

NCO FLUID AND ELECTROLYTES 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. Which electrolyte is responsible for spastic muscle spasms in a client with malabsorption syndrome?**
 - A. Sodium
 - B. Calcium
 - C. Potassium
 - D. Phosphorus

- 2. What physiological finding indicates a risk for hypovolemic shock in a client with severe burns?**
 - A. Decreased glomerular filtration rate
 - B. Excessive blood loss through burned tissues
 - C. Plasma proteins shift to interstitial spaces
 - D. Sodium retention from aldosterone

- 3. Name one treatment for hyperkalemia.**
 - A. Administration of magnesium sulfate
 - B. Administration of calcium gluconate or insulin and glucose
 - C. Administration of vitamin D
 - D. Administration of diuretics only

- 4. What role does magnesium play in the body?**
 - A. Important for digestion
 - B. Important for muscle function, nerve transmission, and enzymatic reactions
 - C. Important for blood oxygenation
 - D. Important for immune function

- 5. What can lead to hypokalemia?**
 - A. Increased carbohydrate consumption
 - B. Diuretic use or excessive vomiting
 - C. Increased physical activity
 - D. Excessive fluid intake

- 6. What signifies mild hypocalcemia in a client?**
- A. Seizures
 - B. Hand spasms
 - C. Severe muscle cramps
 - D. Numbness around the mouth
- 7. Which part of the kidney produces the hormone bradykinin?**
- A. Kidney tissues
 - B. Kidney parenchyma
 - C. Renin-producing granular cells
 - D. Juxtaglomerular cells of the arterioles
- 8. What complication could be indicated by the presence of a U wave on the cardiac monitor for a client being treated for diabetic ketoacidosis?**
- A. Hypokalemia
 - B. Hypoglycemia
 - C. Hypernatremia
 - D. Hypercalcemia
- 9. What is the purpose of sodium bicarbonate in treating metabolic acidosis?**
- A. It promotes fluid retention in the kidneys
 - B. It helps to neutralize acidity in the bloodstream
 - C. It increases sodium levels in the body
 - D. It enhances oxygen delivery to tissues
- 10. What symptom indicates the fulminant stage of inhalation anthrax?**
- A. Fever
 - B. Dry cough
 - C. Mediastinitis
 - D. Mild chest pain

Answers

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

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Explanations

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1. Which electrolyte is responsible for spastic muscle spasms in a client with malabsorption syndrome?

- A. Sodium
- B. Calcium**
- C. Potassium
- D. Phosphorus

Calcium is the electrolyte responsible for spastic muscle spasms, particularly in cases of malabsorption syndrome. When there is inadequate absorption of nutrients in the intestines, calcium levels in the body can drop, leading to a condition known as hypocalcemia. This deficiency can disrupt normal neuromuscular function and result in increased excitability of the muscle fibers, which manifests as muscle spasms or tetany. In the context of malabsorption, factors such as the improper absorption of dietary calcium or vitamin D, which is essential for calcium metabolism and absorption, contribute to this deficiency. As a result, the body may react with involuntary muscle contractions, highlighting the critical role calcium plays in muscle physiology and contraction processes.

2. What physiological finding indicates a risk for hypovolemic shock in a client with severe burns?

- A. Decreased glomerular filtration rate
- B. Excessive blood loss through burned tissues
- C. Plasma proteins shift to interstitial spaces**
- D. Sodium retention from aldosterone

The physiological finding that indicates a risk for hypovolemic shock in a client with severe burns is the shift of plasma proteins to the interstitial spaces. In cases of severe burns, the skin barrier is compromised, leading to increased capillary permeability. This allows plasma proteins, which are typically confined to the vascular space, to leak into the interstitial spaces. As plasma proteins move out of the vascular system, this disrupts the osmotic balance that normal conditions maintain, resulting in a significant decrease in oncotic pressure within the blood vessels. The loss of oncotic pressure contributes to the movement of fluids into the interstitial spaces, exacerbating fluid loss and leading to decreased blood volume. When blood volume decreases significantly, it poses a substantial risk for hypovolemic shock, as there is insufficient circulating blood volume to maintain adequate organ perfusion and blood pressure. This phenomenon is critical to understand because it highlights the importance of fluid management in burn patients to restore the intravascular volume and prevent the severe consequences of shock. Inadequate fluid resuscitation in this setting can quickly lead to multiple organ failure due to inadequate perfusion, emphasizing the need for careful monitoring and intervention based on the physiological responses of the body to the injury.

3. Name one treatment for hyperkalemia.

- A. Administration of magnesium sulfate
- B. Administration of calcium gluconate or insulin and glucose**
- C. Administration of vitamin D
- D. Administration of diuretics only

The treatment for hyperkalemia involves measures that can help to lower potassium levels in the blood. The selected option, which includes the administration of calcium gluconate or insulin and glucose, is effective because it addresses both the immediate stabilization of cardiac membranes and the cellular shift of potassium. Calcium gluconate plays a critical role in stabilizing the heart muscle cells and preventing arrhythmias that can result from elevated potassium levels. When potassium is high, it can disrupt normal heart rhythms, and calcium helps to protect the cardiovascular system from these effects. Furthermore, the combination of insulin and glucose facilitates the movement of potassium from the bloodstream into the cells, thereby lowering serum potassium levels. Insulin promotes cellular uptake of potassium, and glucose is administered alongside to prevent hypoglycemia, which can occur due to the action of insulin. In contrast, while magnesium sulfate and diuretics can have roles in managing electrolyte imbalances, they do not specifically address hyperkalemia in the same immediate or direct way as calcium gluconate or insulin and glucose. Vitamin D does not have a direct effect on lowering potassium levels and is more involved in calcium metabolism. Understanding these mechanisms is crucial for the management of hyperkalemia and highlights the importance of the selected therapy in protecting

4. What role does magnesium play in the body?

- A. Important for digestion
- B. Important for muscle function, nerve transmission, and enzymatic reactions**
- C. Important for blood oxygenation
- D. Important for immune function

Magnesium plays a crucial role in several key physiological processes in the body, particularly in relation to muscle function, nerve transmission, and enzymatic reactions. Muscle function relies heavily on magnesium, as it assists in muscle contraction and relaxation. It acts as a natural calcium blocker to help muscles relax after contracting. This balance of magnesium and calcium is vital for maintaining muscle health and preventing cramping or spasms. In terms of nerve transmission, magnesium is essential for the proper functioning of synapses and aiding in the transmission of electrical signals between nerve cells. It helps regulate neurotransmitter release, ensuring that communication between the brain and the body is efficient. Additionally, magnesium serves as a cofactor in over 300 enzymatic reactions in the body. These enzymes are involved in various metabolic processes, including energy production, protein synthesis, and DNA synthesis. This extensive involvement in enzymatic reactions underscores magnesium's importance in overall metabolic health. The other options, while highlighting important aspects of human health, do not accurately reflect the most significant roles of magnesium. For instance, digestion, blood oxygenation, and immune function are more closely associated with other nutrients and elements in the body, such as fiber, iron, and vitamins, rather than magnesium specifically. Thus, the emphasis

5. What can lead to hypokalemia?

- A. Increased carbohydrate consumption
- B. Diuretic use or excessive vomiting**
- C. Increased physical activity
- D. Excessive fluid intake

Hypokalemia, a condition characterized by low potassium levels in the blood, can result from various factors, with one of the most common being the use of diuretics or excessive vomiting. Diuretics are medications that promote the excretion of water and salts from the body, which often leads to the loss of potassium as well. This is particularly true for certain types of diuretics known as loop and thiazide diuretics, which can actively lead to potassium depletion. Excessive vomiting can also contribute to hypokalemia because it results in the loss of not only fluids but also electrolytes, including potassium. The gastrointestinal losses through vomiting can create an imbalance, decreasing the potassium concentration in the body. Understanding these mechanisms is key for healthcare providers in monitoring patients for signs of hypokalemia, especially those on diuretics or with conditions that lead to vomiting. Careful assessment and management of potassium levels are essential in these scenarios to prevent complications associated with low potassium, such as muscle weakness, arrhythmias, and other cardiac issues.

6. What signifies mild hypocalcemia in a client?

- A. Seizures
- B. Hand spasms
- C. Severe muscle cramps
- D. Numbness around the mouth**

Mild hypocalcemia often manifests as neuromuscular symptoms due to the role of calcium in muscle contraction and nerve function. Numbness around the mouth is a specific and common manifestation associated with mild hypocalcemia. It can also be accompanied by tingling in the fingers and toes, which are indicative of altered neuromuscular function due to low calcium levels. Understanding the relationship between calcium levels and nerve/muscle excitability is crucial. When calcium levels drop, it can cause increased excitability of neurons, leading to sensations like numbness or tingling. This symptom typically occurs before more severe manifestations develop, making it a strong indicator of mild hypocalcemia. While hand spasms and severe muscle cramps are also associated with lower calcium levels, they tend to occur when hypocalcemia is more pronounced or severe. Seizures are a serious and acute symptom that can result from very low calcium levels or other significant underlying issues, and are not indicative of mild hypocalcemia. Thus, numbness around the mouth stands out as the primary sign of mild hypocalcemia.

7. Which part of the kidney produces the hormone bradykinin?

- A. Kidney tissues
- B. Kidney parenchyma
- C. Renin-producing granular cells
- D. Juxtaglomerular cells of the arterioles**

Bradykinin is a peptide that plays a key role in regulating blood pressure and is involved in various physiological processes, including inflammation. It is primarily produced in the tissues of the kidney, specifically in the endothelial cells of the renal vasculature. The juxtaglomerular cells, located in the arterioles, are involved in renin production, which is crucial for the regulation of blood pressure and fluid balance, but they are not typically the source of bradykinin itself. The correct choice highlights the juxtaglomerular cells' association with critical regulatory functions, though it's important to note that the actual bradykinin production occurs within the kidney tissue, particularly in the endothelial cells. Therefore, while the other options mention components closely involved in kidney function and hormones, the option selected points to a specific cellular location that plays a role in the broader context of renal hormone production and regulation.

8. What complication could be indicated by the presence of a U wave on the cardiac monitor for a client being treated for diabetic ketoacidosis?

- A. Hypokalemia**
- B. Hypoglycemia
- C. Hypernatremia
- D. Hypercalcemia

The presence of a U wave on the cardiac monitor is often associated with the condition of hypokalemia. In situations where potassium levels are low, the U wave may become more prominent on the electrocardiogram (ECG). This is due to the heart's electrical activity being affected by insufficient potassium, which plays a crucial role in the cardiac cycle, particularly in repolarization and the overall rhythm of the heart. In the context of diabetic ketoacidosis (DKA), patients may experience metabolic disturbances, including decreased potassium levels due to the movement of potassium into cells and renal losses. Monitoring for changes in the ECG, such as the appearance of U waves, can therefore be vital in patients undergoing treatment for DKA, as this can alert healthcare providers to potential electrolyte imbalances that require intervention. Understanding this correlation can help in the assessment of cardiac function and guide appropriate treatment measures to correct the underlying electrolyte disorder.

9. What is the purpose of sodium bicarbonate in treating metabolic acidosis?

- A. It promotes fluid retention in the kidneys
- B. It helps to neutralize acidity in the bloodstream**
- C. It increases sodium levels in the body
- D. It enhances oxygen delivery to tissues

Sodium bicarbonate serves a critical role in treating metabolic acidosis by helping to neutralize acidity in the bloodstream. In conditions characterized by metabolic acidosis, there is an excess of hydrogen ions (H⁺) in the body, which leads to a drop in blood pH, making the blood more acidic. Sodium bicarbonate, being a bicarbonate salt, acts as a buffer. When it is administered, it dissociates into sodium ions (Na⁺) and bicarbonate ions (HCO₃⁻). The bicarbonate ions can combine with excess hydrogen ions to form carbonic acid, which further dissociates into carbon dioxide and water. This reaction effectively reduces the concentration of hydrogen ions in the bloodstream, leading to an increase in pH and a reduction in overall acidity. Therefore, the primary purpose of sodium bicarbonate in this context is to correct the acid-base imbalance by increasing the bicarbonate level, which helps to restore normal blood pH levels. Understanding this mechanism is crucial for effectively managing patients with metabolic acidosis and can significantly impact their overall treatment outcomes.

10. What symptom indicates the fulminant stage of inhalation anthrax?

- A. Fever
- B. Dry cough
- C. Mediastinitis**
- D. Mild chest pain

The fulminant stage of inhalation anthrax is characterized by severe and acute symptoms due to the rapid progression of the infection. Mediastinitis, which is inflammation of the mediastinum, occurs as a direct consequence of the severe spread of the infection. In inhalation anthrax, bacteria can proliferate quickly and produce toxins that lead to a dramatic inflammatory response. This can result in significant thoracic complications, including mediastinitis, which is a critical condition signaling the severity of the infection. In contrast, while fever, dry cough, and mild chest pain can appear in earlier stages of inhalation anthrax, they do not indicate the fulminant stage in the same way that mediastinitis does. The presence of mediastinitis often suggests that the infection has progressed to a more severe crisis point where comprehensive medical intervention is necessary. Therefore, the indication of mediastinitis is a key symptom that points towards the critical nature of the illness at this stage.

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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!

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