

## **BMTCN® Test Content Outline**

### **I. Foundations of Transplant - 19%**

- A. Basic concepts of transplantation
  - 1. Hematopoietic cell lineage and function
  - 2. Immune system and function
  - 3. Histocompatibility
  - 4. Cellular goals of therapy (e.g., graft-versus-tumor effect, hematologic/immune reconstitution)
- B. Hematologic indications for transplantation (malignant and non-malignant)
- C. Types of transplants
  - 1. Autologous
  - 2. Allogeneic
    - a. Matched related donors (MRDs)
    - b. Matched unrelated donors (MURDs)
    - c. Mismatched unrelated donors
    - d. Umbilical cord
    - e. Haploidentical
  - 3. CAR-T
- D. Sources of stem cells
  - 1. Peripheral blood
  - 2. Bone marrow
  - 3. Umbilical cord
- E. Recipient suitability and evaluation
- F. Recipient education
- G. Caregiver education
- H. Donor selection, care, and education

### **II. Transplant Process and Infusion - 17%**

- A. Cellular therapy product collection and storage
- B. Stem cell transplant product mobilization, collection, harvest, and storage
- C. Conditioning / preparative regimens
  - 1. Intensity of therapy
  - 2. Chemotherapy
  - 3. Radiation therapy
  - 4. Biotherapy
  - 5. Immunotherapy
  - 6. Targeted therapies
- D. Management of acute complications related to preparative regimens
- E. Cellular infusion
  - 1. Fresh vs. cryopreserved
  - 2. Infusion management
  - 3. Hematologic compatibilities
- F. Cellular therapies (e.g., donor lymphocyte infusion, CAR T)

### **III. Early Post-Transplant Management and Education - 21%**

- A. Immunosuppressive therapy
- B. Acute graft-versus-host disease (GVHD)
- C. Infection prevention and management
- D. Sepsis
- E. Hematologic (e.g., engraftment, pancytopenia, transfusion support)
- F. Immune reconstitution (e.g., engraftment syndrome, cytokine release syndrome)
- G. Nutritional support
- H. Acute system specific complications (e.g., veno-occlusive disease; gastrointestinal)
- I. Graft rejection or failure
- J. Chimerism
- K. Symptom management for alterations in physiologic function (e.g., pain, nausea, vomiting, fatigue)

### **IV. Late Post-Transplant Management and Education - 20%**

- A. Chronic graft-versus-host disease (GVHD) (e.g., medical management, photopheresis)
- B. System-specific late effects (e.g., bronchiolitis obliterans, cataracts, infertility)
- C. Infection prevention and management (e.g., immunizations)
- D. Disease relapse
- E. Subsequent malignancy
- F. Follow-up care and milestone visits

### **V. Quality of Life - 11%**

- A. Navigation and coordination throughout the continuum
- B. Psychosocial (e.g., coping, family and caregiver support)
- C. Health promotion and maintenance
- D. Sexuality
- E. Cultural and spiritual competence
- F. Survivorship
- G. Palliative care
- H. End-of-life care (e.g., hospice, legacy building)

### **VI. Professional Performance - 12%**

- A. Standards of nursing care
- B. Standards of professional performance
  1. Patient and donor advocacy
  2. Education
  3. Evidence-based practice and research
  4. Quality improvement
  5. Communication
  6. Leadership
  7. Interdisciplinary collaboration
  8. Self-appraisal and professional development
  9. Resource utilization

- 10. Environmental health and safety (e.g., personal protective equipment, safe handling)
- C. Ethical and legal considerations (e.g., informed consent, advance directives, confidentiality, professional boundaries, documentation)
- D. Accreditation (e.g., FACT, The Joint Commission)
- E. Self-care