Common Course Outline
RESP 201
Specialized Assessment of Oxygenation & Ventilation
3 Credits

Community College of Baltimore County

Description

RESP 201 – Specialized Assessment of Oxygenation & Ventilation covers the advanced principles and concepts essential for providing respiratory care to patients in the acute care setting. In addition, cardiac and lung dysfunction and the effects on oxygenation and ventilation are discussed. The course examines cardiac rhythms, hemodynamics, and diagnostic imaging of the chest. The complexities of chronic lung diseases such as asthma, chronic bronchitis and emphysema are discussed.

3 Credits

Prerequisite: RESP 200
Co-requisites: RESP 202 and RESP 203

Overall Course Objectives

Upon completion of this course students will be able to:

1. identify the gross anatomy of the structures of the cardio-pulmonary system;
2. describe the function of the structures of the cardio-pulmonary system;
3. summarize coronary circulation;
4. discuss the conduction system of the heart;
5. explain the factors that affect the pumping action of the heart and the Frank-Starling mechanism as it relates to the cardiac pumping mechanism;
6. trace the electrophysiology of the heart;
7. describe the mechanism of actions for catecholamine and calcium channel blockers on cardiac contractility and excitability;
8. identify the components of the electrocardiogram (ECG) and the relationship to the electrical and mechanical activity of the heart;
9. differentiate between normal and lethal cardiac rhythms;
10. evaluate ECGs;
11. formulate the treatment for various cardiac dysrhythmias;
12. explain the factors that control cardiac output;
13. discuss the physical characteristics associated with hemodynamics;
14. identify the techniques associated with hemodynamic measurement;
15. analyze hemodynamic measurements to identify adverse patient conditions;
16. describe the systemic PRE/PP sequence to review the technical aspects of a radiograph;
17. summarize the logical, systematic sequence to review a radiograph;
18. differentiate between air and consolidation on a chest radiograph;

19. compare and contrast the following radiologic procedures; computed tomography (CT), positron emission tomography (PET), magnetic resonance imaging (MRI), pulmonary angiography, ventilation-perfusion scan, fluoroscopy, bronchography, and PET/CT scan;
20. extrapolate the differences between emphysema and chronic emphysema;
21. recognize the clinical manifestations for emphysema, chronic bronchitis, and asthma;
22. implement the global initiative for chronic obstructive lung disease (GOLD) guidelines for chronic obstructive pulmonary disease (COPD);
23. apply GOLD guidelines to patient scenarios;
24. discuss the global initiative for asthma (GINA) guidelines for asthma; and
25. apply GINA guidelines to patient scenarios.

Major Topics

I. Anatomy & physiology of the heart
   A. Cardiac structures
   B. Cardiac and peripheral circulation
II. Electrical impulses of the heart
   A. Normal cardiac rhythms
   B. Abnormal cardiac rhythms
   C. Lethal cardiac rhythms
III. Cardiac pharmacology
   A. Advanced cardiac life support protocols
   B. Dosages
IV. Hemodynamic monitoring
   A. Arterial lines
   B. Central venous pressure line
   C. Swan-Ganz catheter
V. Thoracic imaging
   A. Chest radiograph
   B. CT scan
   C. PET scan
   D. MRI
   E. Ventilation Perfusion scan
VI. Respiratory pathology
   A. Emphysema
   B. Chronic bronchitis
   C. Asthma

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Grading/exams

- A minimum of three quizzes
- A minimum of three unit exams
- A comprehensive final

- A reflective essay
- Professionalism
- Participation

Written Assignments: Students are required to use appropriate academic resources and must use appropriate APA format.

Other Course Information

This course is a Respiratory Care Therapy program core course. This course is part of a program sequence that requires admission to the program. This course is offered during the fall semester only.

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