

Field Internship Student Data Acquisition Project (FISDAP) EMT Cardiology Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of questions,

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Don't worry about getting everything right, your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations, and take breaks to retain information better.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning.

7. Use Other Tools

Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly — adapt the tips above to fit your pace and learning style. You've got this!

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Questions

- 1. Which artery primarily supplies blood to the heart muscle?**
 - A. Subclavian artery**
 - B. Circumflex artery**
 - C. Coronary artery**
 - D. Radial artery**
- 2. What is the effect of epinephrine on the heart?**
 - A. Decreases heart rate**
 - B. Increases heart rate and contractility**
 - C. Reduces blood pressure**
 - D. Slows conduction through the AV node**
- 3. You arrive at the scene of a 75-year-old male with chest pain and weakness who has not taken his prescribed medications. What should you do first?**
 - A. Administer his medications immediately**
 - B. Contact medical control for guidance**
 - C. Provide basic life support**
 - D. Monitor his vital signs**
- 4. Which of the following medications is often used in emergencies to stabilize the heart rhythm?**
 - A. Digoxin**
 - B. Amiodarone**
 - C. Verapamil**
 - D. Clonidine**
- 5. What does a heart rate below 60 beats per minute indicate?**
 - A. Tachycardia**
 - B. Bradycardia**
 - C. Normal sinus rhythm**
 - D. Arrhythmia**

- 6. A patient who collapsed has been revived after one shock with an AED and is now moaning and breathing on her own. What should you do next?**
- A. Cover her with a blanket for warmth**
 - B. Turn her on her side and monitor her airway**
 - C. Provide oxygen via nasal cannula**
 - D. Conduct a secondary assessment**
- 7. What is the most common presenting symptom of a myocardial infarction?**
- A. Shortness of breath**
 - B. Nausea**
 - C. Chest pain**
 - D. Dizziness**
- 8. Which of the following best describes the term "angina"?**
- A. A temporary decrease in blood flow to the heart muscle**
 - B. A complete blockage of blood flow to the heart muscle**
 - C. An abnormal heart rhythm**
 - D. A type of heart failure**
- 9. What is the name of the muscular middle layer of the heart?**
- A. Endocardium**
 - B. Pericardium**
 - C. Myocardium**
 - D. Epicardium**
- 10. What is the most likely cause when an AED states "shock advised" after analyzing a patient?**
- A. Atrial fibrillation**
 - B. Ventricular tachycardia**
 - C. Asystole**
 - D. Normal sinus rhythm**

Answers

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

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Explanations

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1. Which artery primarily supplies blood to the heart muscle?

- A. Subclavian artery
- B. Circumflex artery
- C. Coronary artery**
- D. Radial artery

The coronary artery is the primary vessel responsible for supplying blood to the heart muscle itself. The heart requires a significant amount of oxygen-rich blood to function effectively, and the coronary arteries are specifically designed to deliver this blood supply. There are two main coronary arteries: the right and left coronary arteries, which branch into several smaller arteries that further vascularize the heart tissue. The coronary arteries arise from the aorta, just above the aortic valve, and encircle the heart, providing essential nutrients and oxygen to the myocardium. This direct connection to the heart allows for efficient delivery of blood even during periods of increased demand, such as during physical exertion. The other arteries mentioned, such as the subclavian artery, circumflex artery, and radial artery, serve different functions and areas of the body. The subclavian artery primarily supplies blood to the arms and part of the head and neck, while the radial artery is involved in supplying blood to the forearm and wrist. The circumflex artery is a branch of the left coronary artery that supplies blood to specific regions of the heart but does not represent the principal pathway for cardiac blood supply. Thus, the coronary artery is correctly identified as the primary supplier of oxygenated blood to the heart itself.

2. What is the effect of epinephrine on the heart?

- A. Decreases heart rate
- B. Increases heart rate and contractility**
- C. Reduces blood pressure
- D. Slows conduction through the AV node

Epinephrine, a hormone and neurotransmitter, primarily acts on the heart by binding to beta-1 adrenergic receptors. This interaction leads to an increase in both heart rate (positive chronotropic effect) and the force of heart muscle contractions (positive inotropic effect). The increase in heart rate allows for more rapid circulation of blood, which is crucial during times of stress or emergency situations. Additionally, epinephrine promotes improved cardiac output by enhancing the efficiency of each contraction. In contrast, the other options reflect effects that are not associated with epinephrine. For instance, decreasing heart rate or slowing conduction through the AV node would not align with the physiological roles of epinephrine, which is designed to enhance cardiac performance in response to stress. Furthermore, reducing blood pressure is generally not a direct effect of epinephrine; instead, the compound typically acts to increase vascular resistance and blood pressure during its response to stress or injury. Thus, the overall action of epinephrine is to enhance heart function, which explains why the chosen answer is accurate in depicting its effects on the heart.

3. You arrive at the scene of a 75-year-old male with chest pain and weakness who has not taken his prescribed medications. What should you do first?

A. Administer his medications immediately

B. Contact medical control for guidance

C. Provide basic life support

D. Monitor his vital signs

Contacting medical control for guidance is the appropriate initial action in this scenario, as it ensures that the patient's situation is assessed by a qualified physician who can provide specific instructions tailored to his condition. Given the patient's age, presenting symptoms of chest pain and weakness, and the fact that he has not taken his prescribed medications, it is vital to gather more information and receive direction on the best course of action. In emergencies involving medication management and potential cardiac issues, medical control can help determine whether medications should be administered and under what conditions, such as confirming the type and dosage appropriate for the patient. This approach also helps protect the EMT from potential liability, as protocols for administering medications can vary based on local regulations and hospital policies. Monitoring vital signs is essential in managing a patient with chest pain but should follow after establishing communication with medical control. Administering medications without appropriate guidance could lead to complications, particularly if the patient's vitals indicate instability, or if there are contraindications for the medication in question. Providing basic life support, while critical in life-threatening situations, may not be prioritized until a clearer assessment of the patient's immediate condition and needs is established through medical control communication.

4. Which of the following medications is often used in emergencies to stabilize the heart rhythm?

A. Digoxin

B. Amiodarone

C. Verapamil

D. Clonidine

Amiodarone is frequently used in emergency situations to stabilize heart rhythm due to its effectiveness in treating a variety of life-threatening ventricular and supraventricular arrhythmias, including ventricular fibrillation and ventricular tachycardia. As a class III antiarrhythmic medication, it works by modifying the electrical activity of the heart, prolonging the action potential and refractory period in myocardial tissue, which helps to restore normal heart rhythms. In emergency settings, especially during cardiac arrest or when dealing with severe arrhythmias, the rapid onset of action and broad spectrum of efficacy make amiodarone a critical medication for healthcare providers. The ability to give it intravenously in a prehospital environment further enhances its usefulness in acute care scenarios. While Digoxin has its role in managing certain heart conditions, particularly atrial fibrillation, it is not typically considered a first-line emergency drug for rhythm stabilization. Verapamil is primarily used for rate control rather than stabilization of heart rhythm in acute settings. Clonidine, on the other hand, is an antihypertensive medication that has no direct role in managing arrhythmias.

5. What does a heart rate below 60 beats per minute indicate?

- A. Tachycardia**
- B. Bradycardia**
- C. Normal sinus rhythm**
- D. Arrhythmia**

A heart rate below 60 beats per minute is classified as bradycardia. This condition reflects a slower than normal heart rate, which can occur as a result of various factors, including increased vagal tone, some medication effects, or underlying health issues like heart disease. In healthy individuals, particularly athletes, lower heart rates can be common, but in other situations, bradycardia may signify a problem with the heart's electrical conduction system or may indicate that the body is not receiving sufficient blood flow, necessitating further evaluation. In contrast, tachycardia refers to a heart rate over 100 beats per minute, normal sinus rhythm is the regular heart rhythm typically ranging from 60 to 100 beats per minute, and arrhythmia denotes any irregularity in the heartbeat, which encompasses a broad range of rhythm disorders. Each of these terms describes different cardiac conditions, but bradycardia specifically addresses the scenario of a decreased heart rate under 60 beats per minute.

6. A patient who collapsed has been revived after one shock with an AED and is now moaning and breathing on her own. What should you do next?

- A. Cover her with a blanket for warmth**
- B. Turn her on her side and monitor her airway**
- C. Provide oxygen via nasal cannula**
- D. Conduct a secondary assessment**

When a patient has collapsed and subsequently revived after an AED shock, it is crucial to ensure their airway is not compromised. Turning the patient onto her side helps maintain a clear airway and prevent potential aspiration, especially if she is still disoriented and not fully alert. This position also allows for easier drainage of any fluids or secretions that might enter the airway, reducing the risk of choking. While providing warmth, administering oxygen, or conducting a secondary assessment are also important considerations in patient care, the immediate priority after regaining consciousness is to ensure that the airway remains open and the patient is protected from airway obstruction. Thus, positioning the patient on her side is the most appropriate immediate measure to take.

7. What is the most common presenting symptom of a myocardial infarction?

- A. Shortness of breath**
- B. Nausea**
- C. Chest pain**
- D. Dizziness**

Chest pain is recognized as the most common presenting symptom of a myocardial infarction (heart attack). This symptom typically manifests as a feeling of pressure, squeezing, fullness, or pain in the center or left side of the chest. Patients often describe it as intense and may feel as though something heavy is placed on their chest. Understanding the sensation of chest pain is critical for early recognition of a myocardial infarction, as it signifies that the heart is not receiving adequate blood flow, often due to blockage in the coronary arteries. The timely identification of this symptom can lead to prompt medical intervention, significantly improving patient outcomes. While shortness of breath, nausea, and dizziness can accompany a myocardial infarction, they are not as prevalent as chest pain. Many patients experiencing a heart attack report chest pain as their primary symptom, which can assist healthcare providers in making quick and accurate assessments when a patient presents with acute cardiac symptoms.

8. Which of the following best describes the term "angina"?

- A. A temporary decrease in blood flow to the heart muscle**
- B. A complete blockage of blood flow to the heart muscle**
- C. An abnormal heart rhythm**
- D. A type of heart failure**

Angina refers to a condition characterized by chest pain or discomfort that arises from insufficient blood flow to the heart muscle, primarily due to narrowed coronary arteries often from atherosclerosis. This temporary decrease in blood flow leads to an imbalance between the heart's oxygen demand and supply, resulting in the classic symptoms of angina. In this context, angina can be considered a warning sign of underlying heart disease and is typically precipitated by physical exertion, emotional stress, or other factors that increase the heart's workload. The key aspect of angina is its transient nature, as it usually resolves with rest or the use of nitroglycerin, which helps to increase blood flow or improve oxygen delivery to the heart. The other options focus on more severe conditions or different mechanisms related to heart function. A complete blockage of blood flow would result in a heart attack or myocardial infarction, which is a different and more critical condition than angina. An abnormal heart rhythm, or arrhythmia, refers to issues in the heart's electrical conduction system and does not directly describe the phenomenon of angina. Heart failure involves the inability of the heart to pump blood effectively and encompasses a broader range of symptoms and pathophysiological processes than those associated with angina.

9. What is the name of the muscular middle layer of the heart?

- A. Endocardium**
- B. Pericardium**
- C. Myocardium**
- D. Epicardium**

The muscular middle layer of the heart is called the myocardium. This layer is primarily responsible for the heart's ability to contract and pump blood throughout the circulatory system. The myocardium is composed of specialized cardiac muscle tissue that can contract in a coordinated manner, allowing for effective heartbeats. The endocardium, which is one of the other layers of the heart, lines the interior of the heart chambers and helps to minimize friction as blood flows through the heart. The pericardium is a protective sac that surrounds the heart, providing lubrication and support. Finally, the epicardium is the outer layer of the heart wall and also serves as a protective layer. Understanding these distinct layers is crucial in cardiology, as each plays a vital role in heart function and health.

10. What is the most likely cause when an AED states "shock advised" after analyzing a patient?

- A. Atrial fibrillation**
- B. Ventricular tachycardia**
- C. Asystole**
- D. Normal sinus rhythm**

When an AED indicates "shock advised," it is signaling that the heart is in a rhythm that can be corrected with defibrillation. Ventricular tachycardia (VT) is a fast heart rhythm originating from the ventricles, which can be life-threatening if it does not have a pulse. In many cases, VT can deteriorate into ventricular fibrillation, a chaotic rhythm that results in ineffective heart function. An AED is designed to detect these critical arrhythmias that can lead to cardiac arrest and provide treatment by delivering an electric shock to restore a normal rhythm. While atrial fibrillation is also an abnormal heart rhythm, it typically does not lead to the need for defibrillation in the same way as VT does. Asystole, the absence of any electrical activity in the heart, would not result in a "shock advised" message, as there is no rhythm to correct. Normal sinus rhythm represents a normal, healthy electrical activity of the heart, which would also not elicit a shock indication. Therefore, the presence of ventricular tachycardia is the condition that most commonly warrants a "shock advised" response from the AED.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://fisdapemtcardiology.examzify.com>

We wish you the very best on your exam journey. You've got this!