

RADIATION THERAPY BOARD PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://radiationtherapyboard.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 of the following is NOT a general sign or symptom of shock?**
 - A. Weak, thready pulse
 - B. Rapid heartbeat
 - C. Increased temperature
 - D. Hypotension

- 2. Which of the following is an acute effect of radiation therapy?**
 - A. Hair loss
 - B. Long-term infertility
 - C. Chronic fatigue
 - D. Radiation-induced secondary cancers

- 3. Which term describes a condition that results in an increase in the number of cells?**
 - A. hyperplasia
 - B. hypoplasia
 - C. anaplasia
 - D. metaplasia

- 4. What is the most common type of cancer affecting the skin?**
 - A. melanoma
 - B. basal cell carcinoma
 - C. squamous cell carcinoma
 - D. adenocarcinoma

- 5. What does an allogenic bone marrow transplant entail?**
 - A. Remove from patient, treated, then reinfuse
 - B. Remove from patient, wait for remission, then reinfuse
 - C. Receive from a sibling or a match
 - D. Receive from an identical twin

- 6. Which type of thyroid cancer requires the most aggressive treatment due to its rapid growth?**
- A. papillary
 - B. follicular
 - C. medullary
 - D. anaplastic
- 7. Which of the following radiation measuring devices is appropriate for verifying dose calculations in specific areas of a treatment field?**
- A. ion chamber
 - B. film badge
 - C. pocket dosimeter
 - D. thermoluminescent dosimeter
- 8. In which region of the palatine are the palatine tonsils located?**
- A. Nasopharynx
 - B. Oropharynx
 - C. Hypopharynx
 - D. Parapharynx
- 9. A malignant tumor of striated muscle is known as which of the following?**
- A. leiomyoma
 - B. fibrosarcoma
 - C. epithelioma
 - D. rhabdomyosarcoma
- 10. What is the annual dose limit for occupational exposure?**
- A. 5 REM
 - B. 15 REM
 - C. 30 REM
 - D. 50 REM

Answers

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

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Explanations

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1. Which of the following is NOT a general sign or symptom of shock?

- A. Weak, thready pulse
- B. Rapid heartbeat
- C. Increased temperature**
- D. Hypotension

In the context of shock, the general signs and symptoms commonly observed include weak, thready pulses, rapid heart rates, and hypotension. These are indicators of the body's response to insufficient blood flow and oxygen delivery to tissues. A key factor to note is that shock often leads to a drop in blood volume or blood pressure, prompting the heart to beat faster (tachycardia) in an attempt to maintain circulation. The pulse may become weak and thready due to this inadequate circulation, and hypotension is a hallmark symptom reflecting decreased blood pressure. In contrast, increased temperature is not typically associated with shock. While certain types of shock, such as septic shock, may involve an elevation in body temperature due to infection, the general response in most shock scenarios is not characterized by an increased temperature. Instead, individuals in shock may present with cool, clammy skin as blood is redirected away from the extremities, leading to a drop in temperature or a normal thermal status. Thus, increased temperature does not fit the profile of general signs and symptoms of shock, making it the correct choice for identification as the outlier symptom.

2. Which of the following is an acute effect of radiation therapy?

- A. Hair loss**
- B. Long-term infertility
- C. Chronic fatigue
- D. Radiation-induced secondary cancers

Hair loss is indeed considered an acute effect of radiation therapy. This effect typically arises when the scalp, or the area where hair follicles are located, is exposed to significant doses of radiation. Acute effects are those that occur shortly after treatment and can manifest within days to weeks. In the case of hair loss, it is often temporary, especially if the radiation dose is not extremely high and the hair follicles can recover. However, it can lead to distress for patients, making it a significant concern during treatment planning and patient care. Long-term infertility, chronic fatigue, and radiation-induced secondary cancers represent delayed or chronic effects that may manifest weeks, months, or even years after radiation exposure. These conditions indicate a different timeline and biological response when compared to the acute onset of effects like hair loss. Understanding these distinctions helps healthcare professionals manage patient expectations and provide comprehensive support during radiation therapy.

3. Which term describes a condition that results in an increase in the number of cells?

- A. hyperplasia**
- B. hypoplasia
- C. anaplasia
- D. metaplasia

The term that describes a condition resulting in an increase in the number of cells is hyperplasia. This biological process occurs when cells proliferate, leading to an expansion of the original tissue mass. Hyperplasia can occur in response to various stimuli, such as hormonal changes, increased functional demand, or chronic irritation. It is important to distinguish hyperplasia from other cellular changes, as it typically indicates a non-neoplastic increase in cell number and can be a normal physiological process, as seen in tissue repair or organ growth during development. In contrast, hypoplasia refers to an incomplete or underdeveloped tissue or organ with fewer cells than normal, which is not a case of proliferation. Anaplasia indicates a loss of differentiation and a return to a more primitive, undifferentiated state often seen in cancer, where cells do not necessarily increase in number but rather change their structure. Metaplasia is the reversible change where one cell type is replaced by another type, typically in response to chronic stress or injury, rather than an increase in cell number. Therefore, hyperplasia correctly captures the condition of increased cell quantities.

4. What is the most common type of cancer affecting the skin?

- A. melanoma
- B. basal cell carcinoma**
- C. squamous cell carcinoma
- D. adenocarcinoma

Basal cell carcinoma is the most prevalent form of skin cancer, accounting for approximately 80% of all nonmelanoma skin cancers. This type of cancer originates from the basal cells, which are located in the epidermis (the outer layer of skin). Factors contributing to its high incidence include excessive sun exposure and ultraviolet (UV) light exposure, both of which can lead to mutations in the DNA of skin cells. Basal cell carcinoma is generally slow-growing and less likely to metastasize compared to other forms of skin cancer, such as melanoma and squamous cell carcinoma. Its ability to develop in areas of the skin that are frequently exposed to sunlight, such as the face, neck, and ears, further elevates its occurrence. Although it can be locally invasive and may cause significant damage to surrounding tissues without timely treatment, it rarely spreads to distant parts of the body. Understanding the typical demographics and risk factors involved with basal cell carcinoma informs preventive measures and early detection strategies. This foundational knowledge is vital for healthcare professionals in effectively managing and advising patients about skin cancer risks and treatment options.

5. What does an allogenic bone marrow transplant entail?

- A. Remove from patient, treated, then reinfuse
- B. Remove from patient, wait for remission, then reinfuse
- C. Receive from a sibling or a match**
- D. Receive from an identical twin

An allogenic bone marrow transplant involves the use of stem cells or bone marrow derived from a donor, which is typically not the patient themselves but rather another individual who is genetically compatible. The best match is often a sibling, as they have a higher likelihood of sharing the same human leukocyte antigens (HLAs), which are critical for reducing the risk of transplant rejection and complications such as graft-versus-host disease (GVHD). In this procedure, the recipient undergoes conditioning treatment, usually involving chemotherapy and/or radiation, to prepare their body for the new stem cells. Afterward, the matched donor's stem cells are infused into the recipient's bloodstream, allowing the new cells to migrate to the bone marrow and begin producing healthy blood cells. The other options reflect aspects of different transplant types or procedures. For example, using cells from the patient themselves relates to an autologous transplant, while receiving cells from an identical twin leans towards a syngeneic transplant. However, in the context of an allogenic bone marrow transplant, utilizing stem cells from a donor, such as a sibling or a matched individual, is the correct definition.

6. Which type of thyroid cancer requires the most aggressive treatment due to its rapid growth?

- A. papillary
- B. follicular
- C. medullary
- D. anaplastic**

Anaplastic thyroid cancer is recognized as one of the most aggressive forms of thyroid cancer due to its rapid growth and tendency to metastasize early. This type of cancer often presents in older patients and is characterized by its undifferentiated cells, which significantly diminishes treatment options and responses. The aggressive nature of anaplastic thyroid cancer typically requires a multimodal approach, including surgery, radiation therapy, and potentially chemotherapy, as opposed to more conservative treatments that may be suitable for other types of thyroid cancer, such as papillary or follicular thyroid cancers. These other types usually have a better prognosis and slower progression, allowing for more time before aggressive intervention is needed. Medullary thyroid cancer, while also serious and requiring careful management due to its association with genetic syndromes, does not grow as rapidly as anaplastic cancer. Recognizing anaplastic thyroid cancer's characteristics is crucial for timely and effective management to control its aggressive behavior, making aggressive treatment imperative in these cases.

7. Which of the following radiation measuring devices is appropriate for verifying dose calculations in specific areas of a treatment field?

- A. ion chamber
- B. film badge
- C. pocket dosimeter
- D. thermoluminescent dosimeter**

The correct answer is thermoluminescent dosimeter (TLD). TLDs are particularly useful in radiation therapy for verifying dose calculations in specific areas of a treatment field due to their ability to measure the absorbed dose of ionizing radiation. TLDs use materials that store energy when exposed to radiation and release it as light upon heating, which can be quantified to determine the dose received. One of the primary advantages of TLDs is their precision in measuring radiation doses in different energy ranges, which makes them suitable for personalized dose verification and area-specific assessments. In clinical settings, TLDs can be placed at specific points within the treatment field to ensure that the delivered dose matches the calculated dose, thus providing valuable data on treatment efficacy and patient safety. In contrast, devices like ion chambers are typically used for calibration purposes or for measuring radiation in air rather than verifying specific dose calculations in a treatment area. Film badges are primarily used for monitoring personnel exposure over time rather than for specific dose verification. Pocket dosimeters provide real-time readings but are less precise for accurately verifying the dose in a defined treatment field. Therefore, TLDs stand out for their unique properties that align closely with the goal of verifying treatment doses.

8. In which region of the palatine are the palatine tonsils located?

- A. Nasopharynx
- B. Oropharynx**
- C. Hypopharynx
- D. Parapharynx

The palatine tonsils are situated in the oropharynx, which is the region of the pharynx located behind the oral cavity. This anatomical placement allows the tonsils to play a critical role in the immune response by intercepting pathogens that enter the body through the mouth. The oropharynx is bordered by the soft palate above, the base of the tongue below, and the palatine arches on the sides, creating an environment where the tonsils can effectively filter and respond to airborne and ingested pathogens. This distinct position in the oropharynx differentiates the palatine tonsils from other structures, like those found in the nasopharynx or hypopharynx, where other types of tissue may be present, but not the palatine tonsils specifically. In contrast, the nasopharynx is located superior to the oropharynx and contains different structures such as the adenoids, while the hypopharynx, which is situated beneath the oropharynx, connects to the esophagus, and is not associated with the palatine tonsils. The parapharynx is a space adjacent to the pharynx, but again does not house the tonsils themselves. Thus, understanding

9. A malignant tumor of striated muscle is known as which of the following?

- A. leiomyoma
- B. fibrosarcoma
- C. epithelioma
- D. rhabdomyosarcoma**

A malignant tumor of striated muscle is classified as rhabdomyosarcoma. This type of sarcoma originates from rhabdomyoblasts, which are the precursor cells to striated muscle fibers. Rhabdomyosarcoma is most commonly found in children and can occur in various parts of the body, including the head, neck, and genitourinary tract. It is characterized by aggressive behavior and the potential for metastasis, making it a significant concern in pediatric oncology. In contrast, leiomyoma refers to a benign tumor of smooth muscle, typically found in organs like the uterus. Fibrosarcoma is a malignant tumor derived from fibrous connective tissue, and epithelioma generally refers to tumors arising from epithelial tissue, which is different from striated muscle. Understanding the type of muscle tissue involved is crucial, as treatment approaches and prognostic implications vary significantly among these tumor types.

10. What is the annual dose limit for occupational exposure?

- A. 5 REM**
- B. 15 REM
- C. 30 REM
- D. 50 REM

The correct answer for the annual dose limit for occupational exposure in radiation therapy is 50 REM. This limit is established by regulatory bodies such as the National Council on Radiation Protection and Measurements (NCRP) and the U.S. Nuclear Regulatory Commission (NRC) as part of their guidelines aimed at protecting individuals who work in environments where they may be exposed to ionizing radiation. The rationale behind this limit is to balance the need for individuals to work safely in radiation-related fields while also minimizing the risk of adverse health effects. Setting the annual dose limit at 50 REM allows for adequate occupational exposure levels without significantly increasing the likelihood of radiation-induced health conditions. It is important to note that this limit is meant to cover the entire year and is based on both stochastic and deterministic effects of radiation exposure. In managing occupational dose, facilities typically monitor their employees' exposure levels closely, implementing safety measures such as shielding, distance, and time management to ensure that workers remain well below this established limit.

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://radiationtherapyboard.examzify.com>

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

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