Respiratory Care Procedure I   (RSPT 1310)

Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Prerequisite: RSPT 1201

Co-requisite: RSPT 1213, RSPT 1207, RSPT 2210, RSPT 1325

Course Description

Essential knowledge of the equipment and techniques used in the treatment of cardiopulmonary disease.

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Required Textbook and Materials

1. Egans Fundamentals of Respiratory Care 12th Edition (ISBN # 978-0-323-51112-4)
2. Egans Fundamentals of Respiratory Care Workbook 12th Edition (ISBN 978-0-32355366-7)
3. Mosby's Respiratory Care Equipment 11th Edition (ISBN # 978-0-323-712217)
4. Trajaecsys access
5. A package of #882 Scantrons and #2 pencils
6. Stephoscope
7. Watch (with a second hand and waterproof)

Course Objectives

Upon Completion of this course the student will be able to: Select, review, obtain, and interpret data in a selected respiratory care patient setting; select assemble, and check equipment for proper function, operation, and cleanliness: identify equipment malfunctions; maintain patient records; and demonstrate knowledge of therapeutic procedures.

Utilize data related to patient assessment; utilize respiratory care equipment; perform therapeutic procedures including medical gas therapy, humidity and aerosol therapy, lung expansion therapy, bronchial hygiene therapy, and pulse oximetry; recommend modification of therapy; and maintain patient records

1. Select, assemble, and check the function of equipment used in: gas analysis, oxygen therapy delivery systems, and aerosol delivery devices.

2. Select/ Revise the appropriate Respiratory Therapy procedures to produce a desired patient outcome.

3. Troubleshoot problems with the interaction of the patient with various Respiratory Care equipment.

4. Perform/analyze/ interpret vital signs, physical assessment, patient interview

5. Describe/identify various diseases requiring specific isolation procedures

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6.　　Perform and demonstrate competency in the laboratory setting for the following procedures: patient assessment, oxygen transport, oxygen delivery devices (nasal cannula, simple mask, partial rebreather, non-rebreather, air-entrainment masks), gas analysis (FiO2), aerosol delivery devices (face mask, face tent, t-piece), chest x-ray interpretation, mucus clearance adjuncts, Pulse ox

Course Outline

I.　　Assessing heart sounds
    A.　　Landmarks
    B.　　Normal sounds
        1.　　Valves making sounds
    C.　　Abnormal sounds
        1.　　Noted with various conditions

II.　　Clinical Data
    A.　　Complete Blood Count
        1.　　Normal values
        2.　　Interpretation of abnormal Values
    B.　　Blood chemistry
    C.　　Glucose
    D.　　Electrolytes
    E.　　Intake and Output (fluid balance)

III.　　Thoracic Imaging
    A.　　Approach to reading
    B.　　Techniques and Quality
        1.　　A-P
        2.　　P-A
        3.　　Lateral
        4.　　CT
        5.　　HRCT
        6.　　Ultrasound
        7.　　MRI

    C.　　Anatomical structures
        1.　　Normal
        2.　　Abnormal
    D.　　The Pleura
    E.　　Lung Parenchyma
    F.　　Mediastinum
    G.　　Tube markings
        1.　　Et tube
        2.　　Balloon tip flow directed
        3.　　Naso-gastric tube
        4.　　EKG electrodes
    H.　　Abnormalities
        1.　　Atelectasis
        2.　　Pleural effusion
        3.　　Pneumothorax

4. Proper and abnormal tube positions
   a. Balloon tip flow directed catheter
   b. Endo- tracheal tube
   c. Naso-gastric tube

IV. Humidity and Aerosol Administration
   A. Indications
   B. Delivery Devices
      1. Setup
         a. Large volume Nebulizer
         b. Drug delivery – via Small volume Nebulizer, MDI and DPI with prescribed drugs
         c. Passover Humidification (wick and HME)
      2. Administration
   C. Problem Solving and Troubleshooting
   D. Selecting Appropriate Therapy

V. Medical Gases
   A. Storage, Delivery, Identification
   B. Central Piping systems
   C. Safety Index system
   D. Regulators

VI. Medical Gas Therapy
   A. Goals and Objectives
   B. Clinical Practice Guidelines
   C. Assessing the Need
   D. Precautions and Hazards
   E. Delivery Systems
      1. Nasal Cannula
      2. Simple Mask
      3. Ventimask
      4. Non-rebreather
      5. Partial rebreather
      6. Nasal catheter
      7. Aerosol Delivery devices to deliver Oxygen
         a. Aerosol Face tent
         b. Aerosol Face mask
         c. T-Tube (Briggs Adapter)
         d. Aerosol Trach Collar
   F. Troubleshooting Delivery systems
   G. Total Flow
   H. Analysis of percentage
      1. Procedure
      2. Results
      3. Troubleshooting
VII. IPPB
   A. Indications
   B. Contraindications

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      C.   Hazards
      D.   Troubleshooting
      E.   Modify Procedure
      F.   Equipment
      G.   Procedure/ Patient instruction
      H.   Competency Evaluations
      I.   Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response

VIII.   Manual resuscitator
      A.   Indications
      B.   Contraindications
      C.   Hazards
      D.   Troubleshooting
      E.   Modify Procedure
      F.   Equipment
      G.   Procedure
      H.   Competency Evaluations
      I.   Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response

IX.   Pulse oximetry
      A.   Indications
      B.   Contraindications
      C.   Hazards
      D.   Troubleshooting
      E.   Equipment
      F.   Procedure
      G.   Competency Evaluations
      H.   Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response

X.   Chest physiotherapy
      A.   Indications
      B.   Contraindications
      C.   Hazards
      D.   Troubleshooting
      E.   Modify Procedure
      F.   Equipment
      G.   Procedure/ Patient instruction
      H.   Competency Evaluations
      I.   Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response

XI.   Mucus Clearance (Coughing/ HFCW/ PEP devices/vibratory PEP devices)
      A.   Indications
      B.   Contraindications
      C.   Hazards

D.   Troubleshooting
E.   Modify Procedure
F.   Equipment
G.   Procedure/ Patient instruction
H.   Competency Evaluations
I.   Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response

XII.   Case Studies
A.   Scenario
B.   Analyzing data
C.   Interpretation of data
D.   Care of Plan
E.   SOAP Notes

Grade Scale

Range	Grade
90 – 100	A
80 – 89	B
77 – 79	C
68 – 76	D
0 – 67	F

Course Evaluation

Final grades will be calculated according to the following criteria:

1. 6-7 exams   85%

2. Lab/quiz/homework/assignments   15%

Course Requirements

1. Competency in the following procedures:
   patient assessment, oxygen transport, oxygen delivery devices (nasal cannula, simple mask, partial rebreather, non-rebreather, air-entrainment masks), gas analysis (FiO2), aerosol delivery devices (face mask, face tent, t-piece, Trach collar), Pulse oximetry, mucus clearance adjuncts , pulse oximetry

Course Policies

1. No food or drink, or use of tobacco products in class
2. Beepers, telephones, headphones, and other electronic devices must be turned off while in class. No cell phone or electronic devises during testing. For calculator

use during exams you are not to use cell phone or other electronic device except a regular calculator. All personal items will be placed at the front of the classroom and cell phones will be placed on the presentation desk.
3. No children allowed in the classroom
4. No late assignments will be accepted
5. Abide by LIT policies
6. Abide by policies within the Respiratory Care Handbook
7. Abide by instructor specific policies; this will be distributed on the first class day.
8. Exam dates will be distributed the first class day. However, exam dates and material may vary to facilitate student learning.
9. Electronic communication will be thru your LIT email.
10. Homework assignments are due at the beginning of class. No late work accepted.

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 Disability Act of 1990 and Section 504, Rehabilitation Act of 1973 are federal anti-discrimination statues that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the American with Disability Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)839-2018. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu)

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

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.
https://lit.edu/student-success/starfish