



Western Technical College

10515176 Respiratory Disease

Course Outcome Summary

Course Information

Description	Exploration of signs, symptoms, causes, progression, and treatment of diseases or disorders of the body that affect the respiratory cardiopulmonary system. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care.
Career Cluster	Health Science
Instructional Level	Associate Degree Courses
Total Credits	3
Total Hours	54

Textbooks

Clinical Manifestations and Assessment of Respiratory Disease. 8th Edition. Copyright 2020. Des Jardins, Terry and George G. Burton. Publisher: Elsevier Science. **ISBN-13:** 978-0-323-55369-8. Required.

Success Abilities

1. Cultivate Passion: Enhance Personal Connections
2. Cultivate Passion: Expand a Growth-Mindset
3. Live Responsibly: Develop Resilience
4. Live Responsibly: Foster Accountability
5. Refine Professionalism: Act Ethically
6. Refine Professionalism: Improve Critical Thinking
7. Refine Professionalism: Participate Collaboratively
8. Refine Professionalism: Practice Effective Communication

Program Outcomes

1. Apply respiratory therapy concepts to patient care situations.

Course Competencies

1. Interpret results of simple spirometry

Assessment Strategies

- 1.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 1.1. you differentiate between acceptable and unacceptable spirometry tracings according to quality standards
- 1.2. you relate tracings to pathophysiology
- 1.3. you recognize normal spirometry values
- 1.4. you assess response to therapeutic interventions based on simple spirometry data
- 1.5. you relate predicted values based on diverse patient populations

Learning Objectives

- 1.a. Identify volume-time and flow-volume spirometry tracings
- 1.b. Differentiate between flow and volume measurements on tracings and data reports
- 1.c. State the normal values for lung volumes, lung capacities, FEV-1/FVC ratio, RV/TLC ratio and normal % predicted for volumes and flows
- 1.d. State the ATS guidelines for assuring validity
- 1.e. Analyze spirometry tracings and data for compliance with ATS guidelines
- 1.f. Relate patient variables to predicted values

2. Evaluate radiologic images of the chest.

Assessment Strategies

- 2.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

You will know you are successful when:

- 2.1. you perform a systematic identification of the chest radiograph
- 2.2. you recognize the need for alternative medical imaging procedures
- 2.3. you identify abnormalities related to disease processes or traumatic chest injury
- 2.4. you differentiate various radiographic views
- 2.5. you identify and differentiate extraneous objects on the chest film
- 2.6. you identify the presence and position of any artificial airways or catheters

Learning Objectives

- 2.a. Analyze a simple chest x-ray using a systematic approach
- 2.b. Differentiate among air, fluid and solid densities on normal and abnormal chest x-rays
- 2.c. Relate chest x-ray abnormalities to pathology
- 2.d. Identify extraneous items in and on the chest, including ECG electrodes, artificial airways, drainage tubes and sutures
- 2.e. Differentiate between standard positions and techniques of chest radiography

3. Evaluate radiologic/ultrasonic diagnostic procedures of the chest

Assessment Strategies

- 3.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 3.1. you perform a systematic identification of the chest radiograph
- 3.2. you recognize the need for alternative medical imaging procedures (e.g. Ultrasound, CT, PET, Echocardiography and ventilation/perfusion scan)
- 3.3. you identify abnormalities related to disease processes or traumatic chest injury
- 3.4. you differentiate various radiographic views
- 3.5. you identify and differentiate extraneous objects on the chest film
- 3.6. you identify the presence and position of any artificial airways or catheters

4. Analyze signs and symptoms, etiology, pathogenesis, and treatment for neoplastic lung diseases/disorders

Assessment Strategies

4.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 4.1. you explain the signs and symptoms of disease and/or disorder
- 4.2. you identify the respiratory therapist's role in disease management to include prevention, diagnosis, and treatment of the disease and/or disorder (add to 4-10)
- 4.3. you formulate a respiratory therapy care plan appropriate to the disease and/or disorders
- 4.4. you recommend further diagnostic studies and therapeutic interventions
- 4.5. you explain etiology and pathogenesis of the disease and/or disorders
- 4.6. you summarize progression of the disease and/or disorders
- 4.7. you compare and contrast the various neoplastic lung disease and/or disorders

Learning Objectives

- 4.a. Identify signs and symptoms of neoplastic disease
- 4.b. Examine etiology of neoplastic disease
- 4.c. Explain pathogenesis of neoplastic disease
- 4.d. Investigate various treatment options for neoplastic disease

5. Analyze signs and symptoms, etiology, pathogenesis, and treatment for acute trauma

Assessment Strategies

5.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 5.1. you explain the signs and symptoms of traumatic injury
- 5.2. you identify the respiratory therapist's role in prevention, diagnosis, and treatment of traumatic injury
- 5.3. you formulate a respiratory therapy care plan appropriate to the traumatic injury
- 5.4. you recommend further diagnostic studies and therapeutic interventions
- 5.5. you explain etiology and pathogenesis of the traumatic injury
- 5.6. you summarize progression of the traumatic injury
- 5.7. you compare and contrast the various acute traumatic injuries (e.g. near drowning, smoke inhalation, head injury, spinal cord injury, chest injury)

Learning Objectives

- 5.a. Identify respiratory complications of various acute traumatic chest injuries
- 5.b. Examine various etiologies of acute traumatic chest injuries
- 5.c. Explain pathogenesis of respiratory compromise of various acute traumatic chest injuries
- 5.d. Investigate treatment options for the respiratory compromised patient due to acute traumatic chest injury

6. Analyze signs and symptoms, etiology, pathogenesis, and treatment for neuromuscular diseases/disorders

Assessment Strategies

6.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 6.1. you explain the signs and symptoms of disease and/or disorder
- 6.2. you identify the respiratory therapist's role in prevention, diagnosis, and treatment of the disease and/or disorder
- 6.3. you formulate a respiratory therapy care plan appropriate to the disease and/or disorders
- 6.4. you recommend further diagnostic studies and therapeutic interventions
- 6.5. you explain etiology and pathogenesis of the disease and/or disorders
- 6.6. you summarize progression of the disease and/or disorders
- 6.7. you compare and contrast the various neuromuscular diseases and/or disorders

Learning Objectives

- 6.a. Identify signs and symptoms of various neuromuscular disease/disorders
- 6.b. Examine etiology of various neuromuscular disease/disorders
- 6.c. Explain pathogenesis of neuromuscular disease/disorders
- 6.d. Investigate various treatment options for neuromuscular disease/disorders

7. Analyze signs and symptoms, etiology, pathogenesis, and treatment for cardiovascular diseases/disorders

Assessment Strategies

- 7.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 7.1. you explain the signs and symptoms of disease and/or disorder
- 7.2. you identify the respiratory therapist's role in prevention, diagnosis, and treatment of the disease and/or disorder
- 7.3. you formulate a respiratory therapy care plan appropriate to the disease and/or disorders
- 7.4. you recommend further diagnostic studies and therapeutic interventions
- 7.5. you explain etiology and pathogenesis of the disease and/or disorders
- 7.6. you summarize progression of the disease and/or disorders
- 7.7. you compare and contrast the various cardiovascular diseases and/or disorders

Learning Objectives

- 7.a. Identify signs and symptoms of cardiovascular diseases and disorders
- 7.b. Examine various etiologies of cardiovascular diseases and disorders
- 7.c. Explain pathogenesis of cardiovascular diseases and disorders
- 7.d. Investigate treatment options for various cardiovascular diseases and disorders

8. Analyze signs, symptoms, etiology, pathogenesis and treatment for obstructive lung diseases

Assessment Strategies

- 8.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 8.1. you explain the signs and symptoms of disease and/or disorder
- 8.2. you identify the respiratory therapist's role in prevention, diagnosis, and treatment of the disease and/or disorder
- 8.3. you formulate a respiratory therapy care plan appropriate to the disease and/or disorders
- 8.4. you recommend further diagnostic studies and therapeutic interventions
- 8.5. you explain etiology and pathogenesis of the disease and/or disorders
- 8.6. you summarize progression of the disease and/or disorders
- 8.7. you compare and contrast the various obstructive lung diseases and/or disorders

Learning Objectives

- 8.a. Identify signs and symptoms associated with obstructive disease
- 8.b. Classify the etiology of obstructive disease
- 8.c. Examine the pathogenesis of obstructive disease
- 8.d. Indicate treatment for obstructive disease

9. Analyze signs, symptoms, etiology, pathogenesis and treatment for restrictive lung diseases

Assessment Strategies

- 9.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 9.1. you explain the signs and symptoms of disease and/or disorder
- 9.2. you identify the respiratory therapist's role in prevention, diagnosis, and treatment of the disease and/or disorder

- 9.3. you formulate a respiratory therapy care plan appropriate to the disease and/or disorders
- 9.4. you recommend further diagnostic studies and therapeutic interventions
- 9.5. you explain etiology and pathogenesis of the disease and/or disorders
- 9.6. you summarize progression of the disease and/or disorders
- 9.7. you compare and contrast the various restrictive lung diseases and/or disorders

Learning Objectives

- 9.a. Identify signs and symptoms associated with restrictive disease
- 9.b. Classify the etiology of restrictive disease
- 9.c. Examine the pathogenesis of restrictive disease
- 9.d. Indicate treatment for restrictive disease

10. Analyze signs, symptoms, etiology, pathogenesis and treatment for infectious lung diseases

Assessment Strategies

- 10.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 10.1. you explain the signs and symptoms of disease and/or disorder
- 10.2. you identify the respiratory therapist's role in prevention, diagnosis, and treatment of the disease and/or disorder
- 10.3. you formulate a respiratory therapy care plan appropriate to the disease and/or disorders
- 10.4. you recommend further diagnostic studies and therapeutic interventions
- 10.5. you explain etiology and pathogenesis of the disease and/or disorders
- 10.6. you summarize progression of the disease and/or disorders
- 10.7. you compare and contrast the various infectious lung diseases and/or disorders

Learning Objectives

- 10.a. Identify signs and symptoms associated with infectious disease
- 10.b. Classify the etiology of infectious disease
- 10.c. Examine the pathogenesis of infectious disease
- 10.d. Indicate treatment for infectious disease

11. Analyze signs, symptoms, etiology, pathogenesis, and treatment for sleep disordered breathing

Assessment Strategies

- 11.1. in an oral, written, or graphical response to scenarios and/or questions

Criteria

Your performance will be successful when:

- 11.1. you explain the signs and symptoms of disease and/or disorder
- 11.2. you identify the respiratory therapist's role in prevention, diagnosis, and treatment of the disease and/or disorder
- 11.3. you formulate a respiratory therapy care plan appropriate to the disease and/or disorders
- 11.4. you recommend further diagnostic studies and therapeutic interventions
- 11.5. you explain etiology and pathogenesis of the disease and/or disorders
- 11.6. you summarize progression of the disease and/or disorders
- 11.7. you compare and contrast the various sleep related breathing disorders

Learning Objectives

- 11.a. List the anatomic alterations of the lungs associated with sleep apnea.
- 11.b. Describe the causes of sleep apnea.
- 11.c. Describe how a sleep study is performed.
- 11.d. List the cardiopulmonary clinical manifestations associated with sleep apnea.
- 11.e. Explain the meaning of the apnea-hypopnea index and oxygen desaturation index.
- 11.f. Summarize the general management of sleep apnea.