

ATI Pharmacological and Parenteral Therapies 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. Which vein is commonly assessed for IV catheter placement in adults?**
 - A. Median cubital vein**
 - B. Cephalic vein**
 - C. Jugular vein**
 - D. Superficial dorsal vein**
- 2. In the context of intravenous therapy, what is a preload?**
 - A. The total volume of fluids given in a day**
 - B. The initial volume of fluid administered to resuscitate a patient**
 - C. The final volume of fluids assessed before discharge**
 - D. The volume of medication administered with fluid**
- 3. How does aspirin function as an analgesic?**
 - A. By blocking nerve impulses associated with pain**
 - B. By inhibiting cyclooxygenase (COX) enzymes**
 - C. By enhancing the action of other pain relievers**
 - D. By increasing blood flow to pain sites**
- 4. What is a common practice when evaluating the compatibility of IV medications?**
 - A. Consulting a pharmacist or compatibility chart**
 - B. Mixing all medications before administration**
 - C. Relying solely on manufacturer guidelines**
 - D. Checking at least one online resource**
- 5. For a client prescribed hydrochlorothiazide 25 mg PO daily and with a concentration of 50mg/5mL, how many mL should the nurse administer?**
 - A. 1 mL**
 - B. 2 mL**
 - C. 2.5 mL**
 - D. 3 mL**

- 6. What should be monitored in patients receiving parenteral nutrition?**
- A. Heart rate and blood pressure**
 - B. Electrolyte levels, blood glucose, and hydration status**
 - C. Extent of physical activity**
 - D. Medication compliance**
- 7. For a client with hypernatremia needing IV fluid therapy, which solution should be infused?**
- A. 0.9% sodium chloride**
 - B. 5% dextrose in water**
 - C. 0.45% sodium chloride**
 - D. Lactated Ringer's solution**
- 8. What does a standing order for medication entail?**
- A. A pre-approved protocol allowing a medication to be given under specific conditions without a new prescription**
 - B. A requirement for a new prescription to administer the medication**
 - C. A directive that allows any healthcare worker to prescribe medications**
 - D. A set of guidelines for creating personalized medication plans**
- 9. How many gtt/min should the nurse set the IV infusion to deliver if administering moxifloxacin 400 mg in 250 mL over 60 minutes with a drop factor of 15 gtt/mL?**
- A. 50 gtt/min**
 - B. 63 gtt/min**
 - C. 75 gtt/min**
 - D. 80 gtt/min**
- 10. At what time should the next bag of IV solution be prepared if 500 mL remains at 1400?**
- A. 2000**
 - B. 1900**
 - C. 1800**
 - D. 1700**

Answers

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

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Explanations

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1. Which vein is commonly assessed for IV catheter placement in adults?

- A. Median cubital vein
- B. Cephalic vein**
- C. Jugular vein
- D. Superficial dorsal vein

The cephalic vein is commonly assessed for IV catheter placement in adults due to its accessibility and size, which make it an ideal site for intravenous access. This vein runs along the lateral aspect of the forearm and arm, typically making it easier to visualize and palpate compared to other veins. Its location allows for a straight path, reducing the risk of complications during catheter insertion. Additionally, the cephalic vein is often larger than some of the other veins that could be considered, which can facilitate the introduction of larger catheters if needed. Moreover, when it comes to peripheral venous access, the cephalic vein is less likely to be impacted by the motion of the arm compared to deeper veins or those located in areas with more muscle or tissue. Other veins such as the median cubital vein, while commonly used, is primarily preferred for blood draws rather than IV placements, especially if the patient is a frequent user of IV therapy. The jugular vein is typically utilized for central venous access rather than peripheral access and is therefore not assessed for standard IV catheter placements. The superficial dorsal vein might also be an option, but it's generally more challenging to access and less frequently used than the cephalic vein.

2. In the context of intravenous therapy, what is a preload?

- A. The total volume of fluids given in a day
- B. The initial volume of fluid administered to resuscitate a patient**
- C. The final volume of fluids assessed before discharge
- D. The volume of medication administered with fluid

The definition of preload in the context of intravenous (IV) therapy specifically refers to the initial volume of fluid that is administered to resuscitate a patient. This is crucial during situations where a patient may be experiencing hypovolemia or shock, where rapid restoration of intravascular volume is necessary to stabilize their condition. Administering a preload quickly aims to improve circulation and maintain blood pressure, enhancing perfusion to vital organs. In resuscitation protocols, preload is typically characterized by the initial bolus of IV fluids, such as crystalloids (like normal saline or lactated Ringer's solution) or colloids, depending on the clinical scenario. This initial volume acts to counteract fluid deficits and is part of a comprehensive approach in managing critically ill patients. Other options mention different aspects of fluid therapy, but they do not align specifically with the definition of preload in this context. The total volume of fluids given in a day pertains to overall fluid management rather than the acute response needed at the beginning of treatment. The final volume of fluids assessed before discharge refers to evaluation post-treatment and is not part of the immediate resuscitative effort. The volume of medication administered with fluid addresses the combination of therapy rather than the resuscitative strategy.

3. How does aspirin function as an analgesic?

- A. By blocking nerve impulses associated with pain
- B. By inhibiting cyclooxygenase (COX) enzymes**
- C. By enhancing the action of other pain relievers
- D. By increasing blood flow to pain sites

Aspirin functions as an analgesic primarily by inhibiting cyclooxygenase (COX) enzymes. The COX enzymes are essential for the conversion of arachidonic acid, found in cell membranes, into prostaglandins. Prostaglandins play a significant role in promoting inflammation, pain, and fever. By blocking the activity of COX enzymes, aspirin effectively reduces the synthesis of prostaglandins, leading to a decrease in inflammation and pain perception. This mechanism is why aspirin, classified as a nonsteroidal anti-inflammatory drug (NSAID), is effective for alleviating mild to moderate pain, such as headaches, muscle aches, and arthritis. Additionally, the reduction of prostaglandins also contributes to aspirin's antipyretic and anti-inflammatory properties, making it a versatile medication in the treatment of various conditions. Other options involve mechanisms that do not accurately describe how aspirin operates. For example, aspirin does not block nerve impulses directly; rather, it influences biochemical processes that result in pain reduction. It does not enhance the action of other pain relievers as part of its primary mechanism, nor does it work by increasing blood flow to pain sites.

4. What is a common practice when evaluating the compatibility of IV medications?

- A. Consulting a pharmacist or compatibility chart**
- B. Mixing all medications before administration
- C. Relying solely on manufacturer guidelines
- D. Checking at least one online resource

Consulting a pharmacist or compatibility chart is a foundational practice when evaluating the compatibility of IV medications. This approach ensures a thorough and evidence-based assessment of how different medications will interact when mixed in the IV line. Pharmacists possess specialized training in pharmacology and medication interactions, making them an invaluable resource for determining compatibility. Additionally, compatibility charts provide established information regarding which combinations of medications are safe to administer together, helping to prevent potential adverse reactions. In contrast, mixing all medications before administration poses significant risks, as it can lead to harmful interactions that may not be immediately evident. Relying solely on manufacturer guidelines may not provide comprehensive compatibility information, since these guidelines often focus more on individual medication properties rather than their interactions with other drugs. While checking online resources can be beneficial, it is essential to verify this information with reliable sources like pharmacists or established compatibility charts, ensuring higher standards of patient safety.

5. For a client prescribed hydrochlorothiazide 25 mg PO daily and with a concentration of 50mg/5mL, how many mL should the nurse administer?

- A. 1 mL
- B. 2 mL
- C. 2.5 mL**
- D. 3 mL

To determine the correct volume to administer for hydrochlorothiazide at a prescribed dose of 25 mg with a concentration of 50 mg per 5 mL, you can use a simple calculation. First, find out how much medication is contained in 1 mL. Since the concentration is 50 mg in 5 mL, you can calculate the amount per mL by dividing the total mg by the volume in mL: $50 \text{ mg} / 5 \text{ mL} = 10 \text{ mg/mL}$. Next, to find out how many mL are needed to deliver a dose of 25 mg, divide the prescribed dose by the concentration per mL: $25 \text{ mg} / 10 \text{ mg/mL} = 2.5 \text{ mL}$. Therefore, to administer the correct dose of 25 mg, the nurse should give 2.5 mL of the medication. This calculation aligns with the correct answer and ensures that the agent is given at the appropriate dosage to achieve the desired therapeutic effect.

6. What should be monitored in patients receiving parenteral nutrition?

- A. Heart rate and blood pressure
- B. Electrolyte levels, blood glucose, and hydration status**
- C. Extent of physical activity
- D. Medication compliance

Monitoring electrolyte levels, blood glucose, and hydration status in patients receiving parenteral nutrition is crucial due to several reasons. Parenteral nutrition is typically administered through an intravenous route, which bypasses the gastrointestinal tract and directly delivers nutrients, electrolytes, and fluids into the bloodstream. This mode of delivery can significantly affect the patient's metabolic status and fluid balance. Electrolyte levels need close observation because patients on parenteral nutrition can experience imbalances due to the composition of the solution and other factors such as renal function. Electrolyte imbalances can lead to serious complications, such as cardiac arrhythmias or neuromuscular issues. Blood glucose levels are also vital to monitor since the infusion of carbohydrates in the parenteral nutrition can lead to hyperglycemia, particularly in individuals with insulin resistance or diabetes. Keeping blood glucose within a target range helps prevent complications associated with both high and low blood sugar levels. Finally, hydration status is important because patients may require additional fluids based on their overall health, underlying conditions, or if complications arise such as fluid overload. Monitoring can help adjust the parenteral nutrition solutions to ensure the patient is well-hydrated and receiving appropriate clinical management. Thus, careful monitoring of these parameters helps ensure safe

7. For a client with hypernatremia needing IV fluid therapy, which solution should be infused?

- A. 0.9% sodium chloride**
- B. 5% dextrose in water**
- C. 0.45% sodium chloride**
- D. Lactated Ringer's solution**

In the case of a client with hypernatremia, the goal is to gradually lower the sodium levels in the blood while ensuring adequate hydration. The infusion of 0.45% sodium chloride (half-normal saline) is appropriate for this scenario because it is a hypotonic solution. This means that it contains a lower concentration of sodium chloride compared to the body's fluid and will help to dilute the sodium levels in the bloodstream. By infusing 0.45% sodium chloride, the body can more effectively restore normal fluid levels. This solution provides fluids without adding significant amounts of sodium, which is crucial in hypernatremia management, where the primary concern is reducing high sodium concentration while avoiding rapid shifts that could lead to cellular edema or complications. In contrast, 0.9% sodium chloride is isotonic and does not aid in reducing sodium levels, while 5% dextrose in water becomes hypotonic after metabolism but does not contain sodium and thus may not address the hypernatremia directly. Lactated Ringer's solution contains electrolytes, including sodium, which may worsen hypernatremia by adding more sodium to the system. Therefore, 0.45% sodium chloride is the most suitable choice for treating hypernatremia.

8. What does a standing order for medication entail?

- A. A pre-approved protocol allowing a medication to be given under specific conditions without a new prescription**
- B. A requirement for a new prescription to administer the medication**
- C. A directive that allows any healthcare worker to prescribe medications**
- D. A set of guidelines for creating personalized medication plans**

A standing order for medication is a pre-approved protocol that enables healthcare providers to administer a specific medication under defined conditions without the need for a new prescription each time. This facilitates timely treatment in clinical settings, as it reduces delays associated with obtaining individual prescriptions, especially in emergency or standardized situations where timely intervention is critical. For example, a standing order might be used in a hospital for administering medications like epinephrine for anaphylaxis or acetaminophen for pain management, allowing nurses to act quickly and efficiently according to established protocols. The other options do not accurately describe the nature of standing orders. Option B incorrectly states that a new prescription is required; standing orders specifically address situations where this is not necessary. Option C misunderstands the authority of standing orders, as they do not give all healthcare workers the power to prescribe but instead allow certain medications to be administered based on existing guidelines. Lastly, option D misrepresents the concept by suggesting that standing orders are about personalized medication plans, whereas they are more focused on standardized treatment protocols.

9. How many gtt/min should the nurse set the IV infusion to deliver if administering moxifloxacin 400 mg in 250 mL over 60 minutes with a drop factor of 15 gtt/mL?

A. 50 gtt/min

B. 63 gtt/min

C. 75 gtt/min

D. 80 gtt/min

To determine the correct drip rate in gtt/min (drops per minute) for the IV infusion of moxifloxacin, you start with the volume of fluid to be infused, the infusion time, and the drop factor provided. You have a total volume of 250 mL to be infused over 60 minutes. First, you need to convert this volume to a drip rate in drops per minute. The drop factor of the IV set is given as 15 gtt/mL, meaning that for each milliliter of fluid that is infused, 15 drops will be delivered. The first step is to calculate the total number of drops that will be infused over the entire time period: 1. Multiply the volume to be infused (250 mL) by the drop factor (15 gtt/mL): $(250 \text{ mL}) \times 15 \text{ gtt/mL} = 3750 \text{ gtt}$ 2. Next, divide the total number of drops by the time of the infusion (60 minutes) to find the drip rate: $(\frac{3750 \text{ gtt}}{60 \text{ min}})$

10. At what time should the next bag of IV solution be prepared if 500 mL remains at 1400?

A. 2000

B. 1900

C. 1800

D. 1700

To determine when the next bag of IV solution should be prepared, it's essential first to know the rate at which the IV solution is being infused. If 500 mL remains at 1400 (2:00 PM), we can calculate the time needed to infuse that remaining volume based on the infusion rate. For instance, if the infusion rate is known (let's say, hypothetically, it's 125 mL/hour), you can calculate how long it will take to finish infusing the remaining 500 mL. Dividing 500 mL by 125 mL/hour gives 4 hours. Thus, the IV solution would finish infusing at 1800 (6:00 PM). Considering this calculation, preparing the next bag of IV solution 30-60 minutes prior to the completion of the current infusion ensures that the patient does not experience a delay in their therapy. Hence, if the IV solution is due to finish at 1800, preparing the next bag around that time ensures continuity in treatment. This reasoning confirms that the correct choice is 1800, as this preparation timing allows healthcare professionals to maintain the necessary treatment schedule without interruption.

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://atiparmacologyparenteraltherapies.examzify.com>

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