# Emergency Medical Technician (EMT) Practice Test (Sample)

**Study Guide** 



Everything you need from our exam experts!

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### **Questions**



- 1. What does left-sided heart failure typically lead to?
  - A. Hypertension
  - B. Peripheral edema
  - C. Pulmonary edema
  - D. Acute kidney injury
- 2. What kind of breathing is typically found in epiglottis issues?
  - A. Kussmaul breathing
  - **B.** Stridor
  - C. Head bobbing
  - D. Recessed breathing
- 3. What is pulmonary edema?
  - A. Accumulation of air in the pleural cavity
  - B. Accumulation of fluid in the pericardial sac
  - C. Accumulation of fluid in the alveoli
  - D. Accumulation of blood in the bronchi
- 4. Which of the following increases sugar levels in the blood?
  - A. estrogen
  - B. dopamine
  - C. glucagon and epinephrine
  - D. oxytocin
- 5. What is the primary indication for using nitroglycerin?
  - A. High blood pressure
  - B. Cardiac chest pain
  - C. Shortness of breath
  - D. Joint pain
- 6. What are the signs/symptoms of cholecystitis?
  - A. Pain radiating to right shoulder; RUQ tenderness
  - B. Onset after a spicy meal
  - C. Lower extremity edema
  - D. Confusion; Hypothermia; High fever

### 7. How should a pregnant patient be positioned?

- A. Upright
- **B. Supine**
- C. On their right side
- D. On their left side

### 8. What does AVPU stand for in emergency medical assessment?

- A. Alert, verbal, pain, unconsciousness
- B. Assess, ventilate, proceed, understand
- C. Active, vital, perform, understand
- D. Attitude, vigilance, protect, understand

# 9. How does increased CO2 levels affect intracranial pressure?

- A. decreased blood flow
- B. cerebral vessels constrict
- C. increased blood flow
- D. cerebral vessels dilate

### 10. What are the side effects of epinephrine?

- A. Anxiety
- B. Chest pain
- C. Headache
- **D. Vomiting**

### <u>Answers</u>



- 1. C 2. B 3. C 4. C 5. B 6. A 7. D 8. A 9. C 10. D



### **Explanations**



#### 1. What does left-sided heart failure typically lead to?

- A. Hypertension
- B. Peripheral edema
- C. Pulmonary edema
- D. Acute kidney injury

Left-sided heart failure primarily affects the heart's ability to pump blood effectively to the rest of the body. When the left side of the heart is unable to function properly, blood starts to back up into the lungs. This backup leads to an increase in pressure within the pulmonary circulation, causing fluid to leak out of the blood vessels and into the lung tissue, which is referred to as pulmonary edema. Pulmonary edema is characterized by symptoms such as difficulty breathing, a feeling of suffocation or drowning, particularly when lying down, and a cough that may produce frothy or blood-tinged sputum. This condition arises because the compromised pumping ability of the heart prevents it from managing the volume of blood returning from the lungs effectively, thereby causing congestion. While the other options may be associated with heart conditions in general or specific types of heart failure, they are not direct results of left-sided heart failure. For instance, hypertension can be a cause of left-sided heart failure rather than a consequence, and peripheral edema is more characteristic of right-sided heart failure, where fluid buildup occurs in the extremities. Acute kidney injury can occur in severe cases due to decreased perfusion but does not directly stem from the malfunction of the left heart chamber itself.

### 2. What kind of breathing is typically found in epiglottis issues?

- A. Kussmaul breathing
- **B. Stridor**
- C. Head bobbing
- D. Recessed breathing

Stridor is a high-pitched, wheezing sound that is often associated with breathing difficulties, particularly in cases involving obstruction or swelling in the upper airway. In the context of epiglottitis, which is an inflammation of the epiglottis and can lead to airway obstruction, stridor is a common respiratory sign. This sound occurs when air struggles to pass through a narrowed or obstructed airway, which is exactly what can happen when the epiglottis becomes inflamed. The presence of stridor suggests that the patient may require immediate medical intervention to secure the airway and alleviate the obstruction. In cases of epiglottitis, timely recognition of stridor and other symptoms is critical for effective management.

#### 3. What is pulmonary edema?

- A. Accumulation of air in the pleural cavity
- B. Accumulation of fluid in the pericardial sac
- C. Accumulation of fluid in the alveoli
- D. Accumulation of blood in the bronchi

Pulmonary edema is characterized by the accumulation of fluid in the alveoli, which are the tiny air sacs in the lungs where gas exchange occurs. This fluid buildup can significantly impair the ability of the lungs to oxygenate blood and can also lead to respiratory distress. Conditions such as congestive heart failure, pneumonia, or exposure to toxic substances can contribute to pulmonary edema. When the alveoli fill with fluid, the exchange of oxygen and carbon dioxide is hindered, resulting in symptoms such as shortness of breath, difficulty breathing, and a feeling of suffocation, particularly when lying down. Understanding this condition is crucial for EMTs as it helps in the recognition and management of patients experiencing respiratory distress.

### 4. Which of the following increases sugar levels in the blood?

- A. estrogen
- B. dopamine
- C. glucagon and epinephrine
- D. oxytocin

Glucagon and epinephrine are hormones that play a crucial role in increasing blood sugar levels. Glucagon, produced by the pancreas, prompts the liver to convert stored glycogen into glucose, releasing it into the bloodstream. This process is vital during fasting or between meals when blood sugar levels may drop. Epinephrine, also known as adrenaline, is released during stress or "fight or flight" responses and has a similar effect by stimulating glycogen breakdown in the liver and promoting glucose release into the bloodstream. The other hormones listed do not primarily function to raise blood sugar levels. For instance, estrogen and oxytocin are more involved in reproductive and social behaviors rather than directly regulating glucose metabolism. Dopamine is primarily a neurotransmitter that plays roles in mood, reward, and motor control, but it does not have a significant direct effect on blood glucose levels. Therefore, glucagon and epinephrine are the correct choices for increasing sugar levels in the blood.

### 5. What is the primary indication for using nitroglycerin?

- A. High blood pressure
- B. Cardiac chest pain
- C. Shortness of breath
- D. Joint pain

Nitroglycerin is primarily indicated for cardiac chest pain, also known as angina pectoris. It works by dilating the blood vessels around the heart, which helps increase blood flow and oxygen to the heart muscle, relieving chest pain that is often caused by reduced blood flow to the heart. This medication is commonly used in the treatment of angina and chest pain associated with heart conditions.

#### 6. What are the signs/symptoms of cholecystitis?

- A. Pain radiating to right shoulder; RUQ tenderness
- B. Onset after a spicy meal
- C. Lower extremity edema
- D. Confusion; Hypothermia; High fever

The signs and symptoms of cholecystitis commonly include pain that radiates to the right shoulder along with tenderness in the right upper quadrant (RUQ). This is due to the inflammation of the gallbladder, which typically presents with a sharp, localized pain that may be exacerbated by movements or deep breaths. While discomfort after certain meals, such as spicy or fatty foods, can be associated with gallbladder issues, it is not definitive for cholecystitis specifically. Lower extremity edema does not correlate with this condition, as it is more indicative of other systemic issues, such as heart failure or kidney problems. Similarly, confusion, hypothermia, and high fever are broader symptoms that could signify severe systemic infection or sepsis, but are not characteristic of cholecystitis alone. Thus, the primary indicators of cholecystitis are clearly highlighted by the presence of RUQ tenderness and referred pain to the right shoulder.

### 7. How should a pregnant patient be positioned?

- A. Upright
- **B.** Supine
- C. On their right side
- D. On their left side

Positioning a pregnant patient properly is crucial for both maternal and fetal well-being. The correct answer, which is to place the patient on their left side, is recommended primarily to optimize blood flow to the uterus. This position helps prevent compression of the inferior vena cava, a large vein that carries deoxygenated blood from the lower body back to the heart. When a pregnant woman lies on her back or in a supine position, the weight of the uterus can compress this vessel, which may lead to hypotension and reduced perfusion to vital organs, including the placenta. Lying on the left side not only alleviates this pressure but also promotes better circulation, thereby enhancing fetal oxygenation and supporting more effective functioning of the mother's organs. Thus, for optimal outcomes in a pregnant patient, the left lateral position is preferred.

### 8. What does AVPU stand for in emergency medical assessment?

- A. Alert, verbal, pain, unconsciousness
- B. Assess, ventilate, proceed, understand
- C. Active, vital, perform, understand
- D. Attitude, vigilance, protect, understand

The correct answer, which stands for Alert, Verbal, Pain, Unconsciousness, is a crucial mnemonic used in emergency medical assessments to quickly determine a patient's level of consciousness. In this context, "Alert" indicates that the patient is fully awake and responsive to stimuli, demonstrating normal cognitive function. "Verbal" signifies that the patient responds to verbal stimuli; they may be drowsy but can still answer questions or follow commands when spoken to. "Pain" refers to a patient's response to painful stimuli, which can help assess the level of consciousness when the patient does not respond verbally. Finally, "Unconsciousness" is the state where the patient does not respond to either verbal or painful stimuli, indicating a more serious condition that requires immediate medical attention. Utilizing this mnemonic allows EMTs to quickly evaluate a patient's consciousness and guide them in how to proceed with care, emphasizing the importance of rapid assessment in emergency situations. The other answer choices do not pertain to this standardized approach for assessing consciousness in a patient, making the first option the only accurate representation.

## 9. How does increased CO2 levels affect intracranial pressure?

- A. decreased blood flow
- B. cerebral vessels constrict
- C. increased blood flow
- D. cerebral vessels dilate

Increased levels of carbon dioxide (CO2) in the blood lead to a physiological response known as hypercapnia. When CO2 levels rise, it stimulates vasodilation of the cerebral blood vessels, which allows for increased blood flow to the brain. This response occurs because elevated CO2 causes the blood vessels to relax and widen, increasing circulation to the brain tissue. As a consequence of this vasodilation and the increased blood flow, intracranial pressure can rise. The increase in volume of blood within the cranial cavity can contribute to elevated intracranial pressure, which can be a critical condition requiring medical intervention. Understanding this relationship is vital for EMTs and healthcare providers, as managing CO2 levels and monitoring intracranial pressure are essential in conditions such as traumatic brain injury or stroke.

#### 10. What are the side effects of epinephrine?

- A. Anxiety
- B. Chest pain
- C. Headache
- **D. Vomiting**

Epinephrine, also known as adrenaline, is a powerful medication commonly used in emergency situations, particularly for anaphylaxis and cardiac arrest. It works by stimulating the heart, dilating the airways, and increasing blood flow to vital organs. Among the various side effects of epinephrine, vomiting can occur due to its stimulating effects on the central nervous system and gastrointestinal tract. This can happen because epinephrine increases heart rate and blood pressure, potentially leading to feelings of nausea and resulting in vomiting. The other side effects listed are also possible reactions. Anxiety is a common response due to the stimulation of the sympathetic nervous system, which can lead to increased alertness and feelings of panic. Chest pain may occur because of increased myocardial oxygen demand, and headaches can result from changes in blood flow or blood pressure. Each of these reactions represents a different aspect of how epinephrine affects the body, but vomiting stands out in this context as a significant gastrointestinal side effect.