

HESI Gerontology - Age-Related Risks Case Study Practice Test (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. The patient with pernicious anemia is expected to need this treatment for the rest of life. Which is it?**
 - A. Iron supplements**
 - B. Vitamin B-12 injections**
 - C. Vitamin C supplements**
 - D. Folic acid tablets**

- 2. A urine culture shows greater than 100,000 CFU/mL of Escherichia coli. This finding most strongly supports which diagnosis?**
 - A. Urinary tract infection**
 - B. Contamination of the specimen**
 - C. A noninfectious bladder disorder**
 - D. A kidney stone**

- 3. Which statement is NOT a discharge instruction for Mr. Rogers?**
 - A. Self-administration of insulin**
 - B. Frequent blood glucose checks**
 - C. Well-balanced meals**
 - D. Avoiding insulin use**

- 4. Pernicious anemia is often caused by a lack of intrinsic factor. The resulting vitamin deficiency is which?**
 - A. Vitamin C**
 - B. Vitamin B-12**
 - C. Folate**
 - D. Iron**

- 5. If adverse effects occur with gabapentin, what should the patient do?**
 - A. Report them to the nurse.**
 - B. Ignore unless symptoms worsen.**
 - C. Stop taking the medication immediately without consultation.**
 - D. Take more than prescribed to relieve symptoms.**

- 6. In addition to the insulin infusion, which immediate measure is indicated in the treatment of Mr. Rogers?**
- A. Potassium supplements**
 - B. Sodium bicarbonate**
 - C. 0.9% normal saline**
 - D. Glucose infusion**
- 7. Which physiological age-related change is most responsible for dehydration in older adults?**
- A. Taste buds are more sensitive, leading to decreased desire for liquids.**
 - B. Thirst decreases, contributing to less fluid intake.**
 - C. Increased glomerular filtration rate.**
 - D. Constriction of the esophagus prevents fluid metabolism.**
- 8. In dehydration, which laboratory change is most likely?**
- A. Elevated BUN**
 - B. Decreased BUN**
 - C. Decreased serum osmolality**
 - D. Decreased urine specific gravity**
- 9. Which electrolyte abnormality is anticipated after starting insulin infusion in this hyperglycemic patient?**
- A. Hyperkalemia**
 - B. Hypokalemia**
 - C. Hypercalcemia**
 - D. Hyponatremia**
- 10. Which treatment is anticipated for pernicious anemia?**
- A. Oral iron supplements**
 - B. Increase in vitamin C in the diet**
 - C. Intramuscular injection of vitamin B-12**
 - D. Folic acid supplements**

Answers

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

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Explanations

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1. The patient with pernicious anemia is expected to need this treatment for the rest of life. Which is it?

- A. Iron supplements**
- B. Vitamin B-12 injections**
- C. Vitamin C supplements**
- D. Folic acid tablets**

Pernicious anemia is a deficiency of vitamin B12 due to loss of intrinsic factor, which is needed for B12 absorption in the small intestine. Because intrinsic factor is absent, B12 cannot be reliably absorbed from the gut, so replacement must bypass the gut—typically with vitamin B12 injections delivered on a lifelong schedule. This ensures ongoing B12 availability to support red blood cell production and nerve health. Iron supplements would not fix B12 deficiency, since the problem isn't iron. Vitamin C helps with iron absorption but won't treat B12 deficiency either. Folic acid can improve the blood count temporarily, but it does not address the underlying B12 deficiency and can mask neurologic damage from B12 deficiency if given long-term. Therefore, regular vitamin B12 injections for life are the appropriate treatment.

2. A urine culture shows greater than 100,000 CFU/mL of Escherichia coli. This finding most strongly supports which diagnosis?

- A. Urinary tract infection**
- B. Contamination of the specimen**
- C. A noninfectious bladder disorder**
- D. A kidney stone**

A high level of bacteria in the urine coming from a clean specimen, especially when a single organism like Escherichia coli is predominant, strongly points to an infection of the urinary tract. The threshold of 10^5 colony-forming units per milliliter is a conventional sign of significant bacteriuria, meaning the bacteria are actively growing in the urinary tract rather than merely being introduced by the collection process. Escherichia coli is the most common culprit in UTIs, so its predominance in the culture reinforces this interpretation. A noninfectious bladder disorder would not produce such a significant bacteriuria. While a kidney stone can be associated with UTIs, the culture result alone does not indicate a stone. Thus, the finding most strongly supports a urinary tract infection.

3. Which statement is NOT a discharge instruction for Mr. Rogers?

- A. Self-administration of insulin**
- B. Frequent blood glucose checks**
- C. Well-balanced meals**
- D. Avoiding insulin use**

Managing diabetes after discharge centers on keeping blood glucose in a safe range through home insulin use and careful monitoring. Self-administration of insulin is essential because it allows the prescribed therapy to continue outside the hospital, maintaining control of glucose levels. Regular or frequent blood glucose checks are important to detect when levels are trending high or low, so doses can be adjusted promptly and safely. A well-balanced meal plan supports steady glucose by providing consistent carbohydrate intake, reducing large swings after meals and helping insulin work effectively. The statement about avoiding insulin use would not be part of discharge instructions because skipping or stopping insulin, if it's needed, would lead to uncontrolled hyperglycemia and increased risk of complications. If concerns arise, the discharge plan would emphasize how to take insulin correctly, monitor glucose, recognize signs of hypo- or hyperglycemia, and know when to contact a healthcare provider.

4. Pernicious anemia is often caused by a lack of intrinsic factor. The resulting vitamin deficiency is which?

- A. Vitamin C**
- B. Vitamin B-12**
- C. Folate**
- D. Iron**

Intrinsic factor is needed to absorb vitamin B12 in the small intestine. When intrinsic factor is lacking, vitamin B12 isn't absorbed well, leading to a deficiency that causes pernicious anemia. Vitamin B12 is essential for proper DNA synthesis in red blood cell precursors and for maintaining myelin in nerves; without it, red blood cells become large and abnormal (macrocytic) and hematopoiesis falters. Folate deficiency can also cause macrocytic anemia, but pernicious anemia specifically involves a deficiency of vitamin B12 due to lack of intrinsic factor, not a lack of folate. Vitamin C deficiency causes scurvy, and iron deficiency causes microcytic anemia, so the vitamin involved here is vitamin B12.

5. If adverse effects occur with gabapentin, what should the patient do?

- A. Report them to the nurse.**
- B. Ignore unless symptoms worsen.**
- C. Stop taking the medication immediately without consultation.**
- D. Take more than prescribed to relieve symptoms.**

When adverse effects occur with gabapentin, it's important to report them to the nurse so they can assess how serious they are and guide safe next steps. Gabapentin can cause dizziness, drowsiness, unsteadiness, edema, or mood changes, and older adults may be especially sensitive to these effects, increasing fall risk or indicating a need to adjust the dose or review other medications. The nurse can evaluate the symptoms, check renal function and current medications, and decide whether to modify the dose, pause treatment, or discontinue with medical guidance. Stopping suddenly or increasing the dose without supervision can be unsafe, so prompt reporting is the safest course.

6. In addition to the insulin infusion, which immediate measure is indicated in the treatment of Mr. Rogers?

- A. Potassium supplements**
- B. Sodium bicarbonate**
- C. 0.9% normal saline**
- D. Glucose infusion**

Potassium supplementation is needed because starting insulin therapy shifts potassium from the bloodstream into cells, which can cause a rapid drop in serum potassium. In conditions like diabetic ketoacidosis, total body potassium is already depleted from osmotic diuresis and acidosis, even if initial potassium looks normal or high. As insulin is infused, potassium moves intracellularly and ongoing losses continue, creating a real risk of dangerous hypokalemia and arrhythmias unless potassium is replenished promptly. Replacing potassium now helps keep serum potassium in a safe range while insulin does its work, with careful ongoing monitoring to adjust the dose. Other steps—such as bicarbonate for acidosis, normal saline for fluids, or adding glucose later to prevent hypoglycemia—don't address the immediate shift of potassium that occurs with insulin therapy.

7. Which physiological age-related change is most responsible for dehydration in older adults?
- A. Taste buds are more sensitive, leading to decreased desire for liquids.
 - B. Thirst decreases, contributing to less fluid intake.**
 - C. Increased glomerular filtration rate.
 - D. Constriction of the esophagus prevents fluid metabolism.

The main concept here is that the thirst drive declines with age, so older adults often don't feel thirsty even when their body needs fluids. The thirst mechanism, governed by the hypothalamus and osmoreceptors, becomes less responsive as people get older. This blunted signal leads to reduced fluid intake, which is a major driver of dehydration in the elderly. Other options don't fit this pattern. Taste changes in aging don't typically increase the desire for liquids; in fact, taste perception can diminish, which doesn't explain dehydration. Glomerular filtration rate generally decreases with age, not increases, so it wouldn't account for dehydration by a higher filtration alone. Esophageal constriction isn't a typical, widespread cause of dehydration from aging and isn't about the body's drive to drink. Focus on the reduced thirst sensation as the key factor explains why dehydration is common, even with available fluids.

8. In dehydration, which laboratory change is most likely?
- A. Elevated BUN**
 - B. Decreased BUN
 - C. Decreased serum osmolality
 - D. Decreased urine specific gravity

Dehydration lowers circulating blood volume, so the kidneys receive less blood flow and try to conserve water. That reduced perfusion causes urea to be reabsorbed more in the tubules, which raises the BUN level. At the same time, the blood becomes more concentrated, so serum osmolality increases and the urine becomes more concentrated as well (urine specific gravity goes up). This combination makes an elevated BUN the most likely lab change in dehydration. In contrast, a decrease in BUN would suggest overhydration or other conditions, a decrease in serum osmolality points to dilution from excess fluids, and a decrease in urine specific gravity would indicate dilute urine—not dehydration. Remember, the BUN/creatinine ratio often rises in dehydration (prerenal azotemia), highlighting the volume-status effect on kidney function.

9. Which electrolyte abnormality is anticipated after starting insulin infusion in this hyperglycemic patient?

- A. Hyperkalemia**
- B. Hypokalemia**
- C. Hypercalcemia**
- D. Hyponatremia**

Insulin infusion in a hyperglycemic patient pushes potassium from the blood into body cells, increasing the activity of the Na⁺/K⁺-ATPase pump. This causes a drop in extracellular (serum) potassium, making hypokalemia the expected electrolyte change after starting insulin. Even though total body potassium is often depleted from diuresis and lack of insulin, the immediate effect of insulin is to shift potassium into cells, which can unmask or worsen low potassium if not monitored and replaced as needed. Hyperkalemia is unlikely once insulin is started because the hormone promotes potassium entry into cells. Hypercalcemia isn't a direct consequence of insulin therapy in this scenario, and hyponatremia may be present with hyperglycemia itself but isn't the rapid shift caused by insulin infusion.

10. Which treatment is anticipated for pernicious anemia?

- A. Oral iron supplements**
- B. Increase in vitamin C in the diet**
- C. Intramuscular injection of vitamin B-12**
- D. Folic acid supplements**

Pernicious anemia happens when there isn't enough vitamin B12 because intrinsic factor, needed for gut absorption, is missing. Since the body can't absorb B12 through the intestines, the treatment must bypass the digestive tract and replace the vitamin directly, usually with intramuscular injections of vitamin B12. This approach restores B12 levels and corrects the anemia. Other options don't address the underlying issue: iron supplements target iron-deficiency anemia, vitamin C won't fix B12 absorption, and folic acid can help with red cell production but does not treat B12 deficiency and can mask or complicate neurological damage if B12 is still deficient. So, delivering B12 by injection is the appropriate therapy.

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://hesigerontologyagerelriskscasestudy.examzify.com>

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

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