 8, 2000
 Revised: Fall 2000; May 2004, Summer 2005

AUDIO/VIDEO-RECORDING AGREEMENT

I have been given permission to record the following class, NURS 3307.

I understand that, the recordings are for my personal studies only. I realize that lectures recorded may not be shared with other people without the written consent of the faculty member. I also understand that recorded lectures may not be used in any way against the faculty member, other lecturer, or students whose classroom comments are recorded as part of the class activity.

I am aware that the information contained in the recorded lectures is protected under federal copyright laws and may not be published or quoted without the expressed consent of the lecturer and without giving proper identity and credit to the lecturer. I agree to abide by these guidelines with regard to any lectures I record while enrolled as a student at The University of Texas at Tyler.

Due to the confidential nature of some course content, I agree to provide written documentation of the erasure of any recordings made during the current semester. Failure to return this written documentation to the faculty by the date of the final examination will result in a grade of "I" (Incomplete).

Print Name

Date

Signature of Student

NURS 3307

Course Number

I have erased all recordings made during this current semester in NURS 3307.

Signature of Student

Date

LEARNING OBJECTIVES FOR NURS 3307

Note: Handouts, outlines or any other course material will be placed on Blackboard.

For all objectives - Upon successful completion of the course the student will...:

UNIT I: NURSING PHARMACOLOGY BASICS

Chapter 1: The Nursing Process and Drug Therapy

1. Identify the five phases (assessment, nursing diagnosis, planning implementation and evaluation) of the nursing process as applicable to drug therapy.
2. Apply all the phases of the nursing process to situations where patients are receiving medications.
3. Discuss the “Five Rights” of drug administration and the professional responsibility to patients for safe medication practice.

Pre-Class Assignments

Textbook Chapter 1, pgs. 6-13

Study Guide: Chapter 1, pgs. 23-24

Note: Study Skills Tips, pg 1-5 (excellent review of study tips for this course)

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 13

Other: Companion CD: NCLEX review questions 1-4

Quiz I

Chapter 2: Pharmacological Principles

1. Define common terms used in pharmacology.
2. Explain the three basic areas of pharmacology (pharmaceutics, pharmacokinetics and pharmacodynamics) and discuss the relationship between the dose of a drug and it's effectiveness in treating disease.
3. Discuss the four phases of pharmacokinetics (absorption, distribution, metabolism and excretion) and apply to situations where patients receive medications.
4. Explain how the following pharmacokinetic processes affect drug therapy: half-life, “onset, peak and duration”, “peak and trough levels”.
5. Discuss pharmacodynamics and explain the process of drug-receptor interaction.
6. Identify components of pharmacotherapeutics, including therapeutic index and drug concentration, and how they affect patient treatment outcomes.
7. Explain how adverse drug effects can occur and methods of prevention/treatment, including treatment of the poisoned patient.

Pre-Class Assignments

Textbook Chapter 2, pgs. 14-34

Study Guide: Chapter 2, pgs.25-27

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 34

Other: Companion CD: NCLEX review questions 5-17

Quiz I

Chapter 3: Life Span Considerations

1. Discuss how age affects medication therapy.
2. Explain how the physiology of pregnancy influences drug administration and therapeutic outcome; include pregnancy safety categories and breast-feeding.
3. Explain how the anatomy and physiology of neonates, children and geriatrics influence drug administration and therapeutic outcome.
4. Discuss special concerns for geriatrics including polypharmacy and problem drugs.
5. Apply steps of the nursing process to life-span issues to insure safe drug therapy.

Pre-Class Assignments

Textbook Chapter 3, pgs. 35-46

Study Guide: Chapter 3, pgs.29-30

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 46

Other: Companion CD: NCLEX review questions 18-22

Quiz I

Chapter 4: Legal, Ethical and Cultural Considerations

1. Discuss significant drug legislation at the state and federal level that influences drug administration today; include controlled substances schedule categories.
2. Discuss the process involved in the development of new drugs including investigational drugs and informed consent.
3. Discuss legal and ethical considerations which impact nursing practice related to drug administration; include the ANA Code of Ethics for Nurses
4. Discuss the how cultural, genetic, racial or ethnic factors affect patient response and compliance with drug therapy.

Pre-Class Assignments

Textbook Chapter 4, pgs. 47-56

Study Guide: Chapter 4, pgs. 21-3

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 56

Other: Companion CD: NCLEX review questions 23-26

Chapter 5: Medication Errors: Preventing and Responding

1. Discuss types of medication errors common to nurses and factors that contribute to their occurrence.

2. Identify consequences of drug errors for patients and nurses.
3. Discuss methods of preventing and responding to errors; including use of abbreviations, medication reconciliation, life span issues with pediatrics and geriatrics, ethical considerations and reporting errors.

Pre-Class Assignments

Textbook Chapter 5, pgs. 58-67

Study Guide: Chapter 5, pgs. 33-34

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 66-67

Other: Companion CD: NCLEX review questions 27-29

Chapter 6: Patient Education and Drug Therapy

1. Discuss reasons why patient education is important in drug therapy.
2. Identify selected teaching-learning principles related to patient education and drug therapy.
3. Discuss how patient education is incorporated in the nursing process for safe, effective drug therapy.
4. Identify teaching strategies specific to elderly populations.

Pre-Class Assignments

Textbook Chapter 6, pgs. 68-73

Study Guide: Chapter 6, pgs. 35-36

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 74

Other: Companion CD: NCLEX review questions 30-32

Quiz I

Chapter 7: Over-the-Counter Drugs and Herbal Products

1. Discuss the differences between prescription drugs, over-the-counter (OTC) drugs and herbal products including legal implications.
2. Describe the advantages and disadvantages of OTC drugs and herbal products, including potential dangers.
3. Apply the concepts of the nursing process to medication therapy that utilizes herbal and OTC drugs.

Pre-Class Assignments

Textbook Chapter 7, pgs. 75-83

Study Guide: Chapter 7, pgs. 37-39

Recommended reading:

Lynch, D. (Dec 2004). Cranberry for Prevention of urinary tract infections. *American Family Physician*, 70 (11), 2175-77. Retrieved June 2006 from the University of Texas at Tyler website, nursing database (CINAHL plus full text – EBSCO).

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 83

Other: Companion CD: NCLEX review questions 33-49

Chapter 8: Substance Abuse

1. Define substance abuse and discuss concepts of dependence, intoxication and withdrawal.
2. Discuss 3 major drug categories (opioids, stimulants, depressants) and 2 individual agents (alcohol and nicotine) that are commonly abused.
3. Apply steps of the nursing process to patient care situations where substance abuse is a factor; include special considerations for geriatric patients.

Pre-Class Assignment

Textbook Chapter 8, pgs. 84-95

Study Guide: Chapter 8, pgs. 41-42

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions 1-5; pg 95

Other: Companion CD: NCLEX review questions 37-40

Chapter 9: Photo Atlas of Drug Administration

1. Describe the "five plus five rights" of drug administration.
2. List safety guidelines for drug administration preparation.
3. Describe routes of drug administration (Enteral: oral, gastric, rectal; Parenteral: intravenous, subcutaneous, intramuscular, intradermal; Topical: eye, ear, nasal, inhalation skin and vaginal).
4. Identify major administration sites for parenteral therapy.
5. Discuss equipment and technique used for methods of drug administration.
6. Discuss the use of evidence-based practice related to methods of medication administration.

Pre-Class Assignments

Textbook Chapter 9, pgs. 96-131 overview (focus on administration of oral and injectable drugs)

Study Guide: Chapter 9, pgs.43-45

Recommended Reading:

Rodger, M.A. & King, L. (2000). Drawing up and administering intramuscular injections: a review of the literature. *Journal of Advanced Nursing*, 31(3), 574-582. Retrieved June 2006 from the University of Texas at Tyler website, nursing database (CINAHL plus full text – EBSCO).

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions: none

Other: Companion CD: NCLEX review questions 41-49

UNIT II: AUTONOMIC NERVOUS SYSTEM AGENTS; ANTI-INFLAMMATORY AGENTS

Chapter 17: Adrenergic Agents

1. Discuss the sympathetic nervous system related to drug therapy – terms, adrenergic stimulation and sympathomimetic effects.
2. Discuss use, action, effect and side effects of sympathomimetic drugs in general, and for selected ***Prototype Drugs***.
3. Discuss the adrenergic receptors (alpha and beta receptors) and give examples of their major responses.
4. Describe differences between selective and non-selective adrenergic drugs.
5. Apply the nursing process to clinical situations involving the administration of adrenergic agents; include specific teaching points for patients and caregivers.

Pre-Class Assignments

Textbook Chapter 17, pgs. 269-282

Study Guide: Chapter 9, pgs. 69-70

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions: 1-5, pg 282

Other: Companion CD: NCLEX review questions 115-122

Prototypes

epinephrine (Adrenaline) **

pseudoephedrine
(Sudafed)

norepinephrine (Levophed)

dopamine (Intropin) **

dobutamine (Dobutrex)

**NOTE: Drug Prototypes
with an ** indicates they
may be on final exam. All
others will be on unit
exams.**

Chapter 18: Adrenergic- Blocking Agents

1. Discuss the autonomic nervous system related to adrenergic blockade (alpha and beta receptors) and sympatholytic effects; include applicable terms
2. Discuss use, action, effect and side effects of sympatholytic drugs in general, and for selected ***Prototype Drugs***.
3. Explain the use of the nursing process, including interventions and patient teaching, associated with adrenergic and adrenergic blocker drugs.

Pre-Class Assignments

Textbook Chapter 18, pgs. 283-295

Study Guide: Chapter 18, pgs. 71-72

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions: 1-5, pg 295

Other: Companion CD: NCLEX review questions 123-133

Prototypes

prazosin (Minipress) **

propranolol (Inderal)

metoprolol (Lopressor)**

Chapter 19: Cholinergic Agents

1. Discuss the parasympathetic nervous system related to cholinergic agents, including the role of muscarinic and nicotinic receptors; include applicable terms.
2. Explain use, action, effect and side effects of parasympathetic drugs (cholinergic agonists) in general, and for selected **Prototype Drugs**. Include newer drug therapy for Alzheimer's disease.
3. Differentiate between direct-acting, indirect-acting cholinergic drugs and cholinesterase inhibitors.
4. Discuss cholinergic crisis and management of toxicity
5. Discuss steps of the nursing process applied to cholinergic drugs, including interventions and patient teaching.

Pre-Class Assignments

Textbook Chapter 1, pgs. 296-305

Study Guide: Chapter 18, pgs. 73-75

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions: 1-5, pg 305

Other: Companion CD: NCLEX review questions 134-140

Prototypes

bethanechol (Urecholine) **

pyridostigmine (Mestinon)

donepezil (Aricept)

Chapter 20: Cholinergic – Blocking Agents

1. Discuss the parasympathetic nervous system related to cholinergic blocking agents - anticholinergics drugs; include applicable terms.
2. Explain use, action, effect and side effects of parasympathetic blocking agents (anticholinergics) in general, and for selected **Prototype Drugs**.
3. Discuss steps of the nursing process applied to anticholinergic drugs, including interventions and patient teaching.

Pre-Class Assignments

Textbook Chapter 20, pgs. 306-313

Study Guide: Chapter 20, pgs. 77-78

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions: 1-5, pg 313

Other: Companion CD: NCLEX review questions 141-147

Prototypes

atropine ** (generic)

tolterodine (Detrol)

Chapter 43: Antiinflammatory, Antirheumatoid, and Related Agents

1. Discuss the inflammatory response and the part it plays in generation of pain.
2. Compare various disease processes that are often identified as inflammatory in nature (rheumatoid arthritis, osteoarthritis, degenerative joint disorders and gout).

3. Contrast nonsteroidal anti-inflammatory drugs (NSAIDs), antigout agents and antiarthritic agents in relation to their mechanism of action, use, effect, side effects and precautions; include selected ***Prototype Drugs***.
4. Apply steps of the nursing process, including patient teaching, to clinical situations where patients receive NSAIDs, antigout, antiarthritic and other anti-inflammatory agents.
5. Identify research from evidence-based practice related to treatments for inflammation.

Pre-Class Assignments

Textbook Chapter , pgs. 676-689

Study Guide: Chapter , pgs. 143-144

Prototypes

Aspirin (ASA)**

ibuprofen (Motrin)**

celecoxib (Celebrex)

allopurinol (Zyloprim) **

Recommended reading:

Aikin, M.D, Weingand, K. W. & Hengehold, D.A., et al. (2001). Continuous topical heat was as effective as ibuprofen for dysmenorrhea. *Evidence-based Nursing Journal*, 4(113). Retrieved June 2006 from the University of Texas at Tyler website (CINAHL-EBSCO)

Evaluation

Exam: Unit exam #1

Textbook NCLEX Examination Review Questions: 1-5, pg 690

Other: Companion CD: NCLEX review questions 369-379

UNIT III: DOSAGE CALCULATIONS

Chapter 4: Medications and Calculations

1. Discuss basic math concepts that are utilized when calculating medication dosages.
2. Identify personal strengths/weaknesses related to dosage calculations.
3. Complete practice math tests on simple calculations and identify strengths and weaknesses.
4. Identify key issues related to accurate dosage calculations from research in the clinical setting.
5. Convert between Roman numerals and Arabic numbers.
6. Solve problems with fractions.
7. Convert percentages to decimals, fractions, ratios and proportions.
8. Convert units of measure between metric, apothecary and household equivalents.
9. Interpret oral and injectable drug labels.
10. Solve drug calculation problems using a systematic method (ratio and proportion, dimensional analysis or other systematic formula).
11. Explain types of oral drugs and how dosages are administered.
12. Explain types of injectable drugs and how dosages are administered.
13. Explain types of intravenous medications and how dosages are administered.
14. Discuss differences in pediatric drug dosages and calculation of dosages to ensure safe delivery within the approved therapeutic range.

Pre-Class Assignments

Textbook chapters, pages

Study Guide, Overview of Dosage Calculations, pgs. 187-206.

Practice Math Test (See Blackboard Assignments for resources)

Recommended reading:

Capriotti, T. (2004). Nursing pharmacology: Basic concepts to prevent medication calculation errors. *MEDSURG Nursing*. 13(1). 62-65. Retrieved May 2007 at the University of Texas at Tyler website, nursing database (CINAHL plus full text - EBSCO).

Joanna Briggs Institute, (2006). Strategies to reduce medication errors with reference to older adults. *Nursing Standard*, 20(41):53-7.

Evaluation:

Exam: Dosage Calculation exam

Also there will be dosage calculation problems on all major exams and the final

Other: Bring calculator to class

On-line Activities (Practice Math Sheets & tests)

NOTE: The following websites are recommended for review of basic math, ratio and proportion as well as Dimensional Analysis (Factor-Label Method) and practice quizzes with answers.

BlackBoard click on external links:

Help with basic math:

Amby's Math Instruction, Reinforcement and Learning Activities.

<http://www.amby.com/educate/math/>

Tutorials for dosage calculation:

Pharmacology Math, Department of Nursing Education, San Antonio College

<http://www.accd.edu/sac/nursing/math/default.html>

Tutorials for dosage calculation using Dimensional Analysis (Factor-Label Method); see Indiana State University, College of Nursing, Nursing Math Page:

<http://www-isu.indstate.edu/nurs/mary/tutorial.htm>

Recommended Reading:

Sredl, D. (March-April 2006). The triangle technique: A new evidence-based educational tool for pediatric medication calculations. *Nursing Education Perspectives*. 27(2), 84-88.

Retrieved from The University of Texas at Tyler website, nursing database (CINAHL, full text plus – EBSCO)

UNIT IV: RESPIRATORY SYSTEM

Upper Respiratory Chapter 35: Antihistamines, Decongestants, Antitussives, and Expectorants

1. Define *antihistamine, decongestant, antitussive, expectorant, corticosteroids and upper respiratory infection*
2. Describe the actions, uses, effects and side effects of antihistamines, non-sedating antihistamines, traditional antihistamines, nasal and systemic decongestants, intranasal steroids, antitussives and expectorants and, for selected **Prototype Drugs**.
3. Discuss how the side effects of nasal decongestants can be avoided.
4. Describe the use of the nursing process, including nursing interventions and patient teaching, for drugs used to treat the common cold and other upper respiratory infections.

Pre-Class Assignments

Textbook Chapter 35, pp. 534-549.
 Study Guide: Chapter 35, pp. 121-122.
 Other Learning Activities

Prototypes

Diphenhydramine (Benadryl)**
 Loratadine (Claritin)
 Dextromethorphan (Robitussin-DM)

Evaluation

Exam: Unit exam #2
 On-line Activities (NCLEX style questions)
 Evolve website (<http://evolve.elsevier.com/Lilley>)
 Other: Companion CD: NCLEX review question 305-311

Lower Respiratory Chapter 36: Bronchodilators and Other Respiratory Agents

1. Define *chronic obstructive pulmonary disease* (COPD), to include asthma, bronchitis and emphysema.
2. Discuss the action, major effects, side effects and precautions for bronchodilator drug categories: xanthine derivatives, beta-adrenergic agonist used for COPD patients; include selected **Prototype Drugs**.
3. Explain how other respiratory agents are used to control asthma, emphysema and chronic bronchitis: anticholinergics, antileukotriene agents, corticosteroids and mast cell stabilizers; include use, action, and side effects.
4. State the therapeutic serum or plasma theophylline level.
5. Discuss the use of special equipment (inhaler, nebulizer, MDI) for administering inhaled medications.
6. Explain the basic steps in overall pharmacologic management of asthma.
7. Identify research from evidence-based practice related to treatment of asthma.
8. Apply steps of the nursing process including nursing interventions and patient teaching, to patient situations where medications are used to relax the bronchial smooth muscle in patients with COPD.

Prototypes

theophylline (Theo-Dur)**
 albuterol (Proventil)**
 epinephrine (Adrenalin)
 montelukast (Singulair)
 ipratropium (Atrovent)**

Pre-Class Assignments

Textbook Chapter 36, pp. 550-566.
 Study Guide: Chapter 36, pp. 123-124.
 Other Learning Activities

Recommended Reading:

Newell, K. (2006) Concordance with asthma medication: The nurse's role. *Nursing Standard*, 20(26), 31-33. Retrieved June 2006 from the University of Texas at Tyler website, nursing database (CINAHL plus full text – EBSCO)

Evaluation

Exam: unit exam #2
 On-line Activities (NCLEX style questions)
 Evolve website (<http://evolve.elsevier.com/Lilley>)
 Other: Companion CD: NCLEX review questions 312-327.

UNIT V: CENTRAL NERVOUS SYSTEM DRUGS

Chapter 10: Analgesic Agents

1. Describe pain, types of pain and how pain can be managed through the use of pharmacologic and non-pharmacologic methods.
2. Discuss the use of nonnarcotics, salicylates, nonsteroidal antiinflammatory drugs (NSAID's), and narcotics in pain management.
3. Discuss the difference between an opioid agonist, agonist – antagonist and antagonist agents.
4. Compare the mechanisms of action, drug effects, indications, side effects/adverse actions, contraindication and interactions with nonnarcotics, salicylates, NSAIDs, narcotic agonists, agonist – antagonist agents, and, selected **Prototype Drugs.**
5. List age-related concerns for pediatric and geriatric populations with regard to use of opioids.
6. Discuss steps of the nursing process, particularly interventions and patient teaching, with regards to non-narcotic and narcotic analgesics.
7. Discuss management of opioid overdose, including reversal agent.
8. Identify research findings from evidence-based practice related to pain interventions.

Pre-Class Assignments

Textbook Chapter 10, pp. 133-161.
Study Guide: Chapter 10, pp. 47-50.

Evaluation

Exam: unit exam #2
NCLEX-style questions, pg 161
Other: Companion CD: NCLEX review questions 50-64

Prototypes
morphine sulfate **
naloxone (Narcan)**
acetaminophen (Tylenol)

Recommended reading:

Puntillo, K. (July 2004). Appropriately timed analgesics control pain due to chest tube removal. *American Journal of Critical Care*. 13(4), 292-304. Retrieved June 2006 from the University of Texas at Tyler website, nursing database (CINAHL full text plus – EBSCO).

Chapter 11: General and Local Anesthetics

1. Define anesthesia and discuss differences in the use of general, balanced anesthesia, local anesthetics and moderate sedation.
2. Discuss risks/side effects associated with anesthetics and management of toxicity/overdose.
3. Describe the process of anesthesia, varying levels of consciousness and nursing considerations appropriate to the various anesthetics and changes in consciousness.
4. Discuss the use and risks associated with neuromuscular blocking agents (NMBA).
5. Discuss steps in the nursing process for anesthetics (local and general), NMBAs and moderate sedation.
6. Discuss use, action, effect and side effects of selected **Prototype Drugs.**

Pre-Class Assignments

Textbook Chapter 11, pp. 162-179.
Study Guide: Chapter 11, pp. 51-53.

Prototypes
Lidocaine (Xylocaine)**

Evaluation

Exam: unit exam #2

NCLEX-style questions, pg 179

Other: Companion CD: NCLEX review questions 65-71

Chapter 12: Central Nervous System Depressants and Muscle Relaxants

1. Identify the types and stages of sleep and discuss the differences between a sedative and hypnotic.
2. Identify several nonpharmacologic ways to induce sleep.
3. Define *hangover*, *dependence*, *tolerance*, *withdrawal symptoms*, and *REM rebound in relation to sedative-hypnotic drugs*.
4. Describe differences in short-acting, intermediate-acting and long-acting barbiturates used as sedative-hypnotics.
5. Discuss the use, action effect and side effects of barbiturates, benzodiazepines, non-benzodiazepines and muscle relaxants; and, for selected **Prototypes Drugs**
6. Discuss steps in the nursing process for barbiturates, benzodiazepines and muscle relaxants, including nursing interventions and patient teaching.
7. Identify the reversal agent for benzodiazepines.

Pre-Class Assignments

Textbook chapter 12, pp. 180-195.

Study Guide: Chapter 12, pp. 55-56.

Evaluation

Exam: unit exam #2

NCLEX-style questions, pg 195

Other: Companion CD: NCLEX review questions 72-78

Prototypes

pentobarbital (Nembutal)
 flurazepam (Dalmane)**
 flumazenil (Romazicon)**
 cyclobenzaprine (Flexeril)

Chapter 13: Antiepileptic Agents

1. Describe classifications of seizures and give examples of the different types of seizures.
2. Describe how antiepileptic drugs are used to control seizures; describe their effects, side effects, and contraindications; and, for selected Prototypes Drugs.
3. Explain the emergency treatment for status epilepticus.
4. Apply the steps of the nursing process to a patient with epilepsy receiving an anticonvulsant drug; include patient teaching.
5. Discuss differences in types of anticonvulsants drugs including hydantoins, long-acting barbiturates, succinimides, benzodiazepines and iminostilbenes.
6. Explain the steps of the nursing process, including interventions and patient teaching, related to the use of hydantoins and other anticonvulsants.
7. State the therapeutic range of phenytoin (Dilantin) and implications of abnormal values.

Pre-Class Assignments

Textbook Chapter 13, pp. 196-208.

Study Guide: Chapter 13, pp. 57-59.

Evaluation

Exam: unit exam #2

NCLEX-style questions, pg 208

Other: Companion CD: NCLEX review questions 79-89

Prototypes

phenytoin (Dilantin)**

Chapter 16: Central Nervous System Stimulants and Related Drugs

1. Explain the effects of stimulants on the central nervous system (CNS).
2. Discuss terms: *narcolepsy*, *attention deficit disorder*, *headaches* and *drugs used in treatment*.
3. Discuss uses, actions effects and side effects of amphetamines, anorexiant, analeptics and serotonin agonists; and for selected **Prototype Drugs**
4. Identify treatment modalities for migraine headaches.
5. Discuss steps in the nursing process related to CNS stimulants, including nursing interventions and patient teaching.

Pre-Class Assignments

Textbook chapter 16, pp. 252-265.

Study Guide: Chapter 16, pp. 67-68.

Prototypes methylphenidate (Ritalin) **

Evaluation

Exam: unit exam #2

NCLEX-style questions, pg 266

Other: Companion CD: NCLEX review questions 109-114

Chapter 14: Antiparkinsonian Agents

1. Discuss the pathophysiology and progressive nature of Parkinson's disease (PD).
2. Explain the actions, use, effect and side effects of the following categories of drugs used to manage PD: selective monoamine oxidase inhibitors, dopaminergic agents, COMT inhibitors and anticholinergic therapy; and for selected **Prototype Drugs**
3. Apply the nursing process to patient situations where medication is used to treat PD.
4. Discuss the pathophysiology and progressive nature of Parkinson's disease (PD).
5. Explain the actions, use, effect and side effects of the following categories of drugs used to manage PD: selective monoamine oxidase inhibitors, dopaminergic agents, COMT inhibitors and anticholinergic therapy; and for selected **Prototype Drugs**
6. Apply the nursing process to patient situations where medication is used to treat PD.

Pre-Class Assignments

Textbook Chapter 14, pp. 209-221.

Study Guide: Chapter 14, pp. 61-62.

Prototypes carbidopa-levodopa (Sinemet)**

Evaluation

Exam: unit exam #2

NCLEX-style questions, pg 221

Other: Companion CD: NCLEX review questions 90-95

Chapter 15: Psychotherapeutic Agents

1. Define psychosis and describe how typical (traditional) and atypical antipsychotic medications treat this disease.
2. Define the *extrapyramidal syndrome* related to use of antipsychotic medications.
3. Discuss the use, actions, effects and side effects of phenothiazines, nonphenothiazines and atypical (Serotonin/Dopamine Antagonists) antipsychotics; and selected **Prototype Drugs**

4. Discuss anxiety and the use of anxiolytics, as well as nonpharmacologic measures, in treating this condition.
5. Describe the role of benzodiazepines and miscellaneous anxiolytics in treatment of anxiety disorders.
6. Discuss depression and a theory that suggests a cause.
7. Describe the uses, actions, effects and side effects of selective serotonin reuptake inhibitors (SSRIs), second and third generation antidepressants, including tricyclic antidepressants and monoamine oxidase inhibitor (MAOI) and for selected ***Prototype Drugs***
8. Discuss bipolar disorder and drugs used to stabilize mania (Lithium) and antidepressants to control the depressive side of the disorder.
9. Discuss the use, action, effect and side effects of lithium as well as the serum range for this drug and implications for nursing.
10. Apply steps of the nursing process to patients receiving medication for psychotherapeutic drugs; include significant patient education points.

Pre-Class Assignments

Textbook Chapter 15, pp. 222-251.
Study Guide: Chapter 15, pp. 63-65.

Evaluation

Exam: unit exam #2
NCLEX-style questions, pg 251
Other: Companion CD: NCLEX review questions 109-114

Prototypes

chlorpromazine (Thorazine)**
diazepam (Valium) **
amitriptyline (Elavil)
fluoxetine (Prozac)
lithium (Eskalith)**
alprazolam (Xanax)

UNIT VI: CARDIOVASCULAR SYSTEM AGENTS

Chapter 21: Positive Inotropic Agents

1. Discuss the how the heart functions to provide adequate blood flow to the pulmonary and peripheral circulation.
2. Define inotropic, chronotropic and dromotropic.
3. Discuss disruptions in cardiac rate, rhythm, contraction and blood flow to the myocardium; and, how cardiac drugs regulate these abnormalities to maintain circulation.
4. Discuss two categories of drugs used to treat heart failure and cardiac dysrhythmias: cardiac glycosides and phosphodiesterase inhibitors; include use, action, side effects and important steps of the nursing process related to drug administration.
5. Discuss use, action, effect and side effects of a selected inotropic ***Prototype Drug***.
6. Discuss the role of a new drug – human B-type natriuretic peptide (hBNP) in treating heart failure.
7. Explain the risks for digoxin toxicity and overdose (including serum levels) and prevention/treatment.

Pre-Class Assignments

Textbook Chapter 21 , pp. 318-329
Study Guide: Chapter , pp. 79-80

Evaluation

Exam: unit exam #3
NCLEX-style questions, pg 329
Other: Companion CD: NCLEX review questions 148-158

Prototypes

Digoxin (Lanoxin**)

Chapter 22: Antidysrhythmic Agents

1. Compare the anatomy and physiology of a normal heart, including the electrical system, with that of a heart with abnormal conduction and/or rhythm.
2. Discuss the term dysrhythmia, explain causes for common types, and describe how these abnormal rhythms affect circulation in the heart and to the body.
3. Differentiate between the 4 types of antidysrhythmic drugs (Class I -membrane stabilizing, II - Beta Blockers, III – Prolong Repolarization and IV – Calcium channel blockers, and an unclassified antidysrhythmic); and, explain their use, actions, effects and common side effects.
4. Address the use, action, effect and side effects of selected **Prototype Drugs**.
5. Apply the nursing process to patient situations where antidysrhythmic drugs are given to control irregular heart rhythms and/or slow the heart rate.

Pre-Class Assignments

Textbook Chapter 22, pp.330-351

Study Guide: Chapter , pp. 81-82

Evaluation

Exam: unit exam #3

NCLEX-style questions, pg 352

Other: Companion CD: NCLEX review questions 159-169

Prototypes

amiodarone (Cordarone)**

Lidocaine (Xylocaine) **

propranolol (Inderal)

metoprolol (Lopressor)

diltiazem (Cardizem)**

adenosine (Adenocard)

Chapter 23: Antianginal Agents

1. Summarize the pathophysiology related to myocardial ischemia.
2. Explain how cellular ischemia is responsible for causing angina, including the precipitating factors and measures that decrease its occurrence.
3. Differentiate between the types of angina and types of treatment for each one.
4. Contrast the various antianginals, such as nitrates, beta-blockers and calcium channel blockers in regard to use, action, effects and side effects; include selected **Prototype Drugs**.
5. Apply the nursing process, including nursing interventions and patient teaching, to patient situations where antianginal drugs are given to manage ischemia and angina.

Pre-Class Assignments

Chapter 23, pgs.353-365

Study Guide: Chapter 23, pgs. 83-84

Evaluation

Exam: unit exam #3

NCLEX-style questions, pg 365

Other: Companion CD: NCLEX review questions 170-189

Prototypes

nitroglycerine (Nitrostat)**

metoprolol (Lopressor)

diltiazem (Cardizem)**

Chapter 24: Antihypertensive Agent

1. Describe hypertension and factors affecting the development of high blood pressure; compare primary and secondary hypertension.
2. Discuss the classification system used to categorize individuals with hypertension and the management of blood pressures according to the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure (JNC-7).
3. Identify non-pharmacological life-style modifications that can reduce blood pressure along with medication.
4. Describe the actions, use, effects, side effects and adverse reactions for major categories of antihypertensive drugs: adrenergic agents, angiotensin-converting enzymes (ACE inhibitors), angiotensin II receptor blockers (ARBs), calcium channel blockers, diuretics and vasodilators; include selected **Prototype Drugs**.
5. Apply steps of the nursing process, including patient teaching, to situations where patients are being treated for hypertension with appropriate medication.
6. Identify a medication for acute hypertensive emergencies.

Pre-Class Assignments

Chapter 24, pgs. 366-387

Study Guide: Chapter 24, pgs. 85-87

Evaluation

Exam: unit exam #3

NCLEX-style questions, pg 387

Other: Companion CD: NCLEX review questions 190-204

Prototypes

captopril (Capoten)**
nitopruside
clonidine (Catapres)

Chapter 25: Diuretics

1. Summarize the various indications for diuretics.
2. Describe how diuretics work in the kidney to filter sodium, potassium and water.
3. Describe actions, uses, effects, side effects and adverse reactions related to thiazide, osmotic, loop, and potassium-sparing diuretics; include selected **Prototype Drugs**.
4. Apply the nursing process, including nursing interventions and patient teaching, to patient situations where diuretics are used to affect fluid and/or electrolyte disturbances.
5. Identify a potent diuretic used for emergency situations to produce a rapid diuresis.

Pre-Class Assignments

Chapter 25, pgs. 388-401

Study Guide: Chapter 25, pgs. 89-91

Evaluation

Exam: unit exam #3

NCLEX-style questions, pg 401

Other: Companion CD: NCLEX review questions 205-220

Prototypes

hydrochlorothiazide
(Diuril)**
furosemide(Lasix)**
spironolactone
(Aldactone)
mannitol

Chapter 27: Coagulation Modifier Agents

1. Summarize the general process of hemostasis and describe how anticoagulants, antiplatelets, antifibrinolytics and thrombolytics modify the coagulation process.
2. Discuss the use, action, effects and side effects of anticoagulants, antiplatelets, antifibrinolytics and thrombolytics; include selected **Prototype Drugs**.
3. Apply the nursing process, including nursing interventions and patient teaching, to patient situations where coagulation modifiers are used to affect clotting disturbances in the body.
4. Explain the choice of laboratory monitoring for anticoagulants, including WBAPTT, PTT, PT and INR.

Pre-class Assignments

Textbook Chapter 27 , pgs. 417-439
Study Guide: Chapter 27 pgs. 95-97

Evaluation

Exam: unit exam #3
NCLEX-style questions, pg 439
Other: Companion CD: NCLEX review questions 226-242

Prototypes

Heparin (Lipo-Heparin)**
enoxaparin (Lovenox
warfarin (Coumadin)**
alteplase (Activase)**

Chapter 28: Antilipemic Agents

1. Explain how hyperlipidemia evolves, risk factors, and the relationship to coronary heart disease.
2. Discuss the various types of lipoproteins and how antilipemics drugs, as well as life-style changes, manage abnormal values.
3. Discuss the role of statins as first-line drug therapy for hypercholesterolemia; include use, actions and side effects for statin drugs in general and selected **Prototypes**.
4. Apply steps of the nursing process to patient situations where statin drugs are given to reduce hyperlipidemia.

Pre-class Assignments

Textbook Chapter 28, pgs. 440-454
Study Guide: Chapter 28, pgs. 99-100

Evaluation

Exam: unit exam #3
NCLEX-style questions, pg 454
Other: Companion CD: NCLEX review questions 243-257

Prototypes

atorvastatin (Lipitor) **

UNIT VII: ANTIINFECTIVES, ANTIVIRALS**Chapters 37 and 38: Antibiotics Part 1 & Part 2**

1. Discuss the general principles of antibiotic therapy and how drugs work to rid the body of infection.
2. Discuss the pros and cons of antibiotic usage and concerns with overuse, especially superinfection and antibiotic resistance.
3. Summarize the general categories for antibiotics and reasons for choosing one type over another type.

4. Discuss actions, use, effects and side effects for the following general categories of antibiotics: sulfonamides, penicillins, cephalosporins, macrolides, tetracyclines, aminoglycosides, fluoroquinolones; include selected **Prototype Drugs**.
5. Discuss special precautions when giving antibiotics, specifically allergies, ototoxicity, nephrotoxicity.
6. Apply steps of the nursing process, including nursing interventions and patient teaching, for each of the antibiotic drug categories.

Prototypes

Amoxicillin (Amoxil)**
 Erythromycin (Erythrocin)**
 Gentamicin (Garamycin)**
 Vancomycin (Vancomycin)**

Pre-Class Assignments: (Review Antiinfective and Antiinflammatory Agents: Study Skills Tips

Textbook Chapter 37, pgs.567 - 593

Study Guide: Chapter 37 pp. 125-127.

Chapter 38, pp. 594-608.

Study Guide: Chapter 38, pp. 129-130.

Evaluation

Exam: Unit Exam #3

On-line Activities (example - NCLEX style questions)

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 328-337, 338-344.

Recommended Reading

Ott, M., Shen, J., & Sherwood, S. (2005). Evidenced-based practice for control of methicillin-resistant *Staphylococcus aureus*. *AORN Journal*, 81(2), 361-4, 367-72.

Chapter 39: Antiviral Drugs

1. Discuss the effect of viruses in the human body.
2. Discuss the process of immunosuppression in patients with viral infections, especially human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS), and varicella-zoster (chicken pox).
3. Describe the life cycle of the human immunodeficiency virus (HIV).
4. Discuss antiretroviral therapy, and fusion inhibitors in the management of HIV and the importance of adherence to drug regimen.
5. Explain the uses, action effect and side effects of antiretroviral agents; include selected **Prototype Drugs**.
6. Discuss the use of the nursing process, including nursing
7. interventions and patient teaching, related to antiretroviral therapy.

Prototypes

zidovudine (AZT) **
 acyclovir (Zovirax)
 enfuvirtide (Fuzeon)**

Pre-Class Assignment

Chapter 39, pp. 609 - 633

Study Guide: Chapter 39 pp. 131-132.

Other Learning Activities: Fuzeon information: <http://www.fuzeon.com/9700Safety.aspx>

Handout from instructor on Fuzeon (on Blackboard)

Evaluation

Exam: Unit Exam #3

On-line Activities (example - NCLEX style questions)

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 345-351.

Chapter 40: Antitubercular Drugs

1. Discuss how persons become infected with Tuberculosis (TB) and treatment using first-line and second-line antitubercular drugs.
2. Explain the actions, use, effect and side effects of antitubercular agents; including selected **Prototype Drugs**.
3. Discuss medications used to treat multidrug-resistant Tuberculosis (MDR-TB).
4. Apply the nursing process, including patient teaching to patient situations where drugs are used to manage TB.

Pre-Class Assignments

Textbook Chapter 40, pgs.634 - 642

Study Guide: Chapter 40 pp. 133-134.

Other Learning Activities: handout from instructor for Capreomycin

Prototypes

Isoniazid (INH)**

Capreomycin **

Evaluation

Exam: Unit Exam #3

On-line Activities (example - NCLEX style questions)

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 352-356.

Chapter 41: Antifungal Drugs

1. Summarize how fungal infections develop.
2. Describe the uses, actions, effect and side effects for common antifungal agents; include selected **Prototype Drugs**.
3. Apply the use of the nursing process including nursing interventions and patient teaching, to patients situations where antifungal drugs are administered.

Pre-Class Assignments

Textbook Chapters, pages Chapter 41, pgs. 643 – 652.

Study Guide: Chapter 41, pp. 135 – 137.

Prototypes

Fluconazole (Diflucan)

Amphotericin (Amphocin) **

On-line Activities (example - NCLEX style questions)

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 357-361.

Recommended Reading:

Plonczynski, D. (June 2005). Antibiotic resistance: the impact on care of hospitalized patients. MEDSURG Nursing. 14 (3), 160-6. Retrieved June 2006 from The University of Texas at Tyler website, nursing database (CINAHL full text plus – EBSCO).

Evaluation

Exam: Unit Exam #3

Chapter 42: Antimalarial, Antiprotozoal and Anthelmintic Drugs

1. Discuss the infections that are labeled as malarial, protozoal and/or helminthic in origin and list common signs and symptoms.
2. Explain the use, action, effects and side effects/adverse reactions to antiviral, antimalarial, and anthelmintic drugs; include selected **Prototype Drugs**.
3. Identify nursing interventions, including patient teaching, for antiviral, antimalarial, and anthelmintic drug therapy.

Pre-Class Assignments

Textbook chapters, pages: Chapter 42, pp. 653 – 667.

Study Guide: Chapter 42, pgs. 139 – 140.

Prototype

chloroquine (Aralen) **
metronidazole (Flagyl)

Evaluation

Exam: unit exam #3

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 362-365.

Chapter 42: Antiseptic and Disinfectant Agents

1. Identify the differences between antiseptics and disinfectants.
2. Discuss the development of community-acquired and nosocomial infections.
3. Identify the most commonly used and prescribed antiseptics and disinfectants; include selected **Prototypes**.
4. Explain the use, action effect and side effects of commonly used topical antimicrobials.
5. Apply the nursing process to patient situations where topical antimicrobials are used.
6. Identify the differences between antiseptics and disinfectants.
7. Discuss the development of community-acquired and nosocomial infections.
8. Identify the most commonly used and prescribed antiseptics and disinfectants; include **selected Prototypes**.
9. Explain the use, action effect and side effects of commonly used topical antimicrobials.
10. Apply the nursing process to patient situations where topical antimicrobials are used.

Pre-Class Assignments

Textbook Chapter 43, pp. 668-675.

Study Guide: Chapter 43, pp. 141-142.

Prototypes

Hydrogen peroxide (generic)
Iodophors (Betadine) **
Isopropanol (isopropyl alcohol)

Evaluation

Exam: unit exam #3

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 366-368.

UNIT VIII: IMMUNE AND BIOLOGICAL MODIFIERS & CHEMOTHERAPEUTIC DRUGS

Chapter 45: Immunosuppressant Drugs

1. Discuss the role of immunosuppressive therapy in organ transplant recipients and in the treatment of autoimmune diseases.
2. Discuss the action, use, effect and side effects of commonly used immunosuppressants; include selected **Prototype Drugs**.

3. Apply concepts of the nursing process to patients receiving immunosuppressive therapy.

Pre-Class Assignments

Textbook Chapter 45, pp. 693-700.
Study Guide: Chapter 45, pp. 145-146.

<p>Prototypes cyclosporine (Cyclosporine A) **</p>

Evaluation

Exam: unit exam #4

Chapter 46: Immunizing Drugs and Biochemical Terrorism

2. Unit Objectives with Prototypes

1. Discuss the importance of immunity for all ages of patients.
2. Compare active and passive immunization.
3. Identify diseases that are prevented or treated through the use of immunizing agents (toxoids or vaccines).
4. Outline the currently recommended childhood immunization schedule, including DTaP, tetanus and diphtheria (Td), polio, varicella, measles-mumps-rubella (MMR), Hib, Hep-B, Hep-A and pneumococcal conjugate.
5. Discuss a passive immunizing agent used in maternal-fetal Rh incompatibility (postpartum)
6. Discuss actions, use, effect, contraindications and side effects for immunizing agents; include selected ***Prototype Drugs***.
7. Apply steps of the nursing process to patient situations where a toxoid or vaccine is being administered.
8. Develop a nursing care plan covering aspects of the nursing process that relate to bioterrorism with emphasis on the nurse's role.

Pre-Class Assignments

Textbook Chapter 46, pp. 701-717.
Study Guide: Chapter 46, pp. 147-148.
Other Learning Activities

<p>Prototypes varicella vaccine (Varivax) ** Rho(D) immune globulin</p>
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Evaluation

Exam: unit exam #4

Chapter 47: Antineoplastic Drugs Part 1: Cancer Overview and Cell Cycle-Specific Drugs And Chapter 48 Antineoplastic Drugs Part 2: Cell Cycle-Nonspecific and Miscellaneous Drugs

1. Discuss the characteristics of normal cells and compare with cancerous or malignant cells.
2. Explain cell growth cycle and it's relation to antineoplastic drugs which are cell-cycle specific (CCS) and cell-cycle non-specific (CCNS).
3. Explain how chemotherapy drugs are used more effectively in combination .
4. Identify general side effects and adverse reactions for anticancer drugs.
5. Describe the uses and actions of the following types of drugs: alkylating compounds, cytotoxic antibiotics, topoisomerase-1 inhibitors, antineoplastic enzymes, antimetabolites, mitotic inhibitors, and hormones; include selected ***Prototype Drugs***.
6. Explain precautions that should be taken with IV administration of chemotherapy agents and treatment of adverse side effects such as extravasation.

7. Apply the nursing process, including nursing interventions and patient teaching, related to administration of anticancer drugs.
8. Identify research findings from evidence-based practice related to cancer treatment and quality of life.

Pre-Class Assignments

Textbook Chapters 47-48 pp. 718-762.
Study Guide: Chapter 47-48, pp. 149-154.

Evaluation

Exam: unit exam #4

Prototypes
cyclophosphamide (Cytosan)**
methotrexate (Folex)**
doxorubicin (Adriamycin)

Recommended reading:

Lenhart, C. (July 2005) Relative dose intensity: improving cancer treatment and outcomes. *Oncology Nursing Forum*, 32(4) 757-64. Retrieved June 2006 at the University of Texas at Tyler website, from Nursing database (CINAHL full text plus – EBSCO).

Chapter 49: Biologic Response-Modifying Drugs

1. Discuss the immune system and the differences between the humoral (B-lymphocytes) and cell-mediated (T-lymphocytes) system.
2. Discuss therapeutic effect of biological response modifiers used to treat cancer and other immune-system-related pathophysiology.
3. Explain the use, action, effect and side effects of common immunomodulating (IM) agents: hematopoetic, interferons, monoclonal antibodies and interleukin agents; include selected **Prototype Drugs**.
4. Apply steps of the nursing process in patient situations where IM agents are administered, e.g. patient with neutropenia.

Pre-Class Assignments

Textbook Chapter 49, pp. 763-780.
Study Guide: Chapter 49, pp. 155-156.

Evaluation

Exam: unit exam #4

Prototypes
epoetin alfa (Epogen)**
filgrastim (Neupogen) **
rituximab (Rituxan)

UNIT IX Endocrine System Drugs

Chapter 29: Pituitary Agents

1. Discuss hormones and the relationship between the anterior and posterior pituitary gland and other target glands.
2. Identify the actions, uses, effects and side effects of the pituitary hormones: adrenocorticotrophic hormone, growth hormone and posterior pituitary hormones; include selected **Prototype Drugs**.
3. Apply steps of the nursing process, including nursing interventions and patient teaching, to patient situations where pituitary agents are administered.

Pre-Class Assignments

Textbook Chapter 29, pp. 455-465.
Study Guide: Chapter 29, pp. 101-103.

Prototypes corticotropin (ACTH) **
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Evaluation

Exam: unit exam #4
Evolve website (<http://evolve.elsevier.com/Lilley>)
Other: Companion CD: NCLEX review questions 258-264.

Chapter 30: Thyroid and Antithyroid Drugs

1. Discuss the thyroid gland and the importance of T3, T4 and TSH values.
2. Differentiate between hypo and hyperthyroidism.
3. Discuss the actions, effects and side effects for agents used to treat thyroid conditions requiring replacement hormones; or, for antithyroid agents for hyperthyroidism; include selected **Prototype Drugs**.
4. Apply steps of the nursing process, including patient teaching, for individuals treated with thyroid medications

Pre-Class Assignments

Textbook Chapter 30, pp. 466-472.
Study Guide: Chapter 30, pp. 105-107.

Prototypes levothyroxine sodium (Synthroid) ** propylthiouracil (PTU)
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Evaluation

Exam: unit exam #4
Evolve website (<http://evolve.elsevier.com/Lilley>)
Other: Companion CD: NCLEX review questions 265-271.

Chapter 31: Antidiabetic Drugs

1. Explain the role of the pancreas in development of Type I and Type II diabetes.
2. Explain the differences between hyper and hypoglycemia; give examples of signs, symptoms and treatment.
3. Compare the indications, actions, effects and side effects of oral diabetic agents and insulins used in the management of diabetes; include selected **Prototype Drugs**.
4. Compare and contrast the differences in rapid-acting, short-acting, intermediate-acting, long-acting, fixed combination and sliding scale insulins; and, the drug glucagon used in hypoglycemia.
5. Identify the peak concentration time for the different types of insulin action when a hypoglycemic reaction may be most likely to occur.
6. Describe the nursing process, including interventions and patient teaching, for insulin and oral hypoglycemic agents.
7. Identify research findings from evidence-based practice related to insulin in diabetes treatment and glucose control. Explain the role of the pancreas in development of Type I and Type II diabetes.
8. Explain the differences between hyper and hypoglycemia; give examples of signs, symptoms and treatment.
9. Compare the indications, actions, effects and side effects of oral diabetic agents and insulins used in the management of diabetes; include selected **Prototype Drugs**.

Pre-Class Assignments

Textbook Chapter 31, pp. 473-494.

Study Guide: Chapter 31, pp. 109-111.

Other Learning Activities **Recommended reading:**

Texas Board of Nursing Bulletin. (Jan 2006). Safety in practice-focus on insulin, 37 (1), 5. Retrieved June 2006 from the University of Texas at Tyler website, from nursing database (CINAHL full text plus – EBSCO)

Prototypes

Insulin lispro (Humalog) **
 regular insulin (Humulin R)**
 isophane insulin (NPH) **
 insulin glargine (Lantus) **
 metformin (Glucophage) **

Evaluation

Exam: unit exam #4

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 272-287.

Chapter 32: Adrenal Agents:

1. Discuss the function of the adrenal system and the feedback mechanisms for hormonal control.
2. Explain the differences between the adrenal medulla and adrenal cortex.
3. Discuss the effects of hypo or hypersecretion of the adrenal cortex as well as the disease processes that cause malfunction.
4. Discuss the use, indication, action, effect and side effects for glucocorticoid agents, including selected ***Prototype Drugs***.
5. Apply steps of the nursing process, including patient teaching, to clinical situations where adrenal agents are being administered.

Pre-Class Assignments

Textbook Chapter 32, pp. 495-503.

Study Guide: Chapter 32, pp. 113-114.

Prototype

Prednisone (Deltasone)**

Evaluation

Exam: unit exam #4

Evolve website (<http://evolve.elsevier.com/Lilley>)

Other: Companion CD: NCLEX review questions 288-294.

UNIT X: MISCELLANEOUS THERAPEUTICS: EYE AND EAR, DERMATOLOGIC

Chapter 58: Ophthalmic Drugs

1. Discuss the anatomy and physiology of the eye and how it is influenced by glaucoma and other eye disorders.
2. Explain the differences between chronic open-angle and acute closed-angle glaucoma, and the medications (parasympathomimetic, sympathomimetic, beta-adrenergic blockers, carbonic anhydrase inhibitors and osmotic diuretics) used to treat these conditions.
3. Discuss the use, action, effect and side effects of selected ***Prototype Drugs***.
4. Discuss the role of ocular antiinfectives, antiinflammatory and topical anesthetics in treating infections, inflammation and eye pain, respectively.
5. Identify a drug (atropine) used for ophthalmic diagnostic purposes that dilates the eye for examination.

6. Apply steps of the nursing process, including patient teaching, for clinical situations where patients are treated for eye disorders.

Pre-Class Assignments

Textbook Chapter 58, pp. 879-900.
Study Guide: Chapter 58, pp. 181-183.

Prototypes

pilocarpine (Isopto-Carpine)**
atropine sulfate (generic)

Evaluation

Exam: unit exam #4
Evolve website (<http://evolve.elsevier.com/Lilley>)
Other: Companion CD: NCLEX review questions 447-448.

Chapter 59: Otic Drugs

1. Discuss normal anatomy of the ear.
2. Discuss otitis media and treatment with anti-infective; include actions, use, effects and side effects.
3. Discuss the problem of ear wax accumulation and treatment; include selected **Prototype Drugs**.
4. Apply steps of the nursing process to clinical situations where medications are applied for ear disorders.

Pre-Class Assignments

Textbook Chapter 59, pp. 901-905.
Study Guide: Chapter 59, pp. 185-186.

Prototype

Carbamide peroxide (Debrox Drops)

Evaluation

Exam: unit exam #4
Evolve website (<http://evolve.elsevier.com/Lilley>)
Other: Companion CD: NCLEX review questions 449-450.

Chapter 57: Dermatologic Drugs

1. Discuss common skin disorders (acne and bacterial, fungal and viral infections; and, irritation, itching, infestations and inflammation; also burns).
2. Discuss pharmacological agents (antiinfective, acne, antifungal, antiviral, anesthetic, antipruritic anti-inflammatory, anti-parasitic, hair growth and anti-neoplastic).
3. Explain use, action effects and side effects for common dermatologic agents; include selected **Prototype Drugs**
4. Apply steps of the nursing process, including patient teaching, to clinical situations where these drugs are used.

Pre-Class Assignments

Textbook Chapter 57, pp. 866-878.
Study Guide: Chapter 57, pp. 179-180.

Prototypes

silver sulfadiazine (Silvadene) **
lindane (Kwell)
Isotretinoin (Accutane)

Evaluation

Exam: unit exam #4
Evolve website (<http://evolve.elsevier.com/Lilley>)
Other: Companion CD: NCLEX review questions 445-446.

UNIT XI: REPRODUCTIVE SYSTEM DRUGS

Chapter 33: Women's Health Drugs

1. Discuss the normal female hormonal feedback system and how it regulates reproduction.
2. Describe the use, action, effect and side effects of estrogen and progesterone products; include selected **Prototype Drugs**.
3. Summarize concerns for hormonal replacement therapy (HRT) and contraceptive agents.
4. Summarize the use and action of contraceptive agents and list important precautions and side effects; include selected **Prototype Drugs**.
5. Describe current drug therapy for osteoporosis; and, identify actions, uses, effects and side effects; include selected **Prototype Drugs**.
6. Discuss drug therapy related to pregnancy, labor, delivery and the postpartum period (include fertility agents, uterine stimulants and relaxants).
7. Discuss actions, use, effects and side effects of drugs used for pregnancy; include selected **Prototype Drugs**.
8. Apply steps of the nursing process, including patient teaching, to clinical situations where drugs are administered to women to prevent, maintain or treat common female conditions.
9. Identify evidence-based research related to medications or women's health issues.

Pre-Class Assignments

Textbook Chapter 33, pp. 504-524.
Study Guide: Chapter 33, pp. 115-117.

Evaluation

Exam: Final Exam

Prototypes

conjugated estrogen (Premarin)*
alendronate (Fosamax)
menotropins (Pergonal)
Oxytocin (Pitocin) **
terbutaline (Brethine) **
dinoprostone (Cervidil)

Chapter 34: Men's Health Agents

1. Describe the uses, actions, effects and side effects of androgen therapy, including testosterone and anabolic steroids.
2. Discuss the use of androgen inhibitors for benign prostatic hypertrophy, male-pattern baldness and prostatic cancer.
3. Discuss drugs for male reproductive disorders in which selected medications can be used to treat sexual dysfunction.
4. Describe the use, action, effect and side effects of drugs for sexual dysfunction; include selected **Prototype Drugs**.
5. Apply the nursing process, including patient teaching, to clinical situations where patients receive drugs for male reproductive disorders.

Pre-Class Assignments

Textbook Chapter 34, pp. 525-533.
Study Guide: Chapter 34, pp. 119-120.

Prototypes

testosterone (Depotestosterone) **
sildenafil (Viagra) **

Recommended reading:

Douma, S. (Oct-Dec 2005). Estrogen-related mood disorders: Reproductive life cycle factors. *Advances in Nursing Science*, 28(4), 364-75.

Retrieved June 2006 from the University of Texas at Tyler website, nursing database (CINAHL plus full text-EBSCO).

Evaluation

Exam: Final Exam

**UNIT XII: DRUGS AFFECTING THE GASTROINTESTINAL SYSTEM,
NUTRITION AND FLUID AND ELECTROLYTES****Chapter 51: Acid-Controlling Drugs**

1. Discuss the pathophysiology of hyperacidic states in the GI system and influences on the development of peptic ulcer disease, spastic colon and gastroesophageal reflux disease (GERD).
2. Describe the actions, uses, effects and side effects of various groups of antiulcer drugs: antacids, protectants, histamine-2 blockers and proton pump inhibitors. (Note: other anti-ulcer drugs such as anticholinergics, antibiotics, and antidepressants are discussed in other chapters.)
3. Identify selected **Prototype Drugs** used in the treatment of ulcers.
4. Apply the nursing process, including nursing interventions and patient teaching, to clinical situations where antiulcer drugs are administered.

Pre-Class Assignments

Textbook Chapter 51, pp. 788-801.

Study Guide: Chapter 51, pp. 159-161.

Evaluation

Exam: Final Exam

Prototypes

aluminum hydroxide (Amphojel) **
 cimetidine (Tagamet)**
 omeprazole (Prilosec)
 sucralfate (Carafate)

Chapter 52: Antidiarrheals and Laxatives

1. Define diarrhea and differentiate between chronic and acute types.
2. Compare two treatments for diarrhea (adsorbents and anticholinergics) and explain uses, actions and side effects.
3. Discuss the use of laxatives for constipation or diagnostic bowel preparation; and, differentiate between laxatives that are bulk-forming, emollient, hyperosmotic, saline and stimulant; include use, action and side effects.
4. Identify selected **Prototype Drugs** used for diarrhea and constipation.
5. Apply the nursing process, including nursing interventions and patient teaching, for clinical situations where antidiarrheals, and laxatives are used to treat problems related to bowel elimination.
6. Summarize special concerns related to the pediatric patient concerning antidiarrheal medication.
7. Discuss non-pharmacologic methods for treating constipation.

Pre-Class Assignments

Textbook Chapter 52, pp. 802-814.

Study Guide: Chapter 52, pp. 163-165.

Evaluation

Exam: Final Exam

Prototypes

psyllium (Metamucil) **
 diphenoxylate with atropine (Lomotil)**

Chapter 53: Antiemetic and Antinausea Drugs

1. Discuss the pathophysiology of nausea and vomiting, including precipitating factors and/or diseases.
2. Discuss common antiemetic agents, including use, action and side effects.
3. Identify a selected **Prototype Drug** for nausea and vomiting.
4. Identify hazards of a previously recommended drug for poisoning (Syrup of Ipecac) and current advice regarding treatment for accidental ingestion of a potentially poisonous substance.

Pre-Class Assignments

Textbook Chapter 53, pp. 815-824.
Study Guide: Chapter 53, pp. 167-168.

<p>Prototypes Prochlorperazine (Compazine) **</p>
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Evaluation

Exam: Final Exam

Chapter 54: Vitamins and Minerals

1. Discuss the importance of various vitamins and minerals to the functioning of the human body.
2. Describe nutritional states and diseases caused by vitamin and mineral imbalances.
3. Discuss vitamins A, D, E, K (fat-soluble) and B1, B2, B6, B12, C (water-soluble); include uses, actions and side effects for each.
4. Discuss minerals including calcium, magnesium and phosphorus; include use, actions and side effects.
5. Identify food sources and deficiency conditions associated with each vitamin.
6. Apply steps of the nursing process, including patient teaching, to clinical situations where vitamins and minerals are used to promote health and treat illness.

Pre-Class Assignments

Textbook Chapter 54, pp. 825-844.
Study Guide: Chapter 54, pp. 169-171.
Other Learning Activities

<p>Prototypes Fat-soluble vitamin A Water-soluble vitamin C ** calcium</p>

Evaluation

Exam: Final Exam

Chapter 56: Blood-Forming Drugs

1. Discuss the importance of iron and folic acid in preventing or treating blood-forming disorders; include uses, action and side effects.
2. Explain special geriatric considerations for iron intake in older adults.
3. Apply steps of the nursing process including nursing interventions and patient teaching, to clinical situations where iron or folic acid are administered.

Pre-Class Assignments

Textbook Chapter 56, pp. 856-865.
 Study Guide: Chapter 56, pp. 177-178.
 Other Learning Activities

Prototypes Iron (ferrous fumarate) **

Evaluation

Exam: Final Exam

Chapter 55: Nutritional Supplements

1. Explain the concept of nutritional support and differentiate between enteral and parenteral nutrition; discuss indications, use, actions and side effects of both types.
2. Describe the various routes for enteral feedings and parenteral fluid administration (peripheral and central TPN); discuss advantages/disadvantages and complications of using these routes.
3. Apply steps of the nursing process, including nursing interventions and patient teaching, for patients receiving enteral and parenteral nutrition.
4. Identify research findings from evidence-based practice related to nutritional supplementation.

Pre-Class Assignments

Textbook Chapter 55, pp. 845-855.
 Study Guide: Chapter 55, pp. 173-175.

Prototypes Iron (ferrous fumarate) **

Recommended reading:

Holman, C., Roberts, S., & Nicol, M. (2006). Promoting adequate nutrition: Using artificial feeding. *Nursing Older People*, 17(10), 31-32. Retrieved May 2007 from the University of Texas at Tyler website, from nursing database (CINAHL plus full text – EBSCO).

Evaluation

Exam: Final Exam

Chapter 26: Fluid and Electrolytes

1. Discuss the physiology of fluid balance, including movement between fluid compartments; and, discuss the role of colloids, osmotic pressure and hydrostatic pressure.
2. Discuss the differences between isotonic, hypotonic and hypertonic fluid.
3. Differentiate between edema and dehydration; include causes and treatment.
4. Describe the classifications and give examples (NS, ½ NS, 3% NS, Hespan, FFPs, PRBC, whole blood) of intravenous fluids including crystalloids, colloids and blood products; include indications, use, action, side effects/complications.
5. Discuss 3 principal electrolytes of fluid compartments: sodium, potassium and chloride.
6. Explain the use of sodium and potassium replacement including mechanism of action, precautions and side effects.
7. Describe several signs and symptoms of hypokalemia, hyperkalemia, hyponatremia, hypernatremia.
8. Discuss action, effect, side effects and precautions necessary when administering electrolyte solutions.
9. Apply steps of the nursing process, including patient teaching, for clinical situations where parenterally administered fluids, electrolytes and blood products are administered to prevent or correct imbalances

Pre-Class Assignments

Textbook Chapter 26, pp. 402-416.
Study Guide: Chapter 26, pp. 93-94.

Evaluation

Exam: Final Exam

Recommended Reading:

Polyheme (blood substitute research study)

Tanner, L. (March 2, 2006) Ethicists blast study testing fake blood. *USA Today*.

http://www.usatoday.com/tech/science/discoveries/2006-03-02-blood-substitute_x.htm

Prototypes

Whole Blood **

Packed red blood cells (PRBC)

Sodium Chloride (NaCL)**

Hetastarch (Hespan)

Potassium **

Sodium**

