Outline of Instruction

Division: Health Sciences  Area: Respiratory Therapy
Course Number: RTH 226  Course Name: Respiratory Care Techniques IV
Prerequisite: RTH 214 - Adult Critical Care Management
Corequisite: RTH 221 - Respiratory Therapy Clinical Practice IV
Hours Required: Class: 45  Lab: 0  Credits: 3

Course Description/Purpose

This course covers a variety of diagnostic and therapeutic settings. Pulmonary function and stress testing equipment and procedures used in advanced labs will be presented. Additional emphasis will be made in the interpretation of pulmonary function test results. Delivery of respiratory care in alternate sites will also be emphasized. Included will be goals, procedures and equipment associated with pulmonary rehabilitation, home care, subacute and long-term care settings.

Major Units

1. Intro to PFTs: Forced Spirometry
2. Residual Volume Determination, $DLCO$ Testing, & Intro to Flow-Volume Loops
3. Bronchial Reactivity, Airway Resistance, & Distribution of Ventilation Tests
4. Interpretation of Laboratory and Ventilator Based PFT Results & Graphics
5. Blood Gas Laboratory Equipment and Quality Control
6. Pulmonary Stress Testing and Rehabilitation Programs
7. Alternate Site Care Activities and Equipment

Educational/Course Outcomes RTH 226

Student learning will be assessed by a variety of methods, including, but not limited to, quizzes and tests, computerized clinical simulations, homework assignments, and instructor observations.

Cognitive  Each student will be expected to:

- describe components and functions of the Collin’s water-seal spirometer.
- describe components and clinical significance of basic pulmonary function tests (PFTs).
- discuss common tests used to determine functional residual capacity.
- explain the Krogh single breath $DLCO$ test.
- describe, compare, and contrast various airway reactivity tests
- discuss performance and clinical significance of ventilation mechanics tests.
- list and describe major tests used to determine distribution of pulmonary ventilation and perfusion.
- describe calibration of a modern blood gas analyzer.
- discuss the general goals, methods and equipment associated with pulmonary stress testing.
- discuss the general goals, methods and equipment associated with alternate site care including pulmonary rehabilitation and home care.
Performance

Each student will be expected to:

- measure and calculate all standard volume and flow values from a forced vital capacity (FVC) curve.
- interpret spirometrically acquired data for presence/absence of common pulmonary pathologies.
- use all formula previously presented in the respiratory therapy program to perform calculations related to the acquisition and manipulation of pulmonary function values.
- interpret data acquired during pulmonary stress testing.
- develop a respiratory care plan for patients in pulmonary rehabilitation, home care and alternate site settings.