

CAMRT Radiography Practice Exam (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

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- 1. Which of the following is a characteristic of Tungsten that increases x-ray production?**
 - A. Low atomic number**
 - B. High atomic number**
 - C. Low melting point**
 - D. High thermal resistance**

- 2. What is the distance from the patient when using the Air Gap technique?**
 - A. 5 - 10 cm**
 - B. 10 - 15 cm**
 - C. 15 - 20 cm**
 - D. 20 - 25 cm**

- 3. If 6 x-rays are taken and 2 are repeated, what is the repeat rate?**
 - A. 20%**
 - B. 33%**
 - C. 40%**
 - D. 50%**

- 4. What is the major disadvantage of the Settegast method?**
 - A. It requires over-flexion of the knee**
 - B. It yields inaccurate results**
 - C. It is time-consuming**
 - D. It requires extensive patient mobility**

- 5. What is the average rate of respiration for a normal adult in breaths per minute?**
 - A. 8 to 15**
 - B. 10 to 20**
 - C. 30 to 60**
 - D. 60 to 90**

- 6. What breathing instructions should be given for imaging upper ribs?**
- A. Expiration**
 - B. Inspiration**
 - C. Shallow breathing**
 - D. Hold breath**
- 7. What is the primary purpose of the rate pulse control during angiography?**
- A. To enhance image quality**
 - B. To prevent forceful injection**
 - C. To increase patient comfort**
 - D. To minimize radiation exposure**
- 8. What is the required filtration for X-ray systems operating at 50 - 70 kVp?**
- A. 0.5 mm Al equivalent**
 - B. 1.5 mm Al equivalent**
 - C. 2.0 mm Al equivalent**
 - D. 2.5 mm Al equivalent**
- 9. Which part of the Scottie dog anatomy is known as the body?**
- A. Transverse process**
 - B. Pedicle**
 - C. Pars interarticularis**
 - D. Lamina**
- 10. What is a key function of a Swan-Ganz catheter?**
- A. To provide intravenous access for medications**
 - B. To monitor blood sugar levels**
 - C. To measure wedge pressure and central venous pressure**
 - D. To inject anesthesia during surgeries**

Answers

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

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Explanations

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1. Which of the following is a characteristic of Tungsten that increases x-ray production?

- A. Low atomic number**
- B. High atomic number**
- C. Low melting point**
- D. High thermal resistance**

Tungsten is known for its high atomic number, which is one of the key factors that contribute to increased x-ray production. The high atomic number means that tungsten has a greater number of protons in its nucleus, which leads to a higher probability of interactions between the incoming electrons (during the x-ray generation process) and the tungsten atoms. This results in a more efficient production of x-rays due to enhanced Bremsstrahlung radiation and characteristic radiation. In addition to the atomic number, tungsten's other properties, such as its high melting point and thermal resistance, also support its use in x-ray tubes. These characteristics allow tungsten to withstand the intense heat generated during x-ray production without melting or degrading, which is critical for maintaining consistent and reliable x-ray output. However, the high atomic number is specifically what directly enhances the x-ray production efficiency. On the other hand, options that mention low atomic number or low melting point do not contribute positively to x-ray production. A low atomic number would result in fewer x-ray photons being generated due to reduced interaction capabilities with electrons, and a low melting point could lead to structural failures under the heat generated during x-ray production. Hence, the high atomic number of tungsten is pivotal in maximizing the efficiency of

2. What is the distance from the patient when using the Air Gap technique?

- A. 5 - 10 cm**
- B. 10 - 15 cm**
- C. 15 - 20 cm**
- D. 20 - 25 cm**

Using the Air Gap technique in radiography involves a specific distance between the X-ray source and the imaging receptor, which typically falls within the range of 10 to 15 cm. This technique is used to reduce scatter radiation by placing a gap of air between the patient and the image receptor. The purpose of this gap is to allow scattered rays to diverge and not have as much impact on the radiograph, effectively improving image contrast. When considering the chosen answer, the 10 to 15 cm range is optimal for achieving a balance between image quality and exposure. If the distance is too short, scatter radiation may still affect the image; too far, and the sharpness and detail may be lost. This distance has been established through research on optimal settings for radiographic imaging. Other ranges do not provide the same level of effectiveness in minimizing scatter while maintaining good image quality. Distances outside this range could either increase unnecessary radiation exposure or fail to utilize the benefits of the Air Gap technique adequately. Thus, the 10 to 15 cm distance is well-supported by radiographic principles.

3. If 6 x-rays are taken and 2 are repeated, what is the repeat rate?

- A. 20%
- B. 33%**
- C. 40%
- D. 50%

To determine the repeat rate, you can use the formula:
$$\text{Repeat Rate} = \frac{\text{Number of Repeats}}{\text{Total X-rays Taken}} \times 100$$
 In this scenario, there are 6 x-rays taken in total, with 2 of those needing to be repeated. Plugging the numbers into the formula:
$$\text{Repeat Rate} = \frac{2}{6} \times 100 = \frac{200}{6} \approx 33.33\%$$
 When rounded, this value corresponds to approximately 33%. This indicates that 33% of the x-rays taken were repeats, providing a clear understanding of how frequently initial attempts did not meet the required quality standards. The repeat rate is essential in evaluating the efficiency and quality of radiographic practices. A high repeat rate can indicate problems in technique, patient positioning, or equipment, which ultimately can affect patient safety and increase exposure time.

4. What is the major disadvantage of the Settegast method?

- A. It requires over-flexion of the knee**
- B. It yields inaccurate results
- C. It is time-consuming
- D. It requires extensive patient mobility

The major disadvantage of the Settegast method is that it requires over-flexion of the knee. This technique is used primarily for obtaining radiographic images of the patella in profile and may necessitate bending the knee to a significant degree, which can be uncomfortable or difficult for some patients. Over-flexion can also increase the risk of injury in patients with existing knee conditions or limitations in mobility. Other potential challenges associated with this technique are related to patient comfort and positioning. While yielding accurate results is typically a strength of this method, the aspect of over-flexion poses a significant drawback in clinical settings, particularly for patients with joint pathologies or other mobility restrictions. The requirement for extensive patient mobility is less of a focus as the technique primarily hinges on the degree of knee flexion rather than overall mobility, so patients with limited ability to flex their knee may struggle with this positioning. Thus, while various factors can influence the choice of imaging methods, the specific issue of over-flexion distinctly highlights the disadvantages inherent to the Settegast method.

5. What is the average rate of respiration for a normal adult in breaths per minute?

- A. 8 to 15
- B. 10 to 20**
- C. 30 to 60
- D. 60 to 90

At rest, a healthy adult typically breathes about 12 to 20 times per minute. The range that best matches this standard is 10 to 20 breaths per minute, since it encompasses the usual resting value and allows for slight individual variation. Rates in the 30-60 or 60-90 range are far above normal resting levels and would indicate tachypnea or distress, while 8-15 is lower than the common resting range for many adults. Keep in mind that factors like fever, exercise, anxiety, and age can influence the rate, so clinicians often count breaths for a full minute to get an accurate measurement.

6. What breathing instructions should be given for imaging upper ribs?

- A. Expiration
- B. Inspiration**
- C. Shallow breathing
- D. Hold breath

When imaging the upper ribs, the appropriate breathing instruction is to take a deep inspiration. This is important because during inspiration, the diaphragm moves down and the thoracic cavity expands, creating maximum separation between the ribs and enhancing the visibility of the upper rib structures on the radiograph. The increased lung volume can also help to elevate the ribs, thus reducing overlapping of bony structures and allowing for clearer imaging. Instructing the patient to breathe deeply helps to increase the contrast of the skeletal structures by expanding the thorax, which is crucial for obtaining optimal images of the upper ribs. This technique helps in achieving clearer delineation, making it easier to assess any potential pathologies or abnormalities in that area.

7. What is the primary purpose of the rate pulse control during angiography?

- A. To enhance image quality**
- B. To prevent forceful injection**
- C. To increase patient comfort**
- D. To minimize radiation exposure**

The primary purpose of the rate pulse control during angiography is to prevent forceful injection. This control mechanism allows the radiographer or practitioner to regulate the speed and pressure with which contrast media is injected into the vascular system. By managing this rate, the risk of complications from high-pressure injections, such as vascular trauma, extravasation, or discomfort for the patient, can be significantly reduced. This is particularly important in angiography, where precise delivery of contrast agents is essential for achieving optimal imaging results while ensuring patient safety. Proper use of the rate pulse control contributes not only to the effectiveness of the procedure but also to the well-being of the patient throughout the imaging process. While aspects like image quality, patient comfort, and minimizing radiation exposure are important considerations in imaging procedures, they are not the primary function of the rate pulse control during angiography. Instead, this control is specifically designed to manage the injection dynamics safely.

8. What is the required filtration for X-ray systems operating at 50 - 70 kVp?

- A. 0.5 mm Al equivalent**
- B. 1.5 mm Al equivalent**
- C. 2.0 mm Al equivalent**
- D. 2.5 mm Al equivalent**

The required filtration for X-ray systems operating at 50 - 70 kVp is indeed 1.5 mm of aluminum equivalent. Filtration is critical in radiography as it helps to reduce patient dose and improve image quality by filtering out low-energy X-rays that contribute little to the diagnostic image but increase the overall radiation exposure to the patient. At this range of kilovoltage peak, 1.5 mm of aluminum effectively attenuates the less penetrating X-rays while allowing the higher energy, more penetrating X-rays to pass through, ensuring that the useful diagnostic beam is optimized. This filtration meets the standards set by regulatory bodies to balance patient safety with diagnostic efficacy. Filtration requirements vary based on the kilovoltage range; for example, lower kVp settings generally require less filtration, and higher settings require more. Thus, in the specific context of 50 - 70 kVp operations, the standard established for filtration is 1.5 mm of aluminum equivalent.

9. Which part of the Scottie dog anatomy is known as the body?

- A. Transverse process**
- B. Pedicle**
- C. Pars interarticularis**
- D. Lamina**

In the anatomy of the Scottie dog, which serves as a mnemonic for identifying various components of the vertebral structure, the "body" corresponds to the lamina. The lamina is a flat, thin layer of bone that forms the posterior part of the vertebral arch. It connects the transverse processes to the spinous process and is vital in protecting the spinal cord. Identifying the lamina as the body is significant because, in the context of vertebral anatomy, it contributes to the overall stability and protection of the spinal cord. This particular term helps in visualizing the layout of the vertebrae, as recognizing the lamina is instrumental for radiographic positioning and understanding injuries or conditions affecting the spine. Correctly associating the lamina with the body helps consolidate this aspect of spinal anatomy, making it easier to visualize and remember during studies or practical applications in radiography.

10. What is a key function of a Swan-Ganz catheter?

- A. To provide intravenous access for medications**
- B. To monitor blood sugar levels**
- C. To measure wedge pressure and central venous pressure**
- D. To inject anesthesia during surgeries**

A Swan-Ganz catheter, also known as a pulmonary artery catheter, serves a crucial role in the monitoring of hemodynamic parameters within the heart and pulmonary circulation. One of its primary functions is to measure wedge pressure, which provides valuable insights into left atrial filling pressures and can indicate the volume status of the patient. Additionally, it can measure central venous pressure, which reflects the pressure in the thoracic vena cava and can give information about right atrial pressure and overall circulatory status. This information is vital in managing patients with various cardiac and pulmonary conditions, guiding treatment decisions effectively. The other options do not encompass the primary functions of the Swan-Ganz catheter. Providing intravenous access for medications pertains to standard IV catheters, monitoring blood sugar levels relates to glucose monitoring devices, and injecting anesthesia is specific to equipment designed for anesthetic delivery, such as regional blocks or general anesthesia equipment. The unique capability of the Swan-Ganz catheter to measure cardiac pressures distinguishes it within the context of cardiovascular assessment and management.

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://camrtradiography.examzify.com>

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

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