

# Lange Radiography 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

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1. Which projection of the toes helps to minimize overlapping of soft tissue?
  - A. AP projection
  - B. Lateral projection
  - C. Oblique projection
  - D. Axial projection
  
2. The lateral projection of the skull utilizes which baseline and requires the MSP to be positioned in what manner relative to the IR?
  - A. IOML; parallel
  - B. OML; perpendicular
  - C. MSP; parallel
  - D. AML; perpendicular
  
3. Optimal KV ranges in radiography refer to:
  - A. The recommended kilovolt settings for imaging
  - B. The ideal exposure times for x-rays
  - C. The standard distance between the tube and the receptor
  - D. The preferred patient positioning during an exam
  
4. What is the maximum monthly fetal exposure limit for a pregnant radiographer?
  - A. 0.05 rem
  - B. 0.15 rem
  - C. 0.25 rem
  - D. 0.50 rem
  
5. What is the acceptable percentage range for exposure and reproducibility consistency?
  - A.  $\pm 2\%$
  - B.  $\pm 5\%$
  - C.  $\pm 10\%$
  - D.  $\pm 15\%$

6. Small bones found in tendons are termed what?
- A. Sesamoid
  - B. Cartilaginous
  - C. Synovial
  - D. Ossicles
7. What ethical principle is defined as faithfulness or loyalty?
- A. Veracity
  - B. Integrity
  - C. Nonmaleficence
  - D. Confidentiality
8. Which projection is used to visualize a part in profile by skimming the surface?
- A. Oblique
  - B. Tangential
  - C. Axial
  - D. Frontal
9. Although all electromagnetic radiations travel at the same velocity, how do they differ?
- A. In intensity and charge
  - B. In wavelength and frequency
  - C. In temperature and pressure
  - D. In amplitude and phase
10. Which of the following is a characteristic of optically stimulated luminescent dosimeters (OSLDs)?
- A. They are sensitive to heat.
  - B. They provide immediate readings.
  - C. They have a longer shelf life than film badges.
  - D. They are more bulky compared to TLDs.

## Answers

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

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## Explanations

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1. Which projection of the toes helps to minimize overlapping of soft tissue?

- A. AP projection
- B. Lateral projection
- C. Oblique projection
- D. Axial projection

The AP (anterior-posterior) projection is considered the most effective for minimizing overlapping of soft tissue in the toes. When the toes are positioned for an AP projection, they are aligned parallel to the imaging receptor, allowing for optimal clarity and separation of the structures being imaged. This positioning minimizes the chances of soft tissue from adjacent toes overlapping each other, thus presenting a clearer diagnostic image. In general, the AP technique is useful because it allows the rays to enter perpendicular to the plane of the toes, creating a more uniform exposure. This helps enhance the visibility of the skeletal structures while reducing the shadow effects caused by overlapping soft tissue. Other projections may have their own uses, but they typically do not achieve the same level of separation in soft tissue visualization as the AP projection.

2. The lateral projection of the skull utilizes which baseline and requires the MSP to be positioned in what manner relative to the IR?

- A. IOML; parallel
- B. OML; perpendicular
- C. MSP; parallel
- D. AML; perpendicular

In the lateral projection of the skull, the infraorbitomeatal line (IOML) is the critical baseline that needs to be used. This positioning ensures that the plane of the skull is oriented correctly for optimal imaging. When the IOML is aligned parallel to the image receptor (IR), it allows for a true lateral view of the skull, helping to avoid distortion and superimposition of structures. In this projection, the midsagittal plane (MSP) is typically positioned perpendicular to the IR, promoting an accurate representation of the skull anatomy. The emphasis on the IOML being parallel to the IR is essential to produce a clear and diagnostically useful image, which highlights the necessary anatomical details in a lateral view. Other potential baselines like the OML, AML, or variations in the relationship of the MSP to the IR would not produce the same accuracy for a lateral skull projection.

### 3. Optimal KV ranges in radiography refer to:

- A. The recommended kilovolt settings for imaging
- B. The ideal exposure times for x-rays
- C. The standard distance between the tube and the receptor
- D. The preferred patient positioning during an exam

Optimal kilovolt (kV) ranges in radiography specifically refer to the recommended kilovolt settings for imaging. In radiographic practice, kV is a critical factor that influences the quality of the radiographic image. The kilovolt setting determines the energy level of the x-ray beam, which affects the contrast and penetration ability of the beam as it passes through the patient's body. Using the appropriate kV range is essential because it ensures that enough energy is present to penetrate various tissues while maintaining adequate contrast in the image. If the kV is too low, the image may appear too light or underexposed, failing to adequately depict the structures of interest. Conversely, if the kV is too high, it can result in an image that is too dark or overexposed, which obscures details and reduces diagnostic quality. By following the optimal kV recommendations, radiographers can produce images that provide the best detail and contrast necessary for accurate diagnosis. Other factors in radiography such as exposure times, tube-to-receptor distance, and patient positioning focus on different aspects of the imaging process but do not relate directly to the kilovolt settings.

### 4. What is the maximum monthly fetal exposure limit for a pregnant radiographer?

- A. 0.05 rem
- B. 0.15 rem
- C. 0.25 rem
- D. 0.50 rem

The maximum monthly fetal exposure limit for a pregnant radiographer is established to ensure the safety and health of the developing fetus during pregnancy. The recommendation is set at 0.05 rem per month. This limit is in line with guidelines from organizations such as the National Council on Radiation Protection and Measurements (NCRP) and the American National Standards Institute (ANSI), which emphasize the importance of minimizing radiation exposure to pregnant workers and their unborn children. This limit is designed to protect the fetus from potential radiation effects, especially during the early stages of development when organs and systems are forming. The rationale behind this cautious approach is based on the understanding of radiation's potential biological effects, including teratogenic risks and developmental issues that could arise from excessive exposure. In the context of occupational settings, adherence to this exposure limit serves as a critical standard to ensure both the health of the radiographer and the fetus. Other options, while they represent potentially higher levels of exposure, do not align with the recommended precautionary principles in radiology practice regarding pregnancy.

5. What is the acceptable percentage range for exposure and reproducibility consistency?

A.  $\pm 2\%$

B.  $\pm 5\%$

C.  $\pm 10\%$

D.  $\pm 15\%$

The acceptable percentage range for exposure and reproducibility consistency is  $\pm 5\%$ . This standard is crucial in radiology to ensure that the radiation output from equipment remains stable and reliable across different exposures. Consistency in exposure helps in producing high-quality images while minimizing the risk of overexposure or underexposure to patients. Reproducibility refers to the ability of the imaging system to produce the same results under identical conditions; thus, a  $\pm 5\%$  range indicates that any variation should be small enough to maintain image quality and diagnostic effectiveness. If the variation exceeds this acceptable range, it could lead to significant discrepancies in imaging results, potentially impacting patient care and diagnosis. Maintaining strict adherence to this  $\pm 5\%$  standard is essential for effective quality control in radiographic practices, ensuring that the equipment performs consistently and safely.

6. Small bones found in tendons are termed what?

A. Sesamoid

B. Cartilaginous

C. Synovial

D. Ossicles

Small bones found in tendons are referred to as sesamoid bones. These bones develop within the tendons and serve to protect them and improve the mechanical function and leverage of the muscles associated with those tendons. A classic example of sesamoid bones is the patella (kneecap), which is found in the tendon of the quadriceps muscle. The presence of sesamoid bones can vary among individuals and different anatomical locations. Their primary role is to provide a smooth surface for tendons to glide over, reduce friction, and prevent wear and tear. Their unique positioning also alters the angle of muscle tendons, enhancing the strength of muscle contractions. The other options—cartilaginous, synovial, and ossicles—refer to different structures in the body: cartilaginous relates to cartilage, synovial pertains to the type of joint that allows for movement, and ossicles are small bones in the middle ear. They do not describe small bones specifically located within tendons. This makes sesamoid the correct term for the small bones in question.

7. What ethical principle is defined as faithfulness or loyalty?

- A. Veracity
- B. Integrity
- C. Nonmaleficence
- D. Confidentiality

The ethical principle that is defined as faithfulness or loyalty is best described by the concept of veracity. Veracity emphasizes the importance of truthfulness and honesty in professional conduct, reflecting a commitment to being faithful to the obligation of telling the truth and providing accurate information. This principle fosters trust between healthcare professionals and patients, as well as among colleagues, and reinforces the importance of maintaining a moral obligation to be truthful. Integrity, while related to adherence to moral and ethical principles, is more about consistency and wholeness in one's actions rather than specifically focusing on loyalty. Nonmaleficence refers to the obligation to do no harm, emphasizing the importance of patient safety and well-being, and confidentiality pertains to respecting a patient's privacy concerning their personal health information. Therefore, veracity stands out as the principle most aligned with the ideas of faithfulness and loyalty in ethical practice.

8. Which projection is used to visualize a part in profile by skimming the surface?

- A. Oblique
- B. Tangential
- C. Axial
- D. Frontal

The tangential projection is utilized to visualize a part in profile by skimming the surface. This technique involves directing the x-ray beam tangentially to the anatomical structure, allowing for enhanced visualization of the surface details without superimposing adjacent structures. In practice, the tangential method is particularly useful for examining curved surfaces or specific areas where clarity is sought, such as the patella or the zygomatic arch. By positioning the patient's body and the x-ray tube at specific angles, the resulting image allows clinicians to evaluate contours and contours of the structure being examined. Other projection types serve different purposes; for instance, the oblique projection is commonly used to visualize joints or to avoid superimposition of structures, while the axial projection is oriented along the long axis of the body or limb, primarily focusing on internal structures. The frontal (or anteroposterior) projection provides a straight-on view of the structure and is often used as a basic imaging technique.

9. Although all electromagnetic radiations travel at the same velocity, how do they differ?

- A. In intensity and charge
- B. In wavelength and frequency
- C. In temperature and pressure
- D. In amplitude and phase

Electromagnetic radiations are characterized by their wavelength and frequency. While all forms of electromagnetic radiation, such as radio waves, microwaves, visible light, X-rays, and gamma rays, travel at the speed of light in a vacuum, they differ significantly in their wavelength and frequency. Wavelength refers to the distance between successive peaks of a wave, and frequency describes the number of wave cycles that pass a point in one second. These two properties are inversely related: as the wavelength increases, the frequency decreases, and vice versa. This relationship is described by the formula:  $[\text{Speed}] = [\text{Wavelength}] \times [\text{Frequency}]$ . Because of this relationship, different types of electromagnetic radiation can be classified on the electromagnetic spectrum. For instance, radio waves have long wavelengths and low frequencies, while gamma rays have very short wavelengths and high frequencies. Consequently, the energy of electromagnetic radiation is also directly related to frequency; higher frequency radiation carries more energy. In summary, the difference in wavelength and frequency is essential for differentiating between various forms of electromagnetic radiation and understanding their properties and interactions with matter.

10. Which of the following is a characteristic of optically stimulated luminescent dosimeters (OSLDs)?

- A. They are sensitive to heat.
- B. They provide immediate readings.
- C. They have a longer shelf life than film badges.
- D. They are more bulky compared to TLDs.

Optically stimulated luminescent dosimeters (OSLDs) are known for having a longer shelf life than traditional film badges. This characteristic makes them particularly advantageous for use in radiation monitoring. Unlike film badges, which can degrade over time due to exposure to heat, humidity, and light, OSLDs are more stable and less sensitive to environmental factors, allowing them to maintain their effectiveness for extended periods. This quality enables them to be stored without significant loss of accuracy in measuring radiation exposure, which is critical for ensuring accurate dosimetry over time. The other characteristics associated with OSLDs highlight key differences when compared to other dosimeter types. For instance, they are not particularly sensitive to heat and do not provide immediate readings, as it typically requires reading out the stored information following exposure. Additionally, OSLDs are designed to be compact and portable, making them less bulky compared to thermoluminescent dosimeters (TLDs), which can sometimes be larger due to their design. Hence, the assertion that they have a longer shelf life than film badges is a defining feature of OSLDs.

## 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](mailto:hello@examzify.com).

Or visit your dedicated course page for more study tools and resources:

<https://langeradiography.examzify.com>

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

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