



Emergency Medical Services

Study Guide

Assessments:

8611 EMT

8615 Advanced EMT

8612 Paramedic

Endorsed by the Oklahoma State
Department of Health—EMS



Aligned with standards adopted by
the National Registry of Emergency
Medical Technicians (NREMT).



Overview

This study guide is designed to help students prepare for the following Emergency Medical Services (EMS) assessments: EMT, Advanced EMT or Paramedic. It not only includes information about the assessment, but also the skills standards upon which the assessments are based, resources that can be used to prepare for the assessments and test taking strategies.

Each of the four sections in this guide provides useful information for students preparing for the EMS assessments.

- CareerTech and Competency-Based Education: A Winning Combination
- EMS assessments
 - ▶ Assessment Information
 - ▶ Standards and Test Content
 - ▶ Sample Questions
 - ▶ Abbreviations used on EMS assessments
- Strategies for Test Taking Success
- Notes

These assessments are aligned with standards adopted by the National Registry of Emergency Medical Technicians (NREMT).

Go to **www.nremt.org** for more information about the NREMT.

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CareerTech and Competency-Based Education: A Winning Combination

Competency-based education uses learning outcomes that emphasize both the application and creation of knowledge and the mastery of skills critical for success. In a competency-based education system, students advance upon mastery of competencies, which are measurable, transferable outcomes that empower students.

Career and technology education uses industry professionals and certification standards to identify the knowledge and skills needed to master an occupation. This input provides the foundation for development of curriculum, assessments and other instructional materials needed to prepare students for wealth-generating occupations and produce comprehensively trained, highly skilled employees demanded by the work force.

Tools for Success

CareerTech education relies on three basic instructional components to deliver competency-based instruction: skills standards, curriculum materials, and competency assessments.

Skills standards provide the foundation for competency-based instruction and outline the knowledge and skills that must be mastered in order to perform related jobs within an industry. Skills standards are aligned with national skills standards and/or industry certification requirements; therefore, a student trained to the skills standards is equally employable in local, state and national job markets.

Curriculum materials and textbooks contain information and activities that teach students the knowledge and skills outlined in the skills standards. In addition to complementing classroom instruction, curriculum resources include supplemental activities that enhance learning by providing opportunities to apply knowledge and demonstrate skills.

Competency Assessments test the student over material outlined in the skills standards and taught using the curriculum materials and textbooks. When used with classroom performance evaluations, written competency assessments provide a means of measuring occupational readiness.

Each of these components satisfies a unique purpose in competency-based education and reinforces the knowledge and skills students need to gain employment and succeed on the job.

Measuring Success

Evaluation is an important component of competency-based education. Pre-training assessments measure the student's existing knowledge prior to receiving instruction and ensure the student's training builds upon this knowledge base. Formative assessments administered throughout the training process provide a means of continuously monitoring the student's progress towards mastery.

Written competency assessments provide a means of evaluating the student's mastery of knowledge and skills. Coaching reports communicate competency assessment scores to students and provide a breakdown of assessment results by standard area. The coaching report also shows how well the student has mastered skills needed to perform major job functions and identifies areas of job responsibility that may require additional instruction and/or training.

Emergency Medical Services Assessment Information

What are the Emergency Medical Services assessments?

The Emergency Medical Services assessments are end-of-program assessments for students completing the EMT, Advanced or Paramedic training. The assessments provide an indication of student mastery of knowledge in the area tested.

How was the assessment developed?

These assessments were developed by the CareerTech Testing Center. Items were developed and reviewed by a committee of subject matter experts.

What does the assessment cover?

In each of the assessments, 15% of all patient care content areas reflect pediatric content and 85% contain adult/geriatric content.

All assessments are aligned to standards adopted by the NREMT. Specifically, each test includes 100 multiple-choice test items over the following areas:

EMT

Airway, Respiration and Ventilation	20%
Cardiology & Resuscitation	22%
Trauma	16%
Medical/Obstetrics/Gynecology	30%
EMS Operations	12%

ADVANCED EMT

Airway, Respiration and Ventilation	16%
Cardiology & Resuscitation	17%
Trauma	18%
Medical/Obstetrics/Gynecology	35%
EMS Operations	14%

PARAMEDIC

Airway, Respiration and Ventilation	20%
Cardiology & Resuscitation	25%
Trauma	15%
Medical/Obstetrics/Gynecology	29%
EMS Operations	11%

What are the benefits of using these assessments?

Students receive a competency certificate for each assessment that he/she passes. This certificate may be included in his/her portfolio and used to communicate the student's mastery of the subject matter to potential employers.

When should the assessment be taken?

The CareerTech Testing Center recommends that students take this assessment as soon as possible after receiving all standards-related instruction, rather than waiting until the end of the school year.

Is the assessment timed?

No. Although students may take as long as they need, most finish an assessment within one hour.

What resources can students use on these assessments?

Students are allowed to use calculators and scratch paper on CTTC competency assessments; however, these items must be provided by the testing proctor and returned to the proctor before the student's exam is submitted for scoring. Calculator apps on cell phones and other devices may not be used on these assessments.

What accommodations can be made for students with Individualized Education Plans (IEPs)?

Accommodations are allowed for students with an Individualized Education Plan. Examples of allowable accommodations include:

- Extended time — This assessment is not timed; therefore, students may take as much time as needed to finish. The assessment must be completed in one testing session.
- Readers — A reader may be used to read the assessment to a student who has been identified as needing this accommodation.
- Enlarged text — Students needing this accommodation can activate this feature by clicking the  icon in the upper right corner of the screen.

What can students expect on Test Day?

All CTTC assessments are web-based and delivered exclusively by a proctor in the school's assessment center. The proctor **cannot** be an instructor or anyone who was involved with the student during instruction.

Assessments are delivered in a question-by-question format. When a question is presented, the student can select a response or leave the question unanswered and advance to the next question. Students may also flag questions to revisit before the test is scored. All questions must be answered before the test can be submitted for scoring.

Can students retake the test?

Students may retake the test unless their school or state testing policies prohibit retesting. Students who can retest must wait at least three days between test attempts.

EMT

Standards and Test Content

Duty A. Airway, Respirations & Ventilation (20 questions)

1. Airway Management
2. Ventilation
3. Respiratory Distress
4. Respiratory Failure
5. Respiratory Arrest
6. Upper Airway Respiratory Emergencies
7. Lower Airway Respiratory Emergencies

Duty B. Cardiology & Resuscitation (22 questions)

1. Chest pain
2. Cardiac Rhythm Disturbance
3. Cardiac Arrest
4. Stroke-like Symptoms
5. Post-resuscitation Care
6. Hypotension/Hypertension from Cardiovascular Cause

Duty C. Trauma (16 questions)

1. Bleeding
2. Chest Trauma
3. Abdominal/GU Trauma
4. Orthopedic Trauma
5. Soft Tissue
6. Head/Neck/Face/Spine
7. Multisystem Trauma



Duty D. Medical/Obstetrics/Gynecology (30 questions)

1. Neurological Emergencies (such as seizures, altered mental status, etc.)
2. Abdominal Disorders
3. Immunology
4. Infectious Disease
5. Endocrine Disorders
6. Psychiatric
7. Toxicology
8. Hematology
9. GU/Renal
10. Gynecology
11. Obstetrics

Duty E. EMS Operations (12 questions)

1. Maintain vehicle and equipment readiness.
2. Operate emergency vehicles.
3. Provide scene leadership.
4. Resolve an emergency incident.
5. Provide emotional support.
6. Maintain medical/legal standards.
7. Maintain community relations.
8. Provide administrative support.
9. Enhance professional development.

Advanced EMT Standards and Test Content

Duty A. Airway, Respirations & Ventilation (16 questions)

1. Airway Management
2. Ventilation
3. Respiratory Distress
4. Respiratory Failure
5. Respiratory Arrest
6. Upper Airway Respiratory Emergencies
7. Lower Airway Respiratory Emergencies

Duty B. Cardiology & Resuscitation (17 questions)

1. Chest pain
2. Cardiac Rhythm Disturbance
3. Cardiac Arrest
4. Stroke-like Symptoms
5. Post-resuscitation Care
6. Hypotension/Hypertension from Cardiovascular Cause

Duty C. Trauma (18 questions)

1. Bleeding
2. Chest Trauma
3. Abdominal/GU Trauma
4. Orthopedic Trauma
5. Soft Tissue
6. Head/Neck/Face/Spine
7. Multisystem Trauma



Duty D. Medical/Obstetrics/Gynecology (35 questions)

1. Neurological Emergencies (such as seizures, altered mental status, etc.)
2. Abdominal Disorders
3. Immunology
4. Infectious Disease
5. Endocrine Disorders
6. Psychiatric
7. Toxicology
8. Hematology
9. GU/Renal
10. Gynecology
11. Obstetrics

Duty E. EMS Operations (14 questions)

1. Maintain vehicle and equipment readiness.
2. Operate emergency vehicles.
3. Provide scene leadership.
4. Resolve an emergency incident.
5. Provide emotional support.
6. Maintain medical/legal standards.
7. Maintain community relations.
8. Provide administrative support.
9. Enhance professional development.



Paramedic Standards and Test Content

Duty A. Airway, Respirations & Ventilation (20 questions)

1. Airway Management
2. Ventilation
3. Respiratory Distress
4. Respiratory Failure
5. Respiratory Arrest
6. Upper Airway Respiratory Emergencies
7. Lower Airway Respiratory Emergencies

Duty B. Cardiology & Resuscitation (25 questions)

1. Chest pain
2. Cardiac Rhythm Disturbance
3. Cardiac Arrest
4. Stroke-like Symptoms
5. Post-resuscitation Care
6. Hypotension/Hypertension from Cardiovascular Cause

Duty C. Trauma (15 questions)

1. Bleeding
2. Chest Trauma
3. Abdominal/GU Trauma
4. Orthopedic Trauma
5. Soft Tissue
6. Head/Neck/Face/Spine
7. Multisystem Trauma



Duty D. Medical/Obstetrics/Gynecology (29 questions)

1. Neurological Emergencies (such as seizures, altered mental status, etc.)
2. Abdominal Disorders
3. Immunology
4. Infectious Disease
5. Endocrine Disorders
6. Psychiatric
7. Toxicology
8. Hematology
9. GU/Renal
10. Gynecology
11. Obstetrics

Duty E. EMS Operations (11 questions)

1. Maintain vehicle and equipment readiness.
2. Operate emergency vehicles.
3. Provide scene leadership.
4. Resolve an emergency incident.
5. Provide emotional support.
6. Maintain medical/legal standards.
7. Maintain community relations.
8. Provide administrative support.
9. Enhance professional development.



Sample Questions

EMT

- _____ 1. When a patient presents with bluish-gray discoloration of the skin and mucous membranes, what should the EMT suspect?
- cyanosis
 - erythrosis
 - ecchymosis
 - xanthochromia
- _____ 2. What is the most frequently injured area in children due to blunt trauma?
- abdomen
 - chest
 - extremities
 - head
- _____ 3. According to Oklahoma law, who should report child abuse?
- any persons having suspicion
 - any persons having undeniable proof
 - any persons having witnessed the abuse
 - any qualified investigators
- _____ 4. A patient has fallen from the roof of a two-story house, has obvious fractures to the lower extremities and is bleeding freely from a wound to the left side. Vitals are: P 128/thready, BP 104/54, R 24. After securing the patient's airway and giving oxygen by mask at 15 LPM, the EMT should:
- control the bleeding.
 - splint the bone injuries.
 - record the patient's vital signs again.
 - apply a c-collar.
- _____ 5. Which of the following scenes can the EMT control?
- an overturned motor vehicle that is leaking fuel
 - a walkway to a house that is covered with ice
 - a crime scene where the perpetrator is still present
 - an ongoing domestic dispute between a mother and daughter

ADVANCED EMT

- _____ 1. What type of forceps is used to remove a visualized foreign object from a patient's airway?
- Kelly
 - Magill
 - Barton
 - Miller
- _____ 2. What is the usual pre-hospital intravenous treatment for hypovolemia?
- dextrose
 - high osmotic
 - isotonic crystalloid
 - colloid
- _____ 3. What ions are released when a base is dissolved?
- hydrogen
 - hydroxide
 - oxide
 - oxygen
- _____ 4. Which of the following signs indicates delivery is imminent?
- prolapsed cord
 - breech presentation
 - contractions six minutes apart
 - evidence of crowning
- _____ 5. The three main parts of a medical history include:
- chief complaint, immediate history, and pre-accident history.
 - pre-accident history, post-accident history and disease/injury history.
 - chief complaint, past medical history and history of present illness.
 - immediate history, family history, and bystanders' observations.

PARAMEDIC

- _____ 1. ET tube displacement is most likely to occur when:
- extricating a victim of a car accident.
 - securing the tube with a c-collar in place.
 - securing an airway in an obese or COPD patient.
 - moving the patient onto a stretcher or bed.
- _____ 2. The normal pH of blood is approximately:
- 6.95 to 7.05.
 - 7.15 to 7.25.
 - 7.35 to 7.45.
 - 7.55 to 7.65.
- _____ 3. Hypotension, normal pulse and warm, dry extremities are signs of:
- anaphylactic shock.
 - cardiogenic shock.
 - hypovolemic shock.
 - neurogenic shock.
- _____ 4. According to standard precautions, hands should be washed immediately after:
- gloves are removed.
 - gloves are donned.
 - venipuncture.
 - needles are recapped.
- _____ 5. Injuring a person's character, name or reputation by false and malicious writing is called:
- libel.
 - misconduct.
 - negligence.
 - slander.



Sample Questions — Key

EMT

1. When a patient presents with bluish-gray discoloration of the skin and mucous membranes, what should the EMT suspect?
 - a. cyanosis Correct
 - b. erythrosis Incorrect
 - c. ecchymosis Incorrect
 - d. xanthochromia Incorrect

2. What is the most frequently injured area in children due to blunt trauma?
 - a. abdomen Incorrect
 - b. chest Incorrect
 - c. extremities Incorrect
 - d. head Correct

3. According to Oklahoma law, who should report child abuse?
 - a. any persons having suspicion Correct
 - b. any persons having undeniable proof Incorrect
 - c. any persons having witnessed the abuse Incorrect
 - d. any qualified investigators Incorrect

4. A patient has fallen from the roof of a two-story house, has obvious fractures to the lower extremities and is bleeding freely from a wound to the left side. Vitals are: P 128/thready, BP 104/54, R 24. After securing the patient's airway and giving oxygen by mask at 15 LPM, the EMT should:
 - a. control the bleeding. Correct
 - b. splint the bone injuries. Incorrect
 - c. record the patient's vital signs again. Incorrect
 - d. apply a c-collar. Incorrect

5. Which of the following scenes can the EMT control?
 - a. an overturned motor vehicle that is leaking fuel Correct
 - b. a walkway to a house that is covered with ice Incorrect
 - c. a crime scene where the perpetrator is still present Incorrect
 - d. an ongoing domestic dispute between a mother and daughter Incorrect

ADVANCED EMT

1. What type of forceps is used to remove a visualized foreign object from a patient's airway?

- a. Kelly Incorrect
- b. Magill Correct
- c. Barton Incorrect
- d. Miller Incorrect

2. What is the usual pre-hospital intravenous treatment for hypovolemia?

- a. dextrose Incorrect
- b. high osmotic Incorrect
- c. isotonic crystalloid Correct
- d. colloid Incorrect

3. What ions are released when a base is dissolved?

- a. hydrogen Correct
- b. hydroxide Incorrect
- c. oxide Incorrect
- d. oxygen Incorrect

4. Which of the following signs indicates delivery is imminent?

- a. prolapsed cord Incorrect
- b. breech presentation Incorrect
- c. contractions six minutes apart Incorrect
- d. evidence of crowning Correct

5. The three main parts of a medical history include:

- a. chief complaint, immediate history, and pre-accident history. Incorrect
- b. pre-accident history, post-accident history and disease/injury history. Incorrect
- c. chief complaint, past medical history and history of present illness. Correct
- d. immediate history, family history, and bystanders' observations. Incorrect

PARAMEDIC

1. ET tube displacement is most likely to occur when:
 - a. extricating a victim of a car accident. Incorrect
 - b. securing the tube with a c-collar in place. Incorrect
 - c. securing an airway in an obese or COPD patient. Incorrect
 - d. moving the patient onto a stretcher or bed. Correct

2. The normal pH of blood is approximately:
 - a. 6.95 to 7.05. Incorrect
 - b. 7.15 to 7.25. Incorrect
 - c. 7.35 to 7.45. Correct
 - d. 7.55 to 7.65. Incorrect

3. Hypotension, normal pulse and warm, dry extremities are signs of:
 - a. anaphylactic shock. Incorrect
 - b. cardiogenic shock. Incorrect
 - c. hypovolemic shock. Correct
 - d. neurogenic shock. Incorrect

4. According to standard precautions, hands should be washed immediately after:
 - a. gloves are removed. Correct
 - b. gloves are donned. Incorrect
 - c. venipuncture. Incorrect
 - d. needles are recapped. Incorrect

5. Injuring a person's character, name or reputation by false and malicious writing is called:
 - a. libel. Correct
 - b. misconduct. Incorrect
 - c. negligence. Incorrect
 - d. slander. Incorrect

Abbreviations Used on EMS Assessments

AED = Automatic external defibrillator	MAST = military anti shock trousers
AIDS = auto immune deficiency syndrome	mcg = micrograms
ALS = Advanced life support	mg = milligram
AV node = atrioventricular node	ml = milliliter
BLS = Basic life support	mm Hg = millimeters of Mercury
BSI = body substance isolation	mph = miles per hour
BVM = Bag valve mask	NPA = Nasopharyngeal airway
C-spine = cervical spine	NRB = Non-rebreather
CAB = circulation airway breathing	NTG = nitroglycerin
CHF = congestive heart failure	O2 = Oxygen
CNS = central nervous system	OPA = Oropharyngeal airway
CO2 = Carbon dioxide	P = pulse
COPD = Chronic obstructive pulmonary disease	PASC = pneumatic anti-shock garment
CPAP = Continuous positive airway pressure	PASG = pneumatic anti-shock garment
CPR = Cardiopulmonary resuscitation	PCO2 = carbon dioxide partial pressure
DNR = do not resuscitate	PEARL = Pupils equal and reactive to light
DSO = Dextrose	PEEP = positive and expiratory pressure
ECG = electro cardiogram	R = respirations
EMS = Emergency medical system	RIS = rapid sequence intubation
EMT = Basic emergency medical technician	RSI = rapid sequence intubation
ET = endotracheal	SA node = sinoatrial node
FROPVD = flow-restricted, oxygen-powered vent device	SQ = subcutaneous
HEPA = high-efficiency particulate air filters	ST = sinus tachycardia
IM = intra muscular	START model = simple triage and rapid treatment
IV = Intravenous fluids	TCP = transcutaneous pacing
J = Joules	TIA = transient ischemic attack
KED = Kendrick extrication device	U.S. = United States
LPM = Liters per minute	WPW = Wolff-Parkinson-White

Test Taking Strategies

This section of the study guide contains valuable information for testing success and provides a common-sense approach for preparing for and performing well on any test.

General Testing Advice

1. Get a good night's rest the night before the test — eight hours of sleep is recommended.
2. Avoid junk food and “eat right” several days before the test.
3. Do not drink a lot or eat a large meal prior to testing.
4. Be confident in your knowledge and skills!
5. Relax and try to ignore distractions during the test.
6. Focus on the task at hand — taking the test and doing your best!
7. Listen carefully to the instructions provided by the exam proctor. If the instructions are not clear, ask for clarification.

Testing Tips

1. Read the entire question before attempting to answer it.
2. Try to answer the question before reading the choices. Then, read the choices to determine if one matches, or is similar, to your answer.
3. Do not change your answer unless you misread the question or are certain that your first answer is incorrect.
4. Answer questions you know first, so you can spend additional time on the more difficult questions.
5. Check to make sure you have answered every question before you submit the assessment for scoring — unanswered questions are marked incorrect.



