

AIR METHODS CRITICAL CARE PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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. What happens to Systemic Vascular Resistance (SVR) during septic shock?**
 - A. Increases
 - B. Decreases
 - C. Remains the same
 - D. Fluctuates
- 2. What might a hyperresonance during a physical exam indicate?**
 - A. Normal lung inflation
 - B. A potential hemothorax
 - C. A tension pneumothorax
 - D. Pneumonia
- 3. What structure depolarizes the intraventricular septum in the heart?**
 - A. Right bundle branch
 - B. Left bundle branch
 - C. Sinoatrial node
 - D. Atrioventricular node
- 4. What type of blood is recommended for a pregnant trauma patient?**
 - A. A+ blood
 - B. O- negative blood
 - C. B+ blood
 - D. AB+ blood
- 5. To optimize cerebral blood flow, what should the CPP be maintained at?**
 - A. Greater than 50 mm Hg
 - B. Greater than 60 mm Hg
 - C. Greater than 65 mm Hg
 - D. Greater than 70 mm Hg
- 6. What is an expected finding on an EKG during an inferior myocardial infarction?**
 - A. Presence of Q waves
 - B. Elevation of ST segment in leads I and aVL
 - C. Elevation of ST segment in leads II, III, aVF
 - D. Prolonged QT interval

7. For a cardiac arrest in adult ACLS, what is the first dose of amiodarone recommended?
- A. 150 mg
 - B. 300 mg
 - C. 500 mg
 - D. 600 mg
8. Which method for oxygen delivery is appropriate in managing acute asthma?
- A. Simple face mask
 - B. Oxygen via nasal cannula
 - C. High flow oxygen via non-rebreather mask
 - D. Only nebulized oxygen treatment
9. A PaCO₂ level greater than 45 mmHg typically indicates which condition?
- A. Metabolic acidosis
 - B. Respiratory acidosis
 - C. Metabolic alkalosis
 - D. Respiratory alkalosis
10. What is the normal QRS duration in seconds?
- A. 0.02-0.06 seconds
 - B. 0.04-0.12 seconds
 - C. 0.12-0.20 seconds
 - D. 0.20-0.25 seconds

Answers

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

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Explanations

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1. What happens to Systemic Vascular Resistance (SVR) during septic shock?

- A. Increases
- B. Decreases**
- C. Remains the same
- D. Fluctuates

*During septic shock, Systemic Vascular Resistance (SVR) decreases due to the widespread vasodilation caused by the release of inflammatory mediators such as cytokines. In septic shock, the body undergoes a profound response to infection, leading to **vasodilation** in the systemic circulation. This response is primarily driven by the release of substances such as nitric oxide and prostaglandins which promote the relaxation of vascular smooth muscle. As a result of this vasodilation, the vessels become larger, allowing for greater blood flow and decreased resistance to blood flow through the systemic circulation. This decrease in SVR is a hallmark of septic shock and is critical to understand in the context of the pathophysiology underlying the condition, as it impacts blood pressure and organ perfusion. Maintaining an awareness of SVR in septic patients can inform treatment strategies aimed at restoring hemodynamic stability.*

2. What might a hyperresonance during a physical exam indicate?

- A. Normal lung inflation
- B. A potential hemothorax
- C. A tension pneumothorax**
- D. Pneumonia

Hyperresonance is a clinical sign detected during percussion of the thorax, typically characterized by an increased sound produced when a physician taps on a patient's chest. This sound often indicates the presence of excess air within the pleural space. One of the most significant conditions associated with hyperresonance is a tension pneumothorax. In a tension pneumothorax, air that enters the pleural cavity cannot escape, leading to increased intrathoracic pressure. This buildup of air causes the affected lung to collapse and exerts pressure on mediastinal structures, which can have life-threatening consequences. The hyperresonance noted during examination is a direct result of the excess air in the pleural space, differing from normal lung inflation, fluid collections, or solid pulmonary infections. Normal lung inflation typically produces a resonant sound, while conditions such as pneumonia or a hemothorax would produce dullness due to fluid or solid material in the pleural space. Thus, the presence of hyperresonance during a physical exam is strongly indicative of a tension pneumothorax, which necessitates immediate medical intervention.

3. What structure depolarizes the intraventricular septum in the heart?

- A. Right bundle branch
- B. Left bundle branch**
- C. Sinoatrial node
- D. Atrioventricular node

The correct response identifies the left bundle branch as the structure responsible for depolarizing the intraventricular septum in the heart. The conduction system of the heart includes specialized cardiac muscle fibers that rapidly transmit electrical impulses, facilitating coordinated heart contractions. The left bundle branch extends from the bundle of His and travels down the left side of the interventricular septum. As the electrical impulse travels through it, the left bundle branch effectively depolarizes the left side of the septum, allowing for synchronized contraction of both ventricles. This action is crucial for maintaining efficient cardiac output, as it ensures that the left ventricle contracts in coordination with the right ventricle. Contrastingly, the right bundle branch serves a similar function but only for the right side of the septum. The sinoatrial node and atrioventricular node are components of the heart's electrical conduction system, but they primarily regulate heart rate and timing rather than the specific depolarization of the intraventricular septum. The sinoatrial node is known as the heart's natural pacemaker, generating impulses that set the rhythm of heart contractions, while the atrioventricular node serves as a relay point for impulses from the atria to the ventricles.

4. What type of blood is recommended for a pregnant trauma patient?

- A. A+ blood
- B. O- negative blood**
- C. B+ blood
- D. AB+ blood

For a pregnant trauma patient, the recommendation is to use O-negative blood. This is due to several critical factors that make O-negative the safest choice in emergency situations. O-negative blood is considered the universal donor type, meaning it can be transfused into patients of any blood type without the risk of causing hemolytic reactions. This is particularly important in trauma situations where time is of the essence, and there may not be sufficient time to conduct cross-matching tests to identify the patient's blood type. In the context of pregnancy, compatibility is especially significant given the potential for Rh incompatibility and the health of both the mother and the fetus. O-negative blood does not carry Rh antigens, which reduces the risk of developing Rh sensitization in Rh-negative mothers and ensures that the transfusion won't harm the unborn child. In contrast, the other blood types listed could pose risks if the pregnant woman is of a different blood type or Rh factor. Using type A+, B+, or AB+ blood in emergencies could lead to severe immunological reactions if the patient has not been appropriately matched, which is why O-negative is the standard recommendation for initial transfusions in trauma cases involving pregnant patients.

5. To optimize cerebral blood flow, what should the CPP be maintained at?

- A. Greater than 50 mm Hg
- B. Greater than 60 mm Hg
- C. Greater than 65 mm Hg**
- D. Greater than 70 mm Hg

Cerebral perfusion pressure (CPP) is a critical parameter for ensuring adequate blood flow to the brain, particularly in patients with traumatic brain injury or other conditions that can compromise cerebral circulation. The brain requires a sufficient CPP to maintain its autoregulation, which is the mechanism that allows cerebral blood vessels to adjust their diameter in response to changes in systemic blood pressure and other factors to maintain constant blood flow despite fluctuations. Maintaining a CPP greater than 65 mm Hg is generally recommended in clinical practice. This threshold is supported by evidence suggesting that levels below this can lead to cerebral ischemia and increased risk of secondary brain injury. At a CPP of 65 mm Hg and above, the likelihood of ensuring adequate oxygen delivery to brain tissue is significantly increased, thereby optimizing cerebral metabolism and minimizing the risk of further complications. In this context, while other values may be seen in various clinical scenarios, the preference for maintaining the CPP above 65 mm Hg aligns with guidelines aimed at protecting brain function and preserving neurological outcomes, particularly in critically ill patients. Therefore, keeping the CPP at or above this level is essential for optimal cerebral blood flow and function.

6. What is an expected finding on an EKG during an inferior myocardial infarction?

- A. Presence of Q waves
- B. Elevation of ST segment in leads I and aVL
- C. Elevation of ST segment in leads II, III, aVF**
- D. Prolonged QT interval

During an inferior myocardial infarction, the expected finding on an EKG is the elevation of the ST segment in leads II, III, and aVF. This is due to the involvement of the inferior wall of the heart, typically supplied by the right coronary artery in the majority of individuals. The elevation in these specific leads indicates that there is a lack of blood supply to that area of the heart, resulting in corresponding changes on the EKG. When assessing an inferior myocardial infarction, leads II, III, and aVF, which look at the inferior portion of the heart, will show ST segment elevation. This is a crucial diagnostic criterion for identifying this type of infarction. In contrast, the presence of Q waves is often a later manifestation of a myocardial infarction, indicating old or previous heart damage rather than an acute finding. Elevation of the ST segment in leads I and aVL is more indicative of an anteroseptal myocardial infarction, while a prolonged QT interval does not directly correlate with an inferior myocardial infarction but rather suggests repolarization issues that can occur under a variety of conditions.

7. For a cardiac arrest in adult ACLS, what is the first dose of amiodarone recommended?

- A. 150 mg
- B. 300 mg**
- C. 500 mg
- D. 600 mg

In the case of a cardiac arrest during adult Advanced Cardiac Life Support (ACLS), the first recommended dose of amiodarone is 300 mg if the patient is in a shockable rhythm such as ventricular fibrillation (VF) or pulseless ventricular tachycardia (VT). This is part of the algorithm for managing such arrhythmias, where administering a high dose of amiodarone helps stabilize the heart's rhythm after defibrillation attempts. The purpose of this dose is to improve the chance of restoring a normal rhythm. If the arrhythmia persists after the first shock and administration of the initial dose of amiodarone, subsequent doses of 150 mg may be administered, which allows for a more tailored approach to treatment as the resuscitation progresses. This specific dosing regimen is based on guidelines from prominent cardiac care associations, ensuring that emergency medical providers have clear and standardized instructions to follow in critical situations. It is essential to distinguish this correct initial dose from higher or lower doses that may not align with established protocols.

8. Which method for oxygen delivery is appropriate in managing acute asthma?

- A. Simple face mask
- B. Oxygen via nasal cannula
- C. High flow oxygen via non-rebreather mask**
- D. Only nebulized oxygen treatment

Using high flow oxygen via a non-rebreather mask is particularly appropriate in managing acute asthma because it allows for the delivery of a high concentration of oxygen. In acute asthma exacerbations, patients often experience significant hypoxia due to airway obstruction, and the non-rebreather mask can provide an immediate and effective means to improve oxygenation. The design of the mask, which includes a reservoir bag, ensures that the patient receives a concentrated flow of oxygen while preventing room air from being inhaled. In acute settings, it's critical to address respiratory distress and hypoxemia swiftly. High flow oxygen via a non-rebreather mask can help to mitigate these issues, especially in cases where the patient is unable to maintain adequate oxygen saturation levels on lower flow rates. Such interventions are vital until other therapeutic measures, such as bronchodilators, take effect. Although other methods, like oxygen via nasal cannula or a simple face mask, can provide supplementary oxygen, they may not deliver sufficient concentration for patients suffering from severe acute asthma, where immediate and effective oxygenation is essential. Nebulized treatments offer bronchodilation and usually involve delivering medications directly to the airways but do not, by themselves, sufficiently address hypoxia associated with acute asthma attacks.

9. A PaCO₂ level greater than 45 mmHg typically indicates which condition?

- A. Metabolic acidosis
- B. Respiratory acidosis**
- C. Metabolic alkalosis
- D. Respiratory alkalosis

A PaCO₂ level greater than 45 mmHg is indicative of respiratory acidosis. This condition occurs when there is an accumulation of carbon dioxide in the bloodstream due to inadequate ventilation, leading to increased acidity in the blood. In respiratory acidosis, the body is unable to effectively eliminate CO₂, which is a byproduct of metabolism, causing the partial pressure of carbon dioxide (PaCO₂) to rise. In patients with respiratory issues such as chronic obstructive pulmonary disease (COPD) or severe asthma, the lungs cannot efficiently exchange gases, resulting in elevated levels of PaCO₂. This increase contributes to a decrease in blood pH, which characterizes acidosis. Understanding this relationship is crucial for critical care providers when interpreting arterial blood gas results and determining the appropriate interventions and management for patients exhibiting respiratory distress or failure.

10. What is the normal QRS duration in seconds?

- A. 0.02-0.06 seconds
- B. 0.04-0.12 seconds**
- C. 0.12-0.20 seconds
- D. 0.20-0.25 seconds

The normal QRS duration, which reflects the time taken for ventricular depolarization, typically ranges from 0.04 to 0.12 seconds. This duration indicates the efficiency and speed with which electrical impulses travel through the ventricles. A QRS interval within this range suggests that the conduction system is functioning properly without any significant delays, such as those seen in conditions like bundle branch blocks or other intraventricular conduction delays. A duration shorter than 0.04 seconds is generally considered abnormal, indicating possible conduction abnormalities, while a duration longer than 0.12 seconds can signify a delay in electrical conduction through the ventricles. Thus, recognizing the normal QRS duration is essential for interpreting electrocardiograms and for diagnosing cardiac conditions 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.

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

<https://airmethodcriticalcare.examzify.com>

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

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