

PHARMACOLOGY CMS PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://pharmacologycms.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

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

SAMPLE

- 1. How should ophthalmic eye ointment be applied?**
 - A. A thin ribbon to the edge of lower eyelid from inner to outer canthus
 - B. A thick ribbon to upper eyelid margin
 - C. Instill into conjunctival sac as drops
 - D. Apply to the cornea directly
- 2. Which antibiotic is commonly prescribed as first-line oral therapy for otitis media in patients without penicillin allergy?**
 - A. Cefdinir
 - B. Amoxicillin
 - C. Azithromycin
 - D. Clindamycin
- 3. Which of the following should be avoided while taking lithium?**
 - A. Adequate salt intake
 - B. Regular exercise
 - C. NSAIDs or aspirin
 - D. Daily vitamin C
- 4. Cardiac glycosides such as digoxin produce which of the following effects on the heart?**
 - A. Increased force of myocardial contraction
 - B. Vasodilation of peripheral arteries
 - C. Increased urine output
 - D. Decreased blood pressure
- 5. Which statement about Buspirone is true?**
 - A. It is a benzodiazepine.
 - B. It binds to serotonin and dopamine receptors.
 - C. It has rapid onset within 24 hours.
 - D. It should be avoided with food.

- 6. What is a common precaution when starting an alpha-adrenergic blocker?**
- A. First dose orthostatic hypotension
 - B. First dose given at night
 - C. Contraindicated with hypotension
 - D. Addictive hypotensive effect
- 7. Which electrolyte abnormality is commonly associated with loop diuretics?**
- A. Hyperkalemia
 - B. Hypokalemia
 - C. Hypercalcemia
 - D. Hyponatremia
- 8. Which statement best defines half-life?**
- A. Time for the drug to reach peak concentration
 - B. Time for the drug to be eliminated by half
 - C. Time for the drug concentration to drop by 50%
 - D. Time for the drug to be absorbed completely
- 9. Taking diuretics with an antihypertensive that blocks aldosterone can increase the risk of which effect?**
- A. Hyperkalemia
 - B. Hypertension
 - C. Hyperglycemia
 - D. Orthostatic hypotension
- 10. Which practice is recommended when administering thrombolytics?**
- A. Administer antiplatelet agents immediately
 - B. Limit injections
 - C. Increase IV fluids
 - D. Monitor only once per hour

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. How should ophthalmic eye ointment be applied?

- A. A thin ribbon to the edge of lower eyelid from inner to outer canthus**
- B. A thick ribbon to upper eyelid margin
- C. Instill into conjunctival sac as drops
- D. Apply to the cornea directly

The key idea is delivering the ointment so it coats the surface of the eye and stays in place long enough to work. Place a thin ribbon of ointment along the edge of the lower eyelid, entering the conjunctival sac from the inner canthus toward the outer canthus. This position lets the medication spread across the ocular surface as the eye blinks and helps retain the drug longer than if it were placed elsewhere. Avoid applying a thick strip on the upper eyelid margin or directly on the cornea. A thick layer on the upper lid can blur vision and doesn't distribute well across the eye, and putting ointment directly on the cornea risks irritation or damage. And ointment is delivered as a ribbon into the conjunctival sac, not as drops. After application, keep the eye closed gently to help distribute the medication.

2. Which antibiotic is commonly prescribed as first-line oral therapy for otitis media in patients without penicillin allergy?

- A. Cefdinir
- B. Amoxicillin**
- C. Azithromycin
- D. Clindamycin

*The main idea here is that uncomplicated acute otitis media in patients without penicillin allergy should be treated with a narrow, reliable antibiotic that covers the usual ear pathogens and reaches good levels in the middle ear. Amoxicillin fits best because of its strong activity against the common culprits—*Streptococcus pneumoniae*, non-typeable *Haemophilus influenzae*, and *Moraxella catarrhalis*—combined with excellent oral bioavailability. When given in a high-dose regimen (about 80–90 mg/kg/day, split into two doses, for about 5–10 days), amoxicillin achieves sufficient concentrations in middle ear fluid to treat organisms that may have reduced susceptibility and to reduce treatment failures. It's also cost-effective and generally well tolerated, making it a practical first choice. The other options are more appropriate in specific scenarios. Cefdinir can be used if amoxicillin cannot be given, but it's not the preferred first-line due to broader spectrum and other practical considerations. Azithromycin has higher rates of resistance among the usual otitis media pathogens, reducing its effectiveness as first-line therapy. Clindamycin covers some bacteria but lacks reliable activity against non-typeable *H. influenzae* and *Moraxella* and carries a higher risk of *Clostridioides difficile* infection, so it's not favored as initial therapy.*

3. Which of the following should be avoided while taking lithium?

- A. Adequate salt intake
- B. Regular exercise
- C. NSAIDs or aspirin**
- D. Daily vitamin C

Lithium is cleared by the kidneys and its level in the blood is very sensitive to changes in kidney function and sodium balance. It is filtered and then reabsorbed in the proximal tubule along with sodium, so anything that reduces kidney filtration or alters sodium handling can raise lithium levels and increase toxicity risk. NSAIDs or aspirin are particularly important here because they decrease prostaglandin synthesis in the kidney, which lowers renal perfusion and glomerular filtration. With less filtration, lithium reabsorption in the proximal tubule increases, leading to higher serum lithium concentrations and a greater danger of toxicity (tremor, confusion, ataxia, seizures, etc.). That's why these drugs should be avoided or used with caution in someone taking lithium, and an alternative pain reliever like acetaminophen is often recommended unless a clinician advises otherwise. Maintaining a stable salt intake and adequate hydration helps keep lithium levels steadier, since significant changes in sodium balance can also shift lithium reabsorption. Regular exercise is generally fine, and daily vitamin C isn't a major concern with lithium. So the reason the best choice is the NSAIDs or aspirin is their direct impact on kidney function and lithium clearance, increasing the risk of toxicity.

4. Cardiac glycosides such as digoxin produce which of the following effects on the heart?

- A. Increased force of myocardial contraction**
- B. Vasodilation of peripheral arteries
- C. Increased urine output
- D. Decreased blood pressure

Cardiac glycosides produce a strong positive inotropic effect by blocking the Na^+/K^+ ATPase pump in cardiac muscle cells. This raises intracellular sodium, which reduces the activity of the $\text{Na}^+/\text{Ca}^{2+}$ exchanger that normally removes calcium from the cell. With less calcium being expelled, intracellular calcium accumulates, increasing calcium availability for the contractile machinery during systole and thereby strengthening each heartbeat. This direct increase in force of contraction is the hallmark effect of digoxin on the heart. The other options aren't the primary cardiac actions of digoxin. It does not act as a direct vasodilator of peripheral arteries, and increases in urine output or decreases in blood pressure aren't primary effects of its action on the myocardium.

5. Which statement about Buspirone is true?

- A. It is a benzodiazepine.
- B. It binds to serotonin and dopamine receptors.**
- C. It has rapid onset within 24 hours.
- D. It should be avoided with food.

Buspirone works through a serotonergic mechanism with some dopaminergic activity, which is why this statement is true. It acts mainly as a partial agonist at 5-HT_{1A} receptors (a serotonin receptor) and also interacts with dopamine receptors, giving it a distinct profile from benzodiazepines. This explains why it doesn't provide the rapid relief seen with benzodiazepines—effects build up over several days to weeks with consistent dosing. It is not a benzodiazepine, and it can be taken with or without food, so there's no need to avoid eating with it.

6. What is a common precaution when starting an alpha-adrenergic blocker?

- A. First dose orthostatic hypotension**
- B. First dose given at night
- C. Contraindicated with hypotension
- D. Addictive hypotensive effect

Starting alpha-adrenergic blockers carries a real risk of a sudden drop in blood pressure after the first dose, especially when the person moves to an upright position. This is known as the first-dose phenomenon and is the main precaution clinicians watch for. Because the initial vasodilation can cause dizziness or fainting, patients are often started on a very small dose and advised to take the first dose at bedtime to reduce daytime symptoms, while also being taught to rise slowly from lying or sitting. The underlying mechanism is blockade of alpha-1 receptors leading to vasodilation of resistive vessels and decreased systemic vascular resistance, which manifests most prominently as orthostatic hypotension after the initial dose.

7. Which electrolyte abnormality is commonly associated with loop diuretics?

- A. Hyperkalemia
- B. Hypokalemia**
- C. Hypercalcemia
- D. Hyponatremia

Loop diuretics cause a potassium-wasting effect because they block the $\text{Na}^+/\text{K}^+/\text{2Cl}^-$ cotransporter in the thick ascending limb of the loop of Henle. This prevents reabsorption of sodium, potassium, and chloride, so more sodium reaches the distal tubule. In the collecting duct, the increased sodium reabsorption drives more potassium (and hydrogen) secretion to maintain charge balance, leading to significant potassium loss in the urine. The net result is hypokalemia, which is the most characteristic electrolyte disturbance associated with loop diuretics. They can also cause hypomagnesemia and increased calcium excretion (potentially mild hypocalcemia), but the key point clinicians watch for is low potassium.

8. Which statement best defines half-life?

- A. Time for the drug to reach peak concentration
- B. Time for the drug to be eliminated by half
- C. Time for the drug concentration to drop by 50%**
- D. Time for the drug to be absorbed completely

The concept being tested is how half-life is defined in pharmacokinetics. Half-life is the time required for the drug's concentration in plasma to fall to one-half of its current value, assuming first-order elimination. This means if you start at a concentration C_0 , after one half-life you'll have $C_0/2$, after two half-lives $C_0/4$, and so on. The half-life is a constant for drugs with first-order kinetics and reflects how quickly the body removes the drug, determined by the relationship $t_{1/2} = 0.693 \times V_d / CL$ (volume of distribution divided by clearance). It's different from the time to peak concentration (T_{max}), which is about absorption and distribution to reach maximum levels, and from the idea of complete absorption, which isn't what half-life measures. The phrase "eliminated by half" is close in idea but the precise definition is the time for the concentration to decrease by 50% at that moment, not a vague notion of elimination timing. In practice, understanding half-life helps predict dosing intervals and how long a drug stays in the body; after about 4–5 half-lives, the drug is usually considered effectively cleared. For example, starting at 20 mg/L, one half-life later it's around 10 mg/L.

9. Taking diuretics with an antihypertensive that blocks aldosterone can increase the risk of which effect?

- A. Hyperkalemia
- B. Hypertension
- C. Hyperglycemia
- D. Orthostatic hypotension**

When a diuretic is used with an aldosterone-blocking antihypertensive, the risk of orthostatic hypotension rises because both drugs lower intravascular volume and blood pressure. A diuretic causes loss of sodium and water, reducing plasma volume. Blocking aldosterone further decreases sodium and water reabsorption, amplifying volume depletion and making it harder for the body to maintain blood pressure when you stand. The result is a greater tendency for a drop in blood pressure on standing, especially in older adults or those who are dehydrated. Hyperkalemia is a separate concern with aldosterone antagonists, but the first-line effect here to understand is the increased risk of orthostatic hypotension from the combined volume-reducing actions.

10. Which practice is recommended when administering thrombolytics?

- A. Administer antiplatelet agents immediately
- B. Limit injections**
- C. Increase IV fluids
- D. Monitor only once per hour

Bleeding risk is the main safety concern with thrombolytics, so the best practice is to limit injections. Thrombolytics dissolve clots but also impair normal hemostasis, making any puncture or injection a potential source of bleeding or hematoma. By minimizing invasive punctures, you reduce the opportunities for bleeding complications, especially at sites of vascular access. If an injection is truly necessary, use the smallest feasible needle, avoid intramuscular injections, and rely on existing IV lines rather than creating new puncture sites. Keep the patient under close, frequent monitoring for signs of bleeding and neurological changes, since bleeding can occur rapidly. While other choices touch on related care (antiplatelet therapy considerations, overall fluid management, and monitoring frequency), limiting injections directly addresses the heightened bleeding risk associated with thrombolytic therapy.

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://pharmacologycms.examzify.com>

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

SAMPLE