

# Mark Klimek Electrolytes and Endocrine 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. PTU (propylthiouracil) primarily does what to the thyroid?**
  - A. Puts thyroid under**
  - B. Stimulates thyroid hormone production**
  - C. Increases iodine uptake by the thyroid**
  - D. Causes permanent hypothyroidism**
  
- 2. What is the maximum potassium dose per IV administration?**
  - A. 10 mEq**
  - B. 20 mEq**
  - C. 40 mEq**
  - D. 60 mEq**
  
- 3. What is the normal range for serum sodium (Na+)?**
  - A. 120-130**
  - B. 135-145**
  - C. 140-150**
  - D. 125-135**
  
- 4. SIADH is caused by:**
  - A. An increase in ADH**
  - B. A decrease in ADH**
  - C. An increase in aldosterone**
  - D. A decrease in cortisol**
  
- 5. According to the provided material, SIADH is associated with which fluid status?**
  - A. Hypovolemia**
  - B. Euvolemia**
  - C. Fluid Overload**
  - D. Dehydration**
  
- 6. Hypermagnesemia s/s pattern?**
  - A. Everything high**
  - B. Everything low (sedative-like)**
  - C. Increased reflexes**
  - D. Seizures**

- 7. In patients with hypothyroidism undergoing surgery, what is the correct perioperative management?**
- A. Hold thyroid hormone preoperatively**
  - B. Do not hold thyroid hormone preoperatively unless instructed**
  - C. Start prednisone preoperatively**
  - D. Begin insulin therapy preoperatively**
- 8. Diabetes insipidus means there is a fluid:**
- A. Deficit**
  - B. Surplus**
  - C. Balance**
  - D. Redistribution**
- 9. What is the earliest sign of an electrolyte disorder?**
- A. Paresthesia**
  - B. Seizures**
  - C. Confusion**
  - D. Coma**
- 10. Which sign is associated with hypernatremia?**
- A. Poor skin turgor**
  - B. Jaundice**
  - C. Bradycardia**
  - D. Cold extremities**

## Answers

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

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## **Explanations**

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**1. PTU (propylthiouracil) primarily does what to the thyroid?**

- A. Puts thyroid under**
- B. Stimulates thyroid hormone production**
- C. Increases iodine uptake by the thyroid**
- D. Causes permanent hypothyroidism**

Propylthiouracil works by suppressing thyroid hormone synthesis. It inhibits the thyroid peroxidase enzyme, which is necessary for converting iodide into iodine and attaching it to tyrosine residues, and for coupling these iodotyrosines to form T3 and T4. With these steps blocked, the gland's production of thyroid hormones falls, effectively reducing thyroid activity. It does not stimulate hormone production, it does not increase iodine uptake, and the hypothyroidism it can cause (if overdose) is not typically permanent.

**2. What is the maximum potassium dose per IV administration?**

- A. 10 mEq**
- B. 20 mEq**
- C. 40 mEq**
- D. 60 mEq**

Potassium given IV must be limited and delivered slowly to prevent a rapid rise in serum potassium that can trigger dangerous heart rhythms. The highest total amount commonly used in a single IV administration is forty mEq. Infusing more than this in one dose increases the risk of hyperkalemia and cardiac arrest, especially if the infusion is not carefully monitored. In practice, potassium is usually given diluted and infused at a controlled rate (often capped at about ten mEq per hour through a peripheral line), and if larger replacement is needed, it's split into multiple doses or infusions with ongoing monitoring. Smaller single doses are sometimes used as part of gradual correction, but they do not represent the maximum safe single-dose limit. A dose of sixty mEq in one go would exceed safe practice and raise the risk of life-threatening complications.

**3. What is the normal range for serum sodium (Na<sup>+</sup>)?**

- A. 120-130**
- B. 135-145**
- C. 140-150**
- D. 125-135**

Sodium is the main extracellular cation that helps set serum osmolality and balance fluid between compartments. The normal reference range is about 135 to 145 mEq/L. Values within this window indicate euvoolemia and proper tonicity. If sodium falls below 135, you're dealing with hyponatremia, which can lead to cerebral edema if significant or rapid. If it rises above 145, you're in hypernatremia territory, which can cause dehydration and increased serum osmolality. So the range 135-145 is the standard normal range to memorize.

**4. SIADH is caused by:**

- A. An increase in ADH**
- B. A decrease in ADH**
- C. An increase in aldosterone**
- D. A decrease in cortisol**

SIADH occurs when there is excess ADH, which causes water retention and dilution of serum sodium. ADH acts on the kidney's collecting ducts to insert aquaporin-2 channels, increasing water reabsorption. When ADH is inappropriately high, more water is reabsorbed than solutes, leading to hyponatremia with a low serum osmolality, while the person often remains euvolemic. The urine is inappropriately concentrated (high urine osmolality) and contains higher sodium, reflecting continued water reabsorption despite low serum osmolality. Because the driving problem is too much ADH, the correct explanation is an increase in ADH. Decreased ADH would cause diabetes insipidus with dilute urine and hypernatremia. An increase in aldosterone would tend to retain sodium and water differently and is not the primary driver of the hyponatremia seen in SIADH. Decreased cortisol can contribute to hyponatremia via ADH pathways, but SIADH is defined by an excess of ADH, making the rise in ADH the defining feature.

**5. According to the provided material, SIADH is associated with which fluid status?**

- A. Hypovolemia**
- B. Euvolemia**
- C. Fluid Overload**
- D. Dehydration**

Excess ADH in SIADH causes the kidneys to reabsorb water, diluting the blood and producing hyponatremia with low serum osmolality. However, the body's effective circulating volume stays normal, so the patient appears euvolemic—not dehydrated and not fluid overloaded. Clinically that means no signs of volume depletion (no dehydration) and typically no edema (no overt fluid overload). Lab clues support this: low serum osmolality with inappropriately concentrated urine and high urine sodium, all in the setting of preserved volume status.

**6. Hypermagnesemia s/s pattern?**

- A. Everything high**
- B. Everything low (sedative-like)**
- C. Increased reflexes**
- D. Seizures**

Elevated magnesium dampens neuromuscular and CNS activity, producing a sedative-like state. As magnesium rises, reflexes decrease and the patient becomes more lethargic, with possible bradycardia, hypotension, and even respiratory depression at higher levels. Seizures and hyperreflexia are more typical of low magnesium, not high. So the pattern you'd expect with hypermagnesemia is everything "low"—decreased reflexes and CNS/respiratory depression.

**7. In patients with hypothyroidism undergoing surgery, what is the correct perioperative management?**

- A. Hold thyroid hormone preoperatively**
- B. Do not hold thyroid hormone preoperatively unless instructed**
- C. Start prednisone preoperatively**
- D. Begin insulin therapy preoperatively**

Continuing thyroid hormone replacement during the perioperative period is essential. Surgery is a physiological stress that increases metabolic demands, and stopping thyroid hormone can push a patient with hypothyroidism toward worsening hypothyroidism or even myxedema coma, with risks like cardiovascular instability, hypothermia, and delayed recovery. Therefore, thyroid hormone therapy should not be held preoperatively unless the surgical team directs otherwise. If the patient cannot take pills due to NPO status, coordinate with anesthesia and endocrinology for a safe alternative (such as IV dosing) and resume oral therapy as soon as possible after surgery. The other measures described aren't indicated for hypothyroidism in this context and address unrelated conditions.

**8. Diabetes insipidus means there is a fluid:**

- A. Deficit**
- B. Surplus**
- C. Balance**
- D. Redistribution**

Diabetes insipidus causes a loss of free water, leading to a deficit of body fluid. In DI, the kidneys can't concentrate urine because there isn't enough antidiuretic hormone activity (central DI) or the kidneys don't respond to it (nephrogenic DI). The result is large volumes of dilute urine and ongoing water loss, which reduces total body water relative to needs. A surplus would mean there's too much fluid, balance implies perfect fluid homeostasis, and redistribution would mean water shifting between compartments without an overall loss—none of which describe DI. So the fluid status described is a deficit.

**9. What is the earliest sign of an electrolyte disorder?**

- A. Paresthesia**
- B. Seizures**
- C. Confusion**
- D. Coma**

The first thing an electrolyte disturbance tends to affect is nerve and muscle excitability. Small shifts in circulating ions quickly alter the threshold for action potentials, so sensory nerves commonly show changes early. Paresthesias—tingling or numbness, often around the mouth and in the fingers—reflect this initial hyperexcitability. As the imbalance becomes more pronounced, more serious CNS symptoms can appear, such as confusion, seizures, and eventually coma. So recognizing tingling or numbness as an early neuromuscular sign helps identify an electrolyte problem before progression to more severe manifestations.

**10. Which sign is associated with hypernatremia?**

**A. Poor skin turgor**

**B. Jaundice**

**C. Bradycardia**

**D. Cold extremities**

Hypernatremia reflects a water deficit relative to sodium, so cells become dehydrated and the body shows signs of overall dehydration. Poor skin turgor is a direct clue to dehydration and fits with hypernatremia, making it the best sign among the options. Jaundice points to liver or biliary issues and not to sodium balance. Bradycardia is not typical in dehydration from hypernatremia (tachycardia is more common as a compensatory response to volume loss). Cold extremities are nonspecific and relate more to perfusion status than to hypernatremia itself.

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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](mailto:hello@examzify.com).**

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

**<https://klimekelectrolytesendocrine.examzify.com>**

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

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