



Basic Respiratory Pharmacology (RSPT 1213)

Credit: 1 semester credit hours (2 hour lecture, 1 hour lab)

Prerequisite: RSPT 1201

Co-requisite: RSPT 1329, RSPT 1207, RSPT 2310, RSPT 1325



Course Description:

A study of basic pharmacological principles/practices of respiratory care drugs. Emphasis on classification, routes of administration, dosages/calculations, and physiological interaction.

Required Textbook and Materials

1. (Hess) Respiratory Care Principles and Practice, 3rd Edition, ISBN #978-1-284-05000-4
2. (Colbert) Integrated Cardiopulmonary Pharmacology- by Colbert and Mason-fourth Edition (ISBN# 978-1-62751-619-8)
3. Web based: www.aarc.org
Clinical Practice guidelines:
Assessing Response to Bronchodilator Therapy at point of care
Selection of Device for Delivery of aerosol to the Lung Parenchyma
Delivery of Aerosol to upper airway
4. A package of #882 Scantrons and #2 pencils

Course Objectives

Upon completion of this course the student will be able to: Explain the mode of action, clinical indications, dosages, hazards, and side effects of respiratory care drugs; calculate drug dosages; and select optimal drugs used in the practice of respiratory care.

The student will be able to:

1. Select appropriate medication and dosage to produce a desired patient outcome
2. Identify indications/ hazards/side effects for various cardiopulmonary medication
3. Calculate proper drug dosage for various cardiopulmonary medications
4. Identify/select/modify delivery device for various cardiopulmonary medications

Course Outline

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| <ol style="list-style-type: none"> I. Pharmacologic Principles <ol style="list-style-type: none"> A. Basic terms B. Interpreting drug information C. Indications and usage D. Contraindications E. Drug interactions F. Drug reactions G. Dosage and administration | <ol style="list-style-type: none"> H. Routes of administration <ol style="list-style-type: none"> I. Pharmacokinetics J. Pharmacokinetics K. Prescription orders II. Metric system and drug dosage calculations <ol style="list-style-type: none"> A. Systems of measurements B. Drug dosage calculations III. The Pharmacology of the Autonomic Nervous System |
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RSPT 1213 Course Syllabi

- A. Nervous system divisions
- B. Parasympathomimetics
- C. Parasympatholytics
- D. Sympathomimetics
- E. Sympatolytics
- IV. Bronchodilators
 - A. Bronchoconstriction/bronchospasms
 - B. Neural control of smooth muscle
 - C. Sympathetic nervous system
 - D. Parasympathetic nervous system
 - E. Mechanism of action
 - F. Side effects
 - G. Classification of drugs by action/ duration
 - H. Sympathomimetics
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Duration of action
 - I. Parasympatholytics
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Duration of action
 - J. Xanthines
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Duration of action
 - 4. Therapeutic levels
- V. The Mucokinetic and Surfactants
 - A. The mucociliary system
 - B. Structure and composition
 - C. Agents
 - 1. Bland aerosols
 - a. Solution %
 - b. Response
 - 2. Mucolytics
 - a. Generic and trade names
- b. Dosage and frequency
- c. Actions
- 3. Surface active agents
 - a. Function
 - b. Indications
 - c. Generic and trade names
 - d. Dosage and frequency
 - e. Delivery
- VI. The Anti-inflammatory and antiasthmatic agents
 - A. Inflammatory process
 - B. Physiology
 - C. Routes of administration
 - D. Corticosteroids
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Actions
 - E. Antiasthmatics
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Actions
 - F. Leukotriene Modifiers
 - 1. Actions
 - 2. Generic and trade names
 - 3. Dosage and frequency
 - G. Upper airway edema
 - 1. Drugs used to treat
- VII. Infectious Respiratory Disease
 - A. Bacteriostatic vs. Bactericidal
 - B. Upper vs lower airway infections
 - C. Antivirals
 - 1. Influenza
 - 2. Respiratory Syncytial
 - D. Antibacterial
 - E. Antifungal
 - F. Antiprotozian
- VIII. Cardiac agents

RSPT 1213 Course Syllabi

- A. Drugs used to treat
 - 1. Arrhythmias
 - 2. Heart failure
 - 3. Shock
 - 4. Angina
 - 5. Hypertension
 - 6. Hypotension
 - 7. Coagulation
- IX. Neuromuscular agents
 - A. Nerve transmission
 - B. Blocking drugs
 - 1. Depolarizing
 - 2. Non depolarizing
- X. Medical gases
 - A. Uses of
 - B. Oxygen
 - C. Carbon dioxide
 - D. Helium
 - E. Nitric Oxide

Grade Scale

93 – 100	A
85 – 92	B
77 – 84	C
68 – 76	D
0 – 67	F

Course Evaluation

Final grades will be calculated according to the following criteria:

3-5 exams	60%
Homework	20%
Quizzes	20%

Course Policies

1. Homework is due on scheduled date. **5 points will be deducted for each calendar day that homework is late.**
2. No food or drink, or use of tobacco products in class
3. Beepers, telephones, headphones, and other electronic devices must be turned off while in class
4. No children allowed in the classroom
5. Abide by LIT policies
6. Abide by policies within the Respiratory Care Handbook
7. Exam dates are subject to change and a plan will be distributed the first class day.
8. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.

9. No cheating of any kind will be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class with a grade of F. Cheating can result in expulsion from LIT.
10. Additional class policies as defined by the individual course instructor.

Technical Requirements (for courses using Blackboard)

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

https://help.blackboard.com/en-us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building. You may also visit the online resource at <http://www.lit.edu/depts/stuserv/special/defaults.aspx>

Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document