

# HESI 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**

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- 1. What is a potential sign of myocardial infarction detected during an ECG?**
  - A. Normal P wave pattern**
  - B. Elevated ST segment**
  - C. Decreased heart rate**
  - D. Flat QRS complex**
- 2. How should the nurse interpret a client's heart rhythm that is sinus but irregular due to occasional early beats?**
  - A. Sinus tachycardia**
  - B. Normal sinus rhythm**
  - C. Sinus rhythm with premature atrial contractions (PACs)**
  - D. Sinus bradycardia with premature ventricular contractions (PVCs)**
- 3. What is the primary cause of pain experienced by a client with a coronary occlusion during a myocardial infarction?**
  - A. Arterial spasm**
  - B. Heart muscle ischemia**
  - C. Blocking of the coronary veins**
  - D. Irritation of nerve endings in the cardiac plexus**
- 4. What is a common assessment finding in a patient with left-sided heart failure?**
  - A. Peripheral edema**
  - B. Pulmonary congestion**
  - C. Hepatomegaly**
  - D. Jugular vein distention**
- 5. What is the role of beta-agonists in cardiology?**
  - A. To reduce heart rate**
  - B. To improve circulation**
  - C. To relax airway muscles and improve breathing**
  - D. To lower blood pressure**

**6. What condition occurs when the heart muscle becomes abnormally thick?**

- A. Hypertrophic cardiomyopathy**
- B. Myocardial infarction**
- C. Cardiac arrest**
- D. Dilated cardiomyopathy**

**7. In assessing a client with chest pain, what is a possible indication of myocardial ischemia?**

- A. Stable heart rate at 60 bpm**
- B. Tachycardia above 100 bpm**
- C. Pulsations in extremities**
- D. Heart sounds unchanged**

**8. How does smoking impact cardiovascular health?**

- A. It decreases blood pressure**
- B. It increases the risk of atherosclerosis and heart disease**
- C. It improves circulation**
- D. It enhances heart rate recovery**

**9. What expected response should the nurse monitor after a cardiac catheterization?**

- A. Marked increase in the volume of urine output**
- B. Decrease in blood pressure of 25% from the precatheterization blood pressure**
- C. Complaints of heart pounding with mild chest discomfort**
- D. Respiratory distress with an increase in respiratory rate of more than 24 respirations per minute**

**10. What should a nurse educate a client on regarding symptoms of worsening heart failure?**

- A. Increased appetite**
- B. Swelling in the abdomen**
- C. Decreased urination**
- D. Improved energy levels**

## **Answers**

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

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## **Explanations**

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**1. What is a potential sign of myocardial infarction detected during an ECG?**

- A. Normal P wave pattern**
- B. Elevated ST segment**
- C. Decreased heart rate**
- D. Flat QRS complex**

A potential sign of myocardial infarction detectable during an ECG is an elevated ST segment. This phenomenon, known as ST-segment elevation, indicates that there is an acute injury to the heart muscle, which occurs when there is a blockage in one of the coronary arteries. This blockage restricts blood flow, resulting in ischemia and subsequent damage to cardiac tissue. The elevation reflects the impact of this injury on the electrical activity of the heart, specifically during the phase of depolarization. In contrast, a normal P wave pattern would indicate that the atria are depolarizing normally, while a decreased heart rate does not specifically correlate with myocardial infarction and can be influenced by various factors. A flat QRS complex could suggest an abnormality in ventricular conduction, but it is not a definitive indicator of myocardial infarction like an elevated ST segment is. Thus, ST-segment elevation serves as a clear and critical marker for diagnosing acute myocardial infarction on an ECG.

**2. How should the nurse interpret a client's heart rhythm that is sinus but irregular due to occasional early beats?**

- A. Sinus tachycardia**
- B. Normal sinus rhythm**
- C. Sinus rhythm with premature atrial contractions (PACs)**
- D. Sinus bradycardia with premature ventricular contractions (PVCs)**

A heart rhythm described as sinus but irregular due to occasional early beats indicates the presence of premature contractions. In this context, premature atrial contractions (PACs) occur when an ectopic focus within the atria generates an impulse earlier than the next expected sinus beat. This results in the heart rhythm remaining sinusoidal but introduces irregularity because these early beats may disrupt the regular rhythm pattern. The identification of the rhythm as sinus is confirmed by the presence of a P wave preceding each QRS complex, which maintains the characteristic of a sinus rhythm. However, the irregularity caused by the PACs differentiates this from a normal sinus rhythm, which would not have such early beats and would maintain a more consistent interval between beats. Other options do not accurately describe the scenario. Sinus tachycardia and sinus bradycardia refer to increased and decreased heart rates, respectively, without the presence of irregularities from early beats, and they do not incorporate the premature beats. Additionally, premature ventricular contractions (PVCs) are characterized by early beats originating from the ventricles, which is not applicable in this case as PACs stem from the atria. The interpretation that focuses on the irregularity due to early beats in the sinus rhythm rightly identifies the presence

**3. What is the primary cause of pain experienced by a client with a coronary occlusion during a myocardial infarction?**

- A. Arterial spasm**
- B. Heart muscle ischemia**
- C. Blocking of the coronary veins**
- D. Irritation of nerve endings in the cardiac plexus**

The primary cause of pain experienced during a myocardial infarction is heart muscle ischemia. This ischemia occurs when there is a reduction in blood flow to the heart muscle itself, typically due to a blockage in one or more of the coronary arteries. When the blood supply is diminished, the heart muscle does not receive enough oxygen, leading to cellular damage and the release of metabolites that stimulate pain receptors, resulting in the characteristic chest pain associated with a heart attack. This pain can be sharp, pressure-like, or even radiate to other areas of the body, such as the arms, neck, or jaw, and is often described as a feeling of squeezing or heaviness. The more significant the ischemia, the more intense the pain tends to be, reflecting the extent and duration of the oxygen deprivation that the myocardium experiences. While arterial spasms and irritation of nerve endings do contribute to discomfort in some cardiac scenarios, they are not the primary mechanisms responsible for the pain characterizing a myocardial infarction. Blocking of the coronary veins typically does not cause the same effects as artery blockage because it is the arterial supply that delivers oxygenated blood necessary for heart muscle function. Therefore, heart muscle ischemia stands out as the critical factor leading to the intense pain.

**4. What is a common assessment finding in a patient with left-sided heart failure?**

- A. Peripheral edema**
- B. Pulmonary congestion**
- C. Hepatomegaly**
- D. Jugular vein distention**

In left-sided heart failure, the left ventricle fails to efficiently pump blood into the systemic circulation, which leads to a backlog of blood in the lungs. This congestion causes fluid to accumulate in the pulmonary circulation, resulting in pulmonary congestion. Patients often experience symptoms such as shortness of breath, especially when lying down, as well as a cough that may produce sputum tinged with blood. The presence of pulmonary congestion is a hallmark of left-sided heart failure, making it an essential finding during assessment. This condition is typically associated with symptoms related to lung function due to the increased pressure in the pulmonary capillaries and alveoli. Therefore, recognizing pulmonary congestion is critical for diagnosing and managing left-sided heart failure and differentiating it from right-sided heart failure, which is more associated with systemic congestion symptoms such as peripheral edema and hepatomegaly.

## 5. What is the role of beta-agonists in cardiology?

- A. To reduce heart rate
- B. To improve circulation
- C. To relax airway muscles and improve breathing**
- D. To lower blood pressure

Beta-agonists primarily function by stimulating beta-adrenergic receptors, which are commonly found in various tissues, including the heart and bronchial smooth muscle. In the realm of cardiology and respiratory medicine, these agents are especially known for their ability to relax airway muscles and improve breathing. When beta-agonists bind to beta-2 adrenergic receptors located in the airways, they cause bronchodilation, which is the widening of the bronchi and bronchioles, leading to easier airflow and improved respiratory function. This is particularly beneficial for patients with conditions such as asthma or chronic obstructive pulmonary disease (COPD) where airway constriction occurs. In terms of cardiac effects, while beta-agonists can influence heart rate and contractility by acting on beta-1 adrenergic receptors in the heart, their primary role in the context of managing respiratory issues is the relaxation of the bronchial muscles. This targeted action is critical in alleviating symptoms of bronchospasm rather than directly addressing cardiovascular conditions like heart rate reduction or blood pressure lowering as primary actions.

## 6. What condition occurs when the heart muscle becomes abnormally thick?

- A. Hypertrophic cardiomyopathy**
- B. Myocardial infarction
- C. Cardiac arrest
- D. Dilated cardiomyopathy

Hypertrophic cardiomyopathy is the condition characterized by the abnormal thickening of the heart muscle, particularly affecting the ventricular walls. This thickening can lead to a variety of complications, such as obstruction of blood flow, impaired diastolic function, and potentially life-threatening arrhythmias. The thickening is often due to genetic mutations that affect the proteins of the heart muscle cells, leading to excessive growth. In contrast, myocardial infarction refers to a heart attack where blood flow to a part of the heart is blocked, causing damage to the heart muscle but not specifically thickening. Cardiac arrest is a sudden, unexpected loss of heart function that is often the result of severe arrhythmias or other heart conditions, but it does not denote a thickened heart muscle. Dilated cardiomyopathy involves dilation and weakening of the heart chambers rather than thickening, leading to reduced cardiac output. Understanding these distinctions helps in diagnosing and managing heart conditions effectively, particularly when considering symptoms and family history in the case of hypertrophic cardiomyopathy.

**7. In assessing a client with chest pain, what is a possible indication of myocardial ischemia?**

- A. Stable heart rate at 60 bpm**
- B. Tachycardia above 100 bpm**
- C. Pulsations in extremities**
- D. Heart sounds unchanged**

A tachycardia above 100 beats per minute can be a significant indication of myocardial ischemia. When the heart muscle is deprived of adequate blood supply, it can respond with an increased heart rate as a compensatory mechanism to maintain cardiac output and oxygen delivery to vital organs. This heightened heart rate may occur due to various factors, including pain, anxiety, or stress, which are common with ischemic events. In contrast, a stable heart rate at 60 bpm is typically considered normal and does not suggest ischemia. Pulsations in the extremities are more indicative of peripheral vascular issues rather than directly related to myocardial ischemia. Lastly, unchanged heart sounds can indicate that there is no acute cardiac event affecting the heart's functioning and would not signal ischemia in a patient experiencing chest pain.

**8. How does smoking impact cardiovascular health?**

- A. It decreases blood pressure**
- B. It increases the risk of atherosclerosis and heart disease**
- C. It improves circulation**
- D. It enhances heart rate recovery**

Smoking significantly impacts cardiovascular health by increasing the risk of atherosclerosis and heart disease. The chemicals found in tobacco smoke can cause damage to the blood vessels, leading to a buildup of plaque in the arteries, which is a key factor in atherosclerosis. When the arteries become narrowed due to plaque accumulation, it restricts blood flow and raises the chances of heart attacks and strokes. In addition to promoting atherosclerosis, smoking contributes to various cardiovascular diseases by increasing inflammation, altering lipid profiles, elevating heart rate, and increasing blood pressure. Collectively, these factors culminate in a higher incidence of coronary artery disease and other heart-related issues. The other options incorrectly portray the effects of smoking on cardiovascular health; for instance, smoking does not decrease blood pressure, improve circulation, or enhance heart rate recovery. In fact, it tends to do the opposite, exacerbating cardiovascular problems.

**9. What expected response should the nurse monitor after a cardiac catheterization?**

- A. Marked increase in the volume of urine output**
- B. Decrease in blood pressure of 25% from the precatheterization blood pressure**
- C. Complaints of heart pounding with mild chest discomfort**
- D. Respiratory distress with an increase in respiratory rate of more than 24 respirations per minute**

After a cardiac catheterization, one of the expected responses that the nurse should monitor for is a marked increase in the volume of urine output. This occurs due to improved renal perfusion resulting from enhanced cardiac function and blood flow after addressing any blockages or abnormalities. Additionally, during the procedure, contrast agents may be used, and a well-functioning heart that is efficiently pumping blood can contribute to a better glomerular filtration rate, hence increasing urine production. Monitoring for this increase is crucial, as it indicates that the kidneys are receiving adequate blood flow and are functioning well post-procedure. This response can also serve as an indirect indicator of the patient's overall hemodynamic status after the intervention. In contrast, a decrease in blood pressure, complaints of discomfort, or respiratory distress are not expected findings following a successful cardiac catheterization.

**10. What should a nurse educate a client on regarding symptoms of worsening heart failure?**

- A. Increased appetite**
- B. Swelling in the abdomen**
- C. Decreased urination**
- D. Improved energy levels**

When educating a client on the symptoms of worsening heart failure, swelling in the abdomen is particularly relevant because it is a sign of fluid retention, which is a common issue in heart failure. This swelling, or ascites, occurs due to increased pressure in the blood vessels caused by the heart's inability to pump effectively. As the heart struggles to maintain adequate circulation, fluid can accumulate in the abdomen, leading to discomfort and other complications. Patients experiencing worsening heart failure may notice changes that indicate their condition is deteriorating. Understanding these signs allows for prompt medical attention and intervention, which can help prevent further complications. By being aware of swelling, clients can communicate changes in their condition to healthcare providers, leading to timely adjustments in treatment. In contrast, increased appetite, decreased urination, and improved energy levels do not align with symptoms typically associated with worsening heart failure. In fact, patients often experience a decreased appetite due to gastrointestinal congestion, may have decreased urination due to kidney impairment or fluid overload, and often report fatigue rather than improved energy levels. Educating clients on these key symptoms empowers them to manage their health effectively.

# 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](mailto:hello@examzify.com).**

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

**<https://hesicardiology.examzify.com>**

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

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