

*Effective for residents who enter training on or after July 1, 2022.*

## **DEFINITION**

Hematological Pathology is the branch of medical practice concerned with the study, investigation, diagnosis, and therapeutic monitoring of disorders of blood, blood-forming elements, hemostasis, and immune function from fetal life through to adulthood. The specialty also encompasses the direction and supervision of transfusion medicine services both at hospital and blood centre level, ensuring safe and effective transfusion management for patients.

## **HEMATOLOGICAL PATHOLOGY PRACTICE**

Hematological pathologists provide laboratory diagnostic assessment of samples from patients of all ages with suspected or confirmed benign or malignant disorders arising in the blood, bone marrow, or lymphoid tissues. Hematological pathologists also support the transfusion needs of a broad range of patients, including blood products and components, and including aspects related to the health of donors.

Hematological pathologists are consultants to other clinicians with respect to laboratory investigations for the diagnosis and monitoring of disorders of the blood cells, bone marrow, lymphoid tissue, and hemostasis, as well as for transfusion medicine. Hematological pathologists interpret blood films, bone marrow aspirates and biopsies, and relevant fluid and tissue samples and report the results of investigations for incorporation into patient care. This includes investigations relevant to the practice domains of core hematology laboratory tests, blood cell morphology, hemoglobinopathy and red cell disorders, hemostasis, flow cytometry, molecular diagnostics, and transfusion medicine. Hematological pathologists advise clinicians on and manage laboratory testing issues related to appropriate tissue sampling, procurement, test utilization, and processing.

Hematological pathologists provide oversight of the hematology laboratory, including laboratory and test optimization; quality assurance and quality control; appropriate test utilization; and staff and equipment management. They apply expertise in laboratory instrumentation, quality management systems, and administrative and regulatory guidelines related to the directorship and management of diagnostic hematology laboratory resources. They direct and supervise hospital transfusion medicine services and may direct blood centres.

Hematological pathologists work in a variety of settings, including laboratories in large academic settings such as university hospital laboratories; community settings where laboratory services may serve multiple institutions or health centres; blood centres including Canadian Blood Services and Héma-Québec; private laboratories; and apheresis clinics. They

also work remotely providing expertise for smaller sites without specialized hematology and transfusion medicine laboratories, and providing digital pathology diagnosis.

Hematological pathologists are members of the clinical care team, involved in shared decision-making with hematologists, oncologists, critical care physicians, surgeons, and anesthesiologists. Hematological pathologists work effectively with and may be involved in the supervision of laboratory technologists.

## HEMATOLOGICAL PATHOLOGY COMPETENCIES

### Medical Expert

#### **Definition:**

As *Medical Experts*, Hematological pathologists integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centred care. Medical Expert is the central physician Role in the CanMEDS Framework and defines the physician's clinical scope of practice.

#### **Key and Enabling Competencies: Hematological pathologists are able to...**

### **1. Practise medicine within their defined scope of practice and expertise**

- 1.1. Demonstrate a commitment to high-quality care of their patients
- 1.2. Integrate the CanMEDS Intrinsic Roles into their practice of Hematological Pathology
- 1.3. Apply knowledge of the clinical and biomedical sciences relevant to Hematological Pathology

#### Hematologic disorders and their investigation

- 1.3.1. Embryology of hematopoietic cells
- 1.3.2. Normal hematopoiesis and cell biology as they pertain to the structure and function of hematopoietic elements, including changes related to age from the fetus to the older adult
- 1.3.3. Structure and functional relationships of all components of the reticuloendothelial system
- 1.3.4. Components of the immune system, including normal and disordered lymphocyte development and the role of complement and its pathways of activation
- 1.3.5. Immunohematology, including major blood group systems and the role of the human leukocyte antigen (HLA) system
- 1.3.6. Genetic basis of hematologic disorders
- 1.3.7. Genetic and molecular diagnostics as applicable to hematologic disorders

1.3.8. Epidemiology, pathophysiology, clinical manifestations, strategies for investigation, morphologic findings, and principles of treatment, monitoring and follow-up of disorders of:

1.3.8.1. Red blood cells

1.3.8.1.1. Anemia, congenital and acquired

1.3.8.1.2. Hemoglobin disorders, red cell membrane disorders, enzyme disorders, and channelopathies

1.3.8.1.3. Polycythemias, congenital and acquired

1.3.8.2. White blood cells

1.3.8.2.1. Dendritic cell disorders

1.3.8.2.2. Granulocytes:

1.3.8.2.2.1. Basophilia

1.3.8.2.2.2. Eosinophilia

1.3.8.2.2.3. Leukemias

1.3.8.2.2.4. Neutropenia, congenital and acquired

1.3.8.2.2.5. Neutrophil dysfunction, congenital and acquired

1.3.8.2.2.6. Neutrophilia

1.3.8.2.3. Lymphocytes:

1.3.8.2.3.1. Lymphocyte dysfunction, congenital and acquired

1.3.8.2.3.2. Lymphocytosis

1.3.8.2.3.3. Lymphopenia, congenital and acquired

1.3.8.2.3.4. Leukemias

1.3.8.2.3.5. Lymphomas, Hodgkin and non-Hodgkin, including extranodal sites

1.3.8.2.3.6. Disorders of the primary and secondary lymphoid organs

1.3.8.2.4. Mastocytes:

1.3.8.2.4.1. Mastocytosis

1.3.8.2.5. Monocytes/histiocytes:

1.3.8.2.5.1. Monocytosis, benign and malignant

1.3.8.2.6. Plasma cells:

1.3.8.2.6.1. Hyper- and hypo-gammaglobulinemia

1.3.8.2.6.2. Benign and malignant disorders

- 1.3.8.3. Platelets
  - 1.3.8.3.1. Thrombocytopenia, congenital and acquired
  - 1.3.8.3.2. Thrombocytosis, benign and malignant
- 1.3.9. Blood-borne pathogens: epidemiology, pathophysiology, clinical manifestations, strategies for investigation, morphologic findings, and principles of treatment, monitoring, and follow-up
- 1.3.10. Hematologic changes of pregnancy
- 1.3.11. Hematologic manifestations of medications
- 1.3.12. Hematologic manifestations of systemic disease, such as renal disease, liver disease, cancer, and systemic infections
- 1.3.13. Procurement, processing, and interpretation of blood film, body fluid, bone marrow aspirate and biopsy, and lymphoid tissue samples in all age groups from fetal life to adulthood
- 1.3.14. Principles of light microscopy, including polarization and dark field microscopy
- 1.3.15. Principles of digital photography and slide scanning
- 1.3.16. Artifacts related to hematological pathology testing and their identification
- 1.3.17. Correlation of clinical, biochemical, microbiological, and radiological studies with pathology findings

#### Hemostasis

- 1.3.18. Constituents of the hemostatic system
  - 1.3.18.1. Coagulation pathways
  - 1.3.18.2. Fibrinolytic pathway
  - 1.3.18.3. Platelet structure and function
- 1.3.19. Disorders of hemostasis, congenital and acquired: epidemiology, pathophysiology, clinical manifestations, strategies for investigation, and principles of treatment, monitoring, and follow-up
  - 1.3.19.1. Bleeding disorders
  - 1.3.19.2. Thrombotic disorders
  - 1.3.19.3. Vascular disorders
- 1.3.20. Impact of medications on hemostasis
- 1.3.21. Principles of testing, methodology, procedures, reporting, and clinical utility of hemostasis testing

Transfusion medicine

- 1.3.22. Pre-collection processes for allogeneic and autologous blood donation
  - 1.3.23. Blood collection, including whole blood and apheresis
  - 1.3.24. Infectious disease screening
  - 1.3.25. Clinically significant blood group antigens
    - 1.3.25.1. ABO and other carbohydrate blood group systems
    - 1.3.25.2. Rh system
    - 1.3.25.3. Other blood group systems and antigens
  - 1.3.26. Identification of antibodies to red cell antigens
  - 1.3.27. Platelet and granulocyte antigens and antibodies
  - 1.3.28. Transfusion service activities, including pretransfusion testing, storage, monitoring, processing, distribution, and inventory management of blood products
  - 1.3.29. Hemotherapy decisions, including indications for transfusion, emergency transfusion, and massive transfusion protocol (MTP)
  - 1.3.30. Outcomes and complications of hemotherapy
    - 1.3.30.1. Adverse effects of transfusion, infectious and noninfectious
  - 1.3.31. Administration of blood components
    - 1.3.31.1. Safe transfusion practices from vein-to-vein
  - 1.3.32. Perinatal issues in transfusion practice
  - 1.3.33. Transfusion practices in the pediatric population
  - 1.3.34. Transfusion support for hematopoietic stem cell transplantation (HSCT)
  - 1.3.35. Blood conservation and alternatives to transfusion
  - 1.3.36. Plasma protein products and alternatives
  - 1.3.37. Blood supplier's policies, procedures, and products (e.g., Canadian Blood Services (CBS), Héma-Québec)
  - 1.3.38. Regulatory considerations in transfusion medicine, including laws, regulations, and accreditations
  - 1.3.39. Hemovigilance programs, including international
- Hematopoietic stem cell transplantation (HSCT) and cellular therapy
- 1.3.40. Biology of hematopoiesis as related to HSCT, and the immunologic relationships between donor hematopoietic cells and the recipient
  - 1.3.41. Indications for autologous and allogeneic HSCT
  - 1.3.42. Indications for cellular therapy and manipulated cell therapies

- 1.3.43. HLA matching and the principles involved in choosing hematopoietic stem cell donors
- 1.3.44. Procurement of hematopoietic stem cell donations, including selection and screening of donors
- 1.3.45. Collection, manipulation, and storage of hematopoietic stem cells and manipulated cells for transplantation
- 1.3.46. Engraftment, pathogenesis and pathological features related to complications of HSCT and cellular therapies
  - 1.3.46.1. Graft versus host disease

Laboratory management

- 1.3.47. Epidemiology and biostatistics and their application to hematology laboratory investigations
- 1.3.48. Specimen collection, identification, and pre-analytical variables
- 1.3.49. Tissue fixation, decalcification, and processing
- 1.3.50. Test methodology and instrumentation in a hematology laboratory, including:
  - 1.3.50.1. Automated cell analysis platforms
  - 1.3.50.2. Automated cell counters
  - 1.3.50.3. Coagulation and platelet function analyzers
  - 1.3.50.4. Flow cytometers
  - 1.3.50.5. Hemoglobin analysis platforms
  - 1.3.50.6. Immunoassay immunoglobulin analyzers, including immunoglobulin, free light chain, and complement
  - 1.3.50.7. Immunohistochemistry platforms
  - 1.3.50.8. Point of care testing
  - 1.3.50.9. Slide stainers
  - 1.3.50.10. Transfusion automated analyzers
- 1.3.51. Ancillary diagnostic techniques
  - 1.3.51.1. Cytogenetics, including fluorescent in situ hybridization (FISH) and molecular pathology
  - 1.3.51.2. Electron microscopy
  - 1.3.51.3. Flow cytometry
  - 1.3.51.4. Histochemical stains
  - 1.3.51.5. Immunofluorescence
  - 1.3.51.6. Immunohistochemistry and in situ hybridization (ISH), including fluorescent in situ hybridization (FISH)

- 1.3.51.7. Protein electrophoresis and immunofixation
- 1.3.52. Generation of laboratory reports and communication of laboratory results
- 1.3.53. Principles and basic components of a laboratory information system (LIS), middleware, and its application to the hematology laboratory
- 1.3.54. Principles of quality system management
- 1.3.55. Resource-efficient laboratory equipment selection
- 1.3.56. Storage, archiving, and disposal of laboratory samples, records, and materials
- 1.4. Perform appropriately timed diagnostic assessments with recommendations that are presented in an organized manner
- 1.5. Carry out professional duties in the face of multiple competing demands
- 1.6. Recognize and respond to the complexity, uncertainty, and ambiguity inherent in Hematological Pathology practice

## **2. Perform a clinicopathological assessment of a case**

- 2.1. Prioritize issues to be addressed in a patient encounter or case
  - 2.1.1. Identify and address clinical and laboratory-based issues in the pre-analytical, analytical, and post-analytical handling of a case
- 2.2. Gather information from the clinical assessment, review the medical chart, select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention, and health promotion
  - 2.2.1. Gather a relevant clinical history
  - 2.2.2. Assess specimen quality and adequacy
  - 2.2.3. Perform morphologic assessment of peripheral blood smears and body fluids
  - 2.2.4. Perform a focused and relevant pathological examination of hematology tissue
  - 2.2.5. Formulate a differential diagnosis based on the pathological examination
  - 2.2.6. Select ancillary techniques in a resource-effective and ethical manner
  - 2.2.7. Investigate diagnostic issues in a timely, cost-effective, logical, stepwise, and ethical manner, integrating information from other investigations
  - 2.2.8. Interpret available data and generate a differential diagnosis within the clinical context

- 2.3. Provide diagnostic and prognostic information to help clinicians establish goals of care in collaboration with patients and their families<sup>1</sup>, which may include slowing disease progression, treating symptoms, achieving cure, improving function, and palliation
- 2.4. Contribute to a patient-centred management plan
  - 2.4.1. Diagnose a broad range of hematologic conditions using available clinical and laboratory data
  - 2.4.2. Advise physicians regarding appropriate selection of diagnostic testing in the hematopathology lab
  - 2.4.3. Advise physicians regarding diagnostic and therapeutic aspects of transfusion medicine

### **3. Plan and perform procedures and therapies for the purpose of diagnosis and case management**

- 3.1. Determine the most appropriate procedures or therapies
- 3.2. Obtain and document informed consent explaining the risks and benefits of, and the rationale for a proposed procedure or investigation
  - 3.2.1. Ensure informed consent has been obtained and documented for procedures performed by others
- 3.3. Prioritize procedures or therapies, taking into account clinical urgency and available resources
  - 3.3.1. Prioritize ancillary investigations when specimen adequacy is limited
- 3.4. Perform procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances
  - 3.4.1. Bone marrow aspiration and biopsy
  - 3.4.2. Prescribe and supervise therapeutic apheresis

### **4. Establish plans for ongoing case management and, when appropriate, timely consultation**

- 4.1. Implement a patient-centred care plan that supports ongoing case management, follow-up on investigations, supplemental reporting, and further consultation
  - 4.1.1. Ensure appropriate follow-up is arranged when performing a diagnostic procedure or ordering a test
  - 4.1.2. Determine the need and timing of referral to another specialist and/or second opinion

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<sup>1</sup> Throughout this document, references to the patient's family are intended to include all those who are personally significant to the patient and are concerned with his or her care, including, according to the patient's circumstances, family members, partners, caregivers, legal guardians, and substitute decision-makers.



**5. Actively contribute, as an individual and as a member of a team providing care, to the continuous improvement of health care quality and patient safety**

- 5.1. Recognize and respond to harm from health care delivery, including patient safety incidents
  - 5.1.1. Resolve issues related to specimen misidentification or diagnostic errors
- 5.2. Adopt strategies that promote patient safety and address human and system factors
  - 5.2.1. Adhere to quality management processes throughout the pre-analytic, analytic, and post-analytic phase
  - 5.2.2. Apply safe practices in the laboratory to minimize occupational risk

**Communicator**

**Definition:**

As *Communicators*, hematological pathologists interact with patients and families to facilitate the gathering and sharing of essential information for effective health care.

**Key and Enabling Competencies: Hematological pathologists are able to...**

**1. Establish professional relationships with patients and their families**

- 1.1. Communicate using a patient-centred approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion
- 1.2. Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety
  - 1.2.1. Maintain the dignity and privacy of human tissue and samples
- 1.3. Recognize when the perspectives, values, or biases of patients, patients' families, physicians, or other health care professionals may have an impact on the quality of care, and modify the approach to the patient accordingly
- 1.4. Respond to a patient's non-verbal behaviours to enhance communication
- 1.5. Manage disagreements and emotionally charged conversations
- 1.6. Adapt to the unique needs and preferences of each patient and to the patient's clinical condition and circumstances

**2. Elicit and synthesize accurate and relevant information, incorporating the perspectives of patients and their families**

- 2.1. Use patient-centred interviewing skills to effectively gather relevant biomedical and psychosocial information
- 2.2. Provide a clear structure for and manage the flow of an entire patient encounter

- 2.3. Seek and synthesize relevant information from other sources, including the patient's family, with the patient's consent

**3. Share health care information and plans with patients and their families**

- 3.1. Share information and explanations that are clear, accurate, and timely, while assessing for patient and family understanding
  - 3.1.1. Convey pathology findings to patients and families clearly and compassionately
- 3.2. Disclose harmful patient safety incidents to patients and their families
  - 3.2.1. Demonstrate strategies for disclosing adverse patient events to a variety of audiences
  - 3.2.2. Convey and document issues arising from a breach in quality or safety of laboratory practices

**4. Document and share written and electronic information about the pathology encounter to optimize clinical decision-making, patient safety, confidentiality, and privacy**

- 4.1. Document pathology encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements
  - 4.1.1. Obtain satisfactory photomicrographs, digital images, and photographs
  - 4.1.2. Formulate comprehensive and clinically meaningful reports
    - 4.1.2.1. Use synoptic reports and other standard report formats, as appropriate
    - 4.1.2.2. Integrate information from ancillary studies and other diagnostic sources into the pathology report
    - 4.1.2.3. Organize diagnostic summaries to prioritize the features of importance
  - 4.1.3. Express diagnostic uncertainty clearly with appropriate differential diagnoses and suggestions regarding further studies or ancillary investigations
  - 4.1.4. Convey critical values or unexpected results in a clear, accurate, and timely manner
- 4.2. Communicate effectively using a written health record, electronic medical record, or other digital technology
- 4.3. Share information with patients and others in a manner that enhances understanding and that respects patient privacy and confidentiality
  - 4.3.1. Identify and respond to issues of confidentiality related to information shared through the laboratory information system (LIS), by e-mail, fax, phone, or other means of communication

## **Collaborator**

### **Definition:**

As *Collaborators*, hematological pathologists work effectively with other health care professionals to provide safe, high-quality, patient-centred care.

### **Key and Enabling Competencies: Hematological pathologists are able to...**

#### **1. Work effectively with physicians and other colleagues in the health care professions**

- 1.1. Establish and maintain positive relationships with physicians and other colleagues in the health care professions to support relationship-centred collaborative care
- 1.2. Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions in episodic and ongoing care
  - 1.2.1. Respect the roles, expertise, and limits of all members of interdisciplinary health teams
  - 1.2.2. Work effectively with clinical laboratory scientists, laboratory technologists and technicians, and pathology assistants
  - 1.2.3. Work effectively with administrative personnel and managers of technical staff
- 1.3. Engage in respectful shared decision-making with physicians and other colleagues in the health care professions
  - 1.3.1. Provide advice to clinical colleagues regarding procurement and handling of specimens and effective lab utilization
  - 1.3.2. Convey information from the diagnostic assessment in a manner that enhances patient care
    - 1.3.2.1. Encourage discussion, questions, and interaction relevant to the case
    - 1.3.2.2. Convey diagnostic uncertainty and discuss deferral of diagnosis when needed
  - 1.3.3. Work effectively with clinical colleagues to assist in the interpretation of laboratory findings in the clinical context
  - 1.3.4. Provide consultative services to clinical colleagues regarding
    - 1.3.4.1. Diagnostic investigations
    - 1.3.4.2. Blood transfusion management
  - 1.3.5. Synthesize, present, and discuss cases effectively at multidisciplinary rounds

**2. Work with physicians and other colleagues in the health care professions to promote understanding, manage differences, and resolve conflicts**

2.1. Show respect toward collaborators

- 2.1.1. Accept, consider, and respect the opinions of other team members while contributing specialty expertise

2.2. Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture

- 2.2.1. Demonstrate skills in working with others in situations of conflict
- 2.2.2. Assume a leadership role in situations of conflict, where appropriate

**3. Work with physicians and other colleagues in the health care professions to effectively enable continuity of case management**

3.1. Determine when a case should be transferred to another pathologist with differing expertise

3.2. Demonstrate safe handover of case management, using both oral and written communication, as needed

**Leader**

**Definition:**

As *Leaders*, hematological pathologists engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.

**Key and Enabling Competencies: Hematological pathologists are able to...**

**1. Contribute to the improvement of health care delivery in teams, organizations, and systems**

1.1. Apply the science of quality improvement to systems of patient care

- 1.1.1. Apply knowledge of quality assurance and improvement, including quality control, monitoring, and assessment measures
- 1.1.2. Plan and implement quality management programs and laboratory information systems
- 1.1.3. Employ processes to ensure standardization, policy adherence, and adverse event and incident reporting
- 1.1.4. Minimize hazards of the laboratory workplace to create and maintain a safe working environment

- 1.2. Contribute to a culture that promotes patient safety
  - 1.2.1. Participate in multidisciplinary patient safety initiatives
  - 1.2.2. Recognize the importance of an error reporting and/or risk management policy and promote its advancement
  - 1.2.3. Advocate for timely and appropriate implementation of new laboratory methodologies and technologies that increase operational efficiencies and diagnostic accuracy
- 1.3. Analyze patient safety incidents to enhance systems of care
  - 1.3.1. Contribute to the identification or quality management of safety problems in laboratory medicine, the formulation and execution of a plan of action, and the assessment of that plan
- 1.4. Use health informatics to improve the quality of patient care and optimize patient safety
  - 1.4.1. Effectively implement information technology and retrieve necessary information to provide health care services or to introduce new investigative modalities to meet the needs and expectations of patients and the community

## **2. Engage in the stewardship of health care resources**

- 2.1. Allocate health care resources for optimal patient care
  - 2.1.1. Apply knowledge of resource utilization issues of the laboratory
- 2.2. Apply evidence and management processes to achieve cost-appropriate care
  - 2.2.1. Conduct audits, utilization reviews, and cost-benefit ratio analyses of diagnostic interventions, to achieve efficiencies and cost containment while maintaining safe and effective patient care

## **3. Demonstrate leadership in health care systems**

- 3.1. Demonstrate leadership skills to enhance health care
  - 3.1.1. Direct hematology and transfusion medicine laboratory services, including addressing issues pertaining to quality management, staffing, and reporting
    - 3.1.1.1. Apply knowledge of funding structures for laboratories
    - 3.1.1.2. Apply knowledge of the role and structure of institutional, provincial, territorial, and national hospital programs as they pertain to the role and utilization of the hospital laboratory, including infection control, impact analysis, and blood supply and distribution
    - 3.1.1.3. Apply knowledge of laboratory safety, the transportation of dangerous goods, and all aspects of quality as defined by current standards for clinical laboratories, including those of the International Standards

Organization (ISO), and by provincial and territorial laboratory accreditation standards

- 3.1.1.4. Apply knowledge of the principles of optimal laboratory utilization
    - 3.1.1.4.1. Develop test algorithms
    - 3.1.1.4.2. Manage equipment selection and purchasing
    - 3.1.1.4.3. Evaluate emerging technologies with a view to the possibility of integration in the laboratory
  - 3.1.1.5. Develop and review quality control data, and act as necessary
  - 3.1.1.6. Supervise the hematopathology laboratory at the level of the community or regional hospital, or remote site
    - 3.1.1.6.1. Supervise budgeting, including personnel, materials, and capital equipment
    - 3.1.1.6.2. Supervise workload measurement
    - 3.1.1.6.3. Supervise and provide clinical direction of the transfusion service in association with provincial, territorial, and national blood agencies
  - 3.1.1.7. Promote safe, efficient blood transfusion service organization and the value of a transfusion medicine committee
  - 3.1.1.8. Promote the sufficiency and safety of the blood supply and remain updated of pertinent international initiatives
  - 3.1.2. Plan and evaluate new or expanded patient programs that impact hematology laboratories, including budgetary considerations
  - 3.1.3. Apply efficient methods of indexing specimens and reports for the purpose of providing rapid reporting of results and for ease of data retrieval
  - 3.1.4. Apply knowledge of human resource policies, professional responsibilities, and organizational structures for optimal laboratory functioning in accordance with institutional, local, provincial, territorial, and national regulations
- 3.2. Facilitate change in health care to enhance services and outcomes

#### **4. Manage career planning, finances, and health human resources in personal practice(s)**

- 4.1. Set priorities and manage time to integrate practice and personal life
- 4.2. Manage personal professional practice(s) and career
- 4.3. Implement processes to ensure personal practice improvement

## Health Advocate

### **Definition:**

As *Health Advocates*, hematological pathologists contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.

### **Key and Enabling Competencies: Hematological pathologists are able to...**

- 1. Respond to an individual patient's health needs by advocating with the patient within and beyond the clinical environment**
  - 1.1. Work with patients to address determinants of health that affect them and their access to needed health services or resources
    - 1.1.1. Recognize and respond to an individual patient's need for diagnostic services
  - 1.2. Incorporate disease prevention, health promotion, and health surveillance into interactions with individual patients
  
- 2. Respond to the needs of the communities or populations they serve by advocating with them for system-level change in a socially accountable manner**
  - 2.1. Work with a community or population to identify the determinants of health that affect them
  - 2.2. Improve clinical practice by applying a process of continuous quality improvement to disease prevention, health promotion, and health surveillance activities
    - 2.2.1. Evaluate laboratory practices and test selection to ensure they meet community needs
  - 2.3. Contribute to a process to improve health in the community or population they serve
    - 2.3.1. Participate in community and/or regional patient care programs, including close-to-patient testing and outreach programs
    - 2.3.2. Contribute to improved health care delivery through actions such as advocating for increased user accessibility to laboratory services
    - 2.3.3. Apply the analysis of epidemiological data for advocacy purposes

## Scholar

### **Definition:**

As *Scholars*, hematological pathologists demonstrate a lifelong commitment to excellence in practice through continuous learning, and by teaching others, evaluating evidence, and contributing to scholarship.

### **Key and Enabling Competencies: Hematological pathologists are able to...**

#### **1. Engage in the continuous enhancement of their professional activities through ongoing learning**

- 1.1. Develop, implement, monitor, and revise a personal learning plan to enhance professional practice
- 1.2. Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources
- 1.3. Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice

#### **2. Teach students, residents, the public, and other health care professionals**

- 2.1. Recognize the influence of role-modelling and the impact of the formal, informal, and hidden curriculum on learners
- 2.2. Promote a safe and respectful learning environment
- 2.3. Ensure patient safety is maintained when learners are involved
- 2.4. Plan and deliver learning activities
  - 2.4.1. Participate in educational endeavours for students, residents, health professionals, patients, families, the general public, and governments:
    - 2.4.1.1. Accurately assess the educational needs of target groups
    - 2.4.1.2. Describe and demonstrate the principles of adult learning and preferred learning methods
    - 2.4.1.3. Give clear, accurate, succinct, and informative presentations
    - 2.4.1.4. Evaluate the effectiveness of presentations given
- 2.5. Provide feedback to enhance learning and performance
- 2.6. Assess and evaluate learners, teachers, and programs in an educationally appropriate manner

#### **3. Integrate best available evidence into practice**

- 3.1. Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions that can address them
- 3.2. Identify, select, and navigate pre-appraised resources



- 3.3. Critically evaluate the integrity, reliability, and applicability of health-related research and literature
  - 3.3.1. Execute a systematic search for evidence and critically evaluate medical and other scientific literature to optimize problem-solving and decision making
- 3.4. Integrate evidence into decision-making in their practice

#### **4. Contribute to the creation and dissemination of knowledge and practices applicable to health**

- 4.1. Demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in health care
- 4.2. Identify ethical principles for research and incorporate them into obtaining informed consent, considering potential harms and benefits and vulnerable populations
  - 4.2.1. Discuss the responsibilities, function, and processes of research ethics and research ethics boards
- 4.3. Contribute to the work of a research program
- 4.4. Pose questions amenable to scholarly investigation and select appropriate methods to address them
- 4.5. Summarize and communicate to professional and lay audiences, including patients and their families, the findings of relevant research and scholarly inquiry

### **Professional**

#### ***Definition:***

As *Professionals*, hematological pathologists are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.

#### ***Key and Enabling Competencies: Hematological pathologists are able to...***

#### **1. Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards**

- 1.1. Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
- 1.2. Demonstrate a commitment to excellence in all aspects of practice
- 1.3. Recognize and respond to ethical issues encountered in practice
- 1.4. Recognize and manage conflicts of interest

- 1.5. Exhibit professional behaviours in the use of technology-enabled communication
  - 1.5.1. Exhibit professional behaviours in the use of laboratory and other information systems, including provincial and national databases, as pertains to sharing of data, quality assurance, utilization review, and management

**2. Demonstrate a commitment to society by recognizing and responding to societal expectations in health care**

- 2.1. Demonstrate accountability to patients, society, and the profession by responding to societal expectations of physicians
- 2.2. Demonstrate a commitment to patient safety and quality improvement

**3. Demonstrate a commitment to the profession by adhering to standards and participating in physician-led regulation**

- 3.1. Fulfil and adhere to professional and ethical codes, standards of practice, and laws governing practice
  - 3.1.1. Guidelines on ethical interactions with industry, including equipment and supply vendors
  - 3.1.2. Recognized standards of workplace safety
  - 3.1.3. Regulations governing transportation of dangerous goods
  - 3.1.4. Personal privacy legislation and policy
  - 3.1.5. Relevant legislation and/or regulations governing the operation of laboratories, including issues of informed consent
  - 3.1.6. Regulations regarding retention and disposal of specimens and processed surgical and cytological material and the retention of records
  - 3.1.7. Regulations regarding mandatory reporting of communicable disease
  - 3.1.8. Regulations regarding the reporting of critical results to treating physicians and other health care professionals
  - 3.1.9. Regulations and standards related to transfusion medicine and blood banks
- 3.2. Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care professions
- 3.3. Participate in peer assessment and standard setting
  - 3.3.1. Participate in audit and utilization reviews
  - 3.3.2. Participate in intra- and extradepartmental reviews of diagnostic pathology material

**4. Demonstrate a commitment to physician health and well-being to foster optimal patient care**

- 4.1. Exhibit self-awareness and manage influences on personal well-being and professional performance
  - 4.1.1. Demonstrate a commitment to safe practices in Hematological Pathology to minimize occupational risk
- 4.2. Manage personal and professional demands for a sustainable practice throughout the physician life cycle
- 4.3. Promote a culture that recognizes, supports, and responds effectively to colleagues in need

*This document is to be reviewed by the Specialty Committee in Hematological Pathology by December 2023.*

**APPROVED** – Specialty Standards Review Committee – April 2021