# Pharmacology Presentation Drugs Practice Test (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. In ATTR, mutations cause TTR tetramers to dissociate into misfolded monomers that aggregate into fibrils. What is the resulting effect on the heart?**

**A. Reduced myocardial contractility**

**B. Stiffened ventricular walls leading to impaired filling**

**C. Increased heart rate**

**D. Improved diastolic filling**

**2. How is semaglutide administered?**

**A. Injection under the skin once a week**

**B. Oral tablet twice daily**

**C. Intravenous infusion weekly**

**D. Inhaled powder daily**

**3. Yasmin monophasic, biphasic, or triphasic?**

**A. Biphasic**

**B. Triphasic**

**C. Quadriphasic**

**D. Monophasic**

**4. Which statement is true about tadalafil?**

**A. Tadalafil inhibits PDE2**

**B. Tadalafil inhibits PDE3**

**C. Tadalafil inhibits PDE4**

**D. Tadalafil inhibits PDE5**

**5. ATTR-CM primarily involves which organ?**

**A. Heart**

**B. Liver**

**C. Kidney**

**D. Lungs**

**6. Wooden Chest Syndrome is a side effect associated with fentanyl and relates to which phenomenon?**

**A. Respiratory muscle rigidity (Wooden Chest Syndrome)**

**B. Nasal congestion**

**C. Hyperactivity**

**D. Increased appetite**

**7. What are the two types of immunity?**

**A. Cellular and humoral immunity**

**B. Passive and active immunity**

**C. Innate and adaptive**

**D. Primary and secondary immunity**

**8. Which enzyme family is targeted by tadalafil?**

**A. PDE1**

**B. PDE3**

**C. PDE5**

**D. PDE9**

**9. Progesterone metabolites binds via ____ to _____ receptor**

**A. Negative allosteric modulation, GABAa**

**B. Positive allosteric modulation, GABAa**

**C. Competitive antagonism, NMDA receptor**

**D. No effect on GABA receptors**

**10. Which property best explains fentanyl's rapid onset after administration?**

**A. Hydrophilicity**

**B. Large molecular weight**

**C. Extremely lipophilic, with high logP and large distribution volume**

**D. Low receptor affinity**

# Answers

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

# Explanations

## 1. In ATTR, mutations cause TTR tetramers to dissociate into misfolded monomers that aggregate into fibrils. What is the resulting effect on the heart?

**A. Reduced myocardial contractility**

**B. Stiffened ventricular walls leading to impaired filling**

**C. Increased heart rate**

**D. Improved diastolic filling**

**The key idea is that transthyretin amyloid deposits in the heart stiffen the ventricular walls, making them noncompliant. This increased stiffness impairs filling during diastole, producing diastolic dysfunction and a restrictive cardiomyopathy pattern. Because the main problem is the heart's ability to fill, not its ability to pump, systolic contractility is often preserved early on, so reduced contractility isn't the central issue. The result is a heart with stiff chambers that struggle to fill properly, matching the option describing stiffened ventricles with impaired filling. Increased heart rate or improved diastolic filling aren't characteristic of this process, further supporting the correct choice.**

## 2. How is semaglutide administered?

**A. Injection under the skin once a week**

**B. Oral tablet twice daily**

**C. Intravenous infusion weekly**

**D. Inhaled powder daily**

**Semaglutide is designed as a long-acting GLP-1 receptor agonist, so it stays in the body long enough to be dosed less frequently. This is why it's given by subcutaneous injection once a week: injecting under the skin provides steady absorption over several days, allowing a weekly schedule rather than daily dosing. When you inject, you can use the abdomen, thigh, or upper arm, and rotate sites to minimize irritation. There is an oral form of semaglutide, but it is taken once daily with specific instructions, not twice daily. Intravenous infusion weekly and inhaled powder daily are not how semaglutide is administered.**

## 3. Yasmin monophasic, biphasic, or triphasic?

**A. Biphasic**

**B. Triphasic**

**C. Quadriphasic**

**D. Monophasic**

**Yasmin is a monophasic combined oral contraceptive, meaning the same amount of estrogen and progestin is delivered in every active pill throughout the cycle. This constant dosing keeps ovulation suppression consistent day by day. Other regimens vary hormone amounts across the cycle (biphasic or triphasic change doses in different weeks, quadriphasic would have four phases), which is why Yasmin is categorized as monophasic.**

## 4. Which statement is true about tadalafil?

**A. Tadalafil inhibits PDE2**

**B. Tadalafil inhibits PDE3**

**C. Tadalafil inhibits PDE4**

**D. Tadalafil inhibits PDE5**

**Tadalafil works by inhibiting phosphodiesterase type 5, the enzyme that hydrolyzes cyclic GMP in smooth muscle. In penile tissue, nitric oxide released during sexual stimulation increases cGMP, which relaxes the smooth muscle and allows more blood to flow into the corpus cavernosum. By blocking PDE5, tadalafil prolongs the cGMP signal, enhancing and sustaining an erection in response to arousal. It is selective for PDE5 over other PDEs, which is why its primary effect is on erectile tissue with fewer widespread effects (though some minor visual changes can occur from limited PDE6 inhibition). It does not cause an erection without sexual stimulation, and it should not be used with nitrates due to risk of severe hypotension. So the true statement is that tadalafil inhibits PDE5.**

## 5. ATTR-CM primarily involves which organ?

**A. Heart**

**B. Liver**

**C. Kidney**

**D. Lungs**

**Transthyretin amyloid cardiomyopathy (ATTR-CM) centers on the deposition of transthyretin-derived amyloid in the heart muscle. This buildup makes the myocardium stiff, leading to diastolic dysfunction and a restrictive cardiomyopathy pattern. While amyloid can affect multiple organs in systemic forms, ATTR-CM is defined by its primary and prominent involvement of the heart, producing symptoms of heart failure with preserved ejection fraction and characteristic imaging findings. So the organ most affected is the heart.**

## 6. Wooden Chest Syndrome is a side effect associated with fentanyl and relates to which phenomenon?

**A. Respiratory muscle rigidity (Wooden Chest Syndrome)**

**B. Nasal congestion**

**C. Hyperactivity**

**D. Increased appetite**

**Fentanyl can cause a sudden increase in skeletal muscle tone, especially in the chest wall and respiratory muscles, a phenomenon known as Wooden Chest Syndrome. This central-motor effect results from potent mu-opioid receptor activation and rapid IV administration, leading to marked chest wall stiffness that hinders chest expansion and ventilation. It can occur even if the patient's breathing rate seems preserved, and it may mimic airway obstruction or bronchospasm, making it a distinct and dangerous complication of high-dose or rapid fentanyl use. Treating it involves stopping or slowing fentanyl, reversing its effects with naloxone, and, if necessary, providing neuromuscular blockade and assisted ventilation to secure the airway. The other choices don't fit because nasal congestion, hyperactivity, or increased appetite are not caused by this central chest-wall rigidity phenomenon.**

## 7. What are the two types of immunity?

**A. Cellular and humoral immunity**

**B. Passive and active immunity**

**C. Innate and adaptive**

**D. Primary and secondary immunity**

**Immunity is organized into two broad categories: innate (nonspecific) and adaptive (specific). Innate immunity provides immediate defense using barriers like skin and mucous membranes, chemical factors such as stomach acid, and cellular players like phagocytes and natural killer cells, plus the complement system and inflammation. It responds the same way to many pathogens and doesn't memory-build or tailor its attack to a specific invader. Adaptive immunity, on the other hand, is activated after exposure to a particular pathogen. It uses T cells and B cells to target that pathogen specifically, producing antibodies and generating memory so future encounters are faster and stronger. This division captures the fundamentally different ways the body defends itself: a rapid, general first line and a targeted, learned response that improves with experience. The other options describe components or aspects of the immune response rather than the broad categories. Cellular and humoral immunity are the two arms of the adaptive system; passive and active immunity refer to how immunity is acquired; primary and secondary immunity describe responses upon first versus subsequent exposures.**

## 8. Which enzyme family is targeted by tadalafil?

**A. PDE1**

**B. PDE3**

**C. PDE5**

**D. PDE9**

**Tadalafil works by inhibiting the enzyme PDE5. In penile tissue, sexual stimulation triggers the release of nitric oxide, which activates guanylate cyclase to raise the levels of cGMP. This cGMP causes smooth muscle relaxation in the erectile tissue, allowing more blood to fill the penis and produce an erection. PDE5 normally breaks down cGMP, so blocking PDE5 sustains higher cGMP levels and enhances the erectile response in the presence of sexual arousal. Tadalafil is selective for PDE5, meaning it preferentially inhibits this enzyme over other phosphodiesterases found in different tissues (like PDE1, PDE3, PDE6, etc.), which helps limit off-target effects. The result is improved erectile function driven by the NO-cGMP pathway, specifically through PDE5 inhibition.**

## 9. Progesterone metabolites binds via ___ to _____ receptor

**A. Negative allosteric modulation, GABAa**

**B. Positive allosteric modulation, GABAa**

**C. Competitive antagonism, NMDA receptor**

**D. No effect on GABA receptors**

**Progesterone metabolites, such as allopregnanolone, are neurosteroids that act as positive allosteric modulators of the GABA_A receptor. They bind to a distinct site on the receptor and increase the receptor's response to GABA, enhancing chloride influx and thus strengthening inhibitory neurotransmission. This makes neurons less excitable, which underlies sedative and anticonvulsant effects. This mechanism is not about competitive antagonism at the NMDA receptor, nor about no effect on GABA receptors, and it is not a negative allosteric modulation. The key idea is that these progesterone metabolites boost the GABA_A receptor's function in the presence of GABA.**

## 10. Which property best explains fentanyl's rapid onset after administration?

**A. Hydrophilicity**

**B. Large molecular weight**

**C. Extremely lipophilic, with high logP and large distribution volume**

**D. Low receptor affinity**

**Rapid onset hinges on how fast the drug reaches the brain, where opioids exert their effect. Fentanyl is highly lipophilic, so it readily crosses lipid membranes and the blood–brain barrier, allowing brain concentrations to rise quickly and producing fast analgesia. Its high logP and large distribution volume reflect this easy tissue partitioning, especially into the brain. In contrast, hydrophilicity would slow entry into the brain, a large molecular weight can hinder diffusion, and low receptor affinity would mainly affect potency rather than how fast the drug acts. So the extreme lipophilicity best explains why fentanyl works so quickly.**

# 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://pharmpresentationdrugs.examzify.com**

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