

NBME FORM 30 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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 pulmonary condition is characterized by cough, fever, and dullness to percussion with localized bronchovesicular breath sounds?**
 - A. Pneumonia
 - B. Anemia
 - C. Chronic bronchitis
 - D. Asthma

- 2. In a patient with hematuria asking about cancer, what is the most appropriate response?**
 - A. Cancer is the most likely cause, but we need tests.
 - B. Don't worry, we'll figure it out later.
 - C. It's too soon to tell, wait for further tests.
 - D. Yes, cancer looks likely based on the symptoms.

- 3. What is the most prevalent thyroid hormone in circulation after administration of radioactive iodine?**
 - A. Free thyroxine
 - B. Triiodothyronine bound to TBG
 - C. Thyroxine bound to T-binding globulin
 - D. Free triiodothyronine

- 4. In a study of salt intake's effect on renal function, which change is most likely to occur in an animal on a low-salt diet?**
 - A. Epithelial sodium channel transcription
 - B. Extracellular fluid volume
 - C. Plasma atrial natriuretic peptide concentration
 - D. Serum potassium concentration

- 5. Which occupational exposure is the strongest risk factor for malignant mesothelioma?**
 - A. Family history of lung cancer
 - B. Raising pigeons
 - C. Working in a shipyard
 - D. Smoking cigarettes

- 6. What complication does positive end-expiratory pressure (PEEP) prevent in patients on mechanical ventilation?**
- A. Pulmonary hypertension
 - B. Oxygen toxicity
 - C. Absorption atelectasis
 - D. Tension pneumothorax
- 7. What is the most likely diagnosis for a café au lait spot in a newborn?**
- A. Acquired melanocytic nevus
 - B. Ecchymosis
 - C. Hemangioma
 - D. Neurofibromatosis type I
- 8. What is the main mechanism of action of nitroprusside in cases of hypertensive emergencies?**
- A. Increase myocardial oxygen demand
 - B. Vasodilation through nitric oxide release
 - C. Decrease heart rate
 - D. Increased venous return
- 9. What condition is characterized by the progressive loss of bone mineral density, significantly increasing the risk for fragility fractures, especially in patients with long-term corticosteroid use?**
- A. Ankylosing spondylitis
 - B. Multiple herniated discs
 - C. Osteoporosis
 - D. Osteitis deformans
- 10. What is the mechanism behind testicular atrophy in a patient using synthetic androgens?**
- A. Compression of the testes
 - B. Increased FSH secretion
 - C. Increased negative feedback on gonadotropins
 - D. Inhibition of testosterone metabolism

Answers

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

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Explanations

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1. Which pulmonary condition is characterized by cough, fever, and dullness to percussion with localized bronchovesicular breath sounds?

A. Pneumonia

B. Anemia

C. Chronic bronchitis

D. Asthma

The pulmonary condition characterized by cough, fever, dullness to percussion, and localized bronchovesicular breath sounds is pneumonia. In pneumonia, the infection of the lung tissue leads to an accumulation of fluid and inflammatory cells in the alveoli, which can cause symptoms such as cough and fever due to the body's response to the infection. Dullness to percussion occurs because the presence of fluid in the alveoli changes the normal air-filled lung to a denser state, making it less resonant when tapped. Additionally, localized bronchovesicular breath sounds indicate that there is consolidation in the involved lung area; these sounds are heard when the normal air-filled lung is replaced with fluid or solid material, allowing transmission of breath sounds from larger airways. The symptoms and physical exam findings align with pneumonia, making it the correct choice in this scenario.

2. In a patient with hematuria asking about cancer, what is the most appropriate response?

A. Cancer is the most likely cause, but we need tests.

B. Don't worry, we'll figure it out later.

C. It's too soon to tell, wait for further tests.

D. Yes, cancer looks likely based on the symptoms.

In addressing a patient presenting with hematuria and inquiring about the possibility of cancer, it's vital to communicate the seriousness of the symptoms while also highlighting the importance of further evaluation. Indicating that cancer is the most likely cause acknowledges the patient's concern and encourages a proactive approach in medical reasoning. This response conveys that while hematuria can be associated with cancer, it is essential to conduct further tests to establish a definitive diagnosis. This approach balances empathy with professionalism, ensuring that the patient feels heard and understood while also guiding them through the necessary next steps in their medical evaluation. It reflects the importance of thorough investigation in medical practice, especially when symptoms such as hematuria could signal potentially serious underlying conditions.

3. What is the most prevalent thyroid hormone in circulation after administration of radioactive iodine?

- A. Free thyroxine
- B. Triiodothyronine bound to TBG
- C. Thyroxine bound to T-binding globulin**
- D. Free triiodothyronine

The most prevalent thyroid hormone in circulation after the administration of radioactive iodine is thyroxine, which primarily exists bound to thyroxine-binding globulin (TBG). When radioactive iodine is administered, it helps to image or treat thyroid disorders by concentrating in the thyroid tissue. The thyroid gland then synthesizes and secretes thyroid hormones, mainly thyroxine (T4), which is produced in larger quantities compared to triiodothyronine (T3). In the bloodstream, a significant proportion of thyroxine is bound to transport proteins, with TBG being the main carrier. This binding is crucial for regulating the availability of thyroid hormones because only the free (unbound) hormones are biologically active. However, the bound form of thyroxine accounts for the majority of the total thyroid hormone in circulation, making it the most prevalent after administration of radioactive iodine. While free thyroxine and free triiodothyronine do circulate, they exist in much smaller concentrations compared to their bound counterparts. Triiodothyronine that is bound to TBG also occurs, but the total amount of bound thyroxine is higher given its predominant role in thyroid hormone physiology. Thus, the correct answer reflects the physiological and biochemical context of thyroid

4. In a study of salt intake's effect on renal function, which change is most likely to occur in an animal on a low-salt diet?

- A. Epithelial sodium channel transcription**
- B. Extracellular fluid volume
- C. Plasma atrial natriuretic peptide concentration
- D. Serum potassium concentration

When an animal is on a low-salt diet, the body responds by attempting to conserve sodium to maintain homeostasis and ensure adequate sodium levels for physiological functions. One key response is the upregulation of epithelial sodium channels (ENaC) in the renal tubules, particularly in the distal nephron. This increase in ENaC expression leads to enhanced sodium reabsorption from the urine back into the renal interstitium, which ultimately helps to prevent sodium loss. This adaptation is crucial because sodium is essential for maintaining extracellular fluid volume, normal blood pressure, and various cellular functions. As the ENaC transcription increases, it reflects the body's effort to adapt to the low-salt intake by improving sodium retention mechanisms. The other potential changes indicated in the options are less likely to be directly associated with the immediate physiological response to a low-salt diet. For instance, extracellular fluid volume might not change significantly at first due to compensatory mechanisms. Plasma levels of atrial natriuretic peptide typically decrease in response to low sodium intake as this peptide is released when the body has excess sodium and volume, functioning to promote natriuresis. Lastly, serum potassium concentration tends to be more stable, as potassium homeostasis is tightly regulated and

5. Which occupational exposure is the strongest risk factor for malignant mesothelioma?

- A. Family history of lung cancer
- B. Raising pigeons
- C. Working in a shipyard**
- D. Smoking cigarettes

The strongest risk factor for malignant mesothelioma is associated with occupational exposure to asbestos, which is most commonly encountered in shipyards. Working in a shipyard often involves proximity to asbestos insulation and materials used in shipbuilding, where asbestos was widely utilized due to its heat-resistant properties. This exposure significantly increases the likelihood of developing mesothelioma, a rare and aggressive cancer primarily affecting the pleura (the lining around the lungs). Malignant mesothelioma has a well-established epidemiological link to asbestos exposure, and individuals who have worked in industries such as shipbuilding, construction, and manufacturing where asbestos has been used are at a notably higher risk. While other factors, such as family history and smoking, are relevant in lung cancer pathogenesis, they do not have the same strong, direct correlation with mesothelioma as occupational asbestos exposure does.

6. What complication does positive end-expiratory pressure (PEEP) prevent in patients on mechanical ventilation?

- A. Pulmonary hypertension
- B. Oxygen toxicity
- C. Absorption atelectasis**
- D. Tension pneumothorax

Positive end-expiratory pressure (PEEP) is a mode of mechanical ventilation that maintains a certain amount of pressure in the airways at the end of expiration. This pressure helps to keep the alveoli open, thereby preventing their collapse. One of the significant complications that can arise in mechanically ventilated patients is absorption atelectasis, which occurs when the alveoli collapse due to the absorption of gases, particularly in situations where areas of the lung are not being adequately ventilated, leading to low volume in certain lung regions. When PEEP is applied, it helps to maintain functional residual capacity (FRC) and recruit collapsed or poorly ventilated alveoli, thus preventing the excessive absorption of oxygen and nitrogen. By keeping the alveoli open, PEEP enhances gas exchange and reduces the likelihood of areas in the lung becoming atelectatic. This is particularly important in certain conditions such as acute respiratory distress syndrome (ARDS) or when there are concerns about fluid in the alveoli. In the context of the other options: while PEEP can have beneficial effects on pulmonary hypertension by reducing right ventricular strain, and while it can potentially help mitigate some aspects of oxygen toxicity by improving oxygenation efficiency, it is not a direct intervention for those issues.

Tension

7. What is the most likely diagnosis for a café au lait spot in a newborn?

- A. Acquired melanocytic nevus
- B. Ecchymosis
- C. Hemangioma
- D. Neurofibromatosis type I**

Café au lait spots are flat, pigmented skin lesions that can be a common finding in newborns and infants. When multiple café au lait spots are present, they are highly suggestive of underlying conditions such as neurofibromatosis type I (NF1). In the case of neurofibromatosis type I, café au lait spots are one of the hallmark signs. The presence of six or more café au lait spots, each greater than 5 mm in diameter in prepubertal children, is sufficient for a diagnosis of NF1. The lesions arise from the proliferation of neural crest cells and are associated with a variety of other features, including neurofibromas, learning disabilities, and bone abnormalities. While acquired melanocytic nevi, ecchymosis, and hemangiomas can be present in infants, they do not typically present as café au lait spots nor are they associated with the same implications regarding a genetic disorder. Acquired melanocytic nevi are generally elevated and pigmented, ecchymosis refers to bruising rather than a pigmented lesion, and hemangiomas are vascular lesions that present differently than café au lait spots. Therefore, when seeing a café au lait spot in a newborn, especially

8. What is the main mechanism of action of nitroprusside in cases of hypertensive emergencies?

- A. Increase myocardial oxygen demand
- B. Vasodilation through nitric oxide release**
- C. Decrease heart rate
- D. Increased venous return

Nitroprusside primarily acts as a powerful vasodilator, and its mechanism of action revolves around the release of nitric oxide (NO). When nitroprusside is administered, it is rapidly metabolized to produce nitric oxide, which causes smooth muscle relaxation, leading to vasodilation of both arterioles and venous capacitance vessels. In cases of hypertensive emergencies, the goal is to quickly reduce blood pressure to prevent end-organ damage. By inducing vasodilation, nitroprusside effectively decreases systemic vascular resistance (afterload) and, to some extent, reduces venous return (preload). This combined effect allows the heart to pump against a lower resistance, thereby lowering blood pressure swiftly and efficiently. The rapid onset and potent action of nitroprusside make it particularly useful in acute settings, where immediate control of hypertension is necessary. The use of nitric oxide is crucial because it is a natural vasodilator in the body, and pharmacological agents that mimic its effects—such as nitroprusside—are valuable therapeutic tools in managing severe elevated blood pressure.

9. What condition is characterized by the progressive loss of bone mineral density, significantly increasing the risk for fragility fractures, especially in patients with long-term corticosteroid use?

- A. Ankylosing spondylitis
- B. Multiple herniated discs
- C. Osteoporosis**
- D. Osteitis deformans

Osteoporosis is a condition that entails the progressive loss of bone mineral density, which renders bones more fragile and increases the risk of fractures, especially in areas like the hip, spine, and wrist. This loss in bone density is often asymptomatic until a fracture occurs, which may happen with minimal or no trauma, such as a fall from standing height. Long-term corticosteroid use is a well-established risk factor for the development of osteoporosis. Corticosteroids can interfere with bone remodeling by inhibiting the formation of new bone and increasing bone resorption, leading to an overall loss of bone density. Therefore, patients who are on chronic corticosteroid therapy become particularly susceptible to osteoporotic fractures compared to healthy individuals or those not on such medication. In the context of the options provided, the other conditions listed do not primarily involve this significant loss of bone density related to corticosteroid usage. Ankylosing spondylitis is a type of inflammatory arthritis that primarily affects the spine, while multiple herniated discs involve disc degeneration rather than systemic bone density loss. Osteitis deformans, also known as Paget's disease of bone, involves disorganized bone remodeling but does not specifically relate to the increased risk of fractures associated with osteoporosis from corticosteroid treatment

10. What is the mechanism behind testicular atrophy in a patient using synthetic androgens?

- A. Compression of the testes
- B. Increased FSH secretion
- C. Increased negative feedback on gonadotropins**
- D. Inhibition of testosterone metabolism

In cases of testicular atrophy due to the use of synthetic androgens, the correct mechanism is increased negative feedback on gonadotropins. When synthetic androgens are introduced into the body, they elevate the levels of androgens in circulation. This results in a negative feedback loop affecting both the hypothalamus and the pituitary gland. The elevated androgen levels inhibit the release of gonadotropin-releasing hormone (GnRH) from the hypothalamus and reduce the secretion of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) from the pituitary. LH is responsible for stimulating Leydig cells in the testes to produce testosterone, while FSH acts on Sertoli cells to support spermatogenesis. When synthetic hormones decrease the levels of these gonadotropins, there is a reduction in endogenous testosterone production and a detrimental effect on spermatogenesis. Over time, this leads to testicular atrophy as the testes receive insufficient stimulation to maintain their size and function. The other options involve mechanisms that do not accurately describe the process of testicular atrophy in this scenario. Thus, the understanding of negative feedback in the hormonal regulation of the testes is key to grasping the impact of synthetic

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:

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

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