

# NBRC Pharmacology 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**

- 1. What condition does Flolan primarily target?**
  - A. Hypertension**
  - B. Coronary artery disease**
  - C. Pulmonary hypertension**
  - D. Asthma**
  
- 2. What condition can sildenafil (Viagra) help treat?**
  - A. ED (Erectile Dysfunction)**
  - B. Pulmonary edema caused by altitude sickness**
  - C. Cardiovascular disease**
  - D. Asthma attacks**
  
- 3. For a patient with severe hypertension, which drug would be beneficial?**
  - A. Lidocaine**
  - B. Acetazolamide**
  - C. Nicardipine**
  - D. Spironolactone**
  
- 4. Which organisms are classified as gram positive?**
  - A. Any organism ending in 'bacillus'**
  - B. Any organism ending in 'coccus'**
  - C. Any organism with a single cell wall**
  - D. Any rod-shaped organism**
  
- 5. Which medication is classified as a calcium channel blocker?**
  - A. Propranolol**
  - B. Warfarin**
  - C. Nicardipine**
  - D. Lidocaine**

- 6. What is essential for ensuring safe administration of medications to patients in respiratory care?**
- A. Adherence to patient preferences.**
  - B. Knowledge of their medical history.**
  - C. Fast prescription filling.**
  - D. High-pressure sales techniques.**
- 7. Which of the following statements about vasopressin is correct?**
- A. It is primarily a vasodilator**
  - B. It is used during cardiac surgeries**
  - C. It enhances sodium retention in the kidneys**
  - D. It is a backup option for epinephrine in codes**
- 8. How do inhaled corticosteroids assist patients with asthma?**
- A. By inducing immediate airflow**
  - B. By controlling chronic inflammation**
  - C. By preventing mucus secretion**
  - D. By stimulating bronchodilation**
- 9. What is a common misconception patients may have about their medications in respiratory care?**
- A. All medications are guaranteed to work the same for everyone.**
  - B. Medications can always be stopped without consultation.**
  - C. Medication side effects are always severe.**
  - D. Proper medication use is unrelated to their overall state of health.**
- 10. Which medication is an example of a leukotriene receptor antagonist?**
- A. Singulair**
  - B. Albuterol**
  - C. Ipratropium bromide**
  - D. Prednisone**



## **Answers**

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

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## **Explanations**

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## 1. What condition does Flolan primarily target?

- A. Hypertension
- B. Coronary artery disease
- C. Pulmonary hypertension**
- D. Asthma

Flolan, the brand name for epoprostenol, is primarily indicated for the treatment of pulmonary hypertension, a condition characterized by elevated blood pressure in the pulmonary arteries. This medication is a potent vasodilator that works by relaxing and dilating blood vessels in the lungs, which leads to a decrease in pulmonary artery pressure. By improving blood flow and reducing the workload on the heart, Flolan helps alleviate symptoms associated with pulmonary hypertension, such as shortness of breath and fatigue. This targeted action is particularly vital for patients suffering from primary pulmonary hypertension or pulmonary hypertension associated with conditions like scleroderma or congenital heart disease. The effectiveness of Flolan in managing this specific condition underscores its importance in the therapeutic landscape of pulmonary vascular diseases, making it the correct answer to this question.

## 2. What condition can sildenafil (Viagra) help treat?

- A. ED (Erectile Dysfunction)
- B. Pulmonary edema caused by altitude sickness**
- C. Cardiovascular disease
- D. Asthma attacks

Sildenafil, commonly known by its brand name Viagra, is primarily prescribed for the treatment of erectile dysfunction (ED). It works by increasing blood flow to the penis during sexual stimulation, helping to achieve and maintain an erection. This action is due to the inhibition of the phosphodiesterase type 5 (PDE5) enzyme, which leads to increased levels of cyclic guanosine monophosphate (cGMP), promoting vascular relaxation. While sildenafil has shown some efficacy in treating pulmonary arterial hypertension due to its vasodilatory effects on pulmonary and systemic arterial vascular beds, its primary and FDA-approved use is for erectile dysfunction. Therefore, the statement that sildenafil helps treat erectile dysfunction is accurate. The other options, such as pulmonary edema caused by altitude sickness, cardiovascular disease, and asthma attacks, do not align with the established uses of sildenafil. The condition most closely associated with sildenafil's therapeutic application remains erectile dysfunction, supported by substantial clinical evidence.

**3. For a patient with severe hypertension, which drug would be beneficial?**

- A. Lidocaine**
- B. Acetazolamide**
- C. Nicardipine**
- D. Spironolactone**

Nicardipine is a calcium channel blocker that is effective in the management of severe hypertension. It works by relaxing the smooth muscle in blood vessels, leading to vasodilation and a subsequent decrease in blood pressure. Its ability to reduce peripheral vascular resistance makes it particularly useful in acute settings where quick blood pressure control is necessary. In contrast, the other options do not directly target hypertension effectively. Lidocaine is primarily used as an antiarrhythmic agent and does not have a role in managing blood pressure. Acetazolamide is a diuretic used mainly for conditions like glaucoma, altitude sickness, or certain types of edema, but it is not a first-line treatment for hypertension. Spironolactone, while a potassium-sparing diuretic that can be used for hypertension, is typically not the first choice in acute scenarios or severe cases, especially without other heart failure or edema indications. Thus, nicardipine stands out as the most appropriate choice for effectively managing severe hypertension due to its mechanism of action and rapid onset of action.

**4. Which organisms are classified as gram positive?**

- A. Any organism ending in 'bacillus'**
- B. Any organism ending in 'coccus'**
- C. Any organism with a single cell wall**
- D. Any rod-shaped organism**

Gram-positive organisms are characterized by their thick peptidoglycan layer in the cell wall, which retains the crystal violet stain used during the Gram staining process, resulting in a purple appearance under a microscope. This staining technique is crucial for identifying and classifying bacteria. While it is common for many bacteria that are cocci-shaped (spherical) to be gram-positive, the key to understanding why this option is valid lies in the common classifications of bacteria. Examples of well-known gram-positive cocci include Streptococcus and Staphylococcus species. The other options present broader classifications that are not specific to gram-positive bacteria. Organisms that end in 'bacillus' or are rod-shaped may include both gram-positive and gram-negative bacteria. The single cell wall classification does not adequately describe the structural differences necessary to determine whether an organism is gram-positive or gram-negative. Therefore, classifying organisms based solely on their shape or suffix can lead to inaccuracies in identifying gram-positive bacteria.

**5. Which medication is classified as a calcium channel blocker?**

- A. Propranolol**
- B. Warfarin**
- C. Nicardipine**
- D. Lidocaine**

Nicardipine is classified as a calcium channel blocker, which is a type of medication that inhibits the influx of calcium ions into cardiac and smooth muscle cells through voltage-gated calcium channels. This action leads to relaxation of vascular smooth muscle, resulting in vasodilation and a decrease in blood pressure. Calcium channel blockers are primarily used in the management of hypertension, angina, and certain types of arrhythmias. The mechanism of action of nicardipine focuses on reducing the contractility of the heart and the systemic vascular resistance. This makes it effective for treating conditions like high blood pressure or angina, as it lowers the heart's workload and oxygen demand. The other medications listed do not belong to this category. Propranolol is a non-selective beta-adrenergic blocker, used primarily for hypertension and anxiety. Warfarin is an anticoagulant that works by inhibiting vitamin K-dependent clotting factors in the liver. Lidocaine is an antiarrhythmic agent that stabilizes the cardiac membrane, primarily used for ventricular arrhythmias. Each of these medications operates through different mechanisms and is indicated for different clinical scenarios, underscoring the specificity of nicardipine as a calcium channel blocker.

**6. What is essential for ensuring safe administration of medications to patients in respiratory care?**

- A. Adherence to patient preferences.**
- B. Knowledge of their medical history.**
- C. Fast prescription filling.**
- D. High-pressure sales techniques.**

Knowledge of a patient's medical history is crucial for safe administration of medications in respiratory care. Understanding a patient's previous medical conditions, current medications, allergies, and any past reactions to drugs allows healthcare providers to make informed decisions about which medications are appropriate and safe to administer. This background helps in avoiding potential drug interactions, minimizing adverse effects, and tailoring treatment to the individual needs of the patient. For instance, if a patient has a history of asthma, the healthcare professional can choose bronchodilators or corticosteroids that effectively manage their symptoms while taking into account other medications that the patient might be on. Additionally, knowing about any allergies can prevent the administration of drugs that could lead to serious reactions. The other options, while important in their own right, do not directly ensure the safety of medication administration in the same way. Adherence to patient preferences is valuable for aligning treatment with the patient's values but does not necessarily address safety. Fast prescription filling can improve efficiency but might compromise safety if it leads to oversight in reviewing a patient's medical history. High-pressure sales techniques are not relevant in clinical practice and could lead to inappropriate medication use. Therefore, a solid understanding of a patient's medical history stands out as the foundational element for ensuring safety in medication administration.

**7. Which of the following statements about vasopressin is correct?**

- A. It is primarily a vasodilator**
- B. It is used during cardiac surgeries**
- C. It enhances sodium retention in the kidneys**
- D. It is a backup option for epinephrine in codes**

The statement that is accurate regarding vasopressin is that it serves as a backup option for epinephrine during cardiac arrest scenarios. Vasopressin, also known as antidiuretic hormone (ADH), has vasoconstrictive properties, which can be beneficial in situations where increasing systemic vascular resistance is required, such as in advanced cardiac life support (ACLS) during a code. While epinephrine is often the first-line medication administered in cardiac arrest, vasopressin can be used as a second-line agent due to its ability to enhance coronary and cerebral perfusion during cardiopulmonary resuscitation (CPR). This adjunctive effect can help improve outcomes in certain patients experiencing an arrest. In contrast to this, vasopressin's role as a vasodilator is incorrect; it primarily acts as a vasoconstrictor. Its use during cardiac surgeries may not be as well established or consistent as during a code situation. Lastly, while vasopressin does have some influence on fluid balance and can promote water reabsorption in the kidneys, its primary function in the context provided does not relate directly to enhancing sodium retention in the kidneys. Therefore, the characterization of vasopressin as a backup

**8. How do inhaled corticosteroids assist patients with asthma?**

- A. By inducing immediate airflow**
- B. By controlling chronic inflammation**
- C. By preventing mucus secretion**
- D. By stimulating bronchodilation**

Inhaled corticosteroids are a fundamental component of asthma management, primarily because they effectively control chronic inflammation within the airways. Asthma is characterized by persistent inflammation, which can lead to airway hyperreactivity, bronchoconstriction, and increased mucus production. By reducing this inflammation, inhaled corticosteroids help to decrease airway swelling and sensitivity, making it easier for patients to breathe and reducing the frequency and severity of asthma attacks. While inhaled corticosteroids do not provide immediate relief of symptoms, like bronchodilators do, they play a crucial role in long-term asthma management by addressing the underlying inflammatory process. This control over inflammation leads to improved airway function and less reliance on quick-relief inhalers. In contrast, options that suggest immediate airflow induction or bronchodilation refer to the functions of short-acting beta-agonists, not inhaled corticosteroids. Similarly, while these medications may indirectly affect mucus secretion by decreasing inflammation, their primary role is not to prevent mucus per se but to control the overall inflammatory response that contributes to airway dysfunction in asthma.

**9. What is a common misconception patients may have about their medications in respiratory care?**

- A. All medications are guaranteed to work the same for everyone.**
- B. Medications can always be stopped without consultation.**
- C. Medication side effects are always severe.**
- D. Proper medication use is unrelated to their overall state of health.**

A common misconception patients may have about their medications in respiratory care is that all medications are guaranteed to work the same for everyone. This is a significant misunderstanding because the efficacy of medications can vary based on a variety of factors, including individual patient characteristics such as genetics, metabolism, existing health conditions, and concurrent medications. For instance, a medication like a bronchodilator might work effectively for one patient with asthma while another patient with asthma might experience minimal relief, even though both patients are prescribed the same medication. This variability underscores the importance of personalized treatment approaches in respiratory care, as well as the need to continuously evaluate and adjust therapy based on each patient's unique response. In contrast, other options present different misconceptions. While some may believe that medications can always be stopped without consultation, it's essential that patients communicate with their healthcare provider before making changes to their regimen. Also, not all medication side effects are severe; many are mild and manageable, yet this misconception can deter patients from adhering to their treatment. Lastly, proper medication use is closely tied to a patient's overall health, as factors like diet, lifestyle, and pre-existing conditions significantly influence how well a medication works.

**10. Which medication is an example of a leukotriene receptor antagonist?**

- A. Singulair**
- B. Albuterol**
- C. Ipratropium bromide**
- D. Prednisone**

The correct choice, Singulair, is an example of a leukotriene receptor antagonist because it specifically works by blocking the action of leukotrienes, which are inflammatory mediators involved in the pathophysiology of asthma and allergic rhinitis. By antagonizing the leukotriene receptors, Singulair helps to relax bronchial smooth muscle, reduce inflammation, and decrease mucus production, thereby improving respiratory function in patients with these conditions. Other medications in the list serve different roles in respiratory therapy. Albuterol is a short-acting beta-agonist that primarily works as a bronchodilator, providing rapid relief from acute bronchospasm. Ipratropium bromide is an anticholinergic agent used to reduce bronchoconstriction and mucus secretion but does not target leukotriene receptors. Prednisone is a corticosteroid that reduces inflammation but acts through a different mechanism, primarily by suppressing the overall immune response and inflammatory processes rather than specifically blocking leukotriene receptors.



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

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