

## **INTERNAL MEDICINE ROTATION PLAN (2020-2021)**

**NAME OF ROTATION:** Hematology

### **FOCUS OF THIS ROTATION**

- The goal of this rotation is to provide the Internal Medicine trainee (PGY1s, PGY2s and PGY3s) with the opportunity to develop competencies in the assessment and management of patients with hematological disorders in the emergency department, on the ward, and in the ambulatory clinic setting.
- This rotation will be completed by residents at any level within the Internal Medicine training program. The objectives listed will be completed, in part, during the subspecialty rotation. Completion of all objectives is expected by the end of the PGY 3 year and will be accomplished through ongoing clinical exposure, participation in the formal academic curriculum and personal learning strategies. Residents are encouraged to prioritize objectives during their initial focused clinical exposure to this discipline.

### **CBD stage(s) for this rotation:**

- TTD
- FOD
- COD

### **Length of this rotation:**

- 1 block

### **PGY Level(s) for this rotation:**

- PGY1
- PGY2
- PGY3

### **Locations for rotation:**

- SHSC
- SMH
- SHS (MSH)
- UHN-TGH
- UHN-TWH
- UHN-PM

### **Required clinical training experiences (Foundations of Discipline = PGY1s):**

- **FOD 1** Clinical training experiences:
  - 1.1.3 Ambulatory care clinics in Hematology
  - 1.1.4 Acute care experience with patients presenting to emergency department with Hematological conditions
  - 1.1.5 After-hours Hematology consultative coverage for a broad spectrum of inpatients and for patients in the emergency department
- **FOD 2** Other training experiences:
  - 2.1 Directed and/or independent learning experience, in topics such as medical ethics, critical appraisal, and wellness (e.g. use of journal clubs, online modules, academic rounds)

### **Other training experiences (Foundations of Discipline = PGY1s):**

- **FOD 3** Clinical training experiences:
  - 3.3.2 Consultation service in Hematology
  - 3.3.3 Care of the elderly with Hematological disorders
  - 3.3.4 Exposure to Palliative Care is highly encouraged

**Required training experiences (Core of Discipline = PGY2s and PGY3s)**

- COD 1 Clinical training experiences:
  - 1.1.2 Ambulatory care: clinic, include experience with a broad spectrum of Hematological conditions as well as patients with complex disorders
  - 1.1.3 Service providing Hematology consultation to other disciplines or to medical subspecialty inpatient units
  - 1.1.4 Service providing Hematological preoperative assessment and perioperative care
  - 1.1.5 After hours on call Hematology coverage for a broad spectrum of inpatients and Hematology consultation to the emergency department
  - 1.1.6 Experience consulting on critically ill patients with Hematology conditions. This must include ICU, CCU, and Hematology consultation to the emergency department

**Blue = TTD; Green = FOD; Red = COD**

EPAs Mapped to this rotation:	Total # of Entrustments expected, or encouraged, on <i>this</i> rotation
TTD1 Performing histories and physical exams, documenting and presenting findings, across clinical settings for initial and subsequent care	6
TTD 2 Identifying and assessing unstable patients, providing initial management, and obtaining help.	0-1(can do)
FOD 2B Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part B: Communication with Patient/Family	2
FOD 7 Identifying personal learning needs while caring for patients, and addressing those needs	2 (1 if short rotation)
FOD 1 Assessing, diagnosing, and providing initial management for patients with common acute medical presentations in acute care settings	2
FOD 2A Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part A: Patient Assessment and Management	2
FOD 2B Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part B: Communication with Patient/Family	2
FOD 2C Managing patients admitted to acute care settings with common medical problems and advancing their care plan: Part C: Handover	0-1(can do)
FOD 5 Assessing unstable patients, providing targeted treatment and consulting as needed	0-1(can do)
FOD 6 Discussing and establishing patients' goals of care	0-1(can do)
FOD 7 Identifying personal learning needs while caring for patients, and addressing those needs	1
COD 2A Assessing and managing patients with complex chronic conditions: Part A: Assessment, Diagnosis, and Management	2
COD 8Caring for patients who have experienced a patient safety incident (adverse event)	Do whenever possible

<b>EPAs Mapped to this rotation:</b>	<b>Total # of Entrustments expected, or encouraged, on <i>this</i> rotation</b>
COD 1 Assessing, diagnosing, and managing patients with complex or atypical acute medical presentations	0-1
COD 2A Assessing and managing patients with complex chronic conditions: Part A: Assessment, Diagnosis, and Management	2
COD 2B Assessing and managing patients with complex chronic conditions: Part B: Patient Education/Communication	0-1
COD 3A Providing internal medicine consultation to other clinical services: Part A: Patient Assessment and Decision-Making	2
COD 3B Providing internal medicine consultation to other clinical services: Part B: Written Communication:	2
COD 3C Providing internal medicine consultation to other clinical services: Part C: Oral Communication	1
COD 4A Assessing, resuscitating, and managing unstable and critically ill patients.	0-1 (can do)
COD 6 Assessing capacity for medical decision-making	0-1 (can do)
COD 7 Discussing serious and/or complex aspects of care with patients, families, and caregivers	0-1 (can do)
COD 8 Caring for patients who have experienced a patient safety incident (adverse event)	Do whenever possible
9B Caring for patients at the end of life Part B: Discussion about transition away from disease modifying treatment	0-1 (can do)
COD 10 Implementing health promotion strategies in patients with or at risk for disease	0-1 (can do)

	<b>Other assessments during this rotation:</b>	<b>Tool Location / Platform (e.g. POWER, Entrada):</b>
<b>1.</b>	ITAR	POWER

	<b>Key Goals for this Rotation:</b> By the end of the rotation the resident should be able to ...	<b>CanMEDS Role(s):</b>
<b>1.</b>	Performs a focused history and physical examination to elicit details of common hematological disorders.	Medical Expert
<b>2.</b>	Demonstrates an appropriate rationale to the ordering and interpretation of laboratory and imaging investigations commonly used in the assessment of hematological disorders.	Medical Expert
<b>3.</b>	Demonstrates an effective, organized, evidence-based approach to the diagnosis and management of acute hematological disorders.	Medical Expert
<b>4.</b>	Demonstrates a patient-centred approach to the management of common chronic hematological disorders.	Medical Expert
<b>5.</b>	Engages patients and their families in developing plans that reflect the patient's health care needs and goals of care.	Communicator
<b>6.</b>	Integrates medical evidence effectively into the diagnostic and clinical decision-making process.	Scholar

**Royal College Internal Medicine Competencies emphasized on the Hematology rotation.**

Numbers refer to items identified in the Royal College Competencies document

### Findings

Identify the causes and be able to use history, physical exam and investigations to arrive at a differential and provisional diagnosis for the following:

- Anemia 1.4.8.1.1.
- Leukopenia
- Thrombocytopenia
- Polycythemia
- Leukocytosis
- Thrombocytosis
- Abnormal coagulation tests
- The bleeding patient
- Eosinophilia 1.4.8.1.2.
- Lymphadenopathy 1.4.8.1.3.
- Splenomegaly 1.4.8.1.4.

### Investigations

Know the indications for and risks of:

- Bone marrow examination

### Disorders

Using results of history, physical examination and investigations, be able to confirm the diagnosis of each of the following, and propose a management plan. The plan may include further investigations and treatment, taking into account the underlying cause and any complications. Must be able to manage hematological emergencies.\*

- Congenital and acquired bleeding disorders (including hemophilia and VWD) 1.4.8.2.1.
- Hemoglobinopathies 1.4.8.2.2.
- Hemolytic anemia (including TTP and DIC)
- Immune cytopenias (including ITP and AIHA)
- Iron deficiency anemia
- Leukemia (acute and chronic) 1.4.8.2.4.
- Lymphoma 1.4.8.2.5.
- Multiple myeloma and other dysproteinemias 1.4.8.2.6.
- Myelodysplastic syndromes 1.4.8.2.7.
- Myeloproliferative disorders 1.4.8.2.8.
- Venous thromboembolic disease and thrombophilia 1.4.8.2.11.

### Therapies

Integrate knowledge of the indications/contraindications, side-effects and pharmacokinetics of the following therapies in the care of patients with hematological disorders:

- Anticoagulant therapy 1.4.8.3.1.
- Prophylaxis for venous thromboembolic disease 1.4.8.3.2.
- Transfusion of blood products
- Iron deficiency anemia

Effectively manage the following hematologic emergencies:

- Febrile neutropenia
- Hyperleukostasis syndrome
- Tumour lysis syndrome
- Hypercalcemia
- Acute bleeding in a patient with a bleeding disorder
- SVC syndrome
- TTP/ microangiopathic hemolytic anemia
- Transfusion reaction