

AEMT PHARMACOLOGY PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

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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 pharmacologic class of epinephrine used in emergency treatment?**
 - A. Anticholinergic
 - B. Sympathomimetic
 - C. Beta-blocker
 - D. Opioid agonist
- 2. Which nerve are serotonin 5-HT₃ receptor antagonists primarily acting on to prevent nausea?**
 - A. Trigeminal nerve
 - B. Optic nerve
 - C. Sciatic nerve
 - D. Vagus nerve
- 3. What is the pediatric epinephrine dose for severe reactions?**
 - A. 0.3 mg SQ IM
 - B. 0.01 mg/kg 1:1000 SQ IM not to exceed 0.3 mg
 - C. 0.1 mg/kg
 - D. 0.15 mg/kg
- 4. Xopenex is classified as which type of drug?**
 - A. Mu opioid antagonist
 - B. Isomer, beta 2 agonist
 - C. Beta-adrenergic antagonist
 - D. Corticosteroid
- 5. What is the maximum pediatric dose for diphenhydramine?**
 - A. 25 mg
 - B. 50 mg
 - C. 75 mg
 - D. 100 mg

6. What is the trade name for dexamethasone?

- A. Dexasone
- B. Decadron
- C. Decadurine
- D. Dexamyl

7. What is the trade name of ondansetron?

- A. Zofran
- B. Phenergan
- C. Reglan
- D. Compazine

8. What is the pediatric dose range for promethazine by weight when given orally or intramuscularly?

- A. 0.25-0.5 mg/kg
- B. 1-2 mg/kg
- C. 0.05-0.1 mg/kg
- D. 2-4 mg/kg

9. Which route is described for albuterol administration in adults in this material?

- A. Oral tablet
- B. Intramuscular injection
- C. Nebulized inhalation
- D. Subcutaneous injection

10. Promethazine is contraindicated in which patient scenario related to lactation?

- A. Non-lactating patients
- B. Male patients
- C. Lactating patients
- D. Female patients

Answers

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

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Explanations

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1. What is the pharmacologic class of epinephrine used in emergency treatment?

- A. Anticholinergic
- B. Sympathomimetic**
- C. Beta-blocker
- D. Opioid agonist

Epinephrine used in emergencies is a sympathomimetic agent, an adrenergic agonist. It works by stimulating multiple adrenergic receptors—alpha-1, beta-1, and beta-2. Activation of alpha-1 helps raise blood pressure and reduce mucosal edema through vasoconstriction, while beta-1 boosts heart rate and contractility, and beta-2 promotes bronchodilation. This combination makes it crucial for life-threatening situations like anaphylaxis and cardiac arrest where rapid airway opening, improved perfusion, and increased cardiac output are needed. The other options describe drug classes that don't describe how epinephrine works: anticholinergics block acetylcholine receptors, beta-blockers inhibit beta receptors, and opioid agonists act on opioid receptors for pain relief. So the correct pharmacologic class is sympathomimetic (adrenergic agonist).

2. Which nerve are serotonin 5-HT₃ receptor antagonists primarily acting on to prevent nausea?

- A. Trigeminal nerve
- B. Optic nerve
- C. Sciatic nerve
- D. Vagus nerve**

Serotonin 5-HT₃ receptor antagonists work by blocking the gut-brain signaling that triggers nausea. In the gut, serotonin is released and binds to 5-HT₃ receptors on the endings of vagal afferent fibers. This sends nausea signals up the vagus to the brainstem's vomiting center. By blocking these receptors on the vagal afferents, the transmission of nausea signals is reduced, making the vagus nerve the primary site matters for this antiemetic effect. While 5-HT₃ receptors are also present in central areas like the chemoreceptor trigger zone, the significant clinical action in preventing nausea, especially with chemotherapy or surgery, comes from blocking the signals carried by the vagus nerve. The other nerves listed do not mediate this gut-derived nausea pathway.

3. What is the pediatric epinephrine dose for severe reactions?

- A. 0.3 mg SQ IM
- B. 0.01 mg/kg 1:1000 SQ IM not to exceed 0.3 mg**
- C. 0.1 mg/kg
- D. 0.15 mg/kg

In pediatric anaphylaxis, epinephrine is given intramuscularly in a weight-based dose using the 1:1,000 concentration. The recommended amount is 0.01 mg per kilogram of body weight, with a maximum single dose of 0.3 mg. This means a child's dose is tailored to their size (for example, a 15 kg child gets 0.15 mg; a 25 kg child gets 0.25 mg). The injection is placed into the mid-anterolateral thigh for rapid absorption. If symptoms persist after 5–15 minutes, a repeat dose can be given up to the 0.3 mg maximum, with ongoing monitoring. This dosing approach ensures adequate treatment for a life-threatening reaction while minimizing risk from overdosage.

4. Xopenex is classified as which type of drug?

- A. Mu opioid antagonist
- B. Isomer, beta 2 agonist**
- C. Beta-adrenergic antagonist
- D. Corticosteroid

Xopenex is a selective beta-2 adrenergic receptor agonist. It's the pure enantiomer of albuterol (levalbuterol), an isomer that specifically stimulates beta-2 receptors on bronchial smooth muscle. That receptor activation increases cyclic AMP, leading to muscle relaxation and bronchodilation, which relieves bronchospasm in conditions like asthma or COPD. This distinguishes it from mu opioid antagonists, which target opioid receptors; beta-adrenergic antagonists, which block beta receptors and can cause bronchoconstriction; and corticosteroids, which are anti-inflammatory agents. The key idea is that Xopenex is a beta-2 agonist, and its status as a single isomer (the active enantiomer) contributes to its bronchodilatory effect.

5. What is the maximum pediatric dose for diphenhydramine?

- A. 25 mg
- B. 50 mg**
- C. 75 mg
- D. 100 mg

Dosing safety for pediatric diphenhydramine centers on the per-dose maximum combined with weight-based calculations. Diphenhydramine is given by weight: about 1 mg per kilogram of body weight per dose, but you should never exceed 50 mg in a single dose for a pediatric patient. This cap helps prevent excessive sedation and anticholinergic side effects that can be dangerous in children. For example, a child weighing 20 kg would receive about 20 mg per dose, which is well below the cap. A larger child weighing around 60 kg would have a weight-based dose of 60 mg, but you would still limit it to 50 mg per dose. Dosing is then repeated every 6–8 hours as needed, following local protocol or physician orders. That's why 50 mg is the correct maximum per administration.

6. What is the trade name for dexamethasone?

- A. Dexasone
- B. Decadron**
- C. Decadurine
- D. Dexamyl

Decadron is the trade name for dexamethasone. Brand names are the manufacturers' marketed names for a drug, while the generic name is the official chemical name. In clinical practice, this corticosteroid is most commonly encountered as Decadron. The other options are not the standard brand name for dexamethasone.

7. What is the trade name of ondansetron?

- A. Zofran**
- B. Phenergan
- C. Reglan
- D. Compazine

This item tests your ability to match a generic antiemetic name to its trade name. Ondansetron is a serotonin 5-HT₃ receptor antagonist used to prevent nausea and vomiting, especially with chemotherapy or surgery. The trade name for ondansetron is Zofran. The other names correspond to different antiemetics: promethazine is Phenergan, metoclopramide is Reglan, and prochlorperazine is Compazine. So Zofran is the correct brand name for ondansetron.

8. What is the pediatric dose range for promethazine by weight when given orally or intramuscularly?

- A. 0.25-0.5 mg/kg**
- B. 1-2 mg/kg
- C. 0.05-0.1 mg/kg
- D. 2-4 mg/kg

Dosing promethazine in children is done by weight to hit the right amount for smaller bodies without overdoing it. For oral or intramuscular use, the typical per-dose range is about 0.25 to 0.5 mg per kilogram. This amount provides enough antiemetic effect while keeping sedation and anticholinergic side effects at acceptable levels. If you give much less, the medicine may not control nausea effectively. If you give more, the child is more likely to experience excessive drowsiness, dry mouth, urinary retention, and other CNS effects. Also note that IV administration is avoided because of a higher risk of severe tissue injury; IM or oral routes are preferred when appropriate.

9. Which route is described for albuterol administration in adults in this material?

- A. Oral tablet
- B. Intramuscular injection
- C. Nebulized inhalation**
- D. Subcutaneous injection

Nebulized inhalation is the route described. The main idea is that albuterol works quickest and most effectively when delivered directly to the lungs, so inhalation is preferred for fast bronchodilation. Using a nebulizer to aerosolize the drug targets the airways, producing rapid relief of bronchospasm with a quicker onset and fewer systemic effects than you'd get from swallowing a pill. Oral tablets take longer to act and have more variable absorption, making them less suitable for acute relief. Intramuscular or subcutaneous injections are not the standard routes for routine albuterol use in adults described in this material, though IV or other routes can be used in different settings. So the nebulized inhalation route fits the goal of fast, lung-targeted therapy.

10. Promethazine is contraindicated in which patient scenario related to lactation?

- A. Non-lactating patients
- B. Male patients
- C. Lactating patients**
- D. Female patients

Promethazine is avoided during lactation because it passes into breast milk and can affect the nursing infant, causing sedation, poor feeding, and potentially respiratory effects. Because of these risks to a breastfeeding baby, it is contraindicated for lactating patients. In non-lactating individuals, males, or females who are not breastfeeding, this lactation-related concern does not apply, so the drug may be considered if clinically appropriate. If antiemetic therapy is needed while breastfeeding, safer alternatives or nonpharmacologic options should be used.

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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://aemptpharmacology.examzify.com>

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

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