

BONENT Certified Hemodialysis Technologist/Technician (CHT) 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. What is the objective of disinfection in sanitizing medical equipment?**
 - A. To completely eliminate all pathogens**
 - B. To reduce the number of microorganisms**
 - C. To neutralize chemical hazards**
 - D. To prevent rust formation**

- 2. What is one of the endocrine functions of the kidney?**
 - A. Production of insulin**
 - B. Making erythropoietin**
 - C. Filtering toxins**
 - D. Regulating blood pH**

- 3. What does 'first use syndrome' in dialysis refer to?**
 - A. A reaction that can occur within 15-30 minutes of using a new dialyzer**
 - B. A prolonged dialysis session**
 - C. A decrease in blood pressure**
 - D. An increase in urine output**

- 4. What is the flow rate of an RO system with a direct feed?**
 - A. 1.0 feet per second**
 - B. 1.5 feet per second**
 - C. 2.5 feet per second**
 - D. 3.0 feet per second**

- 5. What is the designation of the second carbon tank in a two-tank filtration system?**
 - A. Cleaner**
 - B. Polisher**
 - C. Finisher**
 - D. Refiner**

6. What is the normal range for phosphorus levels in mg/dl?

- A. 2.5-4.5
- B. 3.0-4.0
- C. 3.5-5.5
- D. 4.0-6.0

7. In what year was the first internal arteriovenous (AV) fistula invented?

- A. 1962
- B. 1966
- C. 1970
- D. 1975

8. A blockage in which anatomical structure can cause postrenal failure?

- A. Urethra
- B. Ureter
- C. Renal artery
- D. Glomerulus

9. What is the normal range for resting respiration rate in adults?

- A. 8-16 breaths/min
- B. 10-18 breaths/min
- C. 12-20 breaths/min
- D. 14-22 breaths/min

10. Hypocalcemia is characterized by what primary deficiency?

- A. Low calcium
- B. Low potassium
- C. High sodium
- D. Low magnesium

Answers

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

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Explanations

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1. What is the objective of disinfection in sanitizing medical equipment?

- A. To completely eliminate all pathogens**
- B. To reduce the number of microorganisms**
- C. To neutralize chemical hazards**
- D. To prevent rust formation**

The objective of disinfection in sanitizing medical equipment is primarily to reduce the number of microorganisms to a level that is considered safe for handling and use. Disinfection involves applying chemical agents to surfaces and materials to kill or significantly reduce harmful microorganisms, thereby preventing the transmission of infections. While complete elimination of all pathogens is an ideal scenario, disinfection typically focuses on eliminating a significant portion of the microbial load as a practical approach. This is especially vital in medical settings, where maintaining a sterile environment is essential, but complete sterility may not always be achievable or necessary for all surfaces and tools used. Neutralizing chemical hazards, while important, does not directly pertain to the primary purpose of disinfection. Preventing rust formation is a separate concern related to the maintenance of the equipment rather than the sanitizing process itself. Thus, reducing the number of harmful microorganisms is the key focus of disinfection in medical settings.

2. What is one of the endocrine functions of the kidney?

- A. Production of insulin**
- B. Making erythropoietin**
- C. Filtering toxins**
- D. Regulating blood pH**

The kidney plays a significant role in the endocrine system by producing several important hormones, one of which is erythropoietin. Erythropoietin is a hormone that stimulates the production of red blood cells in the bone marrow in response to low oxygen levels in the blood. This function is essential for maintaining adequate oxygen transport throughout the body and supports overall hematologic health. While the kidneys are involved in filtering toxins and regulating blood pH, these functions are more associated with their role in excretion and homeostasis rather than endocrine activity. The production of insulin is solely the function of the pancreas and does not involve the kidneys. Therefore, the role of the kidneys in the production of erythropoietin highlights its critical endocrine function.

3. What does 'first use syndrome' in dialysis refer to?

A. A reaction that can occur within 15-30 minutes of using a new dialyzer

B. A prolonged dialysis session

C. A decrease in blood pressure

D. An increase in urine output

'First use syndrome' in dialysis specifically refers to a reaction that can occur shortly after the initiation of treatment with a new dialyzer. This phenomenon is typically observed within the first 15-30 minutes of using a dialyzer that has not been previously used. The reaction can manifest as various symptoms, including fever, chills, and hypotension, due to the release of substances from the dialyzer or interactions with the patient's blood. It is important for healthcare professionals to be aware of this syndrome to monitor patients closely during their first treatment with a new dialyzer to promptly identify and manage any adverse reactions that may occur.

4. What is the flow rate of an RO system with a direct feed?

A. 1.0 feet per second

B. 1.5 feet per second

C. 2.5 feet per second

D. 3.0 feet per second

In a reverse osmosis (RO) system with a direct feed, the flow rate is an important parameter that affects the system's efficiency and the quality of the output water. A flow rate of 1.5 feet per second is typically optimal for ensuring sufficient feed water circulation, allowing the RO membrane to operate effectively and maintain its filtration performance. At this flow rate, the system can promote adequate turbulence, which helps to minimize fouling on the membrane surface and enhances the mixing of the feed water. This leads to better permeate production and helps in achieving the desired quality of water for hemodialysis. It also contributes to maintaining appropriate pressure, allowing for the effective separation of impurities from the water. Other potential flow rates, such as 1.0, 2.5, or 3.0 feet per second, might not align with typical operational standards for most RO systems used in healthcare settings, which prioritize both safety and efficacy in water purification.

5. What is the designation of the second carbon tank in a two-tank filtration system?

- A. Cleaner**
- B. Polisher**
- C. Finisher**
- D. Refiner**

The designation of the second carbon tank in a two-tank filtration system is known as the "Polisher." In hemodialysis, a two-tank system often utilizes the first carbon tank to remove larger contaminants and impurities from the water supply. The second tank, referred to as the polisher, serves to further refine and enhance the purity of the water. This step is crucial because the water quality directly impacts patients' safety and the overall effectiveness of the dialysis process. By using a polisher, additional treatment occurs to ensure that any remaining contaminants are minimized, allowing for the production of high-quality water that meets strict standards for use in dialysis. Therefore, the polisher plays a vital role in ensuring the water is sufficiently treated before it is used in the dialysis machines.

6. What is the normal range for phosphorus levels in mg/dl?

- A. 2.5-4.5**
- B. 3.0-4.0**
- C. 3.5-5.5**
- D. 4.0-6.0**

The normal range for phosphorus levels in the blood is crucial for maintaining various physiological functions, including bone health and energy metabolism. The correct range is typically identified as 2.5 to 4.5 mg/dl. This range is important for monitoring patients, especially those undergoing dialysis, as they may experience altered phosphorus levels. Typically, elevated phosphorus levels (hyperphosphatemia) can lead to complications such as cardiovascular disease and bone disorders in patients with chronic kidney disease. The choice indicating a range of 3.5 to 5.5 mg/dl is misleading because it includes values above the standard upper limit, which can suggest pathological conditions rather than normal physiological states. Confusion may arise from varying reference ranges used in different laboratories, but clinical standards widely accepted focus on the 2.5 to 4.5 mg/dl range for healthy individuals, making it the correct answer to this question.

7. In what year was the first internal arteriovenous (AV) fistula invented?

- A. 1962**
- B. 1966**
- C. 1970**
- D. 1975**

The invention of the first internal arteriovenous (AV) fistula in 1966 marked a significant advancement in the field of hemodialysis. This procedure, developed by Dr. Basil P. K. Hirsch, created a reliable and efficient means to access the bloodstream for dialysis treatments by surgically connecting an artery to a vein. The internal AV fistula became the preferred method for vascular access due to its durability, lower risk of infection, and better long-term outcomes compared to other access methods, such as external catheters. Understanding the timeline is essential as this innovation laid the groundwork for advancements in dialysis techniques and has significantly influenced patient care for those with kidney failure.

8. A blockage in which anatomical structure can cause postrenal failure?

- A. Urethra**
- B. Ureter**
- C. Renal artery**
- D. Glomerulus**

A blockage in the ureter can indeed lead to postrenal failure. This is because the ureters are the tubes that transport urine from the kidneys to the bladder. If there is a blockage in one or both ureters, urine cannot flow freely from the kidneys, leading to increased pressure and potential damage to the renal tissue. This impaired drainage can cause hydronephrosis or swelling of the kidneys due to the buildup of urine, which ultimately affects kidney function and may lead to postrenal acute kidney injury. Understanding the importance of the ureters in urinary function clarifies their role in maintaining kidney health. Any obstruction can disrupt the normal flow of urine, creating conditions that are detrimental to the functioning of the kidneys and leading to postrenal failure.

9. What is the normal range for resting respiration rate in adults?

- A. 8-16 breaths/min**
- B. 10-18 breaths/min**
- C. 12-20 breaths/min**
- D. 14-22 breaths/min**

The normal range for a resting respiration rate in adults is typically identified as 12-20 breaths per minute. This range is widely accepted in the medical community and indicates a healthy level of respiratory function during periods of rest. It represents the number of times a person breathes in a minute while at rest, which is a vital indicator of overall cardiovascular and respiratory health. Rates below or above this range can hint at various medical conditions; for instance, a lower respiration rate may be indicative of bradycardia or certain respiratory issues, while a higher rate could signal stress, anxiety, or respiratory distress. Knowledge of the normal range is essential for health care providers to assess and monitor patients effectively, ensuring prompt intervention if a patient's respiratory rate deviates from this standard.

10. Hypocalcemia is characterized by what primary deficiency?

- A. Low calcium**
- B. Low potassium**
- C. High sodium**
- D. Low magnesium**

Hypocalcemia is characterized primarily by a deficiency of calcium in the bloodstream. This condition implies that the levels of calcium are lower than normal, which can lead to various clinical manifestations, including muscle cramps, spasms, and neurological symptoms due to its critical role in muscle contraction, nerve signaling, and blood coagulation. Calcium is essential for maintaining various physiological processes, and when its levels drop, the body struggles to function optimally. Therefore, recognizing hypocalcemia necessitates understanding that the primary issue is the low availability of calcium itself. In contrast, while other electrolytes such as potassium, sodium, and magnesium play vital roles in bodily functions, they are not the direct factors leading to the condition known as hypocalcemia. Thus, the designation of low calcium as the primary deficiency succinctly captures the essence of this condition.

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://bonentcht.examzify.com>

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

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