

CHEMOTHERAPY AND RADIATION THERAPY PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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<https://chemoandradtherapy.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. Antimetabolites primarily act during which phase of the cell cycle?**
 - A. G1
 - B. S
 - C. M
 - D. G2

- 2. What is the effect of radiation therapy on cancer cells?**
 - A. It increases DNA replication
 - B. It damages cellular DNA to stop replication
 - C. It spares DNA
 - D. It only affects blood vessels

- 3. In RECIST v1.1, what defines a partial response?**
 - A. At least a 50% decrease in sum of diameters.
 - B. At least a 30% decrease in the sum of diameters of target lesions, taking baseline as reference.
 - C. Any decrease in lesion size.
 - D. Complete disappearance of all target lesions.

- 4. Which growth factor is a granulocyte colony-stimulating factor commonly used after chemotherapy?**
 - A. Epoetin alfa
 - B. Oprelvekin
 - C. Filgrastim
 - D. Megakaryocyte growth factor

- 5. Which statement would the nurse include in the teaching for a patient who is to receive radiation therapy for cancer?**
 - A. You will have to undergo imaging such as CTs or MRIs before you can receive radiation
 - B. Radiation therapy is painless and requires no planning
 - C. You will not need any blood tests during treatment
 - D. Radiation therapy cures all cancers in all patients

- 6. What is the primary goal of dose conformity in radiotherapy planning?**
- A. To maximize dose to tumor while sparing normal tissue.
 - B. To increase treatment costs.
 - C. To reduce imaging requirements.
 - D. To shorten the planning process.
- 7. One benefit of oral drug administration for chemotherapy is...**
- A. patient takes them at home
 - B. Easier for the patient
 - C. Both A and B
 - D. None
- 8. What strategy would the nurse suggest for a patient experiencing fatigue as a side effect of chemotherapy?**
- A. Resting before activity
 - B. Exercising vigorously before activity
 - C. Taking a hot bath before meals
 - D. Increasing caffeine intake
- 9. Which statement describes standard management for mucositis?**
- A. Oral care, analgesia
 - B. Antibiotics for all patients
 - C. Steroid therapy
 - D. Oral care, analgesia, topical anesthetics, and infection prevention
- 10. Which clinical manifestation is important for the nurse to monitor in a patient with thrombocytopenia from cancer treatment?**
- A. Bleeding
 - B. Fever
 - C. Rash
 - D. Cough

Answers

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

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Explanations

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1. Antimetabolites primarily act during which phase of the cell cycle?

- A. G1
- B. S**
- C. M
- D. G2

Antimetabolites disrupt DNA synthesis by acting as nucleotide analogs or by blocking nucleotide production. DNA replication occurs in the S phase, so these drugs are most effective when the cell is actively synthesizing DNA. By depleting the nucleotide pool or getting incorporated into DNA, they stall replication and trigger cell death in cells undergoing S-phase replication. That makes this phase the one where antimetabolites exert their primary cytotoxic effect. In G1, cells aren't duplicating their DNA yet, so interference with nucleotide synthesis has less immediate impact. In G2, the DNA has already been replicated, and in M, the cell is focused on mitosis rather than DNA synthesis, so antimetabolites are less targeted there.

2. What is the effect of radiation therapy on cancer cells?

- A. It increases DNA replication
- B. It damages cellular DNA to stop replication**
- C. It spares DNA
- D. It only affects blood vessels

Radiation therapy kills cancer cells primarily by damaging their DNA, which prevents replication and triggers cell death. Ionizing radiation interacts with cellular water to form free radicals that attack DNA, causing breaks in the strands, especially double-strand breaks that are hard to repair. When DNA damage is too extensive, cells halt the cycle and undergo programmed death or mitotic catastrophe, reducing the cancer cell population. Cancer cells are often more vulnerable because they commonly have defective DNA repair mechanisms and are already under replication stress, so they can't fix the damage as effectively as normal cells. While radiation can also affect tumor blood vessels and contribute to overall tumor control, the central effect driving tumor kill is the DNA damage that stops replication.

3. In RECIST v1.1, what defines a partial response?

- A. At least a 50% decrease in sum of diameters.
- B. At least a 30% decrease in the sum of diameters of target lesions, taking baseline as reference.**
- C. Any decrease in lesion size.
- D. Complete disappearance of all target lesions.

Partial response in RECIST v1.1 means a meaningful shrinkage of measurable tumor burden on imaging. Specifically, there must be at least a 30% decrease in the sum of the longest diameters of all target lesions, using the baseline sum as the reference. This reduction should be confirmed by a subsequent scan to ensure it's not a temporary fluctuation. It's distinct from complete response, which is when all target lesions disappear. A smaller decrease than 30% doesn't meet partial response, and the appearance of new lesions or progression of non-target lesions would indicate progression rather than a partial response.

4. Which growth factor is a granulocyte colony-stimulating factor commonly used after chemotherapy?

- A. Epoetin alfa
- B. Oprelvekin
- C. Filgrastim**
- D. Megakaryocyte growth factor

After chemotherapy, neutropenia raises infection risk, so agents that boost neutrophil production are used to shorten neutropenia and lower infection risk. Filgrastim is a recombinant human granulocyte colony-stimulating factor that acts on bone marrow progenitors to accelerate neutrophil production and maturation. This directly addresses the neutrophil shortage caused by chemotherapy, making it the typical post-therapy choice to aid immune recovery. In contrast, epoetin alfa increases red blood cells to treat anemia, oprelvekin stimulates platelets to prevent thrombocytopenia, and megakaryocyte growth factor is not a standard post-chemo neutrophil-boosting agent.

5. Which statement would the nurse include in the teaching for a patient who is to receive radiation therapy for cancer?

- A. You will have to undergo imaging such as CTs or MRIs before you can receive radiation**
- B. Radiation therapy is painless and requires no planning
- C. You will not need any blood tests during treatment
- D. Radiation therapy cures all cancers in all patients

Key idea: planning and imaging are essential to deliver radiation therapy safely and effectively. Before external beam radiation starts, a planning step uses imaging—often a CT simulation, with MRI or PET-CT as needed—to map the tumor and surrounding organs, define the exact treatment fields, and create immobilization so the patient can be positioned the same way each day. This imaging-guided planning lets the radiation target the tumor precisely while sparing normal tissue, which is why stating that imaging is required beforehand is the correct teaching point. In contrast, the other statements ignore the necessary planning process, overlook the possibility of needing blood tests in some regimens, and wrongly imply that radiation cures all cancers in every patient.

6. What is the primary goal of dose conformity in radiotherapy planning?

- A. To maximize dose to tumor while sparing normal tissue.**
- B. To increase treatment costs.
- C. To reduce imaging requirements.
- D. To shorten the planning process.

Delivering a precise, tailored dose to the tumor while protecting normal tissue is the main goal of dose conformity in radiotherapy planning. The idea is to shape the radiation so the prescribed dose covers the tumor volume completely, including margins for microscopic spread, while keeping the dose to surrounding healthy tissues and organs at risk as low as possible. This improves tumor control and reduces treatment-related side effects and long-term toxicity. Achieving conformity often uses advanced delivery techniques and computer planning to sculpt the dose in three dimensions, balancing target coverage with organ-sparing constraints. The other options aren't the primary aim: cost, imaging requirements, and planning time may be affected, but they are not the core objective of conformity.

7. One benefit of oral drug administration for chemotherapy is...

- A. patient takes them at home
- B. Easier for the patient
- C. Both A and B**
- D. None

Oral chemotherapy offers two clear benefits: it allows treatment at home and it tends to be more convenient for the patient. Taking meds at home means fewer trips to infusion centers, less time spent receiving treatment, and greater ability to fit therapy into daily life. That ease of use—no need for IV lines or clinic visits every cycle—also contributes to a sense of autonomy and normalcy for the patient. Together, these advantages explain why choosing an option that includes both home administration and ease for the patient is the best answer. Keep in mind that adherence and careful monitoring are essential with oral regimens, since absorption and timing can vary and side effects still require management.

8. What strategy would the nurse suggest for a patient experiencing fatigue as a side effect of chemotherapy?

- A. Resting before activity**
- B. Exercising vigorously before activity
- C. Taking a hot bath before meals
- D. Increasing caffeine intake

Fatigue from chemotherapy is often due to how energy is produced and used in the body, so conserving energy and planning activity around energy levels is a practical approach. Resting before activity helps by allowing the body's energy stores to be replenished, reducing the drop in energy that makes tasks feel effortful. This pacing technique helps maintain the ability to perform essential activities over the day without becoming overwhelmed by fatigue, and it supports gradual, sustainable activity rather than pushing through until exhaustion. Exercising vigorously before activity would increase energy expenditure and likely worsen fatigue. A hot bath before meals doesn't address energy management and could affect circulation or comfort without reducing fatigue. Increasing caffeine intake provides only a temporary alertness boost and can disrupt sleep or hydration, not a reliable strategy to manage persistent chemo-related fatigue.

9. Which statement describes standard management for mucositis?

- A. Oral care, analgesia
- B. Antibiotics for all patients
- C. Steroid therapy
- D. Oral care, analgesia, topical anesthetics, and infection prevention**

Managing mucositis centers on relieving pain, preserving oral function, and preventing infection while the mucosa heals. Regular oral care reduces plaque and microbial load that can irritate the inflamed mucosa. Pain control is essential so patients can eat, drink, and maintain hydration, and this often involves systemic analgesics. Topical anesthetics provide direct, local relief during oral care and meals. Because the mucosal barrier is breached, preventing infection is crucial: good oral hygiene and appropriate antiseptic care help reduce bacterial and fungal overgrowth, and antibiotics aren't used universally—only when an infection is actually present. Steroid therapy isn't standard for mucositis management due to limited benefit and potential side effects. Putting these elements together—oral care, analgesia, topical anesthetics, and infection prevention—reflects standard practice for mucositis management.

10. Which clinical manifestation is important for the nurse to monitor in a patient with thrombocytopenia from cancer treatment?

A. Bleeding

B. Fever

C. Rash

D. Cough

Thrombocytopenia from cancer treatment raises the risk of bleeding, so the most important thing to monitor is bleeding. Platelets are essential for forming clots to stop bleeding, and when their count is low, even minor injuries or spontaneous oozing can become significant. Watch for signs like spontaneous bruising, petechiae, gum or nasal bleeding, prolonged oozing from IV sites or wounds, and dark, tarry stools or blood in urine or vomit. These indicate impaired hemostasis and warrant prompt evaluation. Fever, rash, or cough can occur with infection or treatment side effects, but they are not the direct manifestation of low platelets or the primary bleeding risk.

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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.

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

<https://chemoandradtherapy.examzify.com>

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

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