Western Technical College

10531915 Paramedic Respiratory Management

Course Outcome Summary

Course Information

Description	This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patent airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint.
Career Cluster	Law, Public Safety, Corrections and Security
Instructional Level	Associate Degree Courses
Total Credits	2
Total Hours	54

Textbooks

Bledsoe's Paramedic Care: Principles and Practice MyLab BRADY with Pearson eText -- Combo Access Card. 6th Edition. Copyright 2023. Bledsoe, Bryan. Publisher: Pearson. **ISBN-13:** 978-0-13-766443-6. Required.

Prehospital Emergency Pharmacology. 8th Edition. Copyright 2019. Bledsoe, Bryan E. Publisher: Pearson. **ISBN-13:** 978-0-13-487409-8. Required.

Basic Arrhythmias. 8th Edition. Copyright 2017. Walraven, Gail. Publisher: Pearson. **ISBN-13:** 978-0-13-438099-5. Required.

Platinum Planner: Paramedic – Student Access Card. Copyright 2016. Platinum Educational Group. Publisher: Pearson. **ISBN-13:** 978-0-13-444223-5. Required.

EMStesting.com: *Paramedic – Student Access Card*. Copyright 2012. Platinum Educational Group. Publisher: Pearson. **ISBN-13:** 978-0-13-289660-5. Required.

MyLab Health Professions with Pearson eText -- Access Card -- for Anatomy & Physiology for Health Professions. Copyright 2016. Colbert, Bruce, Jeff Ankney and Karen Lee. Publisher: Pearson. **ISBN-13:** 978-0-13-385764-1. Required.

Learner Supplies

Program Clothing. **Vendor:** To be discussed in class. Required.

Success Abilities

1. Cultivate Passion: Expand a Growth-Mindset
2. Cultivate Passion: Increase Self-Awareness
3. Refine Professionalism: Improve Critical Thinking
4. Refine Professionalism: Participate Collaboratively
5. Refine Professionalism: Practice Effective Communication

Program Outcomes

1. Integrate pathophysiological principles and assessment findings to provide appropriate patient care
2. Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters
3. Communicate effectively with others
4. Demonstrate professional behavior

Course Competencies

1. Describe the process of airway management.

Assessment Strategies

1.1. Oral, Written or Graphic Assessment

Criteria

Your performance will be successful when:

1.1. you answer questions related to the learning objectives on a test
1.2. you achieve the threshold identified by your Training Center on the assessment

Learning Objectives

1.a. Describe the anatomy of the respiratory system.
1.b. Describe assessment of the airway and the respiratory system.
1.c. Describe indications, contraindications, advantages, disadvantages, complications, equipment, and techniques used to ensure a patent airway.
1.d. Compare ventilation techniques used for an adult patient to those used for pediatric patients.
1.e. Describe special considerations in airway management and ventilation for the pediatric patient.

2. Summarize the process of respiration.

Assessment Strategies

2.1. Oral, Written or Graphic Assessment

Criteria

Your performance will be successful when:

2.1. you answer questions related to the learning objectives on a test
2.2. you achieve the threshold identified by your Training Center on the assessment

Learning Objectives

2.a. Discuss the means by which the body controls respiration.
2.b. Explain the mechanics of respiration.
2.c. Identify blood volume circulation disturbances due to cardiac, trauma, or systemic vascular resistance.
2.d. Describe cardiac output and its role in adequate circulation maintenance.
2.e. Discuss respiratory buffer systems.
2.f. List reasons for interruption of pulmonary ventilation.
2.g. Discuss causes for interruption of oxygenation.
2.h. List reasons for inadequate respiration.
2.i. Discuss rapid ventilation, exhaustion, and dead space air movement as contributory factors for inadequate respiration.
2.j. Identify possible mechanical ventilation problems resulting in inadequate respiration.
2.k. Discuss concerns regarding breathing against an elevated diaphragm.
2.l. Discuss pneumonia, emphysema, and trauma as they related to a decrease in lung compliance.
2.m. Discuss the concept of ventilation-perfusion mismatch.
2.n. Discuss disruptions in oxygen transport associated with diminished oxygen carrying capacity.
2.o. List causes for disruption in effective circulation.
2.p. Identify disruptions that can occur at the cellular level to impede adequate respiration.
2.q. discuss the use of capnometry/capnography to assess adequate or inadequate respiration.
2.r. Discuss the maintenance of adequate respiration given a respiratory compromise.
2.s. Discuss oxygen administration for a patient with hypercapnia.
2.t. Describe special considerations in airway management and ventilation for pediatric patients.

3. Demonstrate artificial ventilation.

Assessment Strategies

3.1. Demonstration

Criteria

Your performance will be successful when:

3.1. you follow the written protocol provided by your Training Center

Learning Objectives

3.a. Explain the purpose of conducting a comprehensive ventilation assessment.
3.b. Describe the procedures inherent in conducting a comprehensive ventilation assessment.
3.c. Define minute volume.
3.d. Define alveolar volume.
3.e. Describe the process of, and tools used in, evaluating the effects of artificial ventilation.
3.f. Discuss the ventilation devices included within the scopes of practice for the EMR, EMT, and AEMT levels.
3.g. Discuss the techniques utilized by EMRs, EMTs, and AEMTs to assist patient ventilations.
3.h. Differentiate between normal and positive ventilation and the physiologic differences associated with each.
3.i. Discuss the use of BiPAP/CPAP in assisting patient ventilations.
3.j. Discuss the use of PEEP in assisting patient ventilations.
3.k. Identify age-related variations in providing artificial ventilations to pediatric and geriatric patients.

4. Summarize pulmonary diseases and conditions.

Assessment Strategies

4.1. Oral, Written or Graphic Assessment

Criteria

Your performance will be successful when:

4.1. you answer questions related to the learning objectives on a test
4.2. you achieve the threshold identified by your Training Center on the assessment

Learning Objectives

4.a. Discuss the epidemiology of pulmonary diseases and conditions.
4.b. Identify the structures (and respective functions) of the pulmonary system.
4.c. Discuss the pathophysiology of specific respiratory emergencies/conditions.
4.d. Discuss potential assessment findings for a patient suffering from a respiratory emergency/condition.
4.e. Discuss the prehospital management of a patient suffering from a respiratory emergency/condition.
4.f. Discuss the causes, assessment findings, and management of specific respiratory emergencies/conditions.
4.g. Discuss differences in respiratory emergencies/conditions affecting pediatric patients.
4.h. Discuss communication and documentation considerations for patients with respiratory emergencies/conditions.
4.i. Discuss transport considerations for patients with respiratory emergencies/conditions.
4.j. Discuss patient education and prevention of complications or future respiratory emergencies.

5. Manage the airway of a patient.

Assessment Strategies

5.1. Demonstration

Criteria

Your performance will be successful when:

5.1. you follow the written protocol provided by your Training Center

Learning Objectives

5.a. Apply airway management procedures (refer to Wisconsin paramedic scope of practice).
5.b. Manage patient care for respiratory emergencies/conditions.