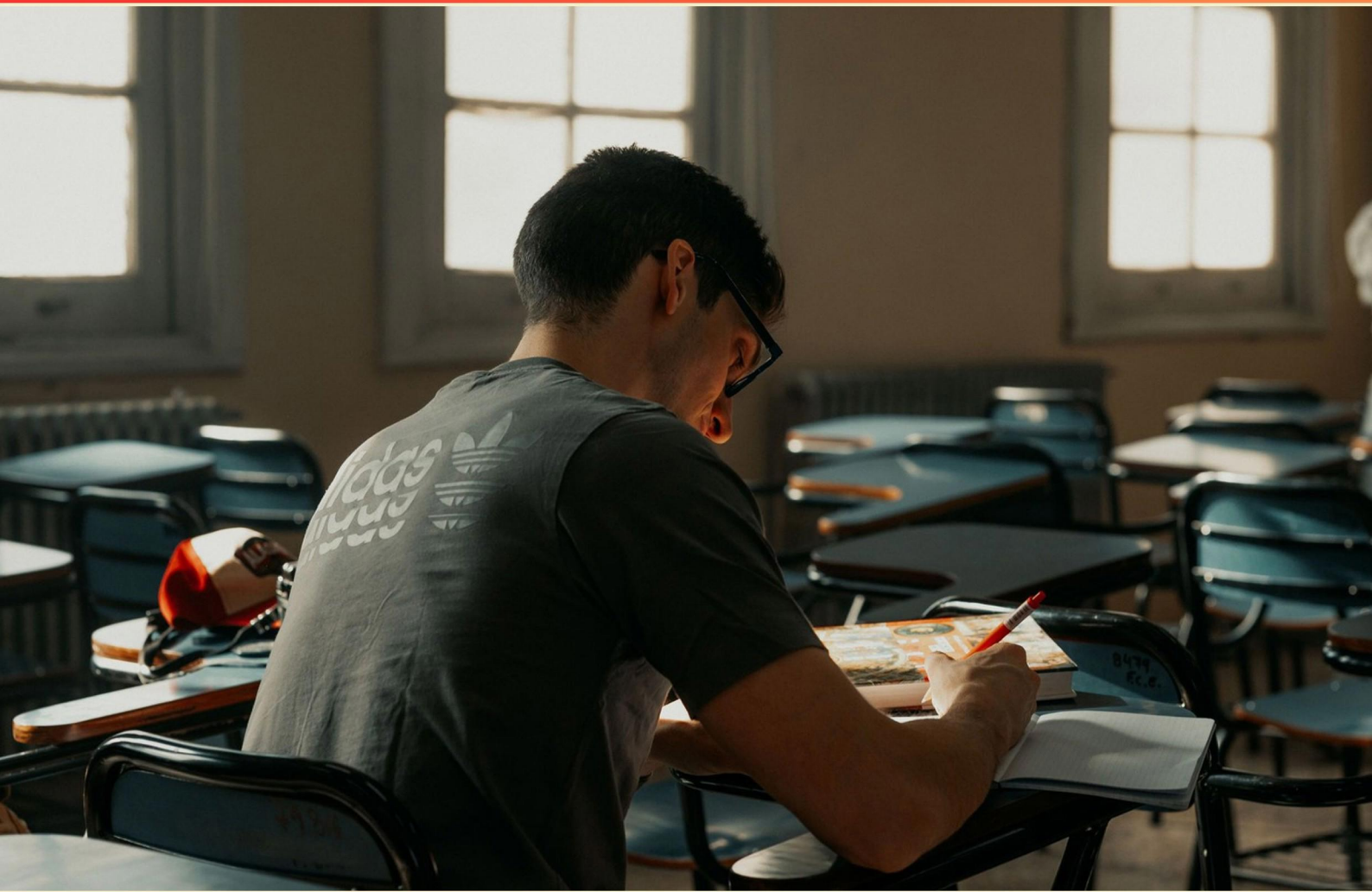


UNITED STATES MEDICAL LICENSING EXAMINATION (USMLE) STEP 3 PRACTICE EXAM (SAMPLE) STUDY GUIDE



Prepare with structure. Pass with confidence



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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 best test for diagnosing pernicious anemia?
 - A. Blood smear analysis
 - B. Bone marrow biopsy
 - C. Anti-intrinsic factor antibodies
 - D. Serum folate levels
2. What pathogen is likely responsible for pneumonia in a patient with a recent travel history to Southeast Asia?
 - A. Francisella tularensis
 - B. Burkholderia pseudomallei
 - C. Aspergillus
 - D. Histoplasma
3. Which medication should be discontinued prior to a CT scan with contrast?
 - A. Aspirin
 - B. Metformin
 - C. Lisinopril
 - D. Warfarin
4. Which antibiotic class can be used if a patient has a penicillin allergy and has a rash?
 - A. Cephalosporins
 - B. Carbapenems
 - C. Quinolones
 - D. Aminoglycosides
5. Which of the following antibiotics does NOT cover pseudomonas?
 - A. Imipenem
 - B. Meropenem
 - C. Ertapenem
 - D. Cefepime

- 6. *Aeromonas hydrophila* is primarily found in what type of environments?**
- A. Saltwater
 - B. Freshwater
 - C. Desert regions
 - D. Urban areas
- 7. What demographic is most commonly affected by Takayasu's arteritis?**
- A. Young Asian females
 - B. Middle-aged Caucasian males
 - C. Older African American males
 - D. Young Hispanic females
- 8. What is a common symptom associated with biotin deficiency?**
- A. Skin rash
 - B. Hair loss
 - C. Lactic acidosis
 - D. All of the above
- 9. For a patient with Lyme disease presenting with a rash, joint pain, or Bell's palsy, what is the appropriate first-line treatment?**
- A. IV ceftriaxone
 - B. Doxycycline or amoxicillin
 - C. Clindamycin
 - D. Quinine
- 10. What is a common treatment for children suffering from chronic daily headaches?**
- A. Ibuprofen
 - B. Acetaminophen
 - C. Tricyclics
 - D. Sumatriptan

Answers

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

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Explanations

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1. What is the best test for diagnosing pernicious anemia?

- A. Blood smear analysis
- B. Bone marrow biopsy
- C. Anti-intrinsic factor antibodies**
- D. Serum folate levels

The best test for diagnosing pernicious anemia is the measurement of anti-intrinsic factor antibodies. Pernicious anemia is an autoimmune condition that results in the body's inability to absorb vitamin B12 due to the loss of intrinsic factor, which is necessary for vitamin B12 absorption in the intestines. The presence of these antibodies specifically indicates that the patient's immune system is targeting the intrinsic factor or the related gastric parietal cells responsible for its production. Other tests, while useful in the evaluation of anemia, do not provide the same level of specificity for pernicious anemia. Blood smear analysis may show macrocytic red blood cells, which are common in vitamin B12 deficiency, but it does not confirm the underlying cause. A bone marrow biopsy can reveal ineffective erythropoiesis characteristic of vitamin B12 deficiency but is invasive and not specific to pernicious anemia. Serum folate levels are important to assess overall nutritional status but do not differentiate between folate deficiency and vitamin B12 deficiency or confirm pernicious anemia. Thus, measuring anti-intrinsic factor antibodies is the most definitive approach for diagnosing this specific type of anemia.

2. What pathogen is likely responsible for pneumonia in a patient with a recent travel history to Southeast Asia?

- A. *Francisella tularensis*
- B. *Burkholderia pseudomallei***
- C. *Aspergillus*
- D. *Histoplasma*

The correct choice regarding the pathogen likely responsible for pneumonia in a patient with a recent travel history to Southeast Asia is *Burkholderia pseudomallei*. This bacterium is the causative agent of melioidosis, a disease endemic to Southeast Asia and northern Australia. Melioidosis can present with a variety of clinical manifestations, including pneumonia, which may be severe and is often acquired via exposure to contaminated soil or water. In Southeast Asia, where the bacterium is prevalent, individuals may come into contact with environmental sources, increasing their risk of infection. The pneumonia associated with *Burkholderia pseudomallei* can be particularly difficult to diagnose due to its varied presentation and similarity to other forms of pneumonia. Understanding the geographic and environmental context is crucial in recognizing the potential pathogens in patients who have traveled to endemic regions. While *Francisella tularensis*, *Aspergillus*, and *Histoplasma* are important infectious agents, they are less specifically associated with travel to Southeast Asia when compared to *Burkholderia pseudomallei*. *Francisella tularensis* is primarily associated with exposure to infected animals or their products, and while it can cause pneumonia, it is not geographically restricted to Southeast Asia. *Aspergillus* species can cause pneumonia in immunocomprom

3. Which medication should be discontinued prior to a CT scan with contrast?

- A. Aspirin
- B. Metformin**
- C. Lisinopril
- D. Warfarin

Discontinuing metformin prior to a CT scan with contrast is important because of the risk of lactic acidosis, particularly in patients with impaired renal function. Contrast agents can potentially cause acute kidney injury, and if kidney function declines, metformin can accumulate in the body, leading to this serious complication. Patients undergoing procedures with contrast should have their renal function evaluated beforehand. If there is concern for renal impairment or if the patient has an estimated glomerular filtration rate (eGFR) below a certain threshold (commonly 30 mL/min), metformin should be held for at least 48 hours before and after the administration of contrast media. This practice helps to ensure patient safety and minimizes the risk of potential adverse effects associated with the use of metformin in the setting of contrast-induced nephropathy. Other medications listed typically do not require discontinuation before a contrast CT scan. Aspirin and warfarin are anti-platelet and anticoagulant medications, respectively, and while they may increase bleeding risk, they do not specifically contraindicate the use of contrast. Lisinopril, an ACE inhibitor, does not need to be discontinued because it does not significantly increase the risk of nephrotoxicity associated with contrast media in

4. Which antibiotic class can be used if a patient has a penicillin allergy and has a rash?

- A. Cephalosporins**
- B. Carbapenems
- C. Quinolones
- D. Aminoglycosides

When considering an alternative antibiotic class for a patient with a penicillin allergy who presents with a rash, cephalosporins can often be utilized despite the potential for cross-reactivity with penicillins. This is primarily due to the structural differences between the two classes. While a small percentage of patients with a history of penicillin allergy may also react to cephalosporins, the risk is generally deemed low, particularly for later-generation cephalosporins which have diminished similarity in side chains to penicillin. In clinical practice, if a patient has a non-severe allergic reaction such as a rash (as opposed to anaphylaxis or severe hypersensitivity reaction), cephalosporins are frequently chosen due to their effectiveness in treating a wide variety of infections while maintaining a profile that allows for their use in patients with penicillin allergies. Other antibiotic classes presented have their own indications and uses, but they do not have the same favorable balance of efficacy and safety when it comes to this specific allergy scenario. Carbapenems, although they are broader-spectrum antibiotics, can cause more severe allergic reactions in individuals with a penicillin allergy and may not be recommended as first-line alternatives in this case. Quinolones and aminoglycosides

5. Which of the following antibiotics does NOT cover pseudomonas?

- A. Imipenem
- B. Meropenem
- C. ErtaPenem**
- D. Cefepime

ErtaPenem is the antibiotic that does not cover Pseudomonas aeruginosa. While imipenem, meropenem, and cefepime are all known to have activity against Pseudomonas, ertapenem has a more limited spectrum of activity. ErtaPenem is a carbapenem antibiotic that is often utilized for its efficacy against various Gram-positive and Gram-negative bacteria, but it specifically lacks activity against Pseudomonas and Acinetobacter species. This absence of coverage is an important consideration when choosing antibiotics, especially in a setting where infections due to Pseudomonas are suspected or confirmed. In contrast, imipenem and meropenem are broad-spectrum antibiotics that are effective against Pseudomonas due to their stability against a variety of beta-lactamases and their ability to penetrate bacterial cell walls. Cefepime, a fourth-generation cephalosporin, is also effective against Pseudomonas due to its robust activity against a range of bacteria, including resistant strains. Understanding the specific coverage profiles of antibiotics is crucial in clinical decision-making, ensuring that the selected antibiotic adequately targets the suspected pathogens while minimizing resistance risks.

6. Aeromonas hydrophila is primarily found in what type of environments?

- A. Saltwater
- B. Freshwater**
- C. Desert regions
- D. Urban areas

Aeromonas hydrophila is primarily found in freshwater environments. This organism is commonly associated with aquatic habitats such as rivers, lakes, and ponds, where it can thrive in both clean and contaminated water. Its ability to persist in these environments is attributed to its versatility in nutrient utilization and tolerance to varying temperatures. While Aeromonas species can occasionally be found in brackish or marine environments, freshwater is their primary ecological niche. Understanding the habitat of Aeromonas hydrophila is crucial, especially when considering its role in disease; the bacterium can cause infections in humans—particularly in those with compromised immune systems—and is often linked to exposure to contaminated water sources. Recognizing that Aeromonas hydrophila is not predominantly associated with saltwater, desert regions, or strictly urban locations helps inform effective prevention and treatment strategies for infections caused by this pathogen.

7. What demographic is most commonly affected by Takayasu's arteritis?

- A. Young Asian females**
- B. Middle-aged Caucasian males
- C. Older African American males
- D. Young Hispanic females

Takayasu's arteritis is a large vessel vasculitis that primarily affects the aorta and its major branches. The demographic most commonly affected by this condition is young Asian females, typically between the ages of 10 and 40. This association with young females in Asian populations is significant, as epidemiological studies have shown a higher prevalence of the disease in these demographics compared to others. The reason for the gender and racial predisposition is not entirely understood but may involve genetic and environmental factors. The other demographics mentioned do not align with the established patterns of Takayasu's arteritis. Middle-aged Caucasian males, older African American males, and young Hispanic females are less commonly affected, making them less relevant in the context of this specific vasculitis. The distinct population characteristics associated with Takayasu's arteritis emphasize the importance of recognizing specific demographic trends in clinical assessments and diagnoses of this condition.

8. What is a common symptom associated with biotin deficiency?

- A. Skin rash
- B. Hair loss
- C. Lactic acidosis
- D. All of the above**

Biotin deficiency commonly presents with a variety of symptoms due to its vital role in several metabolic processes, particularly in the metabolism of carbohydrates, fats, and proteins. Each of the options reflects symptoms that can be associated with biotin deficiency. A skin rash, often resembling seborrheic dermatitis, can appear in biotin deficiency as it impacts skin health and renewal. This rash typically manifests as scaly or irritated patches, particularly around the eyes, nose, and mouth. Hair loss is another symptom that can occur due to insufficient biotin levels. Given biotin's importance in keratin production, a deficiency can lead to brittle hair and subsequent hair loss or thinning. Lactic acidosis, while not as commonly highlighted, can occur in the context of a broader metabolic derangement related to deficiencies in metabolic coenzymes like those that rely on biotin. The inability to appropriately utilize certain substrates can lead to lactic acid accumulation. Considering all of these factors, it's clear that biotin deficiency can lead to a range of symptoms, making all listed symptoms possible manifestations of this nutritional deficiency.

9. For a patient with Lyme disease presenting with a rash, joint pain, or Bell's palsy, what is the appropriate first-line treatment?

- A. IV ceftriaxone
- B. Doxycycline or amoxicillin**
- C. Clindamycin
- D. Quinine

*The appropriate first-line treatment for Lyme disease, particularly when the patient presents with conditions such as rash, joint pain, or Bell's palsy, is doxycycline or amoxicillin. These antibiotics are effective against the bacterium *Borrelia burgdorferi*, which causes Lyme disease. Doxycycline is often preferred due to its efficacy, ease of dosing, and the added benefit of treating co-existing infections like anaplasmosis, especially in endemic areas. However, amoxicillin is a suitable alternative for patients who may have contraindications to doxycycline, such as pregnant women or young children. Using either doxycycline or amoxicillin promptly addresses the bacterial infection and helps prevent potential complications associated with Lyme disease. Starting treatment early is crucial in reducing symptoms and preventing the progression to more serious manifestations. Other options like IV ceftriaxone would be more appropriate for patients with severe or refractory cases, such as those with neurological manifestations requiring a more aggressive approach. Clindamycin and quinine are not standard treatments for Lyme disease. Clindamycin is ineffective against *Borrelia*, while quinine is used for malaria but has no role in the treatment of Lyme disease. Thus, doxycycline or amoxicillin remains the*

10. What is a common treatment for children suffering from chronic daily headaches?

- A. Ibuprofen
- B. Acetaminophen
- C. Tricyclics**
- D. Sumatriptan

Chronic daily headaches in children can often be complex, and their management may require a multifaceted approach. Tricyclic antidepressants, particularly amitriptyline, are commonly used in pediatric patients experiencing chronic headaches. This class of medication is recognized for its effectiveness in reducing the frequency and intensity of headaches, likely due to their action on neurotransmitter systems that modulate pain. Tricyclics help by altering the levels of serotonin and norepinephrine, which can have a stabilizing effect on headache occurrence. They are generally considered when other treatments have not been effective or are not appropriate. The use of tricyclics in a chronic daily headache scenario addresses the underlying chronic pain mechanism rather than just alleviating acute headache symptoms. While other options like ibuprofen and acetaminophen are useful for acute pain management, they do not address the chronic nature of the headaches effectively and, when used long-term, can lead to medication overuse headaches. Sumatriptan, a medication designed for the acute management of migraines, may not be suitable for daily use and does not serve a preventive role in chronic daily headache scenarios. Therefore, tricyclic antidepressants are often the preferred choice for a more sustainable and preventive treatment strategy in managing chronic daily

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://usmlestep3.examzify.com>

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

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