

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



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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. After HSCT, a patient exhibits restlessness, pacing, and nail biting. The nurse anticipates an order for which type of medication?**
 - A. Benzodiazepine
 - B. Donepezil
 - C. Corticosteroid
 - D. Neuroleptic

- 2. When calculating calcineurin inhibitor dosing in HSCT patients on voriconazole, what is recommended?**
 - A. Calculate dose based on lean body weight and monitor levels
 - B. Ask the doctor to switch voriconazole to an alternative
 - C. Give drugs at least four hours apart, reduce CNI by 1/3-1/4, and monitor levels closely
 - D. None of the above

- 3. Which graft source is more likely to develop acute graft-versus-host disease (GVHD) after allogeneic hematopoietic stem cell transplantation?**
 - A. Umbilical cord blood
 - B. Peripheral blood stem cells
 - C. Bone marrow
 - D. None of the above

- 4. Which portion of the immunoglobulin activates the complement pathway?**
 - A. Fab
 - B. Fc
 - C. MHC Class I
 - D. MHC Class II

- 5. Which of the following is a nursing intervention for long-term survivors?**
 - A. Instruct female patients to perform monthly breast self-exams and male patients to perform testicular self-exams
 - B. Provide information to patients and families on school reentry programs
 - C. Encourage patients to understand their disease and their past treatments so that they can have an active role in their future health and well-being
 - D. All of the above

- 6. Which statement about ocular involvement in chronic GVHD is true?**
- A. It is never treated with lubrication-only
 - B. It can be managed with preservative-free artificial tears as a first-line measure
 - C. It responds only to surgery
 - D. It is not a concern for quality of life
- 7. Which statement about cataract formation after HSCT is true?**
- A. It can be attributed to radiation and steroid therapy and is not a direct result of GVHD itself
 - B. It is an uncommon cause of visual acuity loss
 - C. The risk is decreased with total body irradiation
 - D. It does not lead to increased incidence of cataract surgery
- 8. In managing hyponatremia caused by SIADH, what is the initial step?**
- A. Determine and eliminate underlying cause
 - B. Immediately administer hypertonic saline
 - C. Initiate fluid resuscitation
 - D. Start diuretic therapy
- 9. In SIADH, what is the typical volume status of the patient?**
- A. Hypervolemic
 - B. Hypovolemic
 - C. Euvolemic
 - D. Dehydrated
- 10. Which statement about premature ovarian failure after HSCT is true?**
- A. Ovarian failure cannot be treated with hormone therapy
 - B. It may present as a subtle transition over months to years
 - C. Can be treated with hormone replacement therapy to relieve symptoms
 - D. Cannot be treated with hormone replacement therapy for patients with chronic GVHD

Answers

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

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Explanations

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1. After HSCT, a patient exhibits restlessness, pacing, and nail biting. The nurse anticipates an order for which type of medication?

- A. Benzodiazepine**
- B. Donepezil
- C. Corticosteroid
- D. Neuroleptic

Anxiety-driven agitation is being depicted here. A benzodiazepine is the best choice because it quickly calms the nervous system by enhancing GABA activity, which reduces restlessness, pacing, and compulsive behaviors like nail biting. This provides rapid, short-term relief of acute agitation in a hospitalized patient, including after HSCT, and helps the patient settle so further assessment and care can proceed. Donepezil is for cognitive decline and won't address acute anxiety or agitation. Corticosteroids can cause mood and behavioral changes but aren't used primarily to treat agitation. Neuroleptics can help with severe agitation or delirium with psychosis, but they carry more risks (like extrapyramidal symptoms and sedation) and are not first-line for simple anxiety-driven restlessness.

2. When calculating calcineurin inhibitor dosing in HSCT patients on voriconazole, what is recommended?

- A. Calculate dose based on lean body weight and monitor levels
- B. Ask the doctor to switch voriconazole to an alternative
- C. Give drugs at least four hours apart, reduce CNI by 1/3-1/4, and monitor levels closely**
- D. None of the above

Voriconazole strongly inhibits the enzyme that metabolizes calcineurin inhibitors (like tacrolimus or cyclosporine), so coadministration can cause CNI levels to rise dramatically and risk serious toxicity. To manage this, the best approach is to significantly cut the CNI dose and monitor levels closely, while also staggering administration times to lessen any peak interaction. Reducing the CNI to about one-third to one-quarter of the original dose and giving the CNI and voriconazole at least four hours apart provides the most reliable way to maintain immunosuppression without toxicity, with therapeutic drug monitoring guiding further adjustments. If intolerance or toxicity occurs despite these measures, switching voriconazole could be considered, but the standard recommendation is dose reduction plus monitoring with timing adjustments.

3. Which graft source is more likely to develop acute graft-versus-host disease (GVHD) after allogeneic hematopoietic stem cell transplantation?

- A. Umbilical cord blood
- B. Peripheral blood stem cells**
- C. Bone marrow
- D. None of the above

Acute GVHD risk primarily follows the number of mature donor T cells present in the graft. Peripheral blood stem cell grafts contain more mature T cells than bone marrow or umbilical cord blood, so they are more likely to mount an alloimmune response against the host after transplant. Umbilical cord blood has primarily naive T cells and lower immediate allo-reactivity, which lowers acute GVHD risk despite slower engraftment. Bone marrow grafts have fewer mature T cells than peripheral blood but more than cord blood, giving an intermediate risk. Therefore, the graft source most likely to develop acute GVHD is peripheral blood stem cells.

4. Which portion of the immunoglobulin activates the complement pathway?

- A. Fab
- B. Fc**
- C. MHC Class I
- D. MHC Class II

Complement activation via the classical pathway starts when the C1 complex binds to the Fc portion of an antibody that is attached to its antigen. The Fc region is the constant part of the antibody heavy chains; it's this region that interacts with C1 to kick off the cascade. The Fab regions are the antigen-binding sites, so they bind the target but don't trigger complement on their own. MHC Class I and II are involved in presenting peptides to T cells, not in activating the antibody-driven complement pathway. Notably, IgM can activate complement efficiently because its pentameric form presents multiple Fc sites for C1 binding.

5. Which of the following is a nursing intervention for long-term survivors?

- A. Instruct female patients to perform monthly breast self-exams and male patients to perform testicular self-exams
- B. Provide information to patients and families on school reentry programs
- C. Encourage patients to understand their disease and their past treatments so that they can have an active role in their future health and well-being
- D. All of the above**

Long-term survivors benefit from nursing strategies that promote ongoing self-care, psychosocial reintegration, and active engagement in health. Instructing female patients to perform monthly breast self-exams and male patients to perform testicular self-exams supports ongoing personal health monitoring, helping patients detect changes early and stay engaged with their overall wellness as they move forward from treatment. Providing information to patients and families on school reentry programs addresses the need for social and educational reintegration. Returning to school can be challenging after intense therapy, and having tailored information helps families plan accommodations, manage fatigue or cognitive late effects, and maintain continuity in education and peer relationships, which is vital for quality of life. Encouraging patients to understand their disease and past treatments empowers them to take an active role in their future health and well-being. Health literacy and engagement lead to better adherence to follow-up care, timely reporting of late effects, informed decision-making, and proactive lifestyle choices that support long-term survivorship. Together, these interventions cover physical monitoring, psychosocial adjustment, and empowered self-management, making this a comprehensive and effective approach for long-term survivors.

6. Which statement about ocular involvement in chronic GVHD is true?

- A. It is never treated with lubrication-only
- B. It can be managed with preservative-free artificial tears as a first-line measure**
- C. It responds only to surgery
- D. It is not a concern for quality of life

Ocular involvement in chronic GVHD often presents as dry eye from immune-mediated damage to the lacrimal glands and ocular surface. The best first step in management is lubrication with preservative-free artificial tears. Preservatives can be irritating to an already fragile ocular surface, so using a preservative-free formulation helps protect the tear film, reduce friction with blinking, and relieve symptoms like burning and gritty sensation. This simple, patient-friendly measure often provides meaningful relief and sets the stage for additional therapies if needed. If symptoms persist or inflammation is evident, other approaches can be added, such as topical anti-inflammatory drops (for example, cyclosporine or lifitegrast), punctal plugs to retain tears, eyelid hygiene, or warm compresses, and in more severe cases, specialized contacts or surgical options. But starting with preservative-free lubrication aligns with how ocular GVHD is typically managed and helps protect quality of life by addressing the dryness early.

7. Which statement about cataract formation after HSCT is true?

- A. It can be attributed to radiation and steroid therapy and is not a direct result of GVHD itself**
- B. It is an uncommon cause of visual acuity loss
- C. The risk is decreased with total body irradiation
- D. It does not lead to increased incidence of cataract surgery

Cataract formation after HSCT is driven by treatment exposures rather than GVHD itself. The lens is sensitive to radiation, and conditioning regimens that include total body irradiation deliver doses to the eye that promote cataract development over time. Prolonged systemic steroid therapy used to prevent or treat GVHD also accelerates lens opacification, typically producing posterior subcapsular cataracts. GVHD in itself does not directly cause cataracts, but the therapies used to manage it contribute to the risk. Therefore, attributing cataracts to radiation and steroid therapy—not to GVHD itself—is the best explanation. Cataracts are a common late effect in HSCT survivors and can lead to increased need for cataract surgery; the risk increases with higher radiation exposure, and the notion that this is uncommon or that TBI decreases risk or that surgery isn't more common after HSCT is incorrect.

8. In managing hyponatremia caused by SIADH, what is the initial step?

- A. Determine and eliminate underlying cause**
- B. Immediately administer hypertonic saline
- C. Initiate fluid resuscitation
- D. Start diuretic therapy

When hyponatremia is due to SIADH, the most important first move is to identify and remove the factor driving excess ADH secretion. Stopping the underlying cause—such as a medication that promotes ADH release or an identifiable illness—addresses the root problem and sets the stage for safe correction of the sodium level. Without eliminating the trigger, any specific hyponatremia therapy may be less effective or risky. In SIADH, the body retains water because ADH is inappropriately high, leading to dilutional hyponatremia with a typically euvolemic state. Once you identify and discontinue the offending agent or treat the precipitating condition, you often proceed with fluid restriction as the initial step in management, reserving more aggressive measures like hypertonic saline for patients with severe symptoms (seizures, coma) or very low sodium, where rapid correction is necessary and tightly monitored. The other approaches aren't the immediate move in SIADH: hypertonic saline is only for severe symptoms, fluid resuscitation isn't appropriate in SIADH since the patient is not volume-depleted, and diuretics may help later in some cases but aren't the first action.

9. In SIADH, what is the typical volume status of the patient?

- A. Hypervolemic
- B. Hypovolemic
- C. Euvolemic**
- D. Dehydrated

In SIADH the body retains water due to inappropriate ADH, which dilutes the blood and lowers serum sodium, but the effective circulating volume stays normal. This leads to euvolemia: there isn't edema from fluid overload, nor signs of dehydration from fluid loss. The kidneys excrete sodium as volume is sensed, so you don't see the edema of hypervolemia, and you don't see the dry mucous membranes or tachycardia of hypovolemia. So, even though the person is hyponatremic, their volume status is typically euvolemic.

10. Which statement about premature ovarian failure after HSCT is true?

- A. Ovarian failure cannot be treated with hormone therapy
- B. It may present as a subtle transition over months to years
- C. Can be treated with hormone replacement therapy to relieve symptoms**
- D. Cannot be treated with hormone replacement therapy for patients with chronic GVHD

Hormone replacement therapy is a recognized way to relieve symptoms of premature ovarian failure after HSCT. When the gonads are damaged by conditioning regimens, estrogen deficiency leads to hot flashes, vaginal atrophy, mood changes, and bone loss. Replacing estrogen (with or without progestin, depending on uterine status) helps alleviate these symptoms, protect bone density, and improve quality of life. That's why the statement about relieving symptoms with hormone replacement therapy is correct. The onset can be gradual in some cases, but that variability doesn't negate the use of HRT. Moreover, chronic GVHD doesn't automatically rule out HRT; decisions are individualized based on GVHD activity and overall risk, so hormone replacement remains a viable option for many patients after HSCT.

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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