

NBEO Systemic Disease Practice Exam (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. What is the classic triad of Horner's syndrome?**
 - A. Pupil dilation, Ptosis, Anhydrosis**
 - B. Ptosis, Miosis, Anhydrosis**
 - C. Miosis, Photophobia, Anhydrosis**
 - D. Miosis, Ptosis, Hypertrophy**
- 2. Dysplasia is characterized by the abnormal growth of which type of cells?**
 - A. Epithelial cells**
 - B. Muscle cells**
 - C. Nerve cells**
 - D. Bone cells**
- 3. Obstructive Sleep Apnea has a higher risk of which cardiovascular condition?**
 - A. Arrhythmias**
 - B. Hypertension**
 - C. Heart attack**
 - D. Stroke**
- 4. Which etiology of Horner's syndrome is preganglionic in nature and typically presents with arm pain?**
 - A. Cervical rib syndrome**
 - B. Thoracic outlet syndrome**
 - C. Pancoast tumor**
 - D. Neuroblastoma**
- 5. Which of the following is NOT a treatment option for Parkinson's disease?**
 - A. Levodopa**
 - B. Neostigmine**
 - C. Bromocriptine**
 - D. Sinemet**

6. Which of the following is NOT an ocular finding associated with Hypoparathyroidism?

- A. Cataracts**
- B. Uveitis**
- C. Band keratopathy**
- D. Blurry vision**

7. Which is NOT considered a major risk factor for bacterial endocarditis?

- A. Prosthetic heart valves**
- B. Alcohol abuse**
- C. IV drug abuse**
- D. Age**

8. What condition is characterized by an increase in aqueous humor production?

- A. Open-angle glaucoma**
- B. Cataract**
- C. Dry eye syndrome**
- D. Retinal vein occlusion**

9. What is considered the number one risk factor for a myocardial infarction?

- A. High cholesterol**
- B. Hypertension**
- C. Diabetes**
- D. Coronary artery disease**

10. Which type of heart failure leads to pulmonary edema?

- A. Left-sided CHF**
- B. Right-sided CHF**
- C. Combined CHF**
- D. Cor pulmonale**

Answers

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

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Explanations

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1. What is the classic triad of Horner's syndrome?

- A. Pupil dilation, Ptosis, Anhydrosis**
- B. Ptosis, Miosis, Anhydrosis**
- C. Miosis, Photophobia, Anhydrosis**
- D. Miosis, Ptosis, Hypertrophy**

Horner's syndrome is characterized by a classic triad of symptoms that results from disruption of the sympathetic nerve pathway to the eye. The correct triad includes ptosis (drooping of the eyelid), miosis (constriction of the pupil), and anhydrosis (lack of sweating). Ptosis occurs because of weakness in the muscles that elevate the eyelid, which are influenced by sympathetic activity. Miosis happens due to unopposed parasympathetic stimulation of the pupil, as the sympathetic pathway that normally dilates the pupil is interrupted. Anhydrosis arises from the loss of sympathetic innervation to the sweat glands on the affected side of the face, leading to reduced sweating. This triad is crucial for diagnosing Horner's syndrome, as it helps differentiate the condition from other ocular or systemic diseases. Understanding this set of symptoms is fundamental for identifying the underlying causes of Horner's syndrome, such as a tumor or injury along the sympathetic pathway.

2. Dysplasia is characterized by the abnormal growth of which type of cells?

- A. Epithelial cells**
- B. Muscle cells**
- C. Nerve cells**
- D. Bone cells**

Dysplasia specifically refers to the abnormal proliferation and development of cells, primarily in epithelial tissues. This condition is often characterized by irregularities in cell size, shape, and organization, which can indicate a precancerous stage in some cases. Dysplasia most commonly occurs in epithelial cells because these cells form the lining of organs and structures in the body, making them susceptible to various factors that can disrupt normal growth and differentiation. In contrast, the other cell types listed—muscle, nerve, and bone cells—typically exhibit different pathological processes when affected by conditions such as dysplasia. Muscle cells can undergo hypertrophy or atrophy, nerve cells may undergo degeneration or regeneration, and bone cells can be affected by conditions like osteomalacia or osteoporosis, but none of these are categorized as dysplastic changes. Hence, the correct response emphasizes the role of epithelial cells in dysplasia and highlights its definition as a condition involving abnormal epithelial growth.

3. Obstructive Sleep Apnea has a higher risk of which cardiovascular condition?

- A. Arrhythmias**
- B. Hypertension**
- C. Heart attack**
- D. Stroke**

Obstructive Sleep Apnea (OSA) is associated with various cardiovascular complications, but hypertension is particularly notable due to the pathophysiological mechanisms involved. Individuals with OSA experience repeated episodes of partial or complete obstruction of the upper airway during sleep, leading to intermittent hypoxia (low oxygen levels) and a deprivation of restorative sleep. This intermittent hypoxia triggers a cascade of physiological responses, including increased sympathetic nervous system activity and inflammation, both of which can lead to elevated blood pressure. The repeated arousals from sleep due to OSA increase the overall sympathetic tone and can cause vascular changes that contribute to the development of systemic hypertension. Additionally, the chronic low oxygen levels can stimulate the production of erythropoietin, increasing red blood cell mass and subsequently raising the hematocrit, which can further elevate blood pressure. Research has consistently shown a strong relationship between OSA and the development of hypertension, making it a significant risk factor. In fact, patients with untreated OSA often have resistant hypertension that may not respond well to conventional treatment. Understanding this connection is crucial for timely identification and management of individuals with OSA to help mitigate the risks of developing hypertension and related cardiovascular diseases.

4. Which etiology of Horner's syndrome is preganglionic in nature and typically presents with arm pain?

- A. Cervical rib syndrome**
- B. Thoracic outlet syndrome**
- C. Pancoast tumor**
- D. Neuroblastoma**

Horner's syndrome results from disruption of sympathetic nerve pathways to the eye and can have various etiologies. The answer that identifies the preganglionic nature of Horner's syndrome, particularly associated with arm pain, is linked to a Pancoast tumor. A Pancoast tumor is a form of lung cancer located at the apex of the lung, which can invade nearby structures, including the brachial plexus and sympathetic chain. This tumor can cause a combination of symptoms due to its location: arm pain (often due to involvement of the brachial plexus), Horner's syndrome (due to disruption of sympathetics), and possibly other neurological deficits. The arm pain is attributable to the involvement of the roots of the brachial plexus, which while not a direct cause of Horner's syndrome, often accompanies the condition when the tumor is present at the apex of the lung. The preganglionic nature is key to this diagnosis, as Pancoast tumors affect the sympathetic fibers originating from the first-order neurons in the lateral horn of the spinal cord that travel through the sympathetic chain before synapsing in the cervical ganglia. The other options typically involve different mechanisms or regions of nerve involvement that do not exclusively lead to

5. Which of the following is NOT a treatment option for Parkinson's disease?

- A. Levodopa**
- B. Neostigmine**
- C. Bromocriptine**
- D. Sinemet**

Neostigmine is not a treatment option for Parkinson's disease, and this can be understood by examining the primary goals of therapy in managing Parkinson's. Levodopa is a cornerstone of Parkinson's treatment, as it is a precursor to dopamine, which is deficient in this condition. By converting to dopamine in the brain, it helps alleviate motor symptoms associated with the illness. Bromocriptine is a dopamine agonist that mimics dopamine's action in the brain, providing another effective way to manage symptoms, particularly when patients exhibit fluctuations in response to levodopa or experience motor complications. Sinemet, a combination of levodopa and carbidopa, is commonly prescribed to improve the delivery of levodopa to the brain while reducing its peripheral side effects. In contrast, neostigmine is primarily used to treat myasthenia gravis and is a cholinesterase inhibitor that increases acetylcholine levels at the neuromuscular junction. This mechanism is not beneficial for Parkinson's disease, where the problem lies not in acetylcholine transmission but rather in the deficient dopaminergic transmission. Therefore, it does not fit into the established treatment protocol for Parkinson's disease.

6. Which of the following is NOT an ocular finding associated with Hypoparathyroidism?

- A. Cataracts**
- B. Uveitis**
- C. Band keratopathy**
- D. Blurry vision**

Hypoparathyroidism is characterized by low levels of parathyroid hormone, which can lead to various systemic and ocular manifestations. Among the ocular findings associated with this condition, cataracts, uveitis, and blurry vision are commonly reported. Cataracts are a well-known complication linked to hypoparathyroidism due to calcium imbalance that can affect lens transparency. Similarly, uveitis can occur, as autoimmune mechanisms and systemic inflammation may contribute to intraocular inflammation in individuals with this condition. Blurry vision can also be a result of these ocular complications, impacting visual acuity. However, band keratopathy is not a typical finding associated with hypoparathyroidism. Band keratopathy usually arises from conditions that lead to calcium deposition in the cornea, which is more commonly linked to hyperparathyroidism or other disorders that induce hypercalcemia. Therefore, this option stands out as the one that does not generally align with the ocular findings associated with hypoparathyroidism, making it the correct answer.

7. Which is NOT considered a major risk factor for bacterial endocarditis?

- A. Prosthetic heart valves**
- B. Alcohol abuse**
- C. IV drug abuse**
- D. Age**

Bacterial endocarditis is primarily associated with certain risk factors that contribute to the likelihood of bacterial infection affecting the heart valves. Major risk factors commonly include the presence of prosthetic heart valves, intravenous (IV) drug abuse, and a patient's age, particularly older individuals who may have preexisting heart conditions or structural defects. Prosthetic heart valves are a significant risk factor because they provide a surface that bacteria can adhere to more easily compared to natural heart tissue. IV drug abuse is another critical risk factor as it often involves the introduction of bacteria directly into the bloodstream, particularly through non-sterile injection practices. Age is a factor because, with increasing age, the incidence of degenerative heart conditions rises, which may predispose individuals to bacterial endocarditis. Alcohol abuse, while it can lead to a variety of health issues such as liver disease, cardiovascular complications, or altered immune function, is not classically classified as a direct major risk factor for bacterial endocarditis. Therefore, in this context, alcohol abuse does not have the same level of association with the condition compared to the other listed factors. This distinction is essential for understanding the complete risk profile associated with bacterial endocarditis.

8. What condition is characterized by an increase in aqueous humor production?

- A. Open-angle glaucoma**
- B. Cataract**
- C. Dry eye syndrome**
- D. Retinal vein occlusion**

Open-angle glaucoma is characterized by an increase in aqueous humor production, leading to elevated intraocular pressure (IOP). In this condition, the trabecular meshwork, which is responsible for draining the aqueous humor, is not functioning optimally, allowing for a buildup of fluid. Excessive production of aqueous humor, combined with inadequate drainage, results in increased pressure within the eye, which can damage the optic nerve and lead to vision loss. Recognizing this mechanism is crucial in understanding how open-angle glaucoma differs from other ocular conditions. Cataracts involve the clouding of the lens and are not related to aqueous humor production. Dry eye syndrome is characterized by insufficient tear production or poor tear quality, while retinal vein occlusion typically involves issues related to blood flow in the retina rather than the production of aqueous humor. This distinct characteristic of increased aqueous humor production is what primarily defines the pathophysiology of open-angle glaucoma.

9. What is considered the number one risk factor for a myocardial infarction?

- A. High cholesterol**
- B. Hypertension**
- C. Diabetes**
- D. Coronary artery disease**

Coronary artery disease is recognized as the number one risk factor for a myocardial infarction, commonly known as a heart attack. This condition arises from the buildup of plaque in the coronary arteries, which can lead to their narrowing or blockage. When the blood flow to the heart muscle is reduced or cut off due to these constrictions or occlusions, it can result in tissue damage or necrosis, which is identified as a myocardial infarction. Coronary artery disease encompasses several other risk factors, including high cholesterol, hypertension, and diabetes, which can all contribute to the development and progression of this disease. However, while each of these individual factors can increase the risk of myocardial infarction, they are often seen as contributing to the overarching condition of coronary artery disease rather than being standalone primary risk factors themselves. Understanding the relationship between these conditions highlights the importance of monitoring and managing coronary artery disease, as it is central to the prevention of acute cardiovascular events like myocardial infarctions. This understanding also underscores a preventative healthcare approach that addresses not just isolated risk factors but the systemic nature of heart disease.

10. Which type of heart failure leads to pulmonary edema?

- A. Left-sided CHF**
- B. Right-sided CHF**
- C. Combined CHF**
- D. Cor pulmonale**

Left-sided congestive heart failure (CHF) is directly associated with pulmonary edema due to its impact on the circulatory system. When the left side of the heart is unable to effectively pump blood out to the systemic circulation, blood accumulates in the left atrium and subsequently the pulmonary veins. This accumulation of blood results in increased pressure within these vessels, leading to fluid leaking into the pulmonary interstitial spaces and alveoli. As this fluid collects, it disrupts normal gas exchange and can cause significant respiratory distress, which is characterized as pulmonary edema. In contrast, right-sided CHF primarily affects the systemic veins and is more commonly associated with peripheral edema, such as swelling in the legs and abdomen, rather than pulmonary edema. Combined CHF can exhibit symptoms of both sides but does not specifically isolate pulmonary edema to left-sided failure. Cor pulmonale, while related to right-sided failure often due to chronic lung conditions, does not cause pulmonary edema in the same manner as left-sided CHF. Hence, left-sided CHF is the condition most directly responsible for the development of pulmonary edema.

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://nbeosystematicdisease.examzify.com>

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

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