BLOOD & MARROW TRANSPLANT CERTIFIED NURSE (BMTCN) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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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!

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Questions

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1. CW presents to clinic on day +30 after allogenic transplant with a rash on her arms and chest. Using the Rule of Nines, what stage is the GVHD?

A. Stage 0

B. Stage 1

C. Stage 2

D. Stage 1-2

2. According to NIH guidelines, consider systemic treatment for chronic GVHD if:

A. Three or more organs are involved

B. One organ has a severity score greater than 2

C. Any organ has involvement of chronic GVHD

D. Major organ such as the eyes, lungs, or liver is involved

3. Why are annual gynecologic examinations and consideration of human papillomavirus vaccination important after allogeneic transplant?

A. Post allogeneic transplant are at increased risk of aGVHD

B. Are at increased risk for gynecomastia following transplant

C. Are at increased risk of contracting STIs

D. Post allogeneic transplant are at increased risk of cervical dysplasia

4. Which approach has been explored to improve DLI outcomes post-transplant in chronic myeloid leukemia?

A. Combining T-Cell Depletion With a Preplanned Course of DLI Post-Transplant

B. Increasing Systemic Steroids

C. Using Rituximab Therapy

D. Enhancing Antifungal Prophylaxis

5. The time it takes for engraftment to occur following HSCT is dependent on:

A. The stem cell source

B. The gender of the donor

C. The age of the patient

D. The patient's underlying disease

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6. Tacrolimus ointments in cutaneous GVHD are used how?

A. It has not been used

B. It has been used with, or in place of, steroids

C. It is contraindicated

D. It is only used systemically

7. Which of the following can present an ethical conflict with regard to using umbilical cord blood for transplant?

A. The cord blood may be tested for infectious diseases

B. The mother may be contacted later for health information

C. Donor families can store cells in for-profit banks

D. Genetic diseases may be passed on to the recipient

8. Which exposure places a patient at risk for cataracts after HSCT?

A. TBI

B. Cyclophosphamide exposure

C. Densitometry of the bone

D. Carboplatin exposure

9. A patient developed Type 4 PTLD three years after an allogeneic HSCT. Which treatment would the nurse expect an order for?

A. Hospice care referral

B. Donor lymphocyte infusion

C. Discontinuation of immunosuppressive medication

D. Aggressive chemotherapy

10. Microangiopathic hemolytic anemia can be a complication of which immunosuppressive therapy?

A. Tocilizumab

B. Antithymocyte Globulin (ATG)

C. Cyclosporine

D. Alemtuzumab

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Answers

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

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Explanations

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1. CW presents to clinic on day +30 after allogenic transplant with a rash on her arms and chest. Using the Rule of Nines, what stage is the GVHD?

A. Stage 0

B. Stage 1

C. Stage 2

D. Stage 1-2

GVHD skin staging is determined by how much of the body's surface area the rash covers, estimated with the Rule of Nines. In adults, each arm accounts for about 9% of total body surface area, and the chest (part of the anterior trunk) contributes roughly 18% for the front of the torso. If the rash involves both arms and the chest, you're looking at around 27% BSA affected. That places the involvement in the range that sits between mild and moderate involvement. When the estimated surface area lies right at a boundary, clinicians often record it as a combined stage to reflect the borderline nature. So the description best captures this scenario as a mixed Stage I–II.

2. According to NIH guidelines, consider systemic treatment for chronic GVHD if:

A. Three or more organs are involved

B. One organ has a severity score greater than 2

C. Any organ has involvement of chronic GVHD

D. Major organ such as the eyes, lungs, or liver is involved

Systemic therapy is considered when chronic GVHD shows widespread involvement across multiple organs, reflecting a systemic immune process rather than isolated organ disease. When three or more organs are affected, it indicates extensive GVHD with significant ongoing alloimmune activity, which NIH guidelines classify as moderate-to-severe disease. In this situation, systemic immunosuppression is typically warranted to control symptoms across sites, prevent progression, and reduce complications, rather than treating each organ in isolation. Involvement of a single organ, even if moderately to severely affected, may be managed with organ-specific strategies or topical therapies if the disease is not spreading to other systems. Similarly, involvement of a major organ is important to note, but by itself does not automatically mandate systemic therapy unless it contributes to an overall moderate-to-severe disease picture. A broad criterion like three or more organs involved provides a clear, guideline-based threshold for initiating systemic treatment.

3. Why are annual gynecologic examinations and consideration of human papillomavirus vaccination important after allogeneic transplant?

A. Post allogeneic transplant are at increased risk of aGVHD

B. Are at increased risk for gynecomastia following transplant

C. Are at increased risk of contracting STIs

D. Post allogeneic transplant are at increased risk of cervical dysplasia

After an allogeneic transplant, the immune system takes a long time to recover and mucosal surfaces can be affected by graft-versus-host disease. This weakened immune surveillance makes it easier for HPV infections to persist and progress, increasing the likelihood of cervical dysplasia developing and advancing to cancer if not detected early. Regular gynecologic exams, including Pap testing, allow for early detection and treatment of cervical changes. HPV vaccination, started after immune recovery if not previously vaccinated, can help prevent infection with high risk HPV types and reduce the future risk of cervical dysplasia and cancer in this higher risk group.

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4. Which approach has been explored to improve DLI outcomes post-transplant in chronic myeloid leukemia?

A. Combining T-Cell Depletion With a Preplanned Course of DLI Post-Transplant

B. Increasing Systemic Steroids

C. Using Rituximab Therapy

D. Enhancing Antifungal Prophylaxis

The key idea is balancing graft-versus-leukemia with graft-versus-host disease. Donor lymphocyte infusions can boost the anti-leukemia effect after transplant, but they also raise the risk of GVHD. A strategy that has been explored to improve DLI outcomes in chronic myeloid leukemia is to start with T-cell depletion of the graft to reduce GVHD risk and then follow with a preplanned course of donor lymphocyte infusions after transplant. This staged approach aims to reintroduce immune activity against CML in a controlled way, gradually boosting the graft-versus-leukemia effect while keeping GVHD at acceptable levels. Increasing systemic steroids would dampen immune responses and not improve DLI outcomes; rituximab targets B cells and isn't the primary method to enhance DLI efficacy in this setting; and simply enhancing antifungal prophylaxis doesn't influence the leukemia-directed immune effects of DLI.

5. The time it takes for engraftment to occur following HSCT is dependent on:

A. The stem cell source

B. The gender of the donor

C. The age of the patient

D. The patient's underlying disease

Engraftment is the process by which donor stem cells begin producing new blood cells in the recipient. The speed of this process is driven primarily by the graft's cell content, which differs by source. Peripheral blood stem cell grafts contain more CD34+ progenitors and mature hematopoietic cells, so they tend to reconstitute the marrow faster, leading to quicker neutrophil and platelet recovery. Bone marrow grafts have fewer circulating progenitors, so engraftment typically takes a bit longer. Cord blood grafts often have even fewer cells and a more naive immune cell population, which can result in slower engraftment, though they may offer other advantages like the ability to tolerate greater HLA mismatch. While factors like conditioning regimens, donor-recipient HLA match, and cell dose are important for overall transplant success, the primary determinant of the pace of engraftment among the options listed is the stem cell source. The gender of the donor, the patient's age, and the underlying disease can influence outcomes in various ways, but they do not set the main tempo of engraftment itself.

6. Tacrolimus ointments in cutaneous GVHD are used how?

A. It has not been used

B. It has been used with, or in place of, steroids

C. It is contraindicated

D. It is only used systemically

Topical tacrolimus works by dampening the local immune response in the skin, inhibiting T-cell activation and inflammatory cytokine production. In cutaneous GVHD, it has been used as a steroid-sparing option or in place of topical steroids, offering effective control of skin inflammation while avoiding some long-term steroid side effects. It's applied to affected areas (often useful on the face or other thin-skinned regions where steroids can cause atrophy) and can be used alongside steroids or as monotherapy in mild-to-moderate disease. While generally well tolerated topically, it may cause local irritation and has minimal systemic absorption. Therefore, the best description is that it has been used with, or in place of, steroids.

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7. Which of the following can present an ethical conflict with regard to using umbilical cord blood for transplant?

A. The cord blood may be tested for infectious diseases

B. The mother may be contacted later for health information

C. Donor families can store cells in for-profit banks

D. Genetic diseases may be passed on to the recipient

Donor tissue ethics arises when the way tissue is stored or used conflicts with values like beneficence, autonomy, and justice. The option about storing cord blood in for-profit banks creates this conflict because it commercializes something that could be used to help many patients. Private, for-profit banking treats cord blood as a private product with monetary value, which can shift emphasis from a public good—making cells available to anyone in need—to personal gain. This raises concerns about informed consent, realistic expectations about how often the stored cells will be needed, and access: families who pay for private storage may gain access to their own cells, while others without means may miss out on potential life-saving therapy. In contrast, public banks emphasize altruistic donation and broad access, which aligns with ethical principles of beneficence and justice. Infectious-disease testing, while essential for safety, is a routine safeguard rather than an ethical conflict in the use of cord blood. Contacting the mother later for health information involves privacy and consent considerations but is not the central ethical tension regarding using the cord blood for transplant. Genetic diseases being passed on to the recipient is a clinical risk, not the primary ethical dilemma in the context of choosing between private versus public storage.

8. Which exposure places a patient at risk for cataracts after HSCT?

A. TBI

B. Cyclophosphamide exposure

C. Densitometry of the bone

D. Carboplatin exposure

The lens of the eye is highly sensitive to ionizing radiation, so radiation exposure to the eye is a classic cause of cataracts. In HSCT conditioning, total body irradiation delivers a substantial dose to the eyes, making cataract formation a common late effect, often years after treatment. This is why total body irradiation is the exposure most associated with post-transplant cataracts. Chemotherapy agents like cyclophosphamide or carboplatin can cause various toxicities, but cataracts are not their typical late effect. Bone densitometry uses only very low-dose X-rays and carries negligible risk for cataracts.

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9. A patient developed Type 4 PTLD three years after an allogeneic HSCT. Which treatment would the nurse expect an order for?

A. Hospice care referral

B. Donor lymphocyte infusion

C. Discontinuation of immunosuppressive medication

D. Aggressive chemotherapy

LATE-ONSET PTLD after an allogeneic transplant is a lymphoproliferative disorder driven by immune suppression, and the management depends on the disease's behavior and histology. When PTLD presents years after transplant as a more aggressive, high-grade process (Type 4), simply reducing immunosuppression is often not enough to control it. Aggressive chemotherapy targets the malignant B cells and aims for prompt disease control, which is essential in higher-grade PTLD. While reducing immunosuppression or using donor lymphocyte infusion can play a role in some PTLD cases, they carry risks (GVHD, insufficient response in high-grade disease) and are not as reliably effective for late, aggressive PTLD. Hospice would be inappropriate while active cytotoxic therapy could still induce remission. Thus, chemotherapy is the most appropriate and expected order for this scenario.

10. Microangiopathic hemolytic anemia can be a complication of which immunosuppressive therapy?

A. Tocilizumab

B. Antithymocyte Globulin (ATG)

C. Cyclosporine

D. Alemtuzumab

Microangiopathic hemolytic anemia arises when tiny blood vessels develop thrombi that shear red blood cells as they pass through, leading to schistocytes, hemolysis, and often low platelets. In the transplant setting, calcineurin inhibitors like cyclosporine can injure the endothelium and trigger thrombotic microangiopathy, which presents as MAHA. This drug-induced endothelial toxicity explains why cyclosporine is the best answer here. The other immunosuppressants listed are not classically linked to this pattern. Tocilizumab (an IL-6 receptor blocker) is associated with infection risk and lipid abnormalities, not MAHA. Antithymocyte globulin and alemtuzumab can cause cytopenias and infusion reactions but are not typical culprits for MAHA through endothelial injury and microthrombi formation.

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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:

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

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