

# Emergency Medicine Exam 1 Practice (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 nerve that provides sensation to the chin and lower lip and is targeted for mental area anesthesia is which?**
  - A. Infraorbital**
  - B. Supratrochlear**
  - C. Supraorbital**
  - D. Mental**
  
- 2. What is the most common causative agent of infection with puncture wounds?**
  - A. Pseudomonas aeruginosa**
  - B. Staphylococcus aureus**
  - C. Escherichia coli**
  - D. Streptococcus pyogenes**
  
- 3. A positive straight leg raise test most commonly suggests herniation at which disc levels?**
  - A. L5 or S1**
  - B. L4-L5**
  - C. L2-L3**
  - D. T12-L1**
  
- 4. Which management step is central to treating trench foot and chilblains?**
  - A. Elevation, warming and bandaging**
  - B. Cold immersion**
  - C. Oral antibiotics**
  - D. Pressure therapy**
  
- 5. Chilblains are characterized by edema, erythema and cyanosis appearing up to how many hours after exposure?**
  - A. Up to 24 hours**
  - B. Immediately after exposure**
  - C. More than 24 hours**
  - D. Up to 12 hours**

- 6. Which shift on the oxygen affinity curve increases the affinity for O<sub>2</sub>?**
- A. Right**
  - B. Left**
  - C. No shift**
  - D. Inverse shift**
- 7. This opioid can be given via IV, IM, PO, SQ and has a 1-3 min onset that lasts for 4-6 hours; it is metabolized in the liver and excreted renally.**
- A. Morphine sulfate**
  - B. Fentanyl**
  - C. Meperidine**
  - D. Hydromorphone**
- 8. What is the treatment for pre-renal renal failure?**
- A. High-dose diuretics**
  - B. IV contrast administration**
  - C. Restore volume and function (fluids and foley)**
  - D. Renal replacement therapy**
- 9. In DKA, how is potassium status typically described?**
- A. Hyperkalemia is expected; if low or normal, there is a risk of profound hypokalemia**
  - B. Hypokalemia is always present and cannot change**
  - C. Potassium is not affected by DKA**
  - D. Potassium should be ignored during initial management**
- 10. In suspected penile fracture, which diagnostic study should be ordered to evaluate urethral injury?**
- A. Penile Duplex Ultrasound**
  - B. Retrograde Urethrogram**
  - C. Pelvic X-Ray**
  - D. CT Abdomen**

## **Answers**

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

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## **Explanations**

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**1. The nerve that provides sensation to the chin and lower lip and is targeted for mental area anesthesia is which?**

- A. Infraorbital**
- B. Supratrochlear**
- C. Supraorbital**
- D. Mental**

The main idea is the distribution of facial sensory nerves. The mental nerve, a terminal branch of the inferior alveolar nerve from the mandibular division of the trigeminal nerve, provides sensation to the chin and lower lip. It exits at the mental foramen near the premolars, so targeted anesthesia for the mental region is achieved by blocking this nerve. That's why this option is best: it directly matches the sensory area being anesthetized. The other nerves supply different regions—infraorbital covers the midface (lower eyelid, side of the nose, upper lip), while supratrochlear and supraorbital are branches of the ophthalmic division supplying the forehead and scalp.

**2. What is the most common causative agent of infection with puncture wounds?**

- A. Pseudomonas aeruginosa**
- B. Staphylococcus aureus**
- C. Escherichia coli**
- D. Streptococcus pyogenes**

Staphylococcus aureus is the usual culprit in wound infections because it is the most common skin flora that breaches the barrier and invades soft tissues. Puncture wounds allow skin flora to seed the wound, and S. aureus readily causes purulent infections and cellulitis in these scenarios. While Pseudomonas is classically taught as a concern for puncture wounds through footwear or contaminated environments, it is not the most common organism overall. E. coli and Streptococcus pyogenes cause wound infections less frequently in this setting. Therefore, Staphylococcus aureus is the best answer. In practice, empiric therapy should cover Staph species (including MRSA where prevalence is high).

**3. A positive straight leg raise test most commonly suggests herniation at which disc levels?**

- A. L5 or S1**
- B. L4-L5**
- C. L2-L3**
- D. T12-L1**

The straight leg raise tests tension on the lumbosacral nerve roots as the leg is elevated, so a radicular pain pattern is reproduced when a disc herniation is compressing a nerve root. Among lumbar levels, herniation most commonly affects the L5-S1 space, irritating the S1 nerve root. This yields the classic radicular pain down the posterior leg into the heel or sole, which is why a positive straight leg raise most often points to a herniation at L5-S1. Herniations at higher levels are less common and produce different distributions, making them less likely to be the source when the test is positive.

4. Which management step is central to treating trench foot and chilblains?

- A. Elevation, warming and bandaging**
- B. Cold immersion
- C. Oral antibiotics
- D. Pressure therapy

Prolonged cold exposure causes trench foot and chilblains through vasoconstriction, tissue hypoxia, and edema, so the central management is to restore perfusion safely while protecting the skin. Elevating the affected limbs reduces venous congestion and edema, alleviating pain and helping return blood flow. Warming should be gradual and in a dry, warm environment using ambient heat or warm (not hot) water to avoid burns or further tissue injury. Protective bandaging helps keep the skin intact, prevents secondary infection, and maintains a barrier against further cold exposure. Cold immersion would worsen the injury by exposing tissue to more cold and delaying proper rewarming. Oral antibiotics are not routinely needed unless there is an evident infection, and pressure therapy is not a standard treatment for these conditions.

5. Chilblains are characterized by edema, erythema and cyanosis appearing up to how many hours after exposure?

- A. Up to 24 hours
- B. Immediately after exposure
- C. More than 24 hours
- D. Up to 12 hours**

Chilblains occur after exposure to nonfreezing cold and stem from a vasospastic reaction in the small cutaneous vessels, followed by leakage and inflammation as blood flow returns during rewarming. The timing is key: these color and swelling changes typically develop within hours after leaving the cold, most commonly within about twelve hours. They are not immediate injuries from freezing, and they usually don't take more than a day to appear, which distinguishes them from other cold injuries. Hence, the best choice is that they appear up to twelve hours after exposure.

6. Which shift on the oxygen affinity curve increases the affinity for O<sub>2</sub>?

- A. Right
- B. Left**
- C. No shift
- D. Inverse shift

A leftward shift increases oxygen affinity because it moves the oxyhemoglobin dissociation curve to the left, meaning hemoglobin becomes more saturated at any given partial pressure of oxygen. In practical terms, hemoglobin holds onto O<sub>2</sub> more tightly, loading it more readily in the lungs (where PO<sub>2</sub> is high) but releasing it less readily to tissues (where PO<sub>2</sub> is lower). Conditions that promote a left shift include higher pH (alkalosis), lower CO<sub>2</sub>, lower temperature, and lower 2,3-BPG, as well as fetal hemoglobin. Conversely, a rightward shift decreases affinity and promotes O<sub>2</sub> delivery to tissues. So the left shift is the one that increases affinity for O<sub>2</sub>.

**7. This opioid can be given via IV, IM, PO, SQ and has a 1-3 min onset that lasts for 4-6 hours; it is metabolized in the liver and excreted renally.**

**A. Morphine sulfate**

**B. Fentanyl**

**C. Meperidine**

**D. Hydromorphone**

Morphine fits this pattern because it is easily given by IV, IM, subcutaneous, and oral routes, making it highly versatile for different clinical situations. When given by IV, its onset is very rapid—roughly 1 to 3 minutes—providing quick pain relief, and its effects usually last about 4 to 6 hours, which matches the duration described. Metabolically, morphine is processed in the liver into glucuronide metabolites, and these are cleared by the kidneys, so renal excretion is a key part of its elimination. This hepatic metabolism with renal excretion explains why dose adjustments may be needed in kidney disease and why certain metabolites can accumulate in renal impairment. Other opioids don't fit as neatly. For instance, fentanyl is not typically used by mouth because of poor oral bioavailability and has a different duration profile, while meperidine has concerns about neurotoxic metabolites with renal impairment and a less predictable duration. Hydromorphone also works across several routes but its IV onset is not as rapid as morphine, so it doesn't align as closely with the described 1-3 minute onset. So the combination of multiple routes, very rapid IV onset, a 4-6 hour duration, and the hepatic metabolism with renal excretion points to morphine as the best match.

**8. What is the treatment for pre-renal renal failure?**

**A. High-dose diuretics**

**B. IV contrast administration**

**C. Restore volume and function (fluids and foley)**

**D. Renal replacement therapy**

Restoring intravascular volume to improve renal perfusion is the key approach. Pre-renal AKI happens when the kidneys are underperfused, so the priority is to correct the underlying hypovolemia or reduced effective circulating volume with fluids and supportive measures. Give isotonic crystalloids (like normal saline or lactated Ringer's) and monitor response with urine output, mental status, and vital signs; placing a Foley helps quantify urine output to assess improvement. Once perfusion is restored and the kidneys recover, renal function usually improves quickly if the injury hasn't progressed. Diuretics are not the initial fix and can worsen volume status, so they're not the main treatment for this scenario. IV contrast should be avoided or minimized in suspected pre-renal injury because it can further harm renal function. Renal replacement therapy is reserved for severe or refractory cases with complications like severe electrolyte disturbances, acidosis, fluid overload, or persistent kidney failure despite optimization.

**9. In DKA, how is potassium status typically described?**

- A. Hyperkalemia is expected; if low or normal, there is a risk of profound hypokalemia**
- B. Hypokalemia is always present and cannot change**
- C. Potassium is not affected by DKA**
- D. Potassium should be ignored during initial management**

In DKA, potassium status is driven by shifts between the inside and outside of cells plus losses from the body. Insulin deficiency and metabolic acidosis push potassium out of cells into the bloodstream, so patients often present with a normal or even elevated serum potassium. At the same time, there is a real total body potassium deficit from osmotic diuresis, vomiting, and volume depletion, so the body's potassium stores are low even if the blood level isn't. When treatment begins with fluids and insulin, potassium shifts back into cells, which can cause the serum potassium to fall rapidly. If this isn't anticipated and potassium isn't replenished appropriately, profound hypokalemia can develop and lead to dangerous arrhythmias. Therefore, the typical description is that hyperkalemia or a normal potassium level is expected on presentation, but there is a total body potassium depletion, and initiating treatment can precipitate a significant drop in potassium.

**10. In suspected penile fracture, which diagnostic study should be ordered to evaluate urethral injury?**

- A. Penile Duplex Ultrasound**
- B. Retrograde Urethrogram**
- C. Pelvic X-Ray**
- D. CT Abdomen**

When urethral injury is a concern in penile trauma, you need a test that directly assesses the urethral lumen. A retrograde urethrogram fits that need best. It involves instilling contrast into the distal urethra and taking radiographs to look for contrast leaking outside the urethral tract. If you see extravasation, that confirms urethral disruption and guides management toward surgical planning for repair and careful urinary drainage strategy, rather than blind catheterization. If the urethra is intact, catheterization can be performed safely for drainage without delay. Other studies don't specifically evaluate the urethra: penile duplex ultrasound checks vascular/tissular injury to the corpora but not reliably the urethra; pelvic X-ray and CT abdomen are not focused on urethral integrity.

## 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://emergencymed1.examzify.com>**

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

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