

June 2019

Goals and Objectives for the Hematology Rotation

The Hematology rotation is based at the Health Sciences Centre, but may also involve in-patient consultation at St. Clare's Hospital. Residents are expected to get exposure to the presentation, work-up and management of a wide variety of patients with hematological disease in both the in-patient and out-patient setting, under the supervision of the attending hematologist. Residents should also get experience in indications, contraindications, risks and benefits, and performance of bone marrow biopsies. The 4 week rotation will be divided up into 2 weeks of hematology clinics and 2 weeks of in-patient hematology consults. Residents are expected to attend at least 5 clinics per week and a schedule of clinics with a personalized calendar will be provided at the beginning of the rotation. **Please meet Dr. Joanne Hickey in her office in the 1st floor of the Hematology Department in the Cancer Centre at 9 am on the first Monday of your rotation.**

Residents are also expected to attend hematology in-patient ward rounds on Tuesday from 9 – 1030 am and morphology rounds held every Tuesday from 1130 – 12 pm in the Pathology Conference Room. Tumor board rounds take place every Thursday from 1230 – 2 pm in the NCTRF conference room. Dr. Bergstrom also arranges for residents to have a session in the hematology lab to get exposure to blood banking, coagulation tests and morphology. Hematology Grand Rounds take place every 2 weeks in Lecture Theatre D from 8 – 9 am—please check with the staff for the schedule. Residents are also responsible for one or two didactic teaching sessions for other hematology house staff.

It is expected that trainees will demonstrate ongoing development in each of the CanMEDS roles such that the depth, sophistication, efficiency and proficiency of their performance increases with experience. Review of rotation objectives will be done in conjunction with creation of a learning contract at the beginning of the rotation. Residents will be evaluated on their patient presentations and procedural skill, including via direct observation by the attending Hematologist. In accordance with CBD principles, all residents are required to submit EPA assessments with documented narrative coaching via the MUNCAT app per week to evaluate and guide their progress. This will also be documented using an end of rotation in-training evaluation report (ITER) or longitudinal rotational assessment, depending on the applicable resident curriculum.

In addition to the rotational objectives and key competencies described below, the following EPAs may be covered during the Hematology rotation. These will depend on the learner's stage of training, progress and individual learning needs. The learning contract and rotational goals created at the beginning of the rotation can help specify which EPAs the learner may want to focus on throughout their rotation.

Transition to Discipline:

TD1. Performing histories and physical exams, documenting and presenting findings, across clinical settings for initial and subsequent care

TD3. Performing the basic procedures of internal medicine

Foundations:

- F1. Assessing, diagnosing and initiating management for patients with common acute medical presentations in acute care settings
- F6. Basic procedures of internal medicine
- F6. Discussing and establishing patients' goals of care
- F7. Identify personal learning needs while caring for patients and addressing those needs

Core:

- C1. Assessing, diagnosing and managing patients with complex or atypical acute medical presentations
- C2. Assessing, diagnosing and managing patients with complex chronic diseases
- C3. Providing internal medicine consultation to other clinical services
- C7. Discussing serious and/or complex aspects of care with patients, families and caregivers
- C9. Caring for patients at the end of life.

MEDICAL EXPERT

1. Based on the history and physical examination, the trainee will be able to formulate a problem list and a reasonable differential diagnosis.
2. The trainee will have a thorough knowledge of normal blood cell values and variations with age.
3. The trainee will have a thorough knowledge of:
 - a. Hematopoiesis
 - b. Structure and function of the immune system
 - c. Physiology of primary hemostasis
 - d. Pathways of oncogenesis
 - e. Potential adverse effects of commonly used chemotherapeutic agents.
4. The trainee will be able to have a thorough knowledge of and investigate appropriately:
 - a. *Anemias*:
 - Categorization as to production failure, hemolysis, or blood loss.
 - Clinical and laboratory approach to this categorization.
 - Rational and effective use of laboratory tests to establish the cause of anemia.
 - Management of the different anemias.

- b. *Disorders of Hemostasis:*
 - Clinical and laboratory approach to patients with a bleeding disorder.
 - Categorization as to a vascular problem, a platelet problem, or coagulation factor deficiencies especially hemophilia A, hemophilia B, and von Willebrand's disease.
 - Acquired coagulation factor deficiencies, such as vitamin K deficiency, liver disease, and disseminated intra-vascular coagulation.
 - Management of these hemostatic disorders.
 - c. *Thrombosis:*
 - Differences between arterial and venous thromboses.
 - Factors predisposing to thrombosis.
 - Inherited and acquired hypercoagulable states.
 - Investigation, prevention and treatment of thromboembolic disorders.
 - d. *Neoplastic Hematology:*
 - Classifications, pathogenesis, clinical features, diagnosis, treatment and prognosis of the leukemias, Hodgkin's disease, the non-Hodgkin's lymphomas, the monoclonal gammopathies, and the myeloproliferative disorders.
 - e. *Transfusion Medicine:*
 - Indications for and complications of red cell and platelet transfusions including investigation and management of adverse reactions.
 - Safe transfusion practices.
 - f. *Hematopoietic Stem Cell Transplant:*
 - Indications for allogeneic and autologous bone marrow and peripheral blood stem cell transplantation.
 - g. *Pharmacology:*
 - Pharmacology of anticoagulants and thrombolytic agents.
 - Classification, mechanism of action, and major toxicities for the commonly used antineoplastic agents.
 - h. *Hematologic/oncologic emergencies:*
 - Recognition, investigation, and management of oncologic emergencies, such as hypercalcemia, fever in a neutropenic and/or immune compromised patient, a bleeding diathesis in a patient with cancer, spinal cord compression, superior vena cava obstruction, ureteric obstruction, and increased intracranial pressure.
 - Recognition of benign hematology emergencies, such as thrombotic microangiopathies (e.g. thrombotic thrombocytopenic purpura, DIC, HELLP syndrome), heparin induced thrombocytopenia, bleeding diatheses, sickle cell emergencies, immune-mediated cytopenias
 - i. Effective control of pain and nausea in patients with advanced cancer.
5. The trainee will be able to perform the following procedures:
- a. Bone marrow aspirate and biopsy
6. Occasionally, during the rotation the trainee may provide cross coverage while on call for other Internal Medicine subspecialties.

COMMUNICATOR

1. When presented with a patient with a hematological problem, the trainee will be able to:
 - a) Perform a thorough history with particular emphasis on the detailed history of the present problem.
 - b) Perform a general physical examination, as well as a detailed examination of the lymphatic system and spleen.
 - c) Discuss the significance of any abnormal physical findings related to diseases of the hematological system.
2. The trainee must document clearly and concisely by means of notes, procedure notes and clinical letters, the essential components of all clinical encounters. The analysis and clinical plans should be recorded at a level of sophistication in keeping with the PGY level.
3. The trainee must appreciate the importance of effective and clear communication with patients and involved family members.

COLLABORATOR

The trainee will:

1. Recognize and integrate into case management the roles of other health care providers, including surgeons, physician specialists, dietitians, psychiatrists and social workers.
2. Foster respect for the appreciation of the importance of communication with allied health care workers and referring physicians in the care of patients.
3. Collaborate with laboratory technologists and pathologists in making diagnosis and treatment decisions.

LEADER

1. Based on the differential diagnosis, the trainee will be able to propose logical cost effective investigations that would aid in establishing the diagnosis.
2. The trainee will understand the indications, as well as limitations and complications, of various radiological investigations.

HEALTH ADVOCATE

1. The trainee will recognize the role played by the physicians in the health care system.
2. Appreciate the patient autonomy and the religious, ethnic, and psychosocial factors which influence the doctor-patient relationship and to take such factors into account when pursuing problems and understanding patient decisions.

SCHOLAR

1. Make reference to the literature in appropriately complex cases.
2. Appreciate the importance of critical appraisal for the literature and the application of the literature in patient care.
3. Recognize the requirement for self-assessment, and the critical role of self-directed learning and continuing medical education.

PROFESSIONAL

1. Behave in a respectful manner toward patients, families, and other health professionals.
2. Consider ethical issues and patients' wishes in making treatment decisions.
3. Ensure adequate transition of care of patients including assuring proper handover of patients
4. Recognize the limits of one's expertise by knowing when to call for help
5. Demonstrate a commitment to improving one's performance by seeking and responding to feedback
6. Answer pages promptly and display punctuality

CONTACT FOR THE ROTATION:

Dr. Jacqueline Costello

Office: 777-6546

Email: Jacqueline.Costello@easternhealth.ca