

Bone Marrow Transplant

Learning Objectives:

Fellows will learn how to work-up and subsequently manage patients admitted for bone marrow transplantation (BMT), peripheral blood stem cell transplantation (PBSCT), or their related complications. Fellows will progressively learn to:

- 1) Indicate stem cell transplantation (allogeneic, autologous) in newly diagnosed and relapsed/refractory patients.
- 2) Understand principles of HLA typing and donor selection.
- 3) Choose appropriate donors, taking into account disease, HLA typing, patient and donor-related information.
- 4) Choose preparative regimens for each patient based on patient and disease-related factors.
- 5) Recognize and manage common complications of transplantation (febrile neutropenia, infusion-related reactions, mucositis, and neurological and cardiac events).
- 6) Recognize and manage serious complications of transplantation, including sinusoidal obstructive syndrome (SOS) of the liver, pulmonary hemorrhage, atypical HUS, etc.
- 7) Understand rationale for choosing a specific immunosuppressive regimen in allogeneic transplantation.
- 8) Diagnose and stage acute and chronic graft vs. host disease, and understand principles of management.
- 9) Utilize comorbidity scoring systems in decisions to proceed (or not) with transplantation.
- 10) Educate patients about potential short- and long-term complications associated with BMT/PBSCT.
- 11) Perform diagnostic and therapeutic procedures (bone aspirate/biopsy, lumbar puncture, and tap of Ommaya/Hickham catheters with and without intra-thecal chemotherapy), if procedures are performed. May wish to use separate bone marrow biopsy evaluation tool.
- 12) Work within a multi-disciplinary team to exhibit excellent interpersonal and communication skills, professionalism, and effective hand-offs.

*Note: The focus of Systems-Based Practice 1 (SBP-1) is the second line. Levels 1 and 2 of the second line can be mastered by having the fellow learn the hospital reporting system. The first line of SBP-1 is covered in another activity.

Patient Care 1: Accesses Data Sources to Synthesize Patient and Disease Specific Information Necessary for Clinical Assessment				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Accesses data and gathers a history standard for general internal medicine</p> <p>Performs a physical examination standard for general internal medicine</p>	<p>Gathers a disease-specific history, with assistance</p> <p>Performs a disease-specific physical examination, with assistance</p>	<p>Accesses data from multiple sources and collects disease-specific history, including psychosocial issues, from the patient and family members</p> <p>Completes a disease-specific physical examination</p>	<p>Consistently synthesizes data from multiple sources and collects a disease-specific history from the patient and family members</p> <p>Consistently completes a disease-specific physical examination</p>	<p>Role models gathering and synthesis of clinical information</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p> <p style="text-align: right;">Not Yet Assessable <input type="checkbox"/></p>				

Patient Care 3: Formulates the Management Plan				
Level 1	Level 2	Level 3	Level 4	Level 5
Formulates a management plan for patients without comorbidities, with assistance	Formulates a management plan using decision-support tools for patients without comorbidities	Formulates a management plan with consideration of disease and patient factors and enrollment in clinical trials	Consistently formulates management plans that include consideration of clinical trial enrollment and conforms to patient preferences and goals of care	Serves as an expert in formulating management plans
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;"> Not Yet Completed Level 1 <input type="checkbox"/> Not Yet Assessable <input type="checkbox"/> </div>				

Patient Care 4: Adjusts Management Plans for Acute and Chronic Issues				
Level 1	Level 2	Level 3	Level 4	Level 5
Adjusts management plans according to standard guidelines and toxicities, with assistance	Adjusts management plans according to standard guidelines and toxicities	Adjusts management plans based on response to treatment, side effects of the treatment, and comorbidities	Adjusts management plans based on anticipation and recognition of subtle toxicities and long-term sequelae and/or changes in patient preferences and goals	Serves as an expert in developing and implementing pathways that influence management plans
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;"> Not Yet Completed Level 1 <input type="checkbox"/> Not Yet Assessable <input type="checkbox"/> </div>				

Patient Care 5: Competence in Procedures:

- Performance of Bone Marrow Biopsies and Aspirations
- Assessment and Interpretation of Complete Blood Count
- Interpretation of Peripheral Blood Smears
- Use of Systemic Therapies through all Therapeutic Routes

Level 1	Level 2	Level 3	Level 4	Level 5
Discusses the indications for and assists with all required procedures	Performs all required procedures, with direct supervision	Competently performs all required procedures, with indirect supervision	Proficiently and independently performs all required procedures	Serves as an expert for all required procedures and their complications
Discusses potential procedural complications	Recognizes complications of procedures and enlists help	Manages complications of procedures, with supervision	Anticipates and independently manages complications of procedures	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				
				Not Yet Completed Level 1 <input type="checkbox"/>
				Not Yet Assessable <input type="checkbox"/>

Medical Knowledge 1/2: Malignant and Non-Malignant Hematology (includes Pathophysiology, Diagnostics, Prognostic Information, and Treatment)				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of specialty disorders	Demonstrates expanding knowledge of specialty disorders and development of clinical reasoning	Demonstrates sufficient knowledge of specialty disorders and clinical reasoning skills to determine evidence-based interventions	Synthesizes advanced knowledge of specialty disorders and uses clinical reasoning skills to develop personalized interventions	Serves as a subject matter expert
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;"> Not Yet Completed Level 1 <input type="checkbox"/> Not Yet Assessable <input type="checkbox"/> </div>				

Systems-Based Practice 1: Patient Safety				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in the analysis of patient safety events	Conducts analysis of patient safety events and offers error prevention strategies	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (simulated or actual)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Leads disclosure of patient safety events to patients and families with documentation (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;"> Not Yet Completed Level 1 <input type="checkbox"/> </div>				

Systems-Based Practice 3: System Navigation for Patient-Centered Care: Coordination and Transitions of Care

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of care coordination	Coordinates care of patients in routine clinical situations effectively using the roles of their interprofessional teams	Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams	Role models effective coordination of patient-centered care among different disciplines and specialties	Analyzes the process of care coordination and leads in the design and implementation of improvements
Identifies key elements for safe and effective transitions of care and hand-offs	Performs safe and effective transitions of care/hand-offs in routine clinical situations	Performs safe and effective transitions of care/hand-offs in complex clinical situations	Role models and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems, including outpatient settings	Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Not Yet Completed Level 1

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
With assistance, accesses available evidence and practice guidelines for patient care	Independently identifies available evidence and practice guidelines for patient care	Critically appraises evidence and applies to patient care	Applies best available evidence, even in the face of insufficient and/or conflicting information	Serves as a role model to critically appraise and apply evidence to patient care
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 2: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Takes responsibility for failure to complete tasks	Performs tasks in a timely manner or provides notification when unable to complete tasks	Performs tasks in a timely manner with appropriate attention to detail in complex or stressful situations	Takes responsibility in situations that impact the ability of team members to complete tasks and responsibilities in a timely manner	Exceeds expectations for supporting team responsibilities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 3: Fellow Well-Being				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes status of personal and professional well-being, with assistance	Independently recognizes status of personal and professional well-being	With assistance, proposes a plan to optimize personal and professional well-being	Independently develops a plan to optimize personal and professional well-being	Role models the continual ability to monitor and address personal and professional well-being Advocates for institutional changes to support well-being
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies common barriers to effective communication	Identifies complex barriers to effective communication	Reflects on personal biases while attempting to minimize communication barriers	Proactively improves communication by addressing barriers including patient and personal biases	Role models communication that addresses barriers
Recognizes the need to adjust communication strategies based on context	Verifies patient/family understanding of the clinical situation to optimize effective communication	With guidance, uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan	Independently, uses shared decision making to make a personalized care plan	Role models shared decision making in patient/family communication, including those with a high degree of uncertainty/conflict
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Interpersonal and Communication Skills 2: Interprofessional and Team Communication

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Uses respectful communication (verbal, non-verbal) with all members of the health care team</p> <p>Demonstrates openness to feedback</p>	<p>Communicates effectively within and across all health care teams</p> <p>Responsive to feedback</p>	<p>Adapts communication style within and across all health care teams to ensure mutual understanding</p> <p>Seeks and provides performance feedback</p>	<p>Coordinates recommendations from different members of the health care team to optimize patient care</p> <p>Uses feedback to improve own performance and provides actionable feedback to team members</p>	<p>Role models flexible communication strategies that solicits and values input from all health care team members, resolving conflict when needed</p> <p>Role models giving and receiving of feedback</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p>				

Interpersonal and Communication Skills 3: Communication within Health Care Systems

Level 1	Level 2	Level 3	Level 4	Level 5
Accurately records information in the patient record	Demonstrates organized diagnostic and medical reasoning through notes in the patient record	Documentation reflects level of complexity and severity of disease	Documentation reflects medical reasoning, patient preferences, and management recommendations and plans	Role models optimal documentation
Safeguards patient personal health information in communications	Appropriately selects forms of communication based on context	Communication includes key stakeholders	Achieves written or verbal communication that is exemplary	Guides departmental or institutional communication policies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				