

HOUSTON COMMUNITY COLLEGE SYSTEM
JOHN B. COLEMAN HEALTH SCIENCE CENTER
ASSOCIATE DEGREE NURSING PROGRAM

RNSG 1301

PHARMACOLOGY AND THE NURSING PROCESS

SYLLABUS

(CRN 27649 & 27503)

Coleman Campus - Room 469 | 5:00 pm - 8:00 pm | Thursday
Room 473 | 1:00 pm - 4:00 pm | Friday
3 hour lecture course / 48 hours per semester / 16 weeks

FALL 2012

HOUSTON COMMUNITY COLLEGE SYSTEM
JOHN B. COLEMAN HEALTH SCIENCE CENTER
ASSOCIATE DEGREE NURSING PROGRAM
RNSG 1301: PHARMACOLOGY AND THE NURSING PROCESS

FACULTY

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COURSE DESCRIPTION

Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of each drug classification. Topics include roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework.

PRE-REQUISITES

Completion of the TEAS Entrance Exam with a 64 or above on all sections on the exam, ENG 1301, PSYC 2301, and BIOL 2401 or Administrative approval.

COURSE GOALS

The student will have an introduction to the science of pharmacology including the roles and responsibilities of the nurse in safe administration of medications within legal/ethical framework

COURSE STUDENT LEARNING OUTCOMES

Role and Responsibilities: Identify the roles and responsibilities of the nurse in administering pharmacological agents.

Knowledge: Use knowledge of pharmacology to demonstrate safe medication dosage calculation.

Definitions: Define pharmacology concepts and describe the process of medication administration.

Systematic Approach: Use a systematic approach to study drug therapy with emphasis on therapeutic classifications and prototypical drugs.

Pathophysiology: Describe the pathophysiology of selected major conditions for which drug therapy is commonly used

Characteristics: Describe characteristics of major drug groups and selected prototypical drugs in terms of the following:

- a. Mechanism of action
- b. Indications for use
- c. Contraindications to use
- d. Expected therapeutic effects
- e. Common or serious adverse effects
- f. Accurate administration
- g. Essential client teaching

Factors: Identify client-related and drug-related factors that influence drug effects.

Application of Nursing Process: Apply all steps of the nursing process to scenarios of clients receiving one or more therapeutic drugs.

Drug Principles: Discuss principles of drug selection, dosage, and route in special populations (i.e., children, older adults, and clients with impaired renal or hepatic function).

Clinical Application: Discuss clinically significant drug-drug, drug-disease, and drug-nutrient interactions.

Administration: Discuss nursing process implications of administering or supervising drug therapy in the home setting.

Legal/Ethical: Describe selected legal, ethical, and economic aspects of drug therapy.

Over-the-counter drugs: Evaluate over-the-counter drugs for patient use or with regard to instruction of clients.

LEARNING OBJECTIVES:

Appropriate learning objectives will be supplied in relation to the above listed SLOs, and in accordance with the material covered in each of the topics.

SCANS OR CORE CURRICULUM STATEMENT

The U.S. department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) to enter the workplace has determined that a total of 43 competencies must be addressed and method(s) of determining competency listed:

The Competencies assigned to RNSG 1301:

Use information skills to process computerized information.

Obtain data regarding pharmacological agents, drug interactions, and new drugs and demonstrate the ability to compute dosages and delivery of medications. This will be accomplished with a hand-written medication drug calculation test along with math problems on computerized examinations.

Enhance basic skills: demonstrate arithmetic skill.

This will be accomplished with a hand-written medication drug calculation test along with math problems on computerized examinations.

COURSE CALENDAR

Placement of content may vary by semester. Refer to your calendar on Eagle online to specific dates and content. The sequencing is subject to changes as deemed necessary by faculty/administration. Students will be notified of changes as soon as possible.

CLASS MEETING TIMES

THURSDAY: 5:00 pm to 8:00 pm, Room 469

FRIDAY: 1:00 pm to 4:00 pm, Room 473

REQUIRED TEXTBOOKS

Adams, P. & Urban, C. (2013). Pharmacology: Connections to Nursing Practice. (2nd edition) Upper Saddle River, New Jersey: Pearson. ISBN: 013281420-978013281423

Pearson's My Nursing Lab Retrieved from <http://www.mynursinglab.com> ISBN: 013-2166046

Morris, D (2006). Calculate With Confidence (5th). St. Louis, MO: Mosby. ISBN 0-323-05629-8

CAE Healthcare, METI eDose (Drug dosage Calculations & Learning and Assessment software) retrieved from <http://www.edose.net>. One Year License: 978-1-935389-02-6
Two Year License: 978-1-935389-00-2

Recommended Textbook:

Hogan, M. (2005). Pharmacology: Reviews & Rationales. Upper Saddle River, New Jersey: Person. ISBN: 0-13-030462-X

LEARNING ACTIVITIES

- A. Methods of Instruction
 - a. Required readings
 - b. Audiovisuals
 - c. Lecture and discussion
 - d. Question and answer
- B. Methods of Evaluation
 - a. Computerized Quizzes
 - b. Multiple-choice computerized examinations
 - c. Written math examination on drug calculations
- C. Contemporary Technology
 - a. Computer-assisted instruction and testing
 - b. Access to the Internet
 - c. Access to Medline and other computerized databases
 - d. Access to My Nursing lab
- D. Concept Reinforcement

- a. Computerized Quizzes
- b. Critical thinking scenarios
- c. Study guide exercises
- d. Current research and literature discussion
- e. Individual faculty-student conferences

EVALUATION

1. Three (3) computer-generated multiple choice exams will be administered. One hour will be allowed for the exam and 20 minutes will be allowed for review of the completed exam. Refer to course calendar for date and time of exams. Student concerns regarding exam questions/content must be addressed within 1 week of the exam.
 - a. Students will be assigned to exam rooms.
 - b. **A student must have a current HCC Student identification badge in order to be admitted to all examinations.** Faculty have the right to refuse admittance in the testing site if a student does not provide a current HCC student ID badge at the time of testing. A pencil/pen, calculator will be the only items allowed in the computer during exams.
 - c. If faculty has any doubt concerning your behavior during an exam, you will be asked to leave the computer lab and you will receive a ZERO as the exam grade. NO EXCEPTIONS.
 - d. All missed unit examinations will be taken the final week of the semester. The schedule for the examinations will be depended upon space availability.
 - e. Examination content will be constructed from lecture and required textbook reading assignments. ADN policy requires that each student report for the examinations on time. NO STUDENT will be admitted to the exam if s/he arrives AFTER the scheduled exam time.

2. Students are required to access Pearson's my nursing Lab web site and complete the pretest quiz prior to class lecture. Students not successful on the pre-test quizzes are expected to complete the remediation plan prior to taking the post –test quiz. Post test quizzes related to the lecture topics covered on each respective exam must be completed prior to the scheduled exam. **Post-test Quizzes can only be taken one time. SEE QUIZ DEADLINES ON COURSE CALENDAR. Post-test quiz grades will be averaged for 5% of the course grade.**

3. **Drug Cards:** All students are required to complete the Drug Card/Profile (see attached) sheet for each drug class covered. The Drug Card must include Drug classification, list of drugs, mode of action, indications, side effects/ food &/or drug interactions/ contraindications, adverse effects, nursing implications, and patient education. The drug cards must be submitted on Eagle online for each drug class covered prior to each exam for that drug class. **Drug cards are worth 5% of the course grade.**

4. **TV Ad-Group Project:** One drug card is a group project that must be on a specific drug based on a TV pharmaceutical commercial (see attached). **TV Ad/ Group project is worth 5% of the course grade.**

5. **A dosage calculation exam** will be administered from the eDose software program in the computer lab (see schedule for date and time). **NO CELL PHONES, PROGRAMMABLE CALCULATORS, OR PDAs WILL BE ALLOWED DURING THE EXAM.** Student will be allowed to use a nonprogrammable calculator for the math exam. Student concerns regarding the exam must be addressed within 1 week of the exam. Students are required to access eDose: Meti software program and complete the Medication dosage calculation skill modules: medication orders and SI units, tablets & capsules, liquid medicines, injections and IV infusions. All students must complete the modules before 11/28/2012. This software program is an integrated learning and assessment platform. The student can log on from anywhere with an internet connection. This is a self-directed, fully interactive, narrated, and web-based program. The student will be able learn drug dosage calculation skills. **The dosage/math exam is 10% of course grade.**

7.	Grading Criteria:	Grading Scale:
	Exam 1 20%	A = 90-100
	Exam 2 25%	B = 80-89
	Exam 3 30%	C = 75-79 *
	Quizzes 5%	D = 60-74
	Math Exam 10%	F = 59 or below
	Drug Cards 5%	
	Group Project 5%	

*In order to **pass the course** with an RNSG prefix, a minimum **Grade of “C” (75%) must be achieved**

Student Name (print): _____

	Last	First
Exam 1	20% of Grade	_____ X .20 = _____
Exam 2	25% of Grade	_____ X .25 = _____
Exam 3	30% of Grade	_____ X .30 = _____
Quizzes	5% of Grade	_____ X .05 = _____
Math Exam	10% of Grade	_____ X .10 = _____
Drug Cards	5% of Grade	_____ X .05 = _____
Group Project	5% of Grade	_____ X .05 = _____

Course Final Grade: _____

ATTENDANCE AND TARDINESS

Daily classroom attendance records will be maintained. A student, in order to be counted as present, the student must sign the attendance sheet. Failure to sign the attendance roster will result in being marked absent for the day. The student may be marked absent if not present after the first thirty minutes of class. A student signs only his/her own name and never signs the attendance sheet for another student. Signing for another student is a form of academic dishonesty and grounds for dismissal.

Tardiness may sometimes be unavoidable. The student is expected to make a concerted effort to arrive on time for all classes. If, for some unavoidable reason the student must be late, they are requested to enter the class during the next break. This will avoid disruption of the ongoing lecture. If the student has a pattern of tardiness, this will be dealt with by the lead instructor and program director

Absences exceeding 12.5% of lecture courses may result in reporting to Early Alert Program and /or administrative withdrawal of the student from the course. Students may be dropped from a course after accumulating absences in excess of 12.5% hours of instruction.

Course withdrawal policy: Before withdrawing from a course, please take the time to meet with the instructor to discuss why it is necessary to withdraw. The instructor may be able to assist a student with suggestions that would help the student to stay in class. Students needing to withdraw from a course should do so prior to the final withdrawal date. **A new state law no longer allows instructors to assign a "W" after the official drop date and the student will be assigned an "F" in the course.** Beginning in the Fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than **SIX** total course withdrawals throughout their educational career in obtaining a certificate and/or degree.

POLICIES

All students will adhere to HCCS policies as delineated in the HCCS and ADN handbooks. Students who repeat a course three or more times may face significant tuition/fee increases at HCC and other Texas public colleges and universities. Please ask your instructor/counselor about opportunities for tutoring/other assistance prior to considering course withdrawal, or if you are not receiving a passing grade.

A.D.N. Handbook: Students are responsible for reading the Associate Degree Nursing Program Student Handbook. The student will complete the acknowledgement form and return it to the instructor within seven (7) days.

Classroom Behavior: As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. Your instructor takes their responsibility very seriously and will inform members of the class if their behavioral makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist your instructor to achieve this critical goal.

Use of Camera and Recording devices: As a student active in the learning community of this course, it is your responsibility to be respectful of the learning atmosphere in your classroom. TO show respect

of your fellow students and instructor, you will turn off your phone and other electronic devices, and will not use these devices in the classroom unless you receive permission from the instructor. Use of recording devices, including camera phones and tape recorders is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring or testing occurs.

SPECIAL NEEDS

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of each semester. Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office.

TUITION/FEE INCREASES

Students who repeat a course three or more times may face significant tuition/fee increases at HCC and other Texas public colleges and universities. Please ask your instructor/counselor about opportunities for tutoring/other assistance prior to considering course withdrawal, or if you are not receiving passing grades.

REMEDIATION/EARLY ALERT PROGRAM/CONTACT ACTION FORM:

The Houston Community College Early Alert/Contact action form program has been established to assist in the overall effort to retain students who are at risk of failing, withdrawing, or dropping a course. This process requires instructional faculty and student support staff to identify students who are performing poorly as early as possible and provide relevant support services to help students overcome their deficiencies. A student is identified when an instructor notices academic or personal difficulties that affect student's academic performance. The possible problem(s) could be tardiness, missed/failed test scores, excessive absences, or a number of other circumstances. Once a referral is made counselors will then contact students to discuss the issues and possible solutions/student plan for their academic or personal difficulties.

When an Early Alert/contact action referral has been initiated either for academic or personal difficulties, a student must provide documentation of completion of student remediation plan to the assigned advisor prior to next unit exam. Student will not be allowed to take the next scheduled unit exam if student fails to provide documentation of completion of student plan. Students who are in need of additional assistance may contact counselor's to help with developing strategies for improvement. Coleman counselors are located on the 2nd floor Student Services office. The A.D.N. Program counselor Regina Ricks (713-718-7430) is available upon request.

Instructor Responsibilities:

Provide a course outline and class calendar
Provide the grading scale and explain how student grades are determined
Inform students of policies such as attendance, withdrawal, tardiness and testing
Return grade assignments within one week
Post office hours to meet with students before or after class
Assist students to be successful in this class

Student Evaluation of the Course:

EGLS3 Evaluation for greater learning student survey system. "At Houston Community college, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your

professors and division chairs for continual improvement of instruction. Look for the EGLS3 as part of the Houston Community College Student System online near the end of the course.

XVII. COURSE OUTLINE

- 1. Unit 1: Fundamental Principles of Pharmacology**
- 2. Unit 2: Math**
- 3. Unit 3: Pharmacology of the Autonomic Nervous System**
- 4. Unit 4: Pharmacology of the Central Nervous System**
- 5. Unit 5: Pharmacology of Infectious Diseases**
- 6. Unit 6: Pharmacology of the Respiratory System and Allergy**
- 7. Unit 7: Pharmacology of the Gastrointestinal System**
- 8. Unit 8: Pharmacology of the Endocrine System**
- 9. Unit 9: Pharmacology of the Cardiovascular System**
- 10. Unit 10: Pharmacology of the Neoplastic Disease**
- 11. Unit 11: Pharmacology of the Eye, Ear and Skin System**
- 12. Unit 12: Pharmacology of Body Defenses**

XVIII. UNIT LEARNING OUTCOMES AND RELATED CONTENT

Unit 1: Fundamental Principles of Pharmacology

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. State the origin and definition of pharmacology.
2. Explain the meaning of therapeutic methods.
3. Describe the process used to name drugs.
4. Differentiate among the chemical, generic, official and brand names of medicines.
5. List official sources of drug standards.
6. List legislative acts controlling drug use and abuse.
7. Differentiate among Schedule I, II, III, IV, and V medications, and describe nursing responsibilities associated with the administration of each type of drug.
8. Describe the procedure outlined by the FDA to develop and market new medicines.
9. Identify the five basic principles of drug action.
10. Explain nursing assessments necessary to evaluate potential problems associated with the absorption of medications.
11. Describe nursing interventions that can enhance drug absorption.
12. Identify the meaning and significance to the nurse of the term half-life when used in relation to drug therapy.
13. Compare and contrast the following terms used with regard to medications: desired action, side effects, adverse effects, allergic reactions, and idiosyncratic reactions.
14. List the factors that cause variations in absorption, metabolism, distribution, and excretion of drugs.
15. State the mechanism by which drug interactions may occur.
16. Differentiate among the following terms used with regard to medications: additive effect, synergistic effect, antagonist effect, displacement, interference, and incompatibility.
17. Discuss the effects of age on drug action.
18. Identify the purpose for using the nursing process methodology.
19. State the five steps in the nursing process and describe in terms of a problem-solving method used in nursing practice.

Content

Drug regulations

Principles of drug administration

Pharmacokinetics

Pharmacodynamics

Adverse drug effects and drug interactions

Medication errors and risk reduction

Unit 2: Math

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Demonstrate proficiency in calculating mathematical problems using addition, subtraction, multiplication, and/or division of fractions.
2. Demonstrate proficiency in calculating mathematical problems using the addition, subtraction, multiplication, and/or division of decimals.
3. Convert decimals to fractions and fractions to decimals.
4. Demonstrate proficiency in calculating mathematical problems using percents.
5. Demonstrate proficiency in converting ratios to percents and percentages to ratios, in simplifying ratios, and in using the proportion method for solving problems.
6. Memorize the basic equivalents of household, apothecary, and metric systems.
7. Demonstrate proficiency in performing conversion of medication problems utilizing the household, apothecary, and metric systems.
8. Memorize common abbreviations used in clinical practice.
9. Use formulas to calculate intravenous fluid administration rates (IV) and to calculate medication dosages (PO, SC, and IM).

Content

Math review

Roman Numerals

Fractions

Decimals

Ratio-proportion

Percentages

Systems of measurement

Metric system

Apothecary and Household systems

Converting within and between the systems

Symbols and Abbreviations for units of measure used in medication administration

Temperature conversion rule

Commonly used medication abbreviations

Does not use list of medication abbreviations

Methods of Administration and Calculations

Oral and parenteral dosage forms

Intravenous Calculations

Unit 3: Pharmacology of the Autonomic Nervous System

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Discuss the sympathetic nervous system as related to drug therapy with adrenergic agonists.
2. Explain the action of drugs that inhibit the actions of cholinergic and adrenergic fibers.
3. Name the most common neurotransmitters known to affect central nervous system function.
4. Identify the two major neurotransmitters of the autonomic nervous system.
5. Identify two broad classes of drugs used to stimulate the adrenergic nervous system.
6. Name the neurotransmitters called catecholamine.
7. Review the action of adrenergic agents to identify conditions that would be affected favorably and unfavorably by these medications.
8. Explain the rationale for using adrenergic blocking agents for conditions that have vasoconstriction as part of the disease pathophysiology.
9. Describe the benefits of using beta-adrenergic blocking agents for hypertension, angina pectoris, cardiac arrhythmias, and hyperthyroidism.
10. Identify disease conditions that would preclude the use of beta-adrenergic blocking agents.
11. List the neurotransmitters responsible for cholinergic activity.
12. List the predictable side effects of cholinergic agents.
13. List the predictable side effects anticholinergic agents.
14. Describe the clinical uses of anticholinergic agents.

Content

Basic review of the autonomic nervous system

Classifying autonomic drugs

Cholinergic Agonists

Cholinergic Antagonists

Adrenergic Agonists

Adrenergic Antagonists

Unit 4: Pharmacology of the Central Nervous System

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Analgesic agents
 - a. Define analgesia.
 - b. Discuss the major components of pain theory.
 - c. Differentiate among opiate agonists, opiate partial agonists, and opiate antagonists.
 - d. Describe monitoring parameters necessary for patients receiving opiate agonists.
 - e. List the different drugs in the groupings of opiate analgesics.
 - f. Compare the analgesic effectiveness of opiate partial agonists when administered before or after opiate agonists.
 - g. Compare the mechanism of action, side effects, contraindications, nursing implementation and indication for opiate agonists, agonist antagonists, & Opiate antagonists.
 - h. Discuss the different "special" pain situations and its management.
 - i. List the nursing interventions of pain management, both pharmacologic and non-pharmacologic approaches to pain relief.
 - j. List safety measures of pain management.
 - k. Define equianalgesic opioids potency.
 - l. Explain when Naloxone can be used effectively to treat respiratory depression.
 - m. Explain why synthetic nonopiate analgesics are not used for inflammatory disorders.
 - n. List the pediatric and geriatric considerations for opioids administration and its implications.
 - o. Identify the legal and ethical principles of opioids administration.

2. General & local anesthetics
 - a. Define anesthesia
 - b. Discuss the differences between and indications of general & local anesthetics.
 - c. List the most commonly used general & local anesthetics with their associated risk factors.
 - d. Discuss what occurs in anesthesia, including the stages of anesthesia.
 - e. Describe essential components of patient assessment used for patients receiving neuromuscular blocking agents.
 - f. Describe the physiologic effects of neuromuscular blocking agents.
 - g. Identify the effect of neuromuscular blocking agents on consciousness, memory, and the pain threshold.
 - h. Describe disease conditions that may affect the patient's ability to tolerate the use of neuromuscular blocking agents.
 - i. List the steps required to treat respiratory depression.
 - j. Compare the mechanism, action, side effects, cautions, contraindications, nursing implementations & indications for general & local anesthesia.

3. CNS Depressants & Muscle relaxants
 - a. Differentiate among the terms sedative and a hypnotic agent, and rebound sleep and paradoxical excitement.

- b. Discuss the differences between benzodiazepines and barbiturates as sedative-hypnotic agents.
- c. Identify specific benzodiazepines and barbiturate agents.
- d. Identify alterations found in the sleep pattern when hypnotics are discontinued.
- e. List nursing interventions that can be implemented as alternatives to administering a sedative/hypnotic.
- f. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects of skeletal muscle relaxants, benzodiazepines, and barbiturates.
- g. List patient education guidelines for patients receiving sedative hypnotic agents & muscle relaxants.
- h. Compare the effects of barbiturates and benzodiazepines on the central nervous system.
- i. Explain the major benefits of administering benzodiazepines rather than barbiturates.
- j. Identify laboratory tests that should be monitored when benzodiazepines or barbiturates are administered over an extended period.

4. Antiepileptic agents

- a. Prepare a chart to be used as a study guide that includes the following information:
 - 1. Name of seizure type
 - 2. Description of seizure
 - 3. Medications used to treat each type of seizure
 - 4. Nursing interventions and monitoring parameters for seizures.
- b. Differentiate between the terms epilepsy, seizures and convulsions.
- c. Discuss the basic classification system used to describe types of epilepsy.
- d. Define status epileptics.
- e. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with the various antiepileptic agents.
- f. State the desired therapeutic outcomes for drug therapy for seizure disorders.
- g. Identify the mechanisms of action thought to control seizure activity when anticonvulsants are administered.
- h. List patient education guidelines for patients receiving antiepileptic agents.
- i. Discuss therapeutic plasma levels of narrow therapeutic index in antiepileptic agents.

5. Antiparkinsonian agents

- a. Name the neurotransmitter that is found in excess and the neurotransmitter that is deficient in persons with Parkinsonism.
- b. Describe reasonable expectations of medications prescribed for treatment of Parkinson's disease.
- c. List the different classes of medications used as antiparkinsonian agents.
- d. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with the use of each antiparkinsonian agent.
- e. Identify the period of time necessary for a therapeutic response to be observed when drug therapy for Parkinsonism is initiated.
- f. Discuss neuroprotective therapy.

- g. List the nursing actions related to the administration of the various antiparkinsonian agents.
 - h. List the patient education guidelines for patients receiving antiparkinsonian agents.
 - i. Identify the therapeutic patient responses to the antiparkinsonian agents.
 - j. List symptoms that can be attributed to the cholinergic activity of pharmacological agents.
 - k. Identify the specific symptoms that show improvement when anticholinergic agents are administered to the patient with Parkinson's disease.
6. Psychotherapeutic agents
- a. Describe major indications for the use of antipsychotic agents.
 - b. Define terminology associated with anxiety states.
 - c. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with psychotherapeutic agents.
 - d. Discuss psychological and physiologic drug dependence.
 - e. Describe the essential components of a baseline assessment of a patient with depression or bipolar disorder.
 - f. Compare drug therapy used during the treatment of the manic phase and depressive phase of bipolar disorder.
 - g. Identify monitoring parameters used for persons taking monoamine oxidase inhibitors (MAOIs), selective serotonin reuptake inhibitors (SSRIs), or tricyclic antidepressants.
 - h. Differentiate between the physiologic and psychologic therapeutic responses seen with antidepressant therapy.
 - i. Identify premedication assessments necessary before administration of MAOIs, SSRIs, tricyclic antidepressants, and antimanic agents.
7. CNS stimulant agents
- a. List the various CNS stimulant agents
 - b. Define the following terms
 - c. analeptic
 - d. CNS stimulant
 - e. methylxanthines
 - f. Identify the mechanism of action, indications, contraindications, cautions, side effects & toxic effects of CNS stimulants.
 - g. Identify the variety of conditions & disorders being treated with CNS stimulants.

Content

Review of the Central nervous system

Pharmacotherapy of anxiety and Insomnia

Pharmacotherapy of Mood disorders

Pharmacotherapy of psychoses

Pharmacotherapy of degenerative diseases of the CNS

Pharmacotherapy of seizures

Pharmacotherapy of muscle spasms and spasticity

CNS stimulants and drugs for ADHD

Pharmacotherapy of severe pain and migraines & Anesthetics and anesthesia adjuncts

Unit 5: Pharmacology of Infectious Diseases

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Antibiotic agents
 - a. Identify baseline data the nurse should collect on a continuous basis for comparison and evaluation of antimicrobial drug effectiveness.
 - b. Identify criteria used to select an effective antimicrobial agent.
 - c. Differentiate between gram-negative and gram-positive microorganisms and between anaerobic and aerobic properties of microorganisms.
 - d. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with antimicrobial agents.
 - e. Describe the nursing assessment and interventions for the common side effects associated with antimicrobial agents: allergic reaction; direct tissue damage from nephrotoxicity, ototoxicity, or hepatotoxicity; secondary infection; and other considerations such as photosensitivity, peripheral neuropathy, and neuromuscular blockage.

2. Antiviral agents
 - a. Discuss the effects of viruses on the human body
 - b. Discuss the indications, contraindications, cautions, routes, mechanisms of action, side effects, toxicity & therapeutic effects related to antiviral agents.
 - c. Identify the various antiviral agents and their specific indications.

3. Antitubercular agents
 - a. Identify the various first and second line agents used for the treatment of tuberculosis.
 - b. Discuss the mechanisms of action, dosages, and side effects, indications for treatment, cautions, contraindications & drug interactions associated with the various antitubercular agents.
 - c. Discuss teaching guide for patients receiving any of the antitubercular agents.

4. Antifungal agents
 - a. Identify the various antifungal medications.
 - b. Describe the mechanisms of action, indications, contraindications, routes of administration, side and toxic effects, & the drug interactions associated with the use of antifungal agents.
 - c. List educational guidelines for patients receiving antifungal medications.

5. Antimalarial, antiprotozoal, & antihelminthic agents
 - a. Identify the various antimalarial, antiprotozoal, & antihelminthic agents.
 - b. Identify the signs of malaria, protozoan & helminthic infections.
 - c. Discuss the mechanisms of actions, indications, cautions, contraindications, side effects & routes of administration associated with each antimalarial, antihelminthic & antiprotozoal agent.
 - d. List nursing interventions for patients receiving antimalarial, antiprotozoal, & antihelminthic agents for various infestations.

6. Antiinflammatory, antirheumatoid & related agents

- a. Describe how nonsteroidal antiinflammatory (NSAIDS) and other antiinflammatory agents exert their mechanism of action
- b. List the various NSAIDS, antigout agents & antiarthritic agents.
- c. Discuss the mechanisms of action, indications, side effects, dosage ranges, cautions, contraindications & drug interactions associated with the use of NSAIDS, antigout agents, & antiarthritic agents.

7. Antiseptic & disinfectant agents

- a. Identify the differences between antiseptics and disinfectants.
- b. Identify the most commonly used & prescribed disinfectants & antiseptics.

Content

Basic principles of Anti-Infective Pharmacotherapy

Antibiotics affecting the bacterial cell wall

Antibiotics affecting bacterial protein synthesis

Fluoroquinolones and Miscellaneous antibacterials

Sulfonamides and the Pharmacotherapy of Urinary tract Infections

Pharmacotherapy of inflammation and fever

Pharmacotherapy of mycobacterial infections

Pharmacotherapy of fungal infections

Pharmacotherapy of protozoan and helminthic infections

Pharmacotherapy of non –HIV viral infections

Pharmacotherapy of joint disorders

Pharmacotherapy of Gout

Unit 6: Pharmacology of the Respiratory System and Allergy

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Antihistamines, decongestants, Antitussives & expectorants
 - a. State the causes of allergic rhinitis and nasal congestion.
 - b. Differentiate between the various agents: antihistamines, decongestants, antitussives & expectorants.
 - c. Define rhinitis medicamentosa and describe the patient education needed to prevent it.
 - d. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with antihistamines, decongestants, antitussives & expectorants.
 - e. Review the procedure for administration of medications by nose drops, sprays, and inhalation.
 - f. Explain why all decongestant products should be used cautiously in persons with hypertension, hyperthyroidism, diabetes mellitus, cardiac disease, increased intraocular pressure, or prostatic disease.
 - g. Identify essential components involved in planning patient education that will enhance compliance with the treatment regimen.
 - h. State the nursing assessments needed to monitor therapeutic response and the development of side effects to expect or report from expectorant, antitussive and mucolytic therapy.
2. Bronchodilators and Other Respiratory Agents
 - a. Describe the anatomy & physiology of the respiratory system.
 - b. Describe how lower respiratory tract diseases affect the respiratory system.
 - c. Discuss the manifestations of lower respiratory tract diseases.
 - d. Identify factors that precipitate lower respiratory tract diseases.
 - e. Identify the various respiratory agents, both the classes and specific agents used in the treatment of lower respiratory tract diseases.
 - f. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with bronchodilators & other respiratory agents.
 - g. Identify nursing assessments used to evaluate the respiratory status of a patient.
 - h. State the nursing assessments needed to monitor therapeutic response and development of side effects to expect or report from sympathomimetic bronchodilator therapy.
 - i. State the nursing assessments needed to monitor therapeutic response and development of side effects to expect or report from corticosteroid inhalant therapy.
 - j. List the nursing interventions that relieve, prevent or decrease the manifestations of the lower respiratory tract diseases.
 - k. List the patient education guidelines for patients receiving bronchodilators and other respiratory agents.

Content

Review of the pulmonary system

Pharmacotherapy of asthma and other pulmonary disorders

Chronic obstructive pulmonary disease

Pharmacotherapy of allergic rhinitis and the common cold

Drugs for the common cold

 Antitussives

 Expectorants and mucolytics

Unit 7: Pharmacology of the Gastrointestinal System

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Antacids & acid controllers
 - a. Identify common stomach disorders that require drug therapy.
 - b. Identify factors that prevent breakdown of the body's normal defense barriers resulting in ulcer formation.
 - c. Identify the various agents used to treat gastric disorders, including antacids, H2 Histamine blocking agents & proton pump inhibitors.
 - d. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with antacids & acid controlling agents.
 - e. List the patient education guidelines associated with the use of antacids & acid controllers.
 - f. Identify outcome criteria used to monitor therapeutic patient responses in the use of antacids & acid controllers.

2. Antidiarrheals & laxatives
 - a. State the underlying causes of constipation.
 - b. Explain the meaning of "normal" bowel habits.
 - c. Identify the indications for use, method of action, and onset of action for contact or stimulant laxatives, saline laxatives, lubricant or emollient laxatives, bulk-forming laxatives, and fecal softeners.
 - d. Describe medical conditions in which laxatives should not be used.
 - e. List the causes of diarrhea.
 - f. State the differences between locally acting and systemically acting antidiarrheal agents.
 - g. Identify electrolytes that should be monitored whenever prolonged or severe diarrhea is present.
 - h. Describe nursing assessments needed to evaluate the state of hydration in patients suffering from either constipation or dehydration.
 - i. Identify conditions that generally respond favorably to antidiarrheal agents.
 - j. List the patient education guidelines associated with the use of antidiarrheals and laxative agents.

3. Antiemetic (antinausea) agents
 - a. Discuss the pathophysiology of nausea & vomiting.
 - b. Identify the antiemetic agents and their drug classifications.
 - c. Identify the neurotransmitters involved in the process of nausea & vomiting.
 - d. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with antiemetic agents.
 - e. Discuss scheduling of antiemetics for maximum benefit.
 - f. List the patient teaching guidelines for patients receiving antiemetic agents.

4. Vitamins & minerals

- a. Differentiate between information found in the dietary reference intake tables and the recommended dietary allowance tables.
- b. Identify the role of vitamins & minerals in the functioning of the human body.
- c. Differentiate between fat-soluble and water-soluble vitamins.
- d. Identify the nutritional states & diseases caused by vitamin and mineral imbalances.
- e. Discuss the treatment of the various vitamin and mineral imbalances.
- f. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with vitamins & minerals.

5. Nutritional supplements

- a. Describe the nutritional assessments essential proper to administration of tube feedings and parenteral nutrition.
- b. Identify common laboratory and diagnostic tests used to monitor a patient's nutritional status.
- c. Discuss nursing assessment and interventions required during the administration of enteral nutrition.
- d. Discuss home care needs for a patient receiving enteral or parenteral nutritional feedings.
- e. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with enteral & parenteral supplements.
- f. Compare the various enteral & parenteral supplements with their ingredients.

Content

Review of the gastrointestinal system

Pharmacotherapy of peptic ulcer disease and gastroesophageal reflux disease

Proton pump inhibitors

H₂-receptro antagonists

Antacids

Pharmacotherapy of Helicobacter pylori infections

Miscellaneous drugs used for peptic ulcer disease and gastroesophageal reflux disease

Unit 8: Pharmacology of the Endocrine System

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Pituitary Agents
 - a. Describe the normal function of the anterior and posterior aspects of the pituitary gland.
 - b. Identify the various pituitary agents.
 - c. Discuss the mechanisms of action, indications, side effects and contraindications related to pituitary agents.

2. Thyroid and antithyroid agents
 - a. Discuss the normal actions and functions of the thyroid hormones.
 - b. Describe the signs, symptoms, treatment, and nursing interventions associated with hypothyroidism and hyperthyroidism.
 - c. Discuss the mechanisms of action, indications, contraindications and cautions and side effects related to thyroid agents.
 - d. Identify the two classes of drugs used to treat thyroid disease.
 - e. Name the drug of choice for hypothyroidism.
 - f. Discuss the actions of antithyroid medications on the formation and release of hormones produced by the thyroid gland.
 - g. State the three types of treatment for hyperthyroidism.
 - h. Explain the nutritional requirements and activity restrictions needed for individuals with hyperthyroidism.
 - i. Identify the types of conditions that respond favorably to the use of radioactive iodine- 131.
 - j. Explain the action of propylthiouracil on the synthesis of T3 and T4.
 - k. Identify the teaching guidelines for patients receiving thyroid or antithyroid agents.

3. Antidiabetic and hypoglycemic agents
 - a. Discuss the normal actions and functions of the pancreas and the feedback system that regulates it.
 - b. Describe the current classification system for diabetes mellitus.
 - c. Describe the differences between hyposecretion and hypersecretion of insulin and between Type 1 and Type 2 diabetes mellitus.
 - d. Describe the various factors influencing the blood glucose levels in the presence or absence of diabetes mellitus.
 - e. Identify the objectives of dietary control of diabetes mellitus.
 - f. Discuss the mechanisms of action, indications, contraindications and cautions, and side effects relating to the insulin, oral antidiabetic and hypoglycemic agents.
 - g. Differentiate among the signs, symptoms, and management of hypoglycemia and hyperglycemia.
 - h. Discuss the contributing factors of, nursing assessments for, and nursing interventions for patients exhibiting complications associated with diabetes mellitus.
 - i. Identify the teaching guidelines for patients receiving insulin, oral antidiabetic agents or hypoglycemic agents.

4. Adrenal agents

- a. Review the normal actions and functions of the adrenal system and its feedback mechanism.
- b. Describe the differences between hypersecretion and hyposecretion of the adrenal gland.
- c. State the normal actions of mineralocorticoids and glucocorticoids in the body.
- d. Identify the baseline assessments needed for a patient receiving corticosteroids.
- e. Prepare a list of the clinical uses of mineralocorticoids and glucocorticoids.
- f. Discuss the mechanism of action of, indications for, contraindications and cautions to, and side effects associated with the use of adrenal medications.
- g. Identify the teaching guidelines for patients receiving adrenal medications.

5. Women's Health agents

- a. Describe the body changes that can be anticipated with the administration of estrogens and progesterone.
- b. State the uses of estrogens and progestins.
- c. Describe the rationale for the various treatments and cite dosages, side effects, cautions, contraindications and drug interactions associated with estrogen and progestin therapy, selective estrogen receptor modulators, fertility agents and drugs used in labor and delivery.
- d. Discuss combined oral contraceptives and selective estrogen receptor modulators.
- e. List the expected therapeutic responses to the various women's health agents.
- f. Describe the therapeutic responses to uterine stimulants and relaxants, as well as their mechanism of actions, side effects, contraindications, and drug interactions.
- g. State the nursing assessments and monitoring parameters for agents used in
- h. women's health.
- i. Explain the pathogenesis and pharmacotherapy for osteoporosis.
- j. Explain the nurse's role in caring for clients receiving drug therapy for the treatment of osteoporosis.
- k. Identify the teaching guidelines for patients receiving women's health agents.

6. Men's health agents

- a. 1. Discuss the normal anatomy and physiology of the male reproductive system.
- b. 2. Identify the various male reproductive agents and their indications with rationale for use.
- c. 3. Describe the pharmacological treatments of benign prostatic hypertrophy.
- d. 4. Describe the pharmacological treatment of erectile dysfunction.
- e. 5. Identify teaching guidelines for patients receiving male reproductive agents.

Content

Review of the Endocrine system

Pharmacotherapy of growth Hormone disorders

Pharmacotherapy of antidiuretic hormone disorders

Pathophysiology of diabetes mellitus types of diabetes

Complications of Diabetes mellitus

Drug therapy for diabetes: Insulin

Drug therapy for diabetes: oral antidiabetic drugs

Sulfonylurea

Biguanides: Metformin

Meglitinides: Repaglinide

Thiazolidinediones

Alpha-glucosidase inhibitors

Oral combination products

Drug therapy for diabetes: Incretin therapies

Pharmacotherapy of hypothyroid disorders

Pharmacotherapy of Hyperthyroid disorders

Replacement therapy with corticosteroids

Mineralocorticoids

Antiadrenal agents

Unit 9: Pharmacology of the Cardiovascular System

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Positive inotropic agents
 - a. Define inotropic, chronotropic, & dromotropic.
 - b. Summarize the pathophysiology of heart failure including the body's compensatory mechanisms.
 - c. Identify the goals of treatment of heart failure.
 - d. Discuss the effect of cardiac glycosides & positive inotropic agents on a failing heart.
 - e. Discuss the peak onset, duration of action, metabolism and excretion of positive inotropic agents.
 - f. Identify significant drugs, laboratory tests & food interactions associated with positive inotropic agents.
 - g. Explain why specific disease conditions & drugs are considered interactions, cautions, or contraindications to the use of a digoxin and other positive inotropic agents.
 - h. Explain the process of digitalizing a patient, including the initial dose, preparation and administration of the medication, and nursing assessments needed to monitor therapeutic response and digitalis toxicity.
 - i. Describe safety precautions associated with the preparation and administration of digitalis glycosides.
 - j. Identify essential assessment data, nursing interventions, and health teaching needed for a patient with heart failure.
 - k. Identify the nurse's responsibility in patients experiencing digoxin toxicity & to patients receiving digoxin immune FAB (Digibind).
 - l. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with positive inotropic agents.

2. Antidysrhythmic agents
 - a. Define the most commonly encountered Dysrhythmias.
 - b. Describe normal cardiac function.
 - c. Identify the various classes of Antidysrhythmic agents as determined by their mechanism of action.
 - d. List examples of specific drugs within each class of Antidysrhythmic agents.
 - e. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with Antidysrhythmic agents.
 - f. Identify baseline-nursing assessments that should be implemented during the treatment of arrhythmias.
 - g. List the dosage forms and precautions needed in the preparation of intravenous Lidocaine for the treatment of arrhythmias.
 - h. Identify the potential effects of muscle relaxants used during surgical intervention when combined with Antiarrhythmic therapy.

3. Antiangina agents
 - a. Define angina

- b. Discuss how cellular ischemia is responsible for causing angina.
 - c. Describe the actions of nitrates, beta-adrenergic blockers, and calcium channel blockers on the myocardial tissue of the heart.
 - d. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with antiangina agents.
 - e. Identify assessment data needed to evaluate an angina attack.
 - f. Identify medication therapy health teaching of an angina patient.
4. Antihypertensive agents
- a. Define hypertension.
 - b. Describe the different forms of hypertension
 - c. Discuss the rationale for using a stepped care approach in the management of hypertension.
 - d. Describe nursing assessments and interventions used during the treatment of hypertension.
 - e. State lifestyle modifications that should be implemented when a diagnosis of hypertension is made.
 - f. Identify the nine classes of drugs used to treat hypertension.
 - g. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with antihypertensive agents.
 - h. List the nursing interventions of antihypertensive agent administration & approaches to reduce hypertension.
 - i. List the outcome criteria used for patients receiving antihypertensive agents.
5. Diuretic agents
- a. State the indication for diuretics.
 - b. State the different types of diuretics.
 - c. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with diuretic agents.
 - d. Identify nursing assessment data used to evaluate a patient's hydration.
 - e. State which electrolytes may be altered by diuretic therapy.
 - f. Identify the effects of diuretics on blood pressure, electrolytes, and diabetic or prediabetic patients.
 - g. Review the signs and symptoms of electrolyte imbalance and normal laboratory values of potassium, sodium and chloride.
 - h. Explain the rationale for administering diuretics cautiously to older patients and people with impaired renal function, cirrhosis of the liver, or
 - i. Diabetes mellitus.
 - j. Identify alterations in diet that may be prescribed concurrently with loop, Thiazide, or potassium-sparing diuretic therapy.
 - k. Describe the goal of administering diuretics to treat hypertension, and heart failure.
6. Coagulation Modifier agents
- a. Explain what nonpharmacologic measures can improve peripheral circulation.

- b. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with coagulation modifier agents.
- c. State the primary purposes of anticoagulant therapy.
- d. Describe conditions that place an individual at risk for developing blood clots.
- e. Identify specific nursing interventions that can prevent clot formation.
- f. Explain laboratory data used to establish dosing of anticoagulant medications.
- g. Describe specific monitoring procedures to detect hemorrhage in the anticoagulated patient.
- h. Describe procedures used to ensure that the correct dose of an anticoagulant is prepared and administered.
- i. Explain the specific procedures and techniques used to administer heparin subcutaneously, via intermittent administration through a heparin lock, and via intravenous infusion.
- j. Identify the purpose, dosing determination, and scheduling factors associated with the use of Protamine sulfate.
- k. State the nursing assessments needed to monitor therapeutic response and the development of side effects to expect or report from anticoagulant therapy.

7. Antilipemic agents

- a. Identify the major types of lipoproteins.
- b. List the various Antilipemic agents commonly used to treat hyperlipidemia.
- c. State specific oral administration instructions needed with antilipemic agents.
- d. Identify the specific agents used to treat type II and type IV forms of hyperlipidemia.
- e. Identify mechanisms of actions, drug effects, therapeutic uses, interactions, and side & toxic effects associated with Antilipemic agents.
- f. Identify therapeutic responses produced by the Antilipemic agents.

Content

Review of the cardiovascular system

Pharmacotherapy of hyperlipidemia

Calcium channel blockers

Drugs affecting the rennin-angiotensin-aldosterone system

Diuretic therapy and the pharmacotherapy of renal failure

Pharmacotherapy of hypertension

Pharmacotherapy of angina pectoris and myocardial infarction

Pharmacotherapy of Heart failure

Pharmacotherapy of dysrhythmias

Pharmacotherapy of coagulation disorders

Pharmacotherapy of Hematopoietic disorders

Pharmacotherapy of Fluid, electrolyte and acid-base disorders

Unit 10 Pharmacology of the Neoplastic Disease

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Discuss the purpose of antineoplastic agents in the treatment of cancer.
2. Classify antineoplastic agents and monoclonal antibodies by their mechanisms of action.
3. Explain the normal cycle for cell replication and describe the effects of cell cycle-specific and cell cycle-nonspecific drugs within this process.
4. State the rationale for giving chemotherapeutic drugs on a precise time schedule.
5. List the common side effects of and toxic reactions to antineoplastic agents and monoclonal antibodies.
6. Discuss the mechanisms of action, cautions, contraindications, routes of administration, and drug interactions associated with the use of all classes of antineoplastic agents and the monoclonal antibodies.
7. Discuss the nursing assessments and interventions needed for persons experiencing adverse effects from chemotherapy.
8. Discuss teaching guidelines for patients receiving antineoplastic agents.

Content

Basic principles of antineoplastic therapy

Pharmacotherapy of Neoplasia

Classification of Antineoplastic agents

Antineoplastic medications

 Alkylating agents

 Antimetabolites

 Antitumor antibiotics

Hormones and hormone antagonists

Natural products

Biologic response modifiers and monoclonal antibodies

Miscellaneous antineoplastic

Unit 11: Pharmacology of the Eye, Ear and Skin System

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Ophthalmic agents
 - a. Discuss the anatomy and physiology of the structure of the eye.
 - b. Explain the baseline data that should be gathered when an eye disorder exists.
 - c. Discuss the mechanism of action, cautions, side effects and contraindications of ophthalmic preparations and associated nursing implications.
 - d. Describe the procedure for instilling eye drops or eye ointments.
 - e. Discuss teaching guide for patients receiving ophthalmic agents.
2. Otic agents
 - a. List the various types of otic preparations.
 - b. Discuss the mechanisms of action, dosage, cautions, contraindications & specific application techniques related to otic agents.
 - c. Discuss teaching guide for patients receiving otic agents.
3. Dermatologic agents
 - a. Identify the structure and functions of the skin and associated structures
 - b. Explain how skin disease are classified
 - c. Describe the drug therapies for bacterial, fungal, viral, and parasitic infections of the skin
 - d. Explain the etiology, pathogenesis, and pharmacotherapy for acne vulgaris, rosacea, dermatitis, and psoriasis
 - e. Describe the prevention and management of minor burns
 - f. Describe the nurse's role in the pharmacologic management of skin disorders
 - g. Identify the prototype and representative drugs and explain the mechanism of drug action, primary indications, contraindications, significant drug interactions, pregnancy category, and important adverse effects.
 - h. Discusses the nursing process to care for patients who are receiving drug therapy for skin disorders.

Content

Review of the skin disorders
Pharmacotherapy of skin infections
Pharmacotherapy of acne and rosacea
Pharmacotherapy of dermatitis
Pharmacotherapy of psoriasis
Pharmacotherapy of minor skin burns
Pharmacotherapy of alopecia
Pharmacotherapy of eye and ear disorders
Pharmacotherapy of glaucoma
Pharmacotherapy for eye examinations
Pharmacotherapy of other eye conditions
Pharmacotherapy with otic preparations
 Antibiotics
 Cerumenolytics

Unit 12: Pharmacology of Body Defenses

Learning Outcomes

At the completion of the unit the student will have been provided with the learning activities to:

1. Anti-inflammatory and Immune System Response
 - a. Discuss the inflammatory response.
 - b. Identify the major components of the immune system.
 - c. Discuss the organs and cells of the immune system.
 - d. Differentiate between active and passive immunity.
 - e. Differentiate the drugs most often used to stimulate the immune system from those used to suppress the immune system.
2. Immunostimulant agents
 - a. Compare the mechanisms of action, indications for use, cautions, contraindications, side effects, and routes of administration for various toxoids and vaccines.
 - b. Discuss teaching guide for patients receiving immunostimulant agents.
3. Immunosuppressant agents
 - a. Discuss the role of immunosuppressive therapy in the treatment of autoimmune diseases
 - b. Discuss the mechanisms of action, contraindications, cautions, side effects, and toxicity associated with the most commonly used immunosuppressive agents.
 - c. Discuss teaching guide for patients receiving immunosuppressant agents
4. Biologic Response Modifiers
 - a. List the side effects, adverse reactions, and toxic effects associated with the biologic response modifiers.
 - b. Discuss the use of biologic response modifiers in the treatment of neoplasms.
 - c. Discuss the mechanisms of action, cautions, contraindications, routes of administration and drug interactions associated with biologic response modifiers.
 - d. Discuss teaching guide for patient's biologic response modifiers.

Content

Review of body defenses and the immune system

Immunostimulants: Interferons & interleukins

Other biologic response Modifiers

Immunosuppressants

Calcineurin inhibitors

Cytotoxic agents and antimetabolites

Antibodies

Corticosteroids

Vaccines and the Immune system

Active immunity: bacterial immunizations

Active immunity: viral immunizations

Passive immunity

Pharmacotherapy of HIV-AIDS

Prophylaxis of HIV infections

Pharmacotherapy of Opportunistic infections associated with HIV-AIDS

DRUG CARD/PROFILE

Objective: Demonstrate the ability to utilize information about pharmaceutical agents.

Drug Classification:

List of Drugs:

<u>Mode of Action:</u>	<u>Indications:</u>	<u>Side Effects/ Food/ Drug Interactions/ Contradictions:</u>	<u>Adverse Effects:</u>	<u>Nursing Implications:</u>	<u>Client Teaching:</u>

TV Pharmaceutical Ads – Facts and/or Myths

Each group will select a TV pharmaceutical drug and post on Eagle on-line under discussion. NO TWO GROUPS CAN HAVE THE SAME TOPIC. Complete the following information on the drug covered in the TV commercial; attach a clip of the ad; paper is one page in length; completed paper must be posted online by Wednesday, November 14th.

1. Recall/Recognize: Name a TV pharmaceutical commercial that is advertised from the learning outcome list. (List generic and trade name for the specific drug)
2. Understand: What did you understand about the medication from the commercial? (State your preliminary/initial understanding of the drug based on the commercial alone)
3. Apply: Apply the use of the medication to a health situation/condition.
4. Analyze: Describe what the nurse must know about the medication?
5. Evaluate: Evaluate as to whether the commercial communicated clear, helpful health information to the general public, based on FDA regulations and/or other drug information.
6. Synthesis: Compose a drug profile using the drug card format given for the medication selected.

**RNSG 1301 – FALL 2012
PHARMACOLOGY
COURSE EXPECTATIONS CONTRACTUAL AGREEMENT**

I, _____, have read the syllabus and fully understand the expectations of me as a student in this course.

I acknowledge that I am aware that the A.D.N. Student Handbook is on the RNSG 1301 website and I am accountable for following the policies and procedures discussed in the handbook.

I acknowledge that I am aware that the course syllabus is on the RNSG 1301 website and I am accountable for following the policies and procedures discussed in the syllabus.

In addition, I agree to neither give nor receive any information about test content in this course.

My signature below signifies my willingness to comply with the course requirements.

Printed Name

Phone Number

Email Address

Signature

Date