



Western Technical College

## 10531915 Paramedic Respiratory Management

### Course Outcome Summary

#### Course Information

<b>Description</b>	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.
<b>Career Cluster</b>	Law, Public Safety, Corrections and Security
<b>Instructional Level</b>	Associate Degree Courses
<b>Total Credits</b>	2
<b>Total Hours</b>	54

#### Textbooks

*Bundle: Paramedic Care: Principles & Practice Volume 1-5 plus Access Card - 2017, Anatomy and Physiology for Health Professions plus Access Card – 2016, [EMStesting.com](http://EMStesting.com) Paramedic Student Access Card – 2nd Edition, Platinum Planner: Paramedic – Access Card – 2016, Basic Arrhythmias – 2017.* 5th Edition. Copyright 2017. Bledose, Bryan, Robert Porter and Richard Cherry. Publisher: Pearson. **ISBN-13:** 978-0-13-729851-8. Required.

*531-911 Paramedic Student Reference Guide, Skills Check Sheets and Paramedic Clinical Guidebook.* Western. Publisher: Western. 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.
5. Meet state and national competencies listed for paramedic certification(s).

## **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.