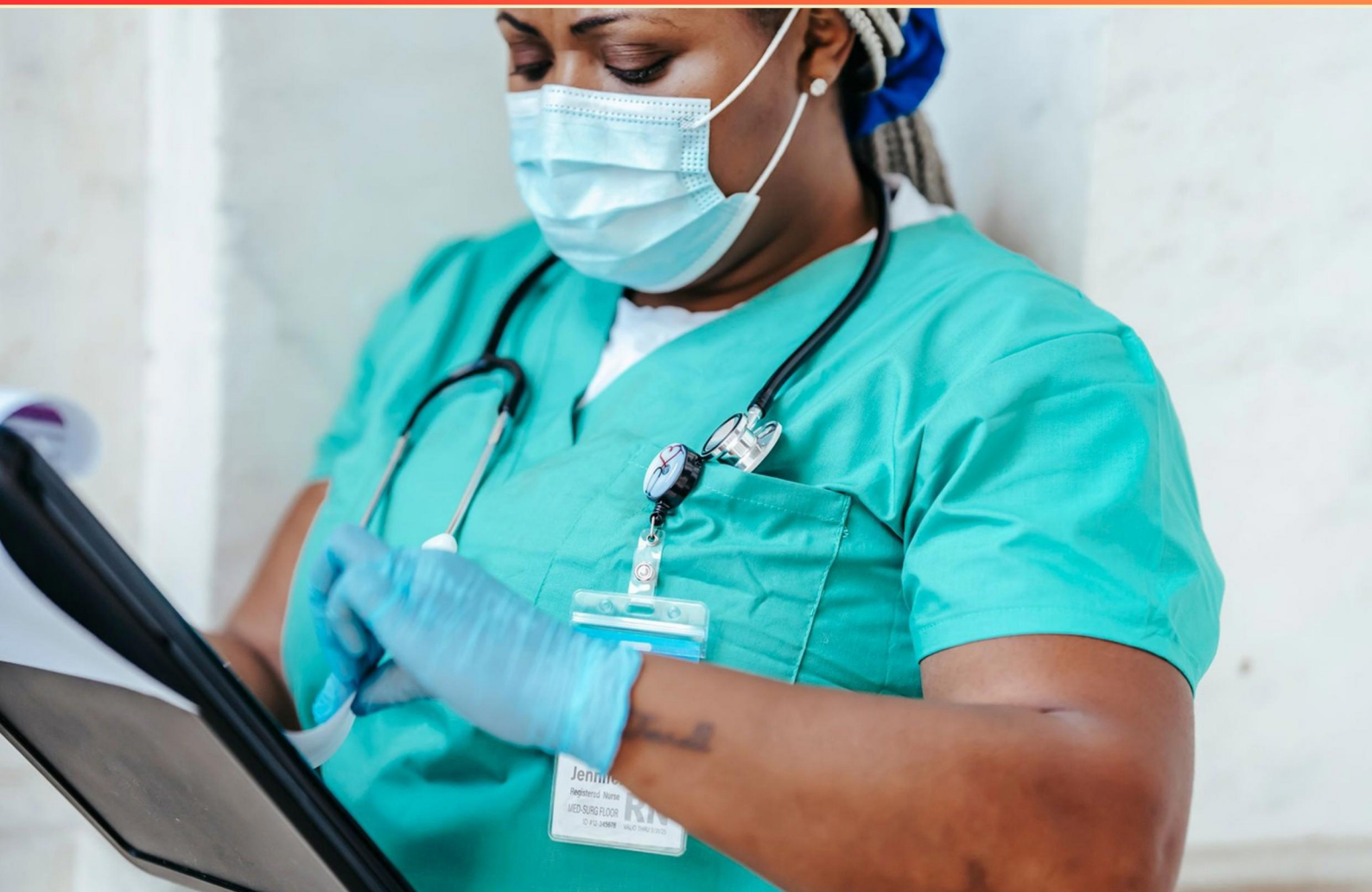


# HESI SAFETY V2 PRACTICE TEST (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR  
THE FULL VERSION STUDY GUIDE

<https://hesisafetyv2.examzify.com>



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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 fluoroscopic kilovolts peak (kVp) factor is most appropriate for optimal patient radiation protection?**
  - A. 60 - 70 kVp.
  - B. 80 - 90 kVp.
  - C. 70 - 80 kVp.
  - D. 100 - 110 kVp.
  
- 2. Is ALARA met if images stay within recommended exposure index ranges but are always at the high end of the range?**
  - A. No, the radiographer should aim for the lowest index within range that produces an acceptable image
  - B. Yes, staying within recommended index range meets ALARA guidelines
  - C. No, the radiographer should always aim for the middle of the index range
  - D. Yes, it is best to aim toward the high end of the index range to provide better image resolution
  
- 3. Which quantity directly measures the quality of the diagnostic x-ray beam?**
  - A. Milliamperage (mA).
  - B. Kilovolts peak (kVp).
  - C. Source to image receptor distance (SID).
  - D. Half Value Layer (HVL).
  
- 4. How does proper equipment positioning contribute to safety during diagnostic imaging?**
  - A. It reduces exposure to the patient only.
  - B. It reduces exposure to both patient and staff and improves image quality.
  - C. It increases radiation dose.
  - D. It has no effect on safety.
  
- 5. Which characteristic of cells makes them more radiosensitive?**
  - A. Low metabolic rate.
  - B. Shorter mitotic duration.
  - C. High specialization.
  - D. High reproductive rate.

- 6. Name two assistive devices used to reduce risk of musculoskeletal injury during lifting.**
- A. Mechanical lift (e.g., Hoyer) and slide sheets (or transfer belts).
  - B. Crutches and canes.
  - C. Disposable gloves and gowns.
  - D. Back braces only.
- 7. Which of the following phrases represents the PASS acronym for using a fire extinguisher?**
- A. Push, Aim, Squeeze, Sweep
  - B. Pull, Aim, Squeeze, Sweep
  - C. Pull, Assess, Squeeze, Sweep
  - D. Punch, Aim, Squeeze, Sweep
- 8. When should restraints be used, and what policy governs their use?**
- A. Whenever a patient is agitated, with family consent.
  - B. As a first-line measure to prevent falls, with periodic review.
  - C. Only as a last resort when there is imminent risk, with physician order, reassessment, and continuous monitoring per least-restrictive policy.
  - D. Without a physician order if the patient agrees.
- 9. How should sharps be disposed of in healthcare settings?**
- A. Store used sharps in a labeled bin at the nurse's station.
  - B. Immediately after use into approved sharps containers; never recap or bend; do not overfill; seal container when  $\frac{3}{4}$  full.
  - C. Dispose in regular trash after cleaning.
  - D. Return to supply closet for later disposal.
- 10. Characteristic x-rays are more likely to be produced when the projectile electron interacts with a bound electron in which shell?**
- A. M-shell
  - B. K-shell
  - C. N-shell
  - D. L-shell



## **Answers**

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

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## **Explanations**

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**1. Which fluoroscopic kilovolts peak (kVp) factor is most appropriate for optimal patient radiation protection?**

- A. 60 - 70 kVp.
- B. 80 - 90 kVp.
- C. 70 - 80 kVp.
- D. 100 - 110 kVp.**

Higher kilovoltage peak during fluoroscopy generally lowers patient radiation dose because it allows the image to be produced with lower exposure (mA and/or shorter time) while still achieving adequate brightness. As kVp increases, beam energy rises, so you can use a lower dose to reach the same receptor signal. This comes with less contrast, but modern systems and processing help preserve diagnostic usefulness, making higher kVp a key dose-saving strategy. Among the options, the highest kVp range—100 to 110 kVp—offers the greatest potential for protection because it uses the most penetrating beam, enabling lower exposure settings overall. Lower kVp ranges would require higher mA or longer exposure to achieve the same image brightness, increasing the patient dose.

**2. Is ALARA met if images stay within recommended exposure index ranges but are always at the high end of the range?**

- A. No, the radiographer should aim for the lowest index within range that produces an acceptable image**
- B. Yes, staying within recommended index range meets ALARA guidelines
- C. No, the radiographer should always aim for the middle of the index range
- D. Yes, it is best to aim toward the high end of the index range to provide better image resolution

ALARA means using the lowest exposure that still yields a diagnostically acceptable image. Even if the exposure index stays within the recommended range, consistently using the high end means the patient is receiving more radiation than necessary without added diagnostic benefit. The goal is to adjust technique so you achieve acceptable image quality with the smallest possible exposure within that range. So, you look for the lowest index that still gives an adequate image rather than always targeting the middle or the high end. Relying on the high end to supposedly improve resolution isn't correct, because increasing exposure does not inherently improve image quality and only increases dose.

**3. Which quantity directly measures the quality of the diagnostic x-ray beam?**

- A. Milliamperage (mA).
- B. Kilovolts peak (kVp).
- C. Source to image receptor distance (SID).
- D. Half Value Layer (HVL).**

Beam quality is about how penetrating the x-ray beam is, which comes from the photon energy and the filtration in the beam. Half Value Layer directly measures that penetrating power: it's the thickness of material (usually aluminum) required to cut the beam's intensity in half. A larger HVL means the beam has higher average energy and is more penetrating, reflecting greater beam quality. Filtration and higher kVp both increase HVL, making the beam harder, while lower HVL indicates softer photons. In contrast, milliamperage controls how many photons are produced (the beam's quantity), not how penetrable it is. Kilovolts peak does influence the energy spectrum but isn't a direct measure of quality, and source-to-image distance affects image geometry and dose rather than the beam's quality.

#### 4. How does proper equipment positioning contribute to safety during diagnostic imaging?

- A. It reduces exposure to the patient only.
- B. It reduces exposure to both patient and staff and improves image quality.**
- C. It increases radiation dose.
- D. It has no effect on safety.

*Directing and aligning the X-ray beam through proper equipment positioning centers the anatomy in the image receptor, which lets you use the beam efficiently and apply appropriate collimation. When the area of interest is correctly positioned, the image is clearer with less scatter, so you don't have to repeat the exam. Fewer repeats mean the patient is exposed to a lower total dose. Positioning also helps protect staff. With accurate alignment and shielding in place, there's less scatter reaching operators, and the exposure time can be minimized because the exam is done right the first time. In short, good positioning lowers radiation exposure for both the patient and the staff while simultaneously boosting image quality.*

#### 5. Which characteristic of cells makes them more radiosensitive?

- A. Low metabolic rate.
- B. Shorter mitotic duration.
- C. High specialization.
- D. High reproductive rate.**

*Radiosensitivity is greatest in cells that divide rapidly. Ionizing radiation damages DNA, and cells rely on accurate DNA replication during division. When cells are rapidly proliferating, they pass through replication and division cycles frequently, leaving less time for repair of radiation-induced DNA damage. This means damaged cells are more likely to fail to complete division or undergo cell death, increasing tissue damage in those rapidly renewing populations. That's why tissues with high turnover, such as bone marrow, the lining of the gut, and reproductive cells, are particularly radiosensitive. In contrast, cells that are more differentiated and divide less often are more resistant because they encounter radiation damage less frequently during replication and have more opportunity for repair between divisions.*

#### 6. Name two assistive devices used to reduce risk of musculoskeletal injury during lifting.

- A. Mechanical lift (e.g., Hoyer) and slide sheets (or transfer belts).**
- B. Crutches and canes.
- C. Disposable gloves and gowns.
- D. Back braces only.

*Using assistive devices during lifting reduces musculoskeletal injury risk by sharing the load and improving control during patient transfers. A mechanical lift, such as a Hoyer, uses a motor and sling system to raise and move a patient with minimal manual lifting. This keeps the caregiver's spine in a safer position and greatly lowers the strain on the back, shoulders, and arms. Slide sheets or transfer belts help reposition or transfer a patient with less friction and force. They enable the team to guide movement smoothly, reducing awkward twisting, bending, and heavy lifting, and they make coordinated teamwork easier. Other options don't address the lifting task. Mobility aids like crutches or canes are for patient ambulation, PPE like gloves and gowns protect against contamination rather than musculoskeletal strain, and relying on a back brace alone doesn't remove the physical demands of lifting or transfers.*

**7. Which of the following phrases represents the PASS acronym for using a fire extinguisher?**

- A. Push, Aim, Squeeze, Sweep
- B. Pull, Aim, Squeeze, Sweep**
- C. Pull, Assess, Squeeze, Sweep
- D. Punch, Aim, Squeeze, Sweep

*PASS is the standard method for using a portable fire extinguisher. The sequence is designed to get the extinguisher working correctly and to target the fire effectively. Pull the pin to break the tamper seal so you can discharge the extinguisher. Aim at the base of the fire to reach the fuel source, not the flames themselves. Squeeze the handle to release the extinguishing agent, and sweep the nozzle from side to side at the base of the fire to cover the area and knock it down. The other phrases don't fit because they include actions that aren't part of operating the extinguisher—pushing the pin, assessing, or punching the extinguisher. Remember, use only on small, manageable fires and if it's not growing quickly or you don't have a clear escape path, evacuate and call for help.*

**8. When should restraints be used, and what policy governs their use?**

- A. Whenever a patient is agitated, with family consent.
- B. As a first-line measure to prevent falls, with periodic review.
- C. Only as a last resort when there is imminent risk, with physician order, reassessment, and continuous monitoring per least-restrictive policy.**
- D. Without a physician order if the patient agrees.

*Restraints should be used only as a last resort when there is imminent risk of harm and less-restrictive options have been tried or are not sufficient. The decision must involve a physician or licensed practitioner to provide an order, and once in place there must be prompt reassessment and continuous monitoring to ensure the patient's safety and well-being. The approach should follow the least-restrictive policy, meaning every effort is made to protect the patient while minimizing restrictions and shortening the time restraints are in place. This isn't appropriate as a first response to agitation, nor is it acceptable to rely on family consent or patient agreement alone to authorize restraints. Those factors don't replace professional authorization, ongoing evaluation, or the requirement for monitoring. Restraints are a tool for safety, used judiciously and temporary, with the aim of restoring safety while respecting the patient's dignity.*

**9. How should sharps be disposed of in healthcare settings?**

- A. Store used sharps in a labeled bin at the nurse's station.
- B. Immediately after use into approved sharps containers; never recap or bend; do not overfill; seal container when  $\frac{3}{4}$  full.**
- C. Dispose in regular trash after cleaning.
- D. Return to supply closet for later disposal.

*Immediate use of approved sharps containers is essential to prevent injuries. These containers are rigid, puncture-resistant, leak-proof, closable, and clearly labeled for sharps waste. Put used sharps in the container right away; never recap or bend needles because that creates a higher risk of puncture. Do not overfill; seal the container when it's about  $\frac{3}{4}$  full to ensure safe transport and disposal. This container is then disposed of through the facility's sharps waste program. Regular trash, or returning sharps to the supply closet or nurse's station, are unsafe because they bypass proper containment and increase exposure risk.*

**10. Characteristic x-rays are more likely to be produced when the projectile electron interacts with a bound electron in which shell?**

- A. M-shell
- B. K-shell**
- C. N-shell
- D. L-shell

*When a high-energy projectile knocks out a bound electron, the vacancy that forms is filled by an electron from a higher shell, and a photon with energy equal to the difference between those shells is emitted. The innermost shell, called the K-shell, has the highest binding energy, so a vacancy there produces the most energetic and distinctive X-ray lines (the K-series) that clearly identify the element. If the interaction involves outer shells, the emitted X-rays would be of lower energy and less characteristic. Thus, a bound-electron interaction in the K-shell is the most likely way to produce characteristic X-rays.*

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## 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://hesisafetyv2.examzify.com>

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

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