JSAL Anesthesia 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 of the following describes a known side effect of Ketamine during anesthesia?

A. Significant respiratory depression

B. Decreased heart rate

C. Decreased blood pressure

D. Sympathetic stimulation with increased heart rate and blood pressure

2. What is the onset of action of Morphine when given intramuscularly?

A. 5-10 minutes

B. 15-45 minutes

C. 60-90 minutes

D. 15-30 minutes

3. What is the duration of action of Morphine?

A. 1-2 hours

B. 8-12 hours

C. 4-6 hours

D. 30-60 minutes

4. What is the duration of action of norepinephrine?

A. 1-2 mins

B. 1-2 hours

C. 10-20 seconds

D. 5-10 mins

5. What is the mechanism of action of Ketamine?

A. GABA receptor agonist

B. Opioid receptor agonist

C. NMDA receptor antagonist

D. Cholinesterase inhibitor

6. Which drug has a duration of 12-24 hours?

A. Lidocaine

B. Buprenorphine

C. Carprofen

D. Propofol

7. Carprofen acts primarily as which of the following?

A. COX-1 inhibitor

B. COX-2 inhibitor

C. Paracetam receptor agonist

D. Monoamine oxidase inhibitor

8. Which number falls within the Low Flow range in ml/kg/min?

A. 15

B. 25

C. 30

D. 50

9. What is the normal heart rate range in adult anesthetized dogs?

A. 60-80 bpm

B. 80-120 bpm

C. 100-140 bpm

D. 140-180 bpm

10. What is the onset of action of dexmedetomidine when given intramuscularly?

A. 2-4 minutes

B. 5-10 minutes

C. 15-30 minutes

D. 60 minutes

Answers

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

Explanations

1. Which of the following describes a known side effect of Ketamine during anesthesia?

A. Significant respiratory depression

B. Decreased heart rate

C. Decreased blood pressure

D. Sympathetic stimulation with increased heart rate and blood pressure

Ketamine mostly stimulates the sympathetic nervous system, causing tachycardia and hypertension. This means it tends to raise heart rate and blood pressure rather than depress them, which matches the described known side effect. Unlike many anesthetics, it preserves or even enhances respiration, so significant respiratory depression is not typical. Decreases in heart rate or blood pressure aren't characteristic of ketamine; the opposite effect is usually seen, especially when there are adequate catecholamine stores. In some cases this pressor effect helps sustain blood pressure, though it can raise myocardial oxygen demand, so caution is advised in patients with coronary disease.

2. What is the onset of action of Morphine when given intramuscularly?

A. 5-10 minutes

B. 15-45 minutes

C. 60-90 minutes

D. 15-30 minutes

Onset after an intramuscular morphine injection reflects how quickly the drug is absorbed from the muscle into the bloodstream and then reaches the brain to produce analgesia. This route works slower and is more variable than giving morphine IV, because absorption depends on factors like injection site, local blood flow, muscle mass, and tissue conditions. In everyday practice, IM morphine typically starts working in about 15 to 45 minutes, which is why that range best fits the expected onset. Some patients may feel effects around 15 minutes, while others may take closer to 45 minutes, with occasional variability extending beyond that window. The other timeframes are less representative: 5-10 minutes is more consistent with IV onset, and 60-90 minutes is slower than typical IM absorption, while 15-30 minutes is possible but doesn't encompass the full usual range.

3. What is the duration of action of Morphine?

A. 1-2 hours

B. 8-12 hours

C. 4-6 hours

D. 30-60 minutes

The key idea is the typical duration of analgesia produced by morphine. Its pain-relieving effects last about four to six hours after a standard parenteral dose. This 4–6 hour window reflects how morphine is distributed, metabolized, and cleared, as well as the role of its active metabolite morphine-6-glucuronide which can prolong analgesia, especially in patients with reduced kidney function. Shorter durations like 30–60 minutes don't fit the duration of its analgesic action, and 1–2 hours is a bit short for a standard morphine dose. An 8–12 hour duration would suggest a long-acting formulation, which isn't the usual morphine experience. So, four to six hours is the best fit.

4. What is the duration of action of norepinephrine?

A. 1-2 mins

B. 1-2 hours

C. 10-20 seconds

D. 5-10 mins

Norepinephrine has a very short duration of action because it is cleared from the circulation quickly. Its plasma half-life is about one to two minutes, and after an IV bolus the vasopressor effect typically lasts only a couple of minutes. Because of this rapid clearance, clinicians use a continuous infusion to maintain blood pressure rather than relying on a single dose. The options longer than a couple of minutes don't fit the drug's rapid metabolism, and an effect lasting only a few seconds would be unrealistically brief for clinical use.

5. What is the mechanism of action of Ketamine?

A. GABA receptor agonist

B. Opioid receptor agonist

C. NMDA receptor antagonist

D. Cholinesterase inhibitor

Ketamine changes brain signaling mainly by blocking NMDA receptors, the key glutamate receptors that drive excitatory transmission. It acts as a noncompetitive antagonist at the PCP site inside the NMDA receptor channel, so glutamate cannot effectively activate these receptors. This dampens excitatory signaling in many brain circuits, producing dissociative anesthesia, analgesia, and amnesia while often preserving airway reflexes and spontaneous breathing better than many other anesthetics. While other receptors can modulate its effects (there is some interaction with opioid systems and other pathways), the dominant mechanism is NMDA receptor antagonism. The other options describe actions that do not primarily drive ketamine's effects: GABA receptor agonism would underlie many sedatives like propofol or benzodiazepines; opioid receptor agonism would primarily account for opioid analgesia; cholinesterase inhibition has no relevant role in ketamine's action.

6. Which drug has a duration of 12-24 hours?

A. Lidocaine

B. Buprenorphine

C. Carprofen

D. Propofol

The key idea is matching the drug's duration of action to the given time window. Carprofen is an NSAID used for pain relief in dogs, and its analgesic effects typically last about 12–24 hours after dosing. That makes it the best fit for a duration in this range. Lidocaine is a local anesthetic with a short action, usually 1–2 hours (even with vasoconstrictors it's still just a few hours). Buprenorphine, an opioid, provides analgesia for roughly 6–8 hours in dogs (occasionally longer, but not typically 12–24). Propofol is an anesthetic induction agent with rapid onset and very short duration, measured in minutes, due to quick redistribution and metabolism.

7. Carprofen acts primarily as which of the following?

A. COX-1 inhibitor

B. COX-2 inhibitor

C. Paracetam receptor agonist

D. Monoamine oxidase inhibitor

Carprofen is an NSAID that acts primarily by inhibiting the cyclooxygenase-2 (COX-2) enzyme. Inflammation boosts COX-2 activity, leading to production of prostaglandins that drive pain and swelling. By preferentially blocking COX-2, carprofen reduces prostaglandin synthesis at inflamed sites, delivering analgesic and anti-inflammatory effects with a lower impact on COX-1, which helps protect the stomach and support platelet function. The other options don't describe the drug's action: there is no "paracetam receptor" that carprofen targets, and monoamine oxidase inhibitors are unrelated to how NSAIDs relieve inflammation and pain.

8. Which number falls within the Low Flow range in ml/kg/min?

A. 15

B. 25

C. 30

D. 50

Low Flow anesthesia uses smaller fresh gas flows expressed in ml/kg/min, so most of the gas is recirculated. This creates a middle ground between ultra-low flow (even smaller flows) and high flow (larger flows). The value that sits in this Low Flow band is the one that isn't extremely low and isn't large enough to be considered High Flow. In practice, using this flow level requires careful monitoring of inspired oxygen, end-tidal carbon dioxide, and the concentration of the anesthetic agent, then adjusting the fresh gas flow and vaporizers to maintain correct target levels while taking advantage of gas conservation. The other values fall outside this band, being either too low (ultra-low) or too high (high flow).

9. What is the normal heart rate range in adult anesthetized dogs?

A. 60-80 bpm

B. 80-120 bpm

C. 100-140 bpm

D. 140-180 bpm

Under general anesthesia, the heart rate in adult dogs is typically around 80 to 120 beats per minute. This range reflects the balancing effect of anesthetic depth, which tends to slow the heart, while still aiming to maintain adequate perfusion. Rates much lower, like 60–80, can indicate too deep anesthesia or potential hypotension; rates much higher, like 140–180, suggest light anesthesia or pain/stress. While individual variation exists and different drugs can shift the heart rate, 80–120 bpm is the best general guide for a normal anesthetized adult dog.

10. What is the onset of action of dexmedetomidine when given intramuscularly?

A. 2-4 minutes

B. 5-10 minutes

C. 15-30 minutes

D. 60 minutes

When a medication is given intramuscularly, it is absorbed more slowly than with IV administration, so the time to first noticeable effect is longer and sits in minutes rather than seconds. For dexmedetomidine given IM, sedative effects typically begin within about 5 to 10 minutes as the drug is absorbed from the muscle and reaches the brain. That makes 5-10 minutes the best match among the options. The 2-4 minute window would be more like IV onset, 15-30 minutes is longer than usual for IM onset, and 60 minutes is too slow for the expected IM effect.

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://jsalanesthesia.examzify.com

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