

USMLE (UNITED STATES MEDICAL LICENSING EXAMINATION) STEP 1 PRACTICE EXAM (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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. Which clinical scenario involves corticosteroids leading to sequestration of eosinophils in lymph nodes?**
 - A. Multiple Myeloma
 - B. SLE
 - C. Polycythemia Vera
 - D. Cushing Syndrome

- 2. Which heart anomaly results in a midsystolic "click" on auscultation?**
 - A. Coarctation of the aorta
 - B. Patent ductus arteriosus
 - C. Mitral stenosis
 - D. Systolic heart failure

- 3. Which condition bypasses systemic circulation and may cause pulmonary hypertension?**
 - A. Left-to-Right Shunt
 - B. Compromised airways in Obstructive Airway Diseases
 - C. Anatomic Shunt
 - D. Decreased Alv Ventilation

- 4. What condition is considered the most common cause of pelvic pain?**
 - A. Endometriosis
 - B. Ectopic pregnancy
 - C. Cystitis/pyelonephritis
 - D. Tubo-ovarian abscess

- 5. What does DNA laddering on gel electrophoresis indicate?**
 - A. Presence of viral DNA
 - B. Active inflammation
 - C. Apoptosis
 - D. Cancerous transformation

- 6. What is an expected effect of mineralocorticoid excess on potassium levels?**
- A. Hypokalemia
 - B. Hyperkalemia
 - C. Normal potassium levels
 - D. Wild fluctuations in potassium levels
- 7. What hormone is utilized in the treatment of subacute painless lymphocytic thyroiditis when it progresses to the hypothyroid stage?**
- A. Corticosteroids
 - B. Levothyroxine
 - C. Propranolol
 - D. Thionamides
- 8. What is the primary cause of shortness of breath in left ventricular heart failure (LVHF)?**
- A. Pulmonary fibrosis
 - B. Inadequate surfactant production
 - C. Caplan syndrome
 - D. Impaired diastolic return of pulmonary vein
- 9. In which condition does expiration become challenging due to airway narrowing and reduced elastic recoil in the lungs?**
- A. Compromised airways in Obstructive Airway Diseases
 - B. Right-to-Left Shunt
 - C. Restrictive Lung Disease
 - D. Decreased Alv Ventilation
- 10. Which type of thrombosis is commonly associated with Lupus?**
- A. DVT
 - B. Myocardial infarction
 - C. Pulmonary embolism
 - D. Peripheral artery thrombosis

Answers

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

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Explanations

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1. Which clinical scenario involves corticosteroids leading to sequestration of eosinophils in lymph nodes?

- A. Multiple Myeloma
- B. SLE
- C. Polycythemia Vera
- D. Cushing Syndrome**

Corticosteroids are known to have significant effects on the immune system and the distribution of various white blood cells, including eosinophils. In conditions characterized by elevated cortisol levels, such as Cushing Syndrome, corticosteroids lead to a redistribution of eosinophils. In Cushing Syndrome, the increased levels of cortisol result in the sequestration or trapping of eosinophils, primarily in the lymph nodes. This phenomenon occurs because corticosteroids enhance lymphocyte apoptosis and alter the migration patterns of these immune cells. As a result, fewer eosinophils circulate in the blood, leading to a relative eosinopenia, while a higher concentration of eosinophils can be found in the lymphatic tissues. This contrasts with the other conditions listed, where the mechanisms of disease do not typically involve the direct effects of corticosteroids on eosinophil distribution. For instance, Multiple Myeloma is primarily a malignant proliferation of plasma cells; Systemic Lupus Erythematosus (SLE) is an autoimmune condition that has a different immunological profile; and Polycythemia Vera is characterized by increased red blood cell production rather than the effects of corticosteroids on leukocyte distribution. Therefore, the scenario that best

2. Which heart anomaly results in a midsystolic "click" on auscultation?

- A. Coarctation of the aorta
- B. Patent ductus arteriosus
- C. Mitral stenosis
- D. Systolic heart failure**

The presence of a midsystolic "click" during auscultation is most commonly associated with mitral valve prolapse, which is seen in mitral stenosis as a secondary phenomenon. In mitral valve prolapse, the chordae tendineae are elongated or the valve leaflets are redundant, leading to a situation where the leaflets billow back into the left atrium during systole. This can produce the characteristic click sound, which occurs just after the first heart sound (S1) and before the second heart sound (S2). The other conditions listed do not typically present with a midsystolic click. Coarctation of the aorta and patent ductus arteriosus produce their own characteristic heart sounds and murmurs but lack this specific click. Systolic heart failure is a state of impaired myocardial contractility and is associated with signs and symptoms related to heart failure rather than the presence of a distinct auscultatory finding like a midsystolic click. Thus, mitral stenosis is the anomaly linked to this specific auscultatory finding, highlighting the importance of recognizing characteristic sounds in cardiac examination.

3. Which condition bypasses systemic circulation and may cause pulmonary hypertension?

A. Left-to-Right Shunt

B. Compromised airways in Obstructive Airway Diseases

C. Anatomic Shunt

D. Decreased Alv Ventilation

The condition that bypasses systemic circulation and may lead to pulmonary hypertension is characterized by a left-to-right shunt. In this scenario, blood flows from an area of higher pressure (typically the left side of the heart) to an area of lower pressure (the right side of the heart). This abnormal flow increases the volume of blood returning to the right side of the heart and subsequently the pulmonary circulation. The excess blood flow can elevate pulmonary artery pressure, thus causing pulmonary hypertension over time. In the case of a left-to-right shunt, common examples include congenital heart defects such as atrial septal defects (ASD) or ventricular septal defects (VSD). With these defects, the increased blood volume in the pulmonary vessels leads to vascular remodeling, increased pulmonary vascular resistance, and ultimately pulmonary hypertension if left uncorrected. Other conditions listed may contribute to respiratory issues but do not directly cause blood to bypass systemic circulation in a way that leads to pulmonary hypertension. Compromised airways in obstructive airway diseases and decreased alveolar ventilation primarily affect gas exchange rather than direct hemodynamic changes in the pulmonary circulation. An anatomical shunt can also involve bypassing the lungs but typically refers to situations where blood moves directly from the right side of the

4. What condition is considered the most common cause of pelvic pain?

A. Endometriosis

B. Ectopic pregnancy

C. Cystitis/pyelonephritis

D. Tubo-ovarian abscess

Pelvic pain is a common symptom experienced by many women and can often have multiple causes. While options A, C, and D can all potentially cause pelvic pain, ectopic pregnancy is the most common cause. Endometriosis is a chronic condition that causes tissue similar to the lining of the uterus to grow outside of the uterus, which can cause pelvic pain. Cystitis/pyelonephritis is an infection of the bladder or kidneys, which can also cause pelvic pain. A tubo-ovarian abscess is a collection of pus that forms in the ovaries and fallopian tubes and can cause pelvic pain. However, ectopic pregnancy, which is when a fertilized egg implants outside of the uterus, is the most common cause of pelvic pain. It is important for women experiencing pelvic pain to seek medical attention to determine the underlying cause and receive appropriate treatment.

5. What does DNA laddering on gel electrophoresis indicate?

- A. Presence of viral DNA
- B. Active inflammation
- C. Apoptosis**
- D. Cancerous transformation

DNA laddering observed through gel electrophoresis is a hallmark indicator of apoptosis, which is a form of programmed cell death. This process is characterized by a systematic breakdown of cellular components and is a highly regulated mechanism that occurs in response to various physiological and pathological signals. During apoptosis, specific endonucleases are activated that cleave the DNA at regular intervals, typically every 180 to 200 base pairs. This results in the formation of multiple fragments of DNA that migrate through the gel, creating a distinct ladder-like pattern. The presence of the laddering pattern distinguishes apoptosis from other forms of cell death, such as necrosis, which typically results in the random degradation of DNA and does not produce a ladder-like appearance. Recognizing DNA laddering as a specific marker for apoptosis is critical in various biomedical research fields, as it can help identify apoptosis in different disease states, such as certain types of cancer or responses to therapy. Other options presented may include phenomena related to specific conditions, but they do not produce the characteristic DNA laddering seen in apoptosis. For instance, while cancerous transformation can involve changes in DNA and cellular behavior, it does not typically manifest through DNA laddering, as cancer cells often evade apoptosis. Likewise, the presence of viral DNA

6. What is an expected effect of mineralocorticoid excess on potassium levels?

- A. Hypokalemia**
- B. Hyperkalemia
- C. Normal potassium levels
- D. Wild fluctuations in potassium levels

Mineralocorticoids, such as aldosterone, play a crucial role in electrolyte balance, particularly in the regulation of sodium and potassium levels. When there is an excess of mineralocorticoids, one of the primary physiological actions is the increased reabsorption of sodium in the renal tubules, which is usually accompanied by the secretion of potassium. This process leads to a significant reduction in serum potassium levels, resulting in hypokalemia. This effect is particularly evident in conditions such as hyperaldosteronism, where the heightened levels of aldosterone cause the kidneys to excrete more potassium while retaining sodium. Thus, the expected outcome of mineralocorticoid excess is a decrease in potassium levels, leading to hypokalemia.

7. What hormone is utilized in the treatment of subacute painless lymphocytic thyroiditis when it progresses to the hypothyroid stage?

- A. Corticosteroids
- B. Levothyroxine**
- C. Propranolol
- D. Thionamides

In the context of subacute painless lymphocytic thyroiditis, also known as silent thyroiditis, the condition often presents with an initial phase of hyperthyroidism followed by a hypothyroid stage as the thyroid gland becomes depleted of hormone reserves. When this condition progresses to the hypothyroid stage, hormone replacement therapy becomes necessary. This is where levothyroxine, a synthetic thyroid hormone, comes into play. Levothyroxine replaces the deficient thyroid hormone, thereby addressing the symptoms associated with hypothyroidism, such as fatigue, weight gain, and depression. This management is essential not only for symptom control but also for normalizing metabolism and supporting overall physiological functions. Corticosteroids, while they can be effective in reducing inflammation in certain thyroid conditions, are not used for managing hypothyroidism. Propranolol is a beta-blocker that may help alleviate symptoms in the hyperthyroid phase but does not address the underlying hormone deficiency when hypothyroidism develops. Thionamides, which inhibit thyroid hormone synthesis, are utilized primarily in hyperthyroid states, not in hypothyroidism. Thus, levothyroxine is the appropriate choice for treating the hypothyroid phase in patients with subacute painless lymphocytic thyroiditis.

8. What is the primary cause of shortness of breath in left ventricular heart failure (LVHF)?

- A. Pulmonary fibrosis
- B. Inadequate surfactant production
- C. Caplan syndrome
- D. Impaired diastolic return of pulmonary vein**

Shortness of breath in left ventricular heart failure (LVHF) is primarily caused by impaired diastolic return of blood from the lungs due to increased pressure in the left atrium. In LVHF, the left ventricle fails to effectively pump blood forward into the aorta, leading to a backlog of blood in the pulmonary circulation. This increased pressure in the pulmonary veins results in fluid transudation into the alveoli, which can cause pulmonary congestion and edema. The presence of fluid in the lungs impairs gas exchange, leading to shortness of breath, particularly during activities or when lying flat. While other conditions like pulmonary fibrosis or inadequate surfactant production could cause respiratory symptoms, they are not the primary drivers of the shortness of breath experienced in LVHF. Caplan syndrome, which is a specific type of pneumoconiosis, is also unrelated to the primary mechanisms of shortness of breath in the context of heart failure. The main physiological disturbance in LVHF—impaired diastolic return due to increased left atrial pressure—is critical in understanding this symptom.

9. In which condition does expiration become challenging due to airway narrowing and reduced elastic recoil in the lungs?

A. Compromised airways in Obstructive Airway Diseases

B. Right-to-Left Shunt

C. Restrictive Lung Disease

D. Decreased Alv Ventilation

The correct choice indicates that expiration becomes difficult primarily due to airway narrowing and reduced elastic recoil associated with obstructive airway diseases, such as asthma and chronic obstructive pulmonary disease (COPD). In these conditions, the airways are narrowed either due to inflammation, bronchoconstriction, or structural changes, which leads to difficulty in expelling air from the lungs. Furthermore, the loss of elastic recoil in the lung tissue can exacerbate this difficulty, resulting in air trapping and reduced airflow during expiration. Obstructive airway diseases specifically affect the ability to exhale air effectively, as there is increased resistance to airflow, which is a hallmark of these conditions. In contrast, other options such as a right-to-left shunt involve different mechanisms primarily affecting oxygenation rather than airflow obstruction. Restrictive lung disease is characterized by reduced lung volumes, making inhalation challenging rather than expiration. Decreased alveolar ventilation pertains to overall gas exchange inefficiency, which encompasses both inhalation and exhalation but does not specifically highlight the difficulties during expiration caused by airway narrowing.

10. Which type of thrombosis is commonly associated with Lupus?

A. DVT

B. Myocardial infarction

C. Pulmonary embolism

D. Peripheral artery thrombosis

In the context of lupus, venous thrombosis, particularly deep vein thrombosis (DVT), is commonly associated. Patients with systemic lupus erythematosus (SLE) have an increased risk of thrombotic events due to the presence of antiphospholipid antibodies, which can lead to a hypercoagulable state. This condition predisposes individuals to venous thromboembolism, including DVT. While other types of thrombosis, such as pulmonary embolism and arterial thrombosis, can occur in patients with lupus, the classic association observed in the literature is with DVT due to its prevalence in these patients. Myocardial infarction can also be seen in lupus patients, generally related to other risk factors rather than a direct consequence of lupus itself. Peripheral artery thrombosis is less commonly discussed in relation to lupus compared to venous thrombosis. Thus, deep vein thrombosis is the most commonly recognized thrombotic event linked with lupus.

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://usmlestep1.examzify.com>

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

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