

JSAL ANESTHESIA PRACTICE TEST (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. How should arterial oxygen content and blood pressure targets be managed during anesthesia in patients with myocardial ischemia risk?**
 - A. Maintain hypotension to reduce oxygen demand
 - B. Maintain adequate oxygen delivery and perfusion, avoid tachycardia and hypotension, and tailor fluids and vasopressors to preserve coronary perfusion while avoiding excessive myocardial oxygen demand
 - C. Allow uncontrolled tachycardia
 - D. Maximize fluids regardless of cardiac status

- 2. What is the primary reason to use Bupivacaine for pre-scrotal SQ, IP, or QLB blocks?**
 - A. Faster onset of anesthesia
 - B. Cheaper and more widely available
 - C. Lower systemic toxicity
 - D. Longer duration of analgesia at the incision site

- 3. What does RSI stand for and when is it indicated?**
 - A. Rapid Sequence Induction; indicated for patients at high risk of aspiration or airway difficulty.
 - B. Respiratory Sedation Initiation; indicated for anxious patients.
 - C. Rapid Stabilization Intervention; indicated for circulatory collapse.
 - D. Rigid Sinus Induction; indicated for nasal obstruction.

- 4. What does capillary refill time (CRT) indicate during anesthesia?**
 - A. It reflects tissue perfusion; Prolonged CRT indicates poor perfusion or shock
 - B. It measures oxygen saturation in peripheral tissues
 - C. It indicates airway patency
 - D. It is irrelevant during anesthesia

- 5. Which statement about isoflurane MAC is true?**
 - A. It has a MAC of 0.5-0.8%
 - B. It has a MAC of 1.2-1.3%
 - C. It has a MAC of 2.0-2.5%
 - D. It is never used in veterinary surgery

6. Which value represents a normal SpO₂ in anesthetized dogs?

- A. 97-100%
- B. 92-96%
- C. 88-92%
- D. 99-101%

7. What is the mechanism of action of morphine?

- A. Partial mu agonist
- B. Full mu agonist
- C. GABA receptor antagonist
- D. NMDA receptor antagonist

8. What is the duration of action of atropine?

- A. 15-30 mins
- B. 1-2 hours
- C. 30-45 mins
- D. 4-6 hours

9. In cats, bradycardia is defined as heart rate below what value?

- A. <80 bpm
- B. <90 bpm
- C. <100 bpm
- D. <110 bpm

10. What is the immediate treatment for malignant hyperthermia?

- A. Epinephrine
- B. Fluids only
- C. Insulin and glucose
- D. Dantrolene and cooling

Answers

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

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Explanations

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1. How should arterial oxygen content and blood pressure targets be managed during anesthesia in patients with myocardial ischemia risk?

- A. Maintain hypotension to reduce oxygen demand
- B. Maintain adequate oxygen delivery and perfusion, avoid tachycardia and hypotension, and tailor fluids and vasopressors to preserve coronary perfusion while avoiding excessive myocardial oxygen demand**
- C. Allow uncontrolled tachycardia
- D. Maximize fluids regardless of cardiac status

Maintaining myocardial oxygen balance during anesthesia hinges on keeping oxygen delivery high and demand under control. Arterial oxygen content (CaO₂) combines how much oxygen is carried by hemoglobin and how much is dissolved in plasma; together with cardiac output, this determines oxygen delivery to the heart. Preserve coronary perfusion by keeping blood pressure adequate, especially diastolic pressure, since coronary flow occurs mainly in diastole. At the same time, avoid conditions that raise myocardial oxygen consumption, such as tachycardia and excessive afterload. The best approach is to ensure adequate oxygen content and perfusion, while carefully using fluids and vasopressors to maintain coronary perfusion without driving up oxygen demand. This contrasts with letting blood pressure drop or heart rate accelerate unchecked, which would worsen ischemia, or indiscriminately giving fluids, which can cause overload without improving perfusion if cardiac status cannot tolerate it.

2. What is the primary reason to use Bupivacaine for pre-scrotal SQ, IP, or QLB blocks?

- A. Faster onset of anesthesia
- B. Cheaper and more widely available
- C. Lower systemic toxicity
- D. Longer duration of analgesia at the incision site**

The main idea here is that the advantage of bupivacaine in these blocks is the long-lasting pain relief it provides after surgery. Bupivacaine is a long-acting local anesthetic, with high tissue affinity, so it stays in the injection area longer and releases its effect over many hours. In pre-scrotal subcutaneous, intraperitoneal, or quadratus lumborum blocks, this extended duration translates to prolonged sensory anesthesia at the incision site, meaning better postoperative analgesia and less need for additional opioids in the early recovery period. It's worth noting that onset is slower than some shorter-acting agents, and toxicity risk and cost vary, but the standout benefit for these incisional blocks is the longer duration of analgesia.

3. What does RSI stand for and when is it indicated?

- A. Rapid Sequence Induction; indicated for patients at high risk of aspiration or airway difficulty.**
- B. Respiratory Sedation Initiation; indicated for anxious patients.
- C. Rapid Stabilization Intervention; indicated for circulatory collapse.
- D. Rigid Sinus Induction; indicated for nasal obstruction.

Rapid Sequence Induction describes the technique of quickly inducing anesthesia and securing the airway with an endotracheal tube to minimize the chance of aspiration in patients who are at high risk of regurgitation or in whom airway management is likely to be difficult. It uses a fast-acting induction agent followed immediately by a rapid-onset neuromuscular blocker, with minimal or no ventilation between induction and intubation, and thorough preoxygenation with suction and often cricoid pressure prepared. Indications include situations with a full stomach or high aspiration risk (emergency surgery, trauma, obstetric patients, obesity, gastroesophageal reflux) and any scenario where a protected airway is essential due to anticipated difficult airway or poor airway protection.

4. What does capillary refill time (CRT) indicate during anesthesia?

- A. It reflects tissue perfusion; Prolonged CRT indicates poor perfusion or shock**
- B. It measures oxygen saturation in peripheral tissues
- C. It indicates airway patency
- D. It is irrelevant during anesthesia

Capillary refill time reflects tissue perfusion. It's a quick bedside check where you press on a mucous membrane and watch how fast color returns; a rapid refill means perfusion is likely adequate, while a prolonged refill suggests reduced perfusion. In anesthesia, a slower CRT points to potential problems with circulating blood flow, such as hypovolemia, decreased cardiac output, or peripheral vasoconstriction from drugs or cold environment, which can indicate shock or impending instability. It doesn't measure oxygen saturation (that's what pulse oximetry does) and it isn't a measure of airway patency. Use CRT along with other signs like heart rate, blood pressure, mucous membrane color, and urine output to assess overall perfusion status.

5. Which statement about isoflurane MAC is true?

- A. It has a MAC of 0.5-0.8%
- B. It has a MAC of 1.2-1.3%**
- C. It has a MAC of 2.0-2.5%
- D. It is never used in veterinary surgery

Minimum Alveolar Concentration (MAC) expresses how potent an inhaled anesthetic is. It's the alveolar concentration needed to prevent movement in 50% of subjects in response to a standardized painful stimulus. The lower the MAC, the more potent the drug. For isoflurane in common veterinary species, the MAC is about 1.2–1.3%, which fits a moderate potency profile. This value is a baseline; MAC can shift with species, age, temperature, and what other drugs are given. In practice, adding other anesthetics or analgesics (like opioids or sedatives) often lowers the required isoflurane MAC, meaning you can maintain anesthesia with a lighter concentration. Why the other statements don't fit: a MAC of 0.5–0.8% would imply greater potency than isoflurane typically has, which isn't supported by veterinary data. A MAC of 2.0–2.5% would indicate much weaker potency, also inaccurate for isoflurane. And isoflurane is routinely used in veterinary surgery, so saying it's never used isn't correct.

6. Which value represents a normal SpO2 in anesthetized dogs?

- A. 97-100%**
- B. 92-96%
- C. 88-92%
- D. 99-101%

SpO2 reflects how much oxygen the hemoglobin in the blood is carrying. In healthy dogs under anesthesia, oxygenation should be near full saturation. A normal, reliable range is about 97 to 100 percent. Readings at 101 percent aren't physiologically possible, though minor overread can occur with some monitors. Lower ranges such as 92–96 or 88–92 indicate hypoxemia or poorer oxygenation and would signal a need to check ventilation, oxygen delivery, or airway patency. So the 97–100% range best represents normal SpO2 in anesthetized dogs.

7. What is the mechanism of action of morphine?

- A. Partial mu agonist
- B. Full mu agonist**
- C. GABA receptor antagonist
- D. NMDA receptor antagonist

Morphine causes analgesia by activating mu opioid receptors in the CNS. It is a full agonist at these receptors, meaning it can produce the maximum receptor response when it binds, leading to strong analgesia as well as typical opioid effects like sedation, respiratory depression, miosis, and constipation. This differs from partial agonists, which can't evoke the full receptor response even at high occupancy, so their analgesic effects are not maximal. Morphine does not work by blocking GABA receptors or by antagonizing NMDA receptors; those mechanisms belong to different drug classes.

8. What is the duration of action of atropine?

- A. 15-30 mins
- B. 1-2 hours
- C. 30-45 mins**
- D. 4-6 hours

Atropine's effect in this setting comes from blocking muscarinic receptors quickly, producing a rapid rise in heart rate and reduced secretions. The clinically noticeable anticholinergic effects during a typical intraoperative dose last, on average, about 30 to 45 minutes before fading as the drug is redistributed and cleared. That makes 30-45 minutes the best match for the duration of action in anesthesia practice. Shorter durations (15-30 minutes) don't cover the usual intraoperative window, while longer durations (1-2 hours or 4-6 hours) aren't typical for atropine's anesthetic use and would suggest a longer-acting agent. If longer effect is needed, an alternative or a repeat dose is used.

9. In cats, bradycardia is defined as heart rate below what value?

- A. <80 bpm
- B. <90 bpm
- C. <100 bpm**
- D. <110 bpm

Bradycardia is a slower-than-normal heart rate for the species. In cats, a typical resting heart rate is about 140–220 beats per minute, so when the rate falls below 100 beats per minute it's considered bradycardia. This threshold matters because a slower heart rate can reduce cardiac output and compromise tissue perfusion, especially under anesthesia or when vagal tone is high or drugs that depress the heart are used. Recognizing this cutoff helps guide rapid assessment and management, such as adjusting depth of anesthesia, addressing reversible causes, and considering appropriate interventions if perfusion is affected. The other values listed would not be considered bradycardia in a typical feline clinical setting.

10. What is the immediate treatment for malignant hyperthermia?

- A. Epinephrine
- B. Fluids only
- C. Insulin and glucose
- D. Dantrolene and cooling**

Malignant hyperthermia is a pharmacogenetic emergency where certain anesthesia agents cause uncontrolled calcium release in skeletal muscle, leading to a rapid hypermetabolic state with high heat production, rigidity, tachycardia, hypercarbia, and acidosis. The immediate treatment must counteract this calcium-driven crisis and cool the body quickly. Dantrolene works by inhibiting the calcium release channel in muscle (the ryanodine receptor), which directly stops the excessive calcium influx that drives the muscle rigidity and hypermetabolism. By lowering intracellular calcium, dantrolene reduces ongoing muscle activity and heat production, addressing the core problem of malignant hyperthermia. Cooling is essential because the crisis generates heat faster than the body can dissipate it, and hyperthermia itself worsens organ dysfunction. Active cooling helps prevent brain and organ injury as the calcium-driven process is being halted by dantrolene. Fluids are important for maintaining perfusion, but they do not stop the underlying calcium mishandling. Epinephrine would likely worsen the crisis by increasing metabolic demand and sympathetic stimulation, and insulin with glucose does not treat the root cause of the hypermetabolic state. So, the best immediate course is to administer dantrolene and begin rapid cooling, while stopping triggering agents and providing comprehensive supportive care.

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!

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