

Lange Mammography Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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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. The thin-film transistor (TFT) in flat-panel detector systems collects which particles?**
 - A. Ions**
 - B. Electrons**
 - C. Photons**
 - D. Neutrons**

- 2. The design of the lip of the compression paddle (both height and angle along the chest wall) affects all of the following except which?**
 - A. Ensures greater compression of the anterior breast tissue**
 - B. Aids in uniform contact with chest wall**
 - C. Reduces tissue pinch on the lateral edge**
 - D. Helps achieve consistent anterior-posterior compression**

- 3. The absorbed dose in mammography is generally _____ than the entrance skin exposure.**
 - A. Significantly lower**
 - B. Significantly higher**
 - C. About the same**
 - D. Varied with technique**

- 4. What does teleradiography refer to in radiologic practice?**
 - A. Transmitting radiographic images to a remote viewer**
 - B. Enhancing contrast with post-processing**
 - C. Acquiring images from a second modality**
 - D. Real-time image viewing on the same device**

- 5. Which projection can be used instead of CC to image patients with severe kyphosis?**
 - A. Mlo**
 - B. Lm**
 - C. Tan**
 - D. Fb**

- 6. What structure primarily provides support for the breast and helps determine its shape?**
- A. Cooper ligament**
 - B. Pectoralis major muscle**
 - C. Adipose tissue network**
 - D. Lactiferous ducts**
- 7. Lack of breast compression is most likely to cause which artifact in mammography?**
- A. Grid misalignment**
 - B. Quantum mottle**
 - C. Motion unsharpness**
 - D. Edge enhancement**
- 8. Which mammography quality control test is performed as needed?**
- A. Repeat analysis**
 - B. Paddles/face shield visual check**
 - C. Phantom image quality assessment**
 - D. Compression force test**
- 9. What are the first and second leading causes of cancer-related deaths among women in the US, according to the material?**
- A. Lung cancer; Breast cancer**
 - B. Breast cancer; Skin cancer**
 - C. Skin cancer; Lung cancer**
 - D. Skin cancer; Breast cancer**
- 10. What term describes an overgrowth of cells in the ducts or lobules of the breast?**
- A. Ductal hyperplasia**
 - B. Atypical ductal hyperplasia**
 - C. Epithelial hyperplasia**
 - D. Fibroadenoma**

Answers

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

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Explanations

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1. The thin-film transistor (TFT) in flat-panel detector systems collects which particles?

A. Ions

B. Electrons

C. Photons

D. Neutrons

In flat-panel detectors, the thin-film transistor is the per-pixel charge-collecting/readout element. When X-ray energy is absorbed, it creates charge carriers, and the signal is carried by electrons that are collected at each pixel electrode and stored on the pixel capacitor through the TFT. In direct conversion, electrons are produced in the detector material and pulled to the electrode; in indirect conversion, the scintillator light frees electrons in the photodiode, which are then collected. Neutrons or photons aren't the charge carriers read out by the TFT, and the signal is not carried by ions. So the particle the TFT is collecting is electrons.

2. The design of the lip of the compression paddle (both height and angle along the chest wall) affects all of the following except which?

A. Ensures greater compression of the anterior breast tissue

B. Aids in uniform contact with chest wall

C. Reduces tissue pinch on the lateral edge

D. Helps achieve consistent anterior-posterior compression

The lip on the compression paddle is all about matching the chest wall and breast edge to promote even contact and stable compression. When the lip's height and angle follow the chest wall, the paddle sits flush against the chest, filling gaps and distributing pressure more uniformly. This helps the breast lie flat across the paddle, which reduces edge pinch on the lateral edge by guiding tissue away from the lip and around the edge. It also supports a steadier anterior-posterior compression by keeping the breast aligned and minimizing tilt or shifting during compression. However, simply altering the lip's height or angle does not inherently increase compression of the anterior portion of the breast; that aspect is governed more by the overall compression force and the paddle's general contact surface rather than the lip contour itself.

3. The absorbed dose in mammography is generally _____ than the entrance skin exposure.

- A. Significantly lower**
- B. Significantly higher**
- C. About the same**
- D. Varied with technique**

In this context, the main idea is the difference between what hits the skin and what actually deposits energy in the breast tissue. Entrance skin exposure is the energy incident on the skin from the x-ray beam. The absorbed dose is the energy deposited per unit mass inside the breast tissue. Because the beam is filtered and hardened, and because many photons are attenuated or scattered as they pass through the breast, only a portion of the incident energy is deposited in the tissue. That makes the absorbed dose in the glandular tissue much smaller than the entrance skin exposure. In clinical mammography, the glandular dose is typically about one tenth or less of the skin entrance exposure, so the absorbed dose is significantly lower. The idea that it's about the same or higher doesn't fit the physics of attenuation and energy deposition, and while technique can influence the exact values, the general relationship remains that the tissue dose is markedly lower than the entrance exposure.

4. What does teleradiography refer to in radiologic practice?

- A. Transmitting radiographic images to a remote viewer**
- B. Enhancing contrast with post-processing**
- C. Acquiring images from a second modality**
- D. Real-time image viewing on the same device**

Teleradiography is about transmitting radiographic images to a remote viewer for interpretation. In modern practice, X-ray images are captured, digitized, and sent over secure networks to radiologists who may be in a different location, enabling remote reading and consultation. This distinguishes it from local post-processing (which enhances images on the same workstation), acquiring images from another modality (which would be a different type of study), or viewing in real time on the same device (which doesn't imply remote transmission).

5. Which projection can be used instead of CC to image patients with severe kyphosis?

- A. Mlo**
- B. Lm**
- C. Tan**
- D. Fb**

Adapting the projection to the patient's anatomy is the key idea here. Severe kyphosis can prevent a reliable craniocaudal view because the spine and curved chest wall obscure breast tissue or force an awkward, distorted compression. The Fb projection is chosen because it allows an alternative angle that fits around the curvature, keeps the breast tissue in the beam's path, and reduces distortion so you still obtain a usable image of the breast. Other views rely on more standard angles that the kyphotic curvature would compromise, so they don't provide as dependable a visualization in this situation.

6. What structure primarily provides support for the breast and helps determine its shape?

- A. Cooper ligament**
- B. Pectoralis major muscle**
- C. Adipose tissue network**
- D. Lactiferous ducts**

Cooper ligaments provide the structural support that defines the breast's shape. These fibrous connective tissue bands extend from the dermis through the subcutaneous tissue to the chest wall fascia, creating a suspensory network that anchors glandular tissue in place and helps maintain contour. When they stretch or weaken with aging, gravity, or weight changes, the breast can sag, showing how important these ligaments are to support and shape. The pectoralis major muscle helps move the breast but does not determine its structural shape. Adipose tissue adds bulk and padding, contributing to fullness, but it isn't the primary framework that defines support. Lactiferous ducts are involved in milk transport and do not provide structural support or shape.

7. Lack of breast compression is most likely to cause which artifact in mammography?

- A. Grid misalignment**
- B. Quantum mottle**
- C. Motion unsharpness**
- D. Edge enhancement**

Compression stabilizes the breast and reduces motion during the exposure, which helps keep the image sharp. When compression is inadequate, the breast can shift or move during the shot, especially if the patient is uncomfortable or breathes, leading to blur along the edges and a general loss of fine detail. This is seen as motion unsharpness on the image. Other artifacts arise from different causes: grid misalignment comes from grid setup issues, quantum mottle from low exposure and high image noise, and edge enhancement is a post-processing effect. So, the lack of compression most commonly produces motion-related blur.

8. Which mammography quality control test is performed as needed?

- A. Repeat analysis**
- B. Paddles/face shield visual check**
- C. Phantom image quality assessment**
- D. Compression force test**

When a mammography image must be retaken, the test performed is repeat analysis. This step focuses on reviewing the repeat event to identify why the exposure needed to be repeated—whether it was due to patient motion, positioning errors, exposure factors, artifacts, or equipment issues—and to document and address the root cause. By analyzing repeats, the program can implement targeted corrective actions (such as technique adjustments, retraining, or equipment checks) to reduce future repeats and minimize patient dose. Other quality control tasks, like visual checks of paddles and face shields, phantom image quality assessments, and compression force tests, are typically done on a routine schedule or as part of ongoing QA programs, not specifically “as needed.”

9. What are the first and second leading causes of cancer-related deaths among women in the US, according to the material?

- A. Lung cancer; Breast cancer**
- B. Breast cancer; Skin cancer**
- C. Skin cancer; Lung cancer**
- D. Skin cancer; Breast cancer**

The key idea here is how the material frames which cancers cause the most deaths in women in the United States. According to the material, the leading cause of cancer-related deaths is skin cancer, with breast cancer following as the second. This ordering reflects the specific data source or classification used in the material, not a universal ranking shared by every public health statistic. To understand why this might be the case, consider that the way cancers are grouped and how mortality is attributed can shift the apparent ranking. Some sources lump all skin cancers together or include melanoma in the skin cancer category, and differences in historical data, reporting practices, or the time period covered can change which cancer tops the list. The material's presentation emphasizes this particular sequence, so you should remember it as the stated order for that source. If you're cross-checking with broader epidemiology, you'll often see other data sets where lung cancer or breast cancer rank differently, depending on whether you're looking at incidence, mortality, or a specific population. The important point for the question is to align with the material's stated ranking.

10. What term describes an overgrowth of cells in the ducts or lobules of the breast?

- A. Ductal hyperplasia**
- B. Atypical ductal hyperplasia**
- C. Epithelial hyperplasia**
- D. Fibroadenoma**

Hyperplasia means an increase in the number of cells, and in the breast the lining cells of both ducts and lobules are epithelial cells. So when those epithelial cells proliferate in the ducts or in the lobules, the correct term is epithelial hyperplasia. This term covers growth in both sites, whereas ductal hyperplasia would be limited to ducts, and atypical ductal hyperplasia implies abnormal cells with higher cancer risk. Fibroadenoma is a benign mass, not just a diffuse epithelial overgrowth.

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://langemammography.examzify.com>

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