



South Central College

# HEMS 1220 Emergency Medical Technician Refresher

## Course Outcome Summary

### Course Information

<b>Description</b>	Upon successful completion of this course the participant will process the necessary didactic and cognitive skills for the requirements under the National Continued Competency Requirements (NCCR) as established by the National Registry of EMT's (NREMT) through its National Continued Competency Program (NCCP) and adopted by the Minnesota Emergency Medical Services Board (EMSRB).
<b>Total Credits</b>	2
<b>Total Hours</b>	24

### Types of Instruction

Instruction Type	Credits/Hours
Hours and Type of Instruction determined by NREMT Certification Standards	2/24

### Institutional Core Competencies

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

### Course Competencies

#### 1. Demonstrate ability to manage a patient with airway compromise

##### Learning Objectives

- Discuss the difference between alveolar ventilation and minute ventilation
- Differentiate between adequate and inadequate breathing
- Differentiate between respiratory distress and respiratory failure
- Recognize and manage a patient that requires assisted ventilations
- Discuss the effect of ventilation on venous return and cardiac output (spontaneously breathing patient; artificially ventilated patient)
- Decide when to oxygenate and when to ventilate a patient
- Recognize the use of automated transport ventilators when managing patients
- Discuss the use of padding during ventilation of the pediatric patient
- Explain the AHA's position on routine suctioning of the newborn
- Review physiology related to oxygen transport and metabolism
- Recite the AHA's guidelines on oxygen therapy in the acute coronary syndrome and stroke patient
- Discuss the role of free radicals related to oxygen therapy

#### 2. Demonstrate ability to manage a patient in cardiac arrest

### **Learning Objectives**

Identify the signs of Return of Spontaneous Circulation (ROSC)  
Describe the principles of optimization of ventilation and oxygenation  
Appreciate the benefits of induced hypothermia in post cardiac arrest management  
Describe systems of care necessary for improving post cardiac arrest outcomes  
Recognize abnormally fast and abnormally slow pulse rates in the pediatric patient  
Discuss the cause of abnormally fast or slow pulse rates in the pediatric patient  
Discuss the causes of an irregular pulse in the pediatric patient  
Describe the BLS management of abnormally fast or slow pulse rates in the pediatric patient  
Describe the current techniques of single and 2-Rescuer Cardiopulmonary resuscitation (CPR) and (Automated External Defibrillators) AED use in pediatric patients  
Demonstrate the current techniques of single and 2-Rescuer CPR and AED use in pediatric patients

## **3. Discuss signs and symptoms of an acute stroke patient**

### **Learning Objectives**

Identify patients who are possibly experiencing cerebral ischemia using an out-of-hospital stroke assessment tool  
Discuss the proper administration of oxygen in the presence of cerebral ischemia  
Discuss the importance of determining when the patient was last seen without signs or symptoms  
Identify patients that can benefit from rapid transport and/or most appropriate stroke hospital

## **4. Discuss treatment for a patient experiencing an acute medical emergency**

### **Learning Objectives**

Discuss the function of ventricular assist device (VAD) assessment and care of patients who have VADs  
Discuss the criteria to terminate resuscitation efforts versus the need for continued resuscitation  
Review the pathophysiology of cardiac-related chest pain  
Identify a patient with non-traumatic chest pain and determine the likelihood of cardiovascular cause  
Recite the indications and contraindications for the administration of nitroglycerin, aspirin, and oxygen  
Explain the need for reassessment after performing and intervention  
Explain the importance of choosing the most appropriate transport destination for the patient with chest pain of cardiac origin  
Discuss the physiology related to allergies and anaphylaxis  
Differentiate between mild/localized allergic reaction and anaphylaxis  
Explain the actions of medications used to treat anaphylaxis  
Demonstrate the administration of epinephrine for anaphylaxis according to local protocol

## **5. Apply skills to assess and treat a trauma patient**

### **Learning Objectives**

Recognize the signs, symptoms, and the historical findings of a patient with a concussion  
Advocate for patient transport and proper patient education around the effects of concussions  
Weigh the benefits vs. the risks of tourniquet application  
Advocate for the early application of a tourniquet  
Demonstrate rapid application of a tourniquet  
Recognize the impact that Model Uniform Core Criteria (MUCC) had on the development of the CDC Field Triage Decision Scheme and SALT - Sort, Assess, Lifesaving Interventions, Treatment/Transport  
Identify the triage criteria in the CDC's Field Triage Decision Scheme  
Compare and contrast your local trauma triage practices and the CDC's Field Triage Decision Scheme  
Triage patients using the SALT algorithm in a simulated multiple casualty scenario

## **6. Recognize the differences of special needs of patients and adjust treatment accordingly**

### **Learning Objectives**

Identify and describe common special needs patients seen in EMS  
Describe the involvement of caregivers in emergency care of the special needs patient  
Describe the difference in patient assessment when dealing with a special needs patient

## **7. Differentiate signs, symptoms, and treatment for normal and abnormal delivery**

### **Learning Objectives**

Identify abnormal presentations present during childbirth  
Discuss the actions the EMT would take when managing a patient with an abnormal presentation during delivery

Describe a nuchal cord presentation  
Discuss the actions the EMT should take when a nuchal cord is present during delivery  
Recognize the need for neonatal resuscitation during delivery  
Discuss the management principles of neonatal resuscitation  
Discuss the American Heart Association (AHA) position on routinely suctioning the airway of a newborn

**8. Demonstrate ability to safely manage a psychiatric emergency**

**Learning Objectives**

Describe the components of a mental status examination  
Perform effective patient restraint  
Identify the risk factors for suicide  
Identify common synthetic stimulants and natural or synthetic tetrahydrocannabinol (THC)  
Recognize effects of synthetic stimulants and natural or synthetic THC

**9. Demonstrate knowledge and skills related to signs, symptoms, and management of a diabetic emergency**

**Learning Objectives**

Distinguish between insulin dependent vs. non-insulin dependent diabetes  
Identify commonly prescribed medications used to treat diabetes  
Discuss metabolic syndrome and its comorbidities  
Explain the management of hypo/hyperglycemia  
Discuss patient use of insulin pumps and other glycemic control options  
Demonstrate appropriate use of a glucometer

**10. Demonstrate the management of highly contagious infectious diseases**

**Learning Objectives**

Demonstrate proper hand washing technique  
Identify appropriate use of alcohol-based hand cleaner  
Discuss the CDC's recommendations of vaccines for healthcare providers  
Describe the risks and prevalence of drug resistant infections  
Describe the transmission of influenza virus  
Discuss the role of the EMS provider in disease and injury surveillance and reporting  
Distinguish between an epidemic and pandemic  
Distinguish between systemic inflammatory response syndrome (SIRS), sepsis and septic shock

**11. Explain a variety of operational elements of EMS including at-risk populations, transport, and the role of research**

**Learning Objectives**

Recognize the unique characteristics of at-risk populations  
Recall the appropriate actions of EMTs in the presence of at-risk patients  
Recognize circumstances that may indicate abuse (domestic abuse, human trafficking, non-accidental trauma)  
Recall appropriate actions of EMTs in the presence of abused patients  
Explain how to appropriately secure a child safety restraint to a wheeled ambulance stretcher  
Explain that children need to be properly restrained in an approved child restraint device during transport  
Explain to another provider the characteristics of an approved child restraint system  
Recognize the current issues with disparities in health care in specific populations  
Advocate for improved care in different cultural contexts  
Recognize and exhibit professional behaviors in the 11 characteristics identified in the National EMS Education Standards  
Define evidence-based medicine and practice  
Explain the reason EMS professionals should participate in research  
Discuss how research affects best practice

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