



STATUS: A

COMMON COURSE NUMBER: RET 2286C

COURSE TITLE: Management of the Intensive Care Patient

CREDIT HOURS: 2

CONTACT HOUR BREAKDOWN:

Lecture/Discussion: 16

Laboratory: 0

Other 0

CONTACT HOURS/WEEK: 2

CATALOG COURSE DESCRIPTION:

This course includes nephrology, renal anatomy and physiology, fluid and electrolyte disorders, and therapy. Additional topics are the management of arrest, shock, and airway care of the post-op heart patient and labile blood pressures.

Prerequisite: RET 1714, RET 2503C, RET 2834L

Corequisite: RET 2835L, RET 2601

General Education Requirements - Associate of Arts Degree, meets Area(s): none
General Education Requirements - Associate in Science Degree, meets Area(s): none

UNIT TITLES:

1. ARDS
2. AIDS
3. pneumonia
4. tuberculosis
5. bronchogenic carcinoma
6. pleural disease and pneumothorax
7. renal physiology and fluid and electrolyte balance
8. respiratory muscles and neurogenic control of ventilation.

I. Course Overview:

Upon successful completion of this course, the students should be able to

II. Units:

Unit 1. ARDS

General Outcome:

- 1.0 The student will describe the etiology, pathophysiology diagnostic techniques and treatment for this disease.

To successfully complete this unit the student will:

- 1.1 Describe how colloid osmotic pressure, hydrostatic pressure, alveolar capillary membrane permeability and the lymphatic system affect pulmonary vascular fluid movement
- 1.2 Differentiate between cardiogenic and non cardiogenic pulmonary edema.
- 1.3 Describe the clinical effects of excessive amounts of extravascular lung water.
- 1.4 Describe the advantages and disadvantages of PEEP and increased FiO_2 in treating intractable hypoxemia.
- 1.5 Describe the methods used to administer Peep and oxygen to patients with ARDS and the techniques used to evaluate their effectiveness.
- 1.6 Describe the most common forms of multisystem failure encountered with patients suffering from ARDS.

Unit 2. AIDS

General Outcome:

- 2.0 The student will describe the etiology, pathophysiology diagnostic techniques and treatment for this disease.

SPECIFIC LEARNING OBJECTIVES:

To successfully complete this unit the student will:

- 2.1 Describe the current morbidity and mortality statistics for AIDS in the United States.
- 2.2 Define AIDS, ARC, HIV, HTLV, and CMV
- 2.3 Describe the opportunistic organisms which most commonly infect victims of AIDS.
- 2.4 Describe the process by which AIDS undermines the body's immune system.
- 2.5 List the drugs which are most effective in the treatment of AIDS and indicate the mechanism of action and adverse side effects of each.
- 2.6 Describe the precautions which must be taken to prevent AIDS contamination.

Unit 3. Pneumonia

General Outcome:

- 3.0 The student will describe the etiology, pathophysiology diagnostic techniques and treatment for this disease.

SPECIFIC LEARNING OBJECTIVES:

To successfully complete this unit the student will:

- 3.1 Describe the morbidity and mortality rates for pneumonia in the United States.
- 3.2 List the most common forms of community acquired and hospital acquired pneumonia.
- 3.3 Describe the technique used to determine whether an organism is gram positive or gram negative.
- 3.4 List the most common gram positive and gram negative bacterial pneumonias, describe the pathophysiology and indicate the best forms of treatment for each.
- 3.5 List the host characteristics which predispose to the development of pneumonia.

Unit 4. Tuberculosis

General Outcome:

- 4.0 The student will describe the etiology, pathophysiology diagnostic techniques and treatment for this disease.

SPECIFIC LEARNING OBJECTIVES:

To successfully complete this unit the student will:

- 4.1 Describe the morbidity and mortality rates for tuberculosis in the United States and indicate the reasons for the recent increase in the incidence of the disease.
- 4.2 Differentiate between primary and post primary tuberculosis
- 4.3 Describe the advantages and disadvantages of AFB, Xrays and the PPD test in diagnosing tuberculosis.
- 4.4 List the host characteristics which predispose to the development of tuberculosis
- 4.5 List the drug regimen which is usually followed in the treatment of tuberculosis.
- 4.6 Describe the most common complications which are associated with tuberculosis.
- 4.7 List the various types of organisms which cause tuberculosis in humans.

Unit 5. Respiratory muscles and neurogenic control of ventilation

General Outcome:

- 5.0 The student will describe the respiratory muscles and the neurogenic control centers and their relationship to each other in regulating ventilation.

SPECIFIC LEARNING OBJECTIVES:

To successfully complete this unit the student will:

- 5.1 List the primary and accessory muscles of ventilation.
- 5.2 Describe the methods used to evaluate respiratory muscle function and fatigue.
- 5.3 Describe the causes and effects of reduced energy stores on ventilatory effectiveness.
- 5.4 List the major physical changes which adversely influence respiratory muscle function.

Unit 6. bronchogenic carcinoma

General Outcome:

- 6.0 The student will describe the etiology, pathophysiology diagnostic techniques and treatment for this disease.

SPECIFIC LEARNING OBJECTIVES:

To successfully complete this unit the student will:

- 6.1 Describe the morbidity and mortality rates for lung cancer in the United States.
- 6.2 Describe the different types of cancer cells. For each one indicate the rates of occurrence and mortality and the area of the lung each is predisposed to affect.
- 6.3 List the primary forms of therapy for lung cancer and indicate the success rates for each.
- 6.4 Describe the signs, symptoms and methods used to diagnose lung cancer.

Unit 7. Pleural disease and pneumothorax

General Outcome:

- 7.0 The student will describe the etiology, pathophysiology diagnostic techniques and treatment for this disease.

SPECIFIC LEARNING OBJECTIVES:

To successfully complete this unit the student will:

- 7.1 Describe the architecture of the pleura and pleural space and indicate the normal amount of fluid and pressures present there.
- 7.2 Describe the factors which are responsible for fluid movement in the pleural space.
- 7.3 Describe Starling's Law as it relates to fluid movement in the lungs.
- 7.4 Describe the clinical signs and symptoms associated with pleural effusion and the methods used to diagnose the problem.
- 7.5 Differentiate between transudate and exudate fluid
- 7.6 List the primary causes and methods of treatment for pleural effusion.

Unit 8. renal physiology and fluid and electrolyte balance

General Outcome:

- 8.0 The student will describe the anatomy of the kidney and its function in maintaining the body's electrolyte and fluid homeostasis.

SPECIFIC LEARNING OBJECTIVES:

To successfully complete this unit the student will:

- 8.1 List the normal values for \bar{K} , Na, Ca, Mg, Cl, HCO_3 , Mg, and glucose in the extracellular fluid.
- 8.2 List the primary functions for the substances listed above.
- 8.3 List the primary mechanisms which regulate sodium, potassium and calcium levels in the body.
- 8.4 List the physiologic effects of abnormal sodium, potassium and calcium levels in the body.
- 8.5 describe the volume of blood which perfuses the kidneys and the mechanism that the kidneys use to purify the blood
- 8.6 Differentiate between prerenal and postrenal failure and the treatment for each.
- 8.7 Describe the laboratory data and the clinical symptoms which indicate the presence of acute renal failure.