

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

Study Guide



Everything you need from our exam experts!

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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. 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.

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. 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!

Questions

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- 1. A 65-year-old male presents with weakness, indigestion, and vital signs showing BP 150/90 and P 116. What condition is likely?**
 - A. Heart failure**
 - B. Pneumonia**
 - C. Cardiac arrest**
 - D. Myocardial infarction**

- 2. When treating a patient with chest pain, what measure is essential if they have not found relief from nitroglycerin?**
 - A. Increase the dose of nitroglycerin**
 - B. Administer oxygen**
 - C. Wait for the patient to stabilize**
 - D. Reassure the patient without further intervention**

- 3. Which structure in the heart is known as the pacemaker?**
 - A. Atrioventricular (AV) node**
 - B. Sinoatrial (SA) node**
 - C. Bundle of His**
 - D. Purkinje fibers**

- 4. A patient presents with difficulty breathing after a recent heart condition. Which of the following findings is concerning?**
 - A. High blood pressure**
 - B. Hypothermia**
 - C. Crackles in lung examination**
 - D. Stable heart rate**

- 5. What is a primary goal in the management of heart failure?**
 - A. Increase blood pressure**
 - B. Decrease heart rate**
 - C. Improve cardiac output**
 - D. Promote fluid retention**

6. What is the best position for a 62-year-old male patient complaining of chest pain and lightheadedness with vital signs indicating low blood pressure?

- A. Seated upright**
- B. Supine**
- C. Elevated sitting**
- D. Left lateral recumbent**

7. Which part of the heart receives deoxygenated blood from the body?

- A. Left atrium**
- B. Right ventricle**
- C. Left ventricle**
- D. Right atrium**

8. A patient complains of chest pain radiating to both shoulders, is pale, diaphoretic, and slightly short of breath. What should you suspect?

- A. Myocardial Infarction**
- B. Heartburn**
- C. Pulmonary embolism**
- D. Aortic dissection**

9. A 54-year-old female suddenly becomes pulseless and apneic. What should you do?

- A. Immediately start chest compressions**
- B. Check for a pulse**
- C. Administer oxygen**
- D. Call for advanced medical support**

10. During which phase of the cardiac cycle does the heart fill with blood?

- A. Systole**
- B. Diastole**
- C. Isovolumetric contraction**
- D. Isovolumetric relaxation**

Answers

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

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Explanations

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1. A 65-year-old male presents with weakness, indigestion, and vital signs showing BP 150/90 and P 116. What condition is likely?

- A. Heart failure**
- B. Pneumonia**
- C. Cardiac arrest**
- D. Myocardial infarction**

The presentation of the 65-year-old male with weakness, indigestion, elevated blood pressure, and a high pulse rate is indicative of a myocardial infarction, often referred to as a heart attack. This condition occurs when blood flow to a part of the heart is blocked, leading to tissue damage. The symptoms of weakness and indigestion can sometimes be atypical signs of a heart attack, especially in older adults or those with diabetes. The vital signs show an elevated blood pressure, which can be a compensatory response to decreased cardiac output, along with tachycardia (pulse of 116), indicating that the heart is working harder to maintain blood circulation, which is typical in the setting of myocardial ischemia. In considering the other conditions listed: heart failure may present with weakness and more distinct respiratory symptoms such as edema or shortness of breath; pneumonia would typically be characterized by respiratory distress and fever; cardiac arrest would present as an immediate life-threatening condition with loss of consciousness and lack of pulse. Thus, the combination of the symptoms and vital signs strongly supports the likelihood of a myocardial infarction being the underlying condition.

2. When treating a patient with chest pain, what measure is essential if they have not found relief from nitroglycerin?

- A. Increase the dose of nitroglycerin**
- B. Administer oxygen**
- C. Wait for the patient to stabilize**
- D. Reassure the patient without further intervention**

Administering oxygen is essential for a patient experiencing chest pain who has not found relief from nitroglycerin. Oxygen therapy is crucial because it helps to improve oxygen delivery to the heart muscle, which may be compromised if the patient is experiencing ischemia or insufficient blood flow. Chest pain can often be associated with conditions such as myocardial infarction (heart attack), where the heart muscle is deprived of oxygen. In cases of chest pain, especially when nitroglycerin does not provide relief, the patient may still be experiencing inadequate oxygen levels, which can lead to further complications. Providing supplemental oxygen can help alleviate this issue and prevent further damage to the heart. It's a standard practice in emergency care to address both the symptom of chest pain and its potential underlying causes effectively. While increasing the dose of nitroglycerin may seem like a possible option, it requires medical oversight and may not immediately relieve the patient's condition. Waiting for stabilization or providing reassurance without further intervention may neglect to address the critical need for improving oxygenation, which is vital in a patient with potential myocardial ischemia. Therefore, administering oxygen stands out as a necessary and effective measure in this scenario.

3. Which structure in the heart is known as the pacemaker?

- A. Atrioventricular (AV) node
- B. Sinoatrial (SA) node**
- C. Bundle of His
- D. Purkinje fibers

The sinoatrial (SA) node is referred to as the pacemaker of the heart because it is responsible for initiating and regulating the electrical impulses that dictate the heartbeat. This node is located in the right atrium and generates electrical signals that cause the atria to contract, effectively pumping blood into the ventricles. As the primary pacemaker, the SA node sets the pace for the heart's rhythm, typically firing at a rate of 60 to 100 beats per minute in a resting individual. The SA node's ability to autonomously generate impulses is crucial for maintaining a consistent heart rate and ensuring that the heart operates effectively as a pump. Signals from the SA node then travel to the atrioventricular (AV) node, which conducts impulses to the ventricles, but it does not act as the initial pacemaker of the heart. Other structures such as the Bundle of His and Purkinje fibers are essential for the conduction pathway but primarily play supportive roles in transmitting impulses after they are generated by the SA node. Therefore, the SA node's role as the primary initiator of heart rhythm justifies its title as the pacemaker.

4. A patient presents with difficulty breathing after a recent heart condition. Which of the following findings is concerning?

- A. High blood pressure
- B. Hypothermia
- C. Crackles in lung examination**
- D. Stable heart rate

Crackles in the lung examination are concerning in this context because they often indicate fluid present in the alveoli, which can signal conditions such as pulmonary edema or heart failure. When a patient has a recent heart condition and is experiencing difficulty breathing, the presence of crackles suggests that the heart may not be effectively pumping blood, leading to fluid leakage into the lungs. This can exacerbate the patient's respiratory distress and requires immediate attention. In contrast, high blood pressure can be a common response to stress or pain rather than a direct indication of respiratory distress. Hypothermia indicates a drop in body temperature, which does not directly relate to the immediate concerns regarding cardiac or respiratory function. A stable heart rate suggests that the heart is functioning adequately at that moment, which may not be a significant concern compared to the presence of crackles in the lungs. Therefore, the finding of crackles is the most critical in this scenario, meriting further investigation and intervention.

5. What is a primary goal in the management of heart failure?

- A. Increase blood pressure
- B. Decrease heart rate
- C. Improve cardiac output**
- D. Promote fluid retention

Improving cardiac output is a primary goal in the management of heart failure because it directly addresses the fundamental issue in heart failure, which is the heart's inability to pump sufficient blood to meet the body's needs. By increasing cardiac output, clinicians aim to enhance the delivery of oxygen and nutrients to tissues, thereby improving overall organ function and the patient's quality of life. In heart failure, the heart may struggle to contract effectively or may become stiff and unable to fill adequately. Management strategies often focus on addressing these issues to optimize cardiac function. This can include medications that help the heart pump more effectively, such as inotropes, or agents that reduce fluid overload, allowing the heart to work more efficiently. The other options involve different processes that are not the primary focus of heart failure management. For example, increasing blood pressure can be useful in certain clinical scenarios, but it isn't a goal in all cases. Decreasing heart rate might be a consideration in some patients, often to reduce workload on the heart, but it does not address the fundamental purpose of improving cardiac function. Promoting fluid retention is typically counterproductive in heart failure, where fluid overload is a common complication. Therefore, the emphatic focus remains on improving cardiac output to ensure adequate tissue perfusion and

6. What is the best position for a 62-year-old male patient complaining of chest pain and lightheadedness with vital signs indicating low blood pressure?

- A. Seated upright
- B. Supine**
- C. Elevated sitting
- D. Left lateral recumbent

In the scenario where a 62-year-old male patient is presenting with chest pain and lightheadedness along with low blood pressure, the supine position is appropriate for several reasons. Lying supine allows for optimal blood flow to vital organs, including the heart and brain, which is crucial given the patient's symptoms and vital signs. This position can help improve venous return to the heart, potentially increasing cardiac output and stabilizing blood pressure. Additionally, by minimizing movement, the supine position can help reduce the risk of exacerbating any potential cardiac or respiratory issues the patient may be facing. While other positions, such as seated upright or elevated sitting, may provide some comfort or relief, they can also compromise venous return in someone with low blood pressure, leading to decreased perfusion. The left lateral recumbent position is often used in certain conditions like suspected stroke or when a patient is vomiting, but it is not the best choice in this case focused on low blood pressure and potential cardiac issues. Thus, the supine position is the most beneficial for the patient's stability and comfort in this situation.

7. Which part of the heart receives deoxygenated blood from the body?

- A. Left atrium**
- B. Right ventricle**
- C. Left ventricle**
- D. Right atrium**

The right atrium is the correct choice because it plays a crucial role in the circulatory system by receiving deoxygenated blood from the body. This blood is returned from the systemic circulation through two major veins: the superior and inferior vena cavae. Once the right atrium fills with this deoxygenated blood, it contracts and pushes the blood into the right ventricle, which then sends it to the lungs for oxygenation. Understanding the functions of the heart chambers is key in cardiology. The left atrium, in contrast, receives oxygenated blood from the lungs, which is not relevant in this context. The left ventricle then pumps this oxygen-rich blood out to the body, while the right ventricle handles blood returning from the right atrium, directing it to the lungs for oxygen. Thus, the right atrium is specifically designated for managing the deoxygenated blood coming from the systemic circulation.

8. A patient complains of chest pain radiating to both shoulders, is pale, diaphoretic, and slightly short of breath. What should you suspect?

- A. Myocardial Infarction**
- B. Heartburn**
- C. Pulmonary embolism**
- D. Aortic dissection**

The symptoms described, including chest pain that radiates to both shoulders, along with signs of pallor, diaphoresis (sweating), and slight shortness of breath, are highly suggestive of a myocardial infarction (MI). In a myocardial infarction, the heart muscle is deprived of oxygen-rich blood, typically due to a blockage in one or more of the coronary arteries. The presentation of chest pain is classic, often described as squeezing, pressure, or tightness. Radiation of pain to the shoulders is also a common feature, as the heart shares nerve pathways with areas of the upper body, which can cause referred pain. Pallor and diaphoresis are signs of significant stress on the body, indicating a sympathetic nervous system response to pain or a significant cardiac event. The slight shortness of breath further supports the likelihood of a myocardial infarction, as this can occur when the heart struggles to function adequately due to obstructed blood flow. While other conditions like heartburn, pulmonary embolism, and aortic dissection could present with chest pain, the combination of symptoms in this scenario—especially the radiating pain, diaphoresis, and shortness of breath—most closely aligns with a myocardial infarction.

9. A 54-year-old female suddenly becomes pulseless and apneic. What should you do?

- A. Immediately start chest compressions**
- B. Check for a pulse**
- C. Administer oxygen**
- D. Call for advanced medical support**

In a situation where a 54-year-old female suddenly becomes pulseless and apneic, the most critical action is to immediately start chest compressions. This response is vital because the absence of a pulse and apneic state indicates that the patient is in cardiac arrest. During cardiac arrest, the primary goals are to restore circulation and oxygenation to vital organs, particularly the brain and heart. Starting chest compressions quickly is crucial because it provides artificial circulation, maintaining blood flow and increasing the chances of survival. High-quality chest compressions can help to preserve organ function until advanced life support arrives, significantly reducing the risk of irreversible brain injury and increasing the likelihood of a successful resuscitation. In contrast, checking for a pulse or administering oxygen would delay the initiation of compressions. Even if a pulse were detectable for a brief moment, the absence of breathing would still necessitate immediate resuscitative efforts. Calling for advanced medical support is essential as well, but this should be done in conjunction with starting chest compressions rather than as a standalone response. In emergencies, immediate action is often necessary to save lives, and performing chest compressions is the most effective step in this scenario.

10. During which phase of the cardiac cycle does the heart fill with blood?

- A. Systole**
- B. Diastole**
- C. Isovolumetric contraction**
- D. Isovolumetric relaxation**

The correct answer is diastole, which is the phase of the cardiac cycle when the heart fills with blood. During diastole, the heart muscles relax after contraction, allowing the chambers of the heart—specifically the atria and ventricles—to expand and fill with blood. In this phase, the atrioventricular (AV) valves are open, and blood flows from the atria into the ventricles. This is crucial for ensuring that there is enough blood in the ventricles before the next contraction during systole, which is when the heart pumps blood out to the body and lungs. Understanding this phase is fundamental in cardiology, as it plays a significant role in the effectiveness of cardiac function and the overall circulation of blood throughout the body. Proper filling of the heart chambers during diastole is essential for maintaining adequate stroke volume and cardiac output during subsequent contractions.

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!

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