

STUDENTS – PARAMEDIC PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. Which sign is a component of Beck's Triad?**
 - A. Hyperkalemia
 - B. Muffled heart tones
 - C. Cough
 - D. Headache

- 2. Bicarbonate level less than 22 mEq/L indicates which disturbance?**
 - A. Metabolic acidosis
 - B. Metabolic alkalosis
 - C. Respiratory acidosis
 - D. Respiratory alkalosis

- 3. Which statement correctly describes CPAP and BIPAP?**
 - A. CPAP delivers continuous positive air pressure at a single level.
 - B. BIPAP uses a single pressure throughout the breath cycle.
 - C. CPAP delivers two distinct pressures for inhalation and exhalation.
 - D. BIPAP delivers no pressure during exhalation.

- 4. A pocket mask without supplemental oxygen delivers oxygen in the range of?**
 - A. 21-22%
 - B. 90-100%
 - C. 16-17%
 - D. 20-50%

- 5. Which term correctly matches the description of small bulges or pouches in the intestinal lining that may become inflamed?**
 - A. Gastritis
 - B. Colitis
 - C. Diverticulosis
 - D. Irritable bowel syndrome

- 6. What is the most prevalent cation in extracellular fluid?**
- A. Potassium
 - B. Sodium
 - C. Calcium
 - D. Magnesium
- 7. Which cation is most abundant in the extracellular fluid?**
- A. Potassium
 - B. Calcium
 - C. Sodium
 - D. Magnesium
- 8. Which oxygen delivery device can deliver the highest portion of FiO₂ when used appropriately?**
- A. Nasal cannula
 - B. Simple face mask
 - C. Non-Rebreather
 - D. Venturi mask with oxygen
- 9. How do you treat a patient with a flail chest?**
- A. Intubate and provide PPV.
 - B. Wrap the chest with bandage only.
 - C. Apply external chest compressions.
 - D. Press the segment during exhalation and wrap with bandage; intubate and PPV.
- 10. Which anatomical structure allows blood to bypass the fetal lungs by connecting the right and left atria before birth?**
- A. Umbilical artery
 - B. Foramen ovale
 - C. Ductus venosum
 - D. Ductus arteriosus

Answers

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

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Explanations

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1. Which sign is a component of Beck's Triad?

- A. Hyperkalemia
- B. Muffled heart tones**
- C. Cough
- D. Headache

Beck's Triad points to cardiac tamponade, where fluid around the heart restricts filling during diastole. This causes a drop in stroke volume and blood pressure (hypotension), backup of blood in the veins leading to distended neck veins, and muffled heart sounds because the surrounding fluid dampens the noises from the heart. The sign described here, muffled heart tones, fits this triad best because it reflects the physical effect of the pericardial effusion on auscultation. Hyperkalemia is an electrolyte issue that can affect rhythm, not a hallmark of tamponade. Cough and headache are nonspecific symptoms and do not indicate the muffled heart sounds caused by pericardial fluid. In practice, not all patients show all three signs, but muffled heart sounds are a classic clue to tamponade physiology.

2. Bicarbonate level less than 22 mEq/L indicates which disturbance?

- A. Metabolic acidosis**
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Respiratory alkalosis

Bicarbonate is the main base used to buffer acids in the blood. When its level falls below about 22 mEq/L, it points to metabolic acidosis—the body has an excess of acid or a loss of base, so the pH drops. In metabolic acidosis, you expect low HCO_3^- with a low pH, and the respiratory system will compensate by increasing ventilation to blow off CO_2 (lower PaCO_2). If bicarbonate were high, that would suggest metabolic alkalosis. Respiratory disorders center on CO_2 ; they may cause compensatory changes in bicarbonate, but a low bicarbonate is best explained by a metabolic acidosis.

3. Which statement correctly describes CPAP and BIPAP?

- A. CPAP delivers continuous positive air pressure at a single level.**
- B. BIPAP uses a single pressure throughout the breath cycle.
- C. CPAP delivers two distinct pressures for inhalation and exhalation.
- D. BIPAP delivers no pressure during exhalation.

CPAP and BiPAP are two forms of noninvasive positive airway pressure support. The defining feature of CPAP is a constant, single pressure maintained throughout the entire breathing cycle, which helps keep airways open and reduces the work of breathing without actively driving ventilation. That single-level pressure best describes CPAP. BiPAP, on the other hand, uses two pressure levels: a higher pressure during inhalation to aid ventilation and a lower pressure during exhalation to make exhale easier. This two-pressure setup supports both oxygenation and ventilation when needed, such as in certain respiratory failures or COPD exacerbations. So, the statement that CPAP delivers continuous positive air pressure at a single level is the best description. The other options misstate BiPAP's two-pressure nature, or imply no pressure during exhalation, which isn't correct since an expiratory pressure is still maintained.

4. A pocket mask without supplemental oxygen delivers oxygen in the range of?

- A. 21-22%
- B. 90-100%
- C. 16-17%**
- D. 20-50%

The thing being tested is how much oxygen is actually delivered to a patient when using a ventilation device without an oxygen source. A pocket mask, with no supplemental oxygen, doesn't provide an oxygen reservoir or concentrate the air you're delivering. The patient ends up breathing a mix of room air and the rescuer's exhaled breath, and that exhaled breath has a lower oxygen content (roughly around 15–16%). The result is an inspired O₂ concentration of about 16–17%. By comparison, supplying oxygen with a mask or reservoir can raise FiO₂ substantially—roughly 40–60% with a bag-valve mask with a reservoir, or up toward 90% or more with a nonrebreather mask. Ambient room air is about 21%, but without an oxygen source, a pocket mask doesn't keep that value; it sits around the mid-teens.

5. Which term correctly matches the description of small bulges or pouches in the intestinal lining that may become inflamed?

- A. Gastritis
- B. Colitis
- C. Diverticulosis**
- D. Irritable bowel syndrome

Small bulges or pouches in the intestinal lining are diverticula, and when these sacs form in the colon the condition is diverticulosis. The phrase "may become inflamed" points to the potential complication diverticulitis, but the description itself directly matches diverticulosis—the presence of diverticula. The other terms refer to different conditions: gastritis is inflammation of the stomach lining, colitis is inflammation of the colon lining, and irritable bowel syndrome is a functional disorder with pain and altered bowel habits but without actual pouches.

6. What is the most prevalent cation in extracellular fluid?

- A. Potassium
- B. Sodium**
- C. Calcium
- D. Magnesium

In the extracellular fluid, the dominant positively charged ion is sodium. The concentration of sodium in the extracellular space is about 140 mEq/L, which largely sets the fluid's osmolarity and drives water movement between compartments, influencing blood volume and pressure. Potassium, while essential, is mostly inside cells, with only a small amount in the extracellular fluid. Calcium and magnesium are present extracellularly as well, but their total extracellular cation levels are much lower than sodium's. So, sodium is the most prevalent cation in extracellular fluid.

7. Which cation is most abundant in the extracellular fluid?

- A. Potassium
- B. Calcium
- C. Sodium**
- D. Magnesium

Sodium dominates the extracellular fluid as the principal cation, and its concentration largely sets the osmolarity and volume status of the space outside cells. This makes it the most abundant positively charged ion in the extracellular compartment. Potassium is the main cation inside cells, so its extracellular level is much lower. Calcium does exist outside cells and is crucial for signaling, muscle contraction, and clotting, but its overall concentration in the extracellular fluid is much smaller than sodium's. Magnesium is present too, but in smaller amounts compared with sodium. So, sodium is the leading extracellular cation by both abundance and influence on fluid balance.

8. Which oxygen delivery device can deliver the highest portion of FiO₂ when used appropriately?

- A. Nasal cannula
- B. Simple face mask
- C. Non-Rebreather**
- D. Venturi mask with oxygen

The device capable of delivering the highest FiO₂ when used correctly is the non-rebreather mask. Its design includes a reservoir bag and one-way valves that prevent room air from diluting the oxygen during inhalation. When you provide a high enough oxygen flow (typically around 10–15 L/min) and keep the reservoir bag well inflated, the patient can inhale near-ambient oxygen content, approaching 100% FiO₂ in ideal conditions. The key is maintaining a good seal and sufficient flow so the bag doesn't collapse during inspiration. Other devices inherently mix in ambient air or have fixed mixtures, so their maximum FiO₂ is lower in routine use. A nasal cannula delivers oxygen through the nostrils and is limited by dilution with room air, usually about 24–44% FiO₂ even at higher flows. A simple face mask can provide more than a nasal cannula but typically stays in the roughly 40–60% range depending on flow and fit. A Venturi mask can deliver precise FiO₂ values by using adapters to mix air with oxygen, but its maximum FiO₂ is generally around 50–60% (sometimes higher with specialized setups), which is still less than what a well-used non-rebreather can achieve.

9. How do you treat a patient with a flail chest?

- A. Intubate and provide PPV.
- B. Wrap the chest with bandage only.
- C. Apply external chest compressions.
- D. Press the segment during exhalation and wrap with bandage; intubate and PPV.**

Stabilizing the loose segment of the chest wall to stop paradoxical movement and support breathing is the key idea. A flail chest lets a portion of the chest wall move independently, which severely increases work of breathing and impairs ventilation. The most effective approach combines external stabilization with definitive airway management and ventilation. In practice, you temporarily stabilize the flail segment—often by pressing on it during the respiratory cycle to reduce abnormal movement and applying a supportive bandage or dressing to hold the segment in place. At the same time, securing the airway and providing positive-pressure ventilation helps re-expand the injured lung and acts as an internal splint for the chest wall, improving oxygenation and decreasing respiratory effort. Other options don't address both parts: simply providing a wrap or attempting chest compressions doesn't correct the chest-wall instability or improve ventilation, and intubation with ventilation alone lacks the external stabilization that can reduce the paradoxical movement. The combined approach of external stabilization plus airway management and PPV best supports gas exchange and chest-wall mechanics in a flail chest.

10. Which anatomical structure allows blood to bypass the fetal lungs by connecting the right and left atria before birth?

- A. Umbilical artery
- B. Foramen ovale**
- C. Ductus venosum
- D. Ductus arteriosus

In fetal circulation the lungs aren't used for oxygen exchange, so the blood is diverted to the body through shunts that bypass the lungs. The key route here is a hole in the wall between the atria—the foramen ovale. Because the right atrial pressure is higher than the left in the fetus, blood flows directly from the right atrium into the left atrium, then into the left ventricle and out to the systemic circulation. This lets oxygenated blood coming from the placenta reach the body without going through the nonfunctional fetal lungs. After birth, with the lungs expanding and pulmonary resistance dropping, the pressure dynamics change and the foramen ovale typically closes. The other options are different fetal shunts: the umbilical artery carries blood from the fetus to the placenta; the ductus venosus shunts a portion of the umbilical venous blood to the inferior vena cava, bypassing the liver; and the ductus arteriosus connects the pulmonary artery to the aorta to bypass the lungs, but it does not connect the atria.

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://studentsparamedic.examzify.com>

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

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