EMERGENCY NURSING ORIENTATION 3.0: CARDIOVASCULAR EMERGENCIES PRACTICE EXAM (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED 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. 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

1. A 52-year-old woman is found unresponsive and pulseless shortly after returning from lunch. What is the most likely cause of her cardiac arrest?

A. Pulmonary embolism

B. Coronary heart disease

C. Aortic dissection

D. Cardiomyopathy

2. From which point is door-to-balloon time measured in STEMI patients undergoing PCI?

A. From first medical contact to balloon inflation

B. From hospital arrival to balloon inflation

C. From symptom onset to balloon inflation

D. From ECG interpretation to balloon inflation

3. Name an electrolyte abnormality that predisposes to arrhythmias and its correction.

A. Hyperkalemia; treat with calcium, insulin with glucose, and bicarbonate

B. Hypocalcemia; give calcium gluconate

C. Hypernatremia; restrict fluids

D. Hypokalemia; give potassium

4. What is the purpose of targeted temperature management after cardiac arrest, and when is it indicated?

A. To improve neurological outcomes in comatose patients after ROSC; indicated for eligible adults without contraindications

B. To prevent fever only

C. To normalize heart rate

D. To rapidly restore pulse

5. How do ST elevations differ between STEMI due to myocardial infarction and diffuse ST elevations due to pericarditis?

A. STEMI shows diffuse, convex ST elevations; pericarditis shows focal ST elevations with reciprocal changes

B. STEMI shows focal ST elevations with reciprocal changes; pericarditis shows diffuse concave ST elevations with PR depression

C. STEMI shows diffuse ST elevations with PR depression; pericarditis shows focal ST elevations with reciprocal changes

D. STEMI shows focal ST elevations with PR depression; pericarditis shows diffuse ST elevations with PR depression

6. Which step is appropriate for suspected massive PE with shock?

A. Anticoagulation alone

B. Observation

C. Emergent systemic thrombolysis or embolectomy

D. Treat with diuretics

7. In suspected pulmonary embolism evaluated in the ED, which sequence of steps is appropriate?

A. Use Wells or PESI score, obtain D-dimer if low probability, CT pulmonary angiography if moderate/high probability, start anticoagulation if confirmed or highly suspected; consider thrombolysis or embolectomy for massive PE

B. CT pulmonary angiography first

C. Start anticoagulation immediately without imaging

D. Rely on symptoms alone

8. Why should nitrates be avoided in suspected right ventricular infarction?

A. They cause tachycardia

B. They decrease preload, risking severe hypotension

C. They decrease afterload

D. They improve contractility

9. Transcutaneous pacing is indicated in the ED for which scenario?

A. Asymptomatic bradycardia with normal perfusion

B. Symptomatic bradycardia with hemodynamic instability requiring pacing

C. Tachycardia with stable vital signs

D. Routine pacing for any bradycardia

10. Which nursing considerations are important before giving IV contrast for cath in suspected ACS?

A. Screen for iodinated contrast allergy, assess renal function, ensure hydration, and weigh risk of nephropathy; obtain consent

B. Obtain consent only

C. Administer contrast with no assessment

D. Delay the procedure until multiple tests are completed

Answers

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

Explanations

1. A 52-year-old woman is found unresponsive and pulseless shortly after returning from lunch. What is the most likely cause of her cardiac arrest?

A. Pulmonary embolism

B. Coronary heart disease

C. Aortic dissection

D. Cardiomyopathy

In adults, sudden cardiac arrest most often stems from coronary heart disease causing acute myocardial ischemia and a life-threatening arrhythmia. When a plaque in a coronary artery ruptures, a clot can abruptly occlude blood flow to the heart muscle, leading to ischemia. That electrical instability frequently produces ventricular fibrillation, which causes the heart to stop beating effectively and a pulseless collapse. In a 52-year-old who becomes unresponsive and pulseless, this ischemic pathway is the most common mechanism, making coronary heart disease the likeliest cause. Pulmonary embolism, aortic dissection, or cardiomyopathy can cause sudden collapse too, but their typical signs and presentations are less consistent with this scenario. The immediate steps are high-quality CPR and defibrillation as needed, with rapid evaluation for myocardial ischemia.

2. From which point is door-to-balloon time measured in STEMI patients undergoing PCI?

A. From first medical contact to balloon inflation

B. From hospital arrival to balloon inflation

C. From symptom onset to balloon inflation

D. From ECG interpretation to balloon inflation

Door-to-balloon time measures how quickly the healthcare system can deliver definitive reperfusion after care has begun within the patient's care pathway. It is defined as the interval from first medical contact to balloon inflation during PCI. This focuses on system performance—from the moment EMS or hospital staff first engages with the patient to the moment the blocked artery is opened. This is why the other options don't fit. From hospital arrival to balloon inflation misses prehospital contact and transport steps that occur before arrival. From symptom onset to balloon inflation includes patient delay in seeking care, which isn't the aim of this metric. From ECG interpretation to balloon inflation ignores the many steps that happen after initial interpretation, such as activation of the cath lab and prep time.

3. Name an electrolyte abnormality that predisposes to arrhythmias and its correction.

A. Hyperkalemia; treat with calcium, insulin with glucose, and bicarbonate

B. Hypocalcemia; give calcium gluconate

C. Hypernatremia; restrict fluids

D. Hypokalemia; give potassium

Elevated potassium levels change the heart's electrical stability and make dangerous rhythms much more likely. Potassium sits outside heart cells to help set the resting membrane potential; when it's too high, the resting potential becomes less negative, sodium channels don't recover promptly, conduction slows, and the ECG can show peaked T waves, widening QRS, and eventually dangerous rhythms like ventricular fibrillation. The priority is to stabilize the heart while reducing the potassium load. Calcium is given first to stabilize the myocardial membranes, buying time for other measures. Then insulin with glucose is used to move potassium back into cells, lowering the serum level quickly. If acidosis is present, bicarbonate helps by promoting cellular potassium shift and correcting the pH. Additional therapies such as beta-agonists, diuretics, or dialysis may be used depending on the situation and renal function. This approach aligns with treating hyperkalemia and its correction with calcium, insulin plus glucose, and bicarbonate. While hypocalcemia would require calcium, and hypernatremia or fluid restriction do not address the dangerous potassium surplus, and hypokalemia would require potassium replacement, these do not fit the scenario of an arrhythmia-predisposing hyperkalemia.

4. What is the purpose of targeted temperature management after cardiac arrest, and when is it indicated?

A. To improve neurological outcomes in comatose patients after ROSC; indicated for eligible adults without contraindications

B. To prevent fever only

C. To normalize heart rate

D. To rapidly restore pulse

Targeted temperature management aims to protect the brain after a cardiac arrest by cooling the body to a controlled temperature, which lowers cerebral metabolic demand and reduces reperfusion injury, inflammation, and excitotoxic damage. This neuroprotective approach improves the chance of meaningful neurological recovery in patients who remain comatose after return of spontaneous circulation. It is indicated for eligible adults who are not awake or able to follow commands after ROSC, provided there are no contraindications. In practice this means applying controlled cooling to a target range (commonly 32-36°C) for a period such as 24 hours, with careful monitoring and support (including sedation and shivering control, electrolyte management, and gradual rewarming) to optimize neurologic outcome. The other ideas—preventing fever alone, normalizing heart rate, or rapidly restoring pulse—do not capture the primary purpose or the clinical indication of targeted temperature management. Fever prevention is a beneficial effect, but the main goal is neuroprotection. It does not directly regulate heart rate, and it does not by itself reestablish circulation or rapidly restore a pulse.

5. How do ST elevations differ between STEMI due to myocardial infarction and diffuse ST elevations due to pericarditis?

A. STEMI shows diffuse, convex ST elevations; pericarditis shows focal ST elevations with reciprocal changes

B. STEMI shows focal ST elevations with reciprocal changes; pericarditis shows diffuse concave ST elevations with PR depression

C. STEMI shows diffuse ST elevations with PR depression; pericarditis shows focal ST elevations with reciprocal changes

D. STEMI shows focal ST elevations with PR depression; pericarditis shows diffuse ST elevations with PR depression

The main idea is recognizing how the ST elevations differ in location and shape between a true transmural infarction and pericarditis. In a STEMI, the injury affects a specific coronary territory, so the ST elevations are focal to that region and you often see reciprocal ST depressions in leads opposite the involved area. In pericarditis, the inflammatory process involves the whole pericardium, leading to diffuse ST elevations across many leads, and these elevations tend to be concave upward with accompanying PR-segment depression (often with PR elevation in aVR). So, the best description is that STEMI shows focal ST elevations with reciprocal changes, while pericarditis shows diffuse, concave ST elevations with PR depression.

6. Which step is appropriate for suspected massive PE with shock?

A. Anticoagulation alone

B. Observation

C. Emergent systemic thrombolysis or embolectomy

D. Treat with diuretics

When a massive pulmonary embolism causes shock, the body's forward blood flow is acutely compromised by a large clot blocking the pulmonary arteries, leading to rapid right sided strain and systemic hypoperfusion. The priority is rapid reperfusion to dissolve or remove the clot and restore circulation, which is best achieved with emergent systemic thrombolysis; if thrombolysis is not possible or fails, emergent surgical or catheter directed embolectomy is pursued. Anticoagulation alone won't resolve the obstruction quickly enough to reverse shock, and observation or diuretics don't address the underlying clot and can worsen the situation. Reperfusion therapy, used promptly, offers the best chance to rapidly improve hemodynamics and survival in this scenario, keeping in mind bleeding risks and any contraindications.

7. In suspected pulmonary embolism evaluated in the ED, which sequence of steps is appropriate?

A. Use Wells or PESI score, obtain D-dimer if low probability, CT pulmonary angiography if moderate/high probability, start anticoagulation if confirmed or highly suspected; consider thrombolysis or embolectomy for massive PE

B. CT pulmonary angiography first

C. Start anticoagulation immediately without imaging

D. Rely on symptoms alone

Managing suspected pulmonary embolism in the ED depends on risk stratification and a stepwise diagnostic plan. Start by estimating pretest probability with clinical rules like Wells or PESI. If the probability is low, a D-dimer is used because a negative result effectively rules out PE in this group; if the D-dimer is positive or if the patient has moderate to high probability, proceed to CT pulmonary angiography to confirm the diagnosis. CT angiography is the preferred imaging test because it directly visualizes clots and helps rule out other causes of symptoms. Once PE is confirmed or if the suspicion is so high that treatment can't wait, begin anticoagulation promptly to prevent clot propagation. For a massive PE with hemodynamic instability, consider reperfusion therapy, such as thrombolysis or surgical/catheter-directed embolectomy, as rapid restoration of blood flow improves survival. Relying on symptoms alone or imaging first without considering pretest probability can lead to misdiagnosis or unnecessary testing.

8. Why should nitrates be avoided in suspected right ventricular infarction?

A. They cause tachycardia

B. They decrease preload, risking severe hypotension

C. They decrease afterload

D. They improve contractility

The main idea is that the right ventricle relies heavily on adequate venous return (preload) to pump effectively. In suspected right ventricular infarction, maintaining preload is essential to keep RV output and systemic blood pressure. Nitrates cause venodilation, which lowers venous return and reduces RV filling. That drop in preload can sharply decrease RV stroke volume and overall cardiac output, leading to severe hypotension or shock. Nitrates don't improve contractility, and their modest afterload-reducing effect doesn't help here; the big risk is the loss of preload. Clinically, if RV infarction is possible, preload should be supported (for example, with IV fluids) and nitrates avoided until RV function is clarified.

9. Transcutaneous pacing is indicated in the ED for which scenario?

A. Asymptomatic bradycardia with normal perfusion

B. Symptomatic bradycardia with hemodynamic instability requiring pacing

C. Tachycardia with stable vital signs

D. Routine pacing for any bradycardia

Transcutaneous pacing is used to rapidly provide a safe, temporary boost to heart rate when a patient with bradycardia is causing poor perfusion. The key scenario is symptomatic bradycardia with hemodynamic instability—features like hypotension, altered mental status, chest pain, or signs of poor organ perfusion—where the slow rate is compromising blood flow and urgent pacing can restore cardiac output while we address the underlying cause or prepare a longer-term solution. This approach isn't indicated for bradycardia if the patient is asymptomatic and perfusion is adequate, and it's not used for tachycardia or when vital signs are stable. It's also not a routine measure for any bradycardia; pacing is reserved for cases where the bradycardia is producing instability and other measures aren't enough. In practice, you'd apply external pacing pads, assess rate and capture, and adjust energy as needed to achieve consistent capture and improved perfusion, all while monitoring the patient and preparing for definitive therapy if indicated.

10. Which nursing considerations are important before giving IV contrast for cath in suspected ACS?

A. Screen for iodinated contrast allergy, assess renal function, ensure hydration, and weigh risk of nephropathy; obtain consent

B. Obtain consent only

C. Administer contrast with no assessment

D. Delay the procedure until multiple tests are completed

Obtaining informed consent is the essential nursing step before IV contrast for a cath in suspected ACS. It ensures the patient understands what the procedure involves, the benefits, potential risks (such as allergic reaction and contrast-induced nephropathy), and alternatives, and it provides a documented agreement to proceed. This ethical and legal prerequisite must come before any invasive imaging, because you can't ethically or legally perform the procedure without the patient's informed consent. Clinical safety steps like screening for iodinated contrast allergy, assessing renal function, ensuring hydration, and weighing nephropathy risk are critical and should be carried out as part of the pre-procedure assessment, but they hinge on the patient having given consent. If the patient can't consent, a legally authorized representative should decide, or implied consent may apply in true emergencies. Options that skip consent or delay indefinitely don't fit the necessary pre-procedure process.

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:

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