

**2019**

**MINOR REVISION - OCTOBER 2023  
VERSION 1.1**

*Effective for residents who enter training on or after July 1, 2019.*

## **DEFINITION**

Diagnostic and Clinical Pathology<sup>1</sup> is the medical specialty concerned with all laboratory investigations utilized in the determination of health and disease. These include the diagnostic and molecular pathology domains of surgical pathology, cytopathology, and autopsy pathology, and the clinical pathology domains of microbiology, biochemistry, hematological pathology, and transfusion medicine. Diagnostic and Clinical Pathology is essential to patient care because it provides a foundation on which clinical decisions are made.

## **DIAGNOSTIC AND CLINICAL PATHOLOGY PRACTICE**

Diagnostic and clinical pathologists are physicians with expertise in the diagnostic aspects of diagnostic and molecular pathology, microbiology, biochemistry, hematological pathology, and transfusion medicine, in patients of all ages and across the spectrum of care. Diagnostic and clinical pathologists function as the bridge between clinicians and the laboratory. They contribute to clinical decisions that rely on laboratory tests to determine the presence, extent, or absence of disease and monitor the effectiveness of clinical treatments. They assist clinicians with appropriate test selection and test interpretation. In addition to working with a wide array of clinicians, they work closely with laboratory technologists to optimize specimen handling and reporting.

In addition to diagnostic expertise, diagnostic and clinical pathologists provide medical leadership and quality management of laboratory practice. They oversee the medical aspects of laboratory activity, directing laboratory quality assurance, utilization, and management. Diagnostic and clinical pathologists actively participate in regulatory requirements governing the execution and reporting within the different domains of Diagnostic and Clinical Pathology.

Diagnostic and clinical pathologists practise in a variety of settings, which include community or metropolitan hospitals, free-standing diagnostic facilities, and academic health centres. The practice of an individual diagnostic and clinical pathologist may be focused in one or more specific fields or may be broad across the spectrum of the discipline depending on the structure and needs of the site. Diagnostic and clinical pathologists may

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<sup>1</sup> Formerly recognized by the Royal College as General Pathology. The discipline name change was officially approved in November 2022.

function as consultants in hematology, microbiology, biochemistry, and/or diagnostic and molecular pathology, and may have leadership positions in laboratory management and as laboratory directors.

For more complex cases, the diagnostic and clinical pathologist may consult a specialist colleague at a tertiary care institution.

Diagnostic and Clinical Pathology has been significantly impacted by advances in medical knowledge and diagnostic technologies. The specialty has become increasingly complex, with added depth in each of its component domains.

## **DIAGNOSTIC AND CLINICAL PATHOLOGY COMPETENCIES**

### **Medical Expert**

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

As Medical Experts, diagnostic and clinical 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: Diagnostic and clinical 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 Diagnostic and Clinical Pathology
- 1.3. Apply knowledge of the clinical and biomedical sciences relevant to Diagnostic and Clinical Pathology

#### **Diagnostic and Molecular Pathology**

- 1.3.1. Normal anatomy and its common variants
- 1.3.2. Principles of embryologic development and common variants of normal development
- 1.3.3. Principles of cell biology, immunology, genetics, and pathogenic mechanisms and the changes that occur in disease states
- 1.3.4. Principles of tissue fixation and preparation of specimens for microscopic examination, including frozen sections
- 1.3.5. Principles of light microscopy, including polarization, dark-field, and fluorescence microscopy
- 1.3.6. Gross and light microscopic appearance of normal tissues, both as intact organs and biopsy material
- 1.3.7. Appearance of normal tissue cells, exfoliated or obtained by fine needle aspiration, in common fixatives

- 1.3.8. Gross and microscopic appearance of diseased tissue and cells
  - 1.3.8.1. Appearance of common inflammatory and neoplastic conditions on both histological and cytological material in all organ systems
  
- 1.3.9. Principles of ancillary histology techniques and their application in diagnosis
  - 1.3.9.1. Special histochemical stains
  - 1.3.9.2. Immunomarkers
  - 1.3.9.3. Flow cytometry
  - 1.3.9.4. Hybridization techniques
  - 1.3.9.5. Molecular techniques
  
- 1.3.10. Principles of autopsy
  - 1.3.10.1. The legal basis and principles of consent as they relate to autopsies
  - 1.3.10.2. Characteristics of autopsies requiring referral to Forensic Pathologists
  - 1.3.10.3. Principles of identification
  - 1.3.10.4. Standard autopsy techniques
  - 1.3.10.5. The basis for, and appearance of, post-mortem changes
  - 1.3.10.6. Gross and microscopic autopsy findings in natural and routine non-natural death
  - 1.3.10.7. Cause, mechanism, and manner of death
  - 1.3.10.8. Principles of sampling of tissues and fluids for toxicological examination
    - 1.3.10.8.1. Legal requirements for the handling of these samples
  
- 1.3.11. Utilization of ancillary techniques such as biochemical, microbiological, photographic, and radiological studies in pathology
- 1.3.12. Principles of quality assurance pertinent to surgical, cytology, and autopsy pathology

**Medical Biochemistry**

- 1.3.13. Normal physiology
- 1.3.14. Biochemical testing
- 1.3.15. Pathobiology, and test strategies pertinent to the diagnosis of common disorders
  - 1.3.15.1. Acid-base regulation
  - 1.3.15.2. Blood glucose and carbohydrate metabolism

- 1.3.15.3. Body water and electrolytes
  - 1.3.15.4. Bone and joint metabolism
  - 1.3.15.5. Cardiac and vascular function
  - 1.3.15.6. Cerebrospinal fluid
  - 1.3.15.7. Endocrine function
  - 1.3.15.8. Iron, porphyrin, and bilirubin metabolism
  - 1.3.15.9. Lipid metabolism
  - 1.3.15.10. Liver function
  - 1.3.15.11. Pancreatic and digestive function
  - 1.3.15.12. Protein metabolism
  - 1.3.15.13. Renal function
  - 1.3.15.14. Tumour markers
  - 1.3.15.15. Uric acid metabolism
- 1.3.16. Principles of nutrition
- 1.3.17. Principles of therapeutic drug monitoring
- 1.3.17.1. Pharmacokinetics
- 1.3.18. Toxicology
- 1.3.19. Pediatric and prenatal biochemistry
- 1.3.20. Availability of testing in community or regional hospital laboratories
- 1.3.21. Statistics pertinent to medical biochemistry
- 1.3.22. Principles of laboratory instrumentation and common analytical techniques pertinent to supervising a community or regional hospital laboratory and offering consultative services to clinical colleagues
- 1.3.23. Principles of resource-efficient laboratory equipment selection
- 1.3.24. Principles and basic components of a laboratory information system and its application to the modern biochemical laboratory
- Medical Microbiology**
- 1.3.25. Pathophysiology and clinical presentation of infections in normal and immunocompromised hosts
- 1.3.26. Principles of bacterial organisms and their clinical presentation, appropriate specimen collection, microscopic appearance, culture characteristics, diagnostic tests, and drug sensitivity, including those that are commonly isolated or otherwise identified in a regional hospital laboratory

*DIAGNOSTIC AND CLINICAL PATHOLOGY COMPETENCIES (2019)*  
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- 1.3.26.1. Staphylococci, streptococci, corynebacteria, and other aerobic and facultative gram-positive rods
  - 1.3.26.2. Clostridia
  - 1.3.26.3. Neisseriaceae (including Moraxella), Enterobacteriaceae, Campylobacter, and Pseudomonas and other common gram-negative opportunistic bacilli
  - 1.3.26.4. Haemophilus
  - 1.3.26.5. Bordetellae
  - 1.3.26.6. Legionellae
  - 1.3.26.7. Chlamydiae
  - 1.3.26.8. Mycoplasma, spirochetes, and other common pathogenic mycobacteria
  
  - 1.3.27. Common fungal organisms in pathologic specimens, and the use of serologic and culture investigations for diagnosis
    - 1.3.27.1. Candida, Aspergillus, Histoplasma, Coccidioides, Blastomyces, Cryptococcus, Mucor, and Pneumocystis
  
  - 1.3.28. Common parasitic organisms in pathologic specimens, and the use of serologic and culture investigations for diagnosis
    - 1.3.28.1. Malaria, Ehrlichia, common helminthic infections (cestodes, Enterobius, Strongyloides, Ascaris), Giardia, schistosomes, Cryptosporidium, microsporidia, Entamoeba, Dientamoeba, Blastocystis, Echinococcus, and Trichinella
  
  - 1.3.29. Common viral organisms in pathologic specimens, and the use of serologic and culture investigations for diagnosis
    - 1.3.29.1. Hepatitis A, B, and C, and human immunodeficiency virus (HIV), with emphasis on serologic testing
  
  - 1.3.30. Principles of testing strategies, specimen collection and handling, laboratory safety, and interpretation of diagnostic reports for less common viral, bacterial, fungal, and parasitic organisms
  - 1.3.31. Principles of molecular diagnostic methodologies and their use in microbiological diagnosis and outbreak investigation
  - 1.3.32. Principles of common quality control procedures applicable to microbiology
  - 1.3.33. Principles of hospital infection control and pertinent public health regulations
    - 1.3.33.1. Prevention and control of infection and epidemics
    - 1.3.33.2. Disinfection and sterilization procedures
    - 1.3.33.3. Appropriate handling and disposal of infectious materials
    - 1.3.33.4. Employee health and laboratory safety
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**Hematological Pathology and Transfusion Medicine**

- 1.3.34. Normal hematopoiesis and cell biology as it pertains to the structure and function of hematopoietic elements
  - 1.3.35. Structure and functional relationships of all components of the reticuloendothelial system
  - 1.3.36. Components of humoral and cellular immunity, and the role of complement and its pathways of activation
  - 1.3.37. Components and functional relationship of the hemostatic and fibrinolytic systems
  - 1.3.38. Immunohematology, including major blood group systems and the role of the human leukocyte antigen (HLA) system
  - 1.3.39. Genetics and molecular diagnostics as applicable to hematologic disorders
  - 1.3.40. Diagnostic strategies, morphologic findings, clinical associations, complications, and basic principles of management of hematologic disorders, specifically common problems of all hematopoietic and lymphoid tissues
  - 1.3.41. Principles of cytogenetics and flow cytometry as applicable to hematologic disorders
  - 1.3.42. Strategies for investigation, clinical associations, and principles of management of major congenital and acquired disorders of coagulation and hemostasis
  - 1.3.43. Therapeutic use of blood components in the treatment of hematological and coagulation disorders
  - 1.3.44. Common problems of blood banking, including incompatible crossmatch, auto- and alloimmune antibodies and their differentiation, and neonatal blood banking issues
  - 1.3.45. Principles of investigation and classification of adverse reactions to blood component therapy
  - 1.3.46. Principles of test methodology and instrumentation in a hematology laboratory
  - 1.3.47. Standards as they apply to the testing and release of blood products
  - 1.3.48. Canadian Blood Services (CBS) policies, procedures, and products, including autologous and directed donations
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- 1.4. Perform timely clinical and 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 Diagnostic and Clinical Pathology practice
    - 1.6.1. Identify cases that will require referral to another specialist due to tissue type, rarity, complexity, or therapeutic implications

- 1.6.2. Convey diagnostic uncertainty and recommend additional studies, as relevant

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

- 2.1. Prioritize issues to be addressed in a patient encounter
- 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. Handle specimens appropriately
  - 2.2.3. Assess specimen adequacy
  - 2.2.4. Analyze microbiologic data and correlate to clinical information
  - 2.2.5. Perform gross and microscopic pathological examination
  - 2.2.6. Obtain satisfactory photomicrographs, digital images, and photographs
  - 2.2.7. Interpret protein electrophoresis and immunofixation studies
  - 2.2.8. Perform morphologic assessment of urine and body fluids
  - 2.2.9. Perform morphologic assessment of microorganisms
  - 2.2.10. Perform morphological assessments of blood, bone marrow, and lymph node-based disorders
  - 2.2.11. Select ancillary techniques judiciously in a resource-effective and ethical manner
  - 2.2.12. Establish a final diagnosis that takes into account clinical correlations
- 2.3. Provide diagnostic and prognostic information to help clinicians establish goals of care in collaboration with patients and their families<sup>2</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 pathological conditions, including surgical pathology, cytology, and autopsy materials
  - 2.4.2. Provide intraoperative consultations
  - 2.4.3. Provide consultation regarding appropriate use of current diagnostic methodologies
  - 2.4.4. Review and supervise bench level tests, including manual, semi-automated, and automated tests

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<sup>2</sup> Throughout this document, phrases such as "patients and their families" 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 guardian, and substitute decision-makers.

- 2.4.5. Assess transfusion orders in relation to appropriateness, risks, and alternatives to transfusion
- 2.4.6. Investigate transfusion reactions

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

- 3.1. Determine the most appropriate tests and procedures
- 3.2. Ensure informed consent has been obtained and documented for a proposed procedure
  - 3.2.1. Ensure regulatory and institutional rules governing consent for autopsy have been met
- 3.3. Prioritize procedures, 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. Perform a complete autopsy, including for medico-legal purposes
  - 3.4.2. Perform fine needle aspiration
  - 3.4.3. Perform bone marrow aspiration and biopsy

**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, including follow-up on investigations, supplemental reporting, and further consultation as needed
  - 4.1.1. Ensure adequate 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

**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 phases

## **Communicator**

### **Definition:**

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

### **Key and Enabling Competencies: Diagnostic and clinical 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 deceased persons
- 1.3. Recognize when the perspectives, values, or biases of patients, 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 his or her 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. Ensure appropriate communication with patients and/or families with respect to the handling of surgical specimens and autopsy procedures, demonstrating cultural awareness and sensitivity

3.2. Disclose harmful patient safety incidents to patients and their families accurately and appropriately

3.2.1. 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, concise, complete, timely, and accessible manner, in compliance with regulatory and legal requirements

4.1.1. Provide clear, concise, accurate and timely documentation

4.1.2. Formulate comprehensive and clinically meaningful reports

4.1.3. Organize diagnostic summaries to prioritize the features of importance

4.1.4. Express diagnostic uncertainty clearly with appropriate differential diagnoses and suggestions regarding further studies or ancillary investigations

4.1.5. 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

**Collaborator**

***Definition:***

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

***Key and Enabling Competencies: Diagnostic and clinical 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. Recognize and respect the diversity of roles, responsibilities, and competencies of other professionals in relation to their own

- 1.2.2. Work effectively with laboratory technologists, pathology assistants and clinical doctoral scientists
- 1.2.3. Work effectively with managers of technical staff
- 1.2.4. Interact effectively with surgeons during intraoperative consultations
  
- 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
  - 1.3.2. Provide consultative services to clinical colleagues regarding appropriate investigations
  - 1.3.3. Convey information from the diagnostic assessment in a manner that enhances patient care
    - 1.3.3.1. Encourage discussion, questions, and interaction relevant to the case
    - 1.3.3.2. Convey diagnostic uncertainty and discuss deferral of diagnosis when needed
  - 1.3.4. Work effectively with clinical colleagues to assist in the interpretation of laboratory findings in the clinical context
  - 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
  - 2.2. Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture
  
- 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*, diagnostic and clinical 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: Diagnostic and clinical 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 contribute to improving systems of patient care
  - 1.1.1. Participate in quality assurance and quality control in laboratory medicine
  - 1.1.2. Apply knowledge of metrics and measurement systems used to track quality management and safety activities
  - 1.1.3. Apply knowledge of process improvement methodologies
- 1.2. Contribute to a culture that promotes patient safety
- 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

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

- 2.1. Allocate health care resources for optimal patient care
  - 2.1.1. Demonstrate knowledge of resource-efficient laboratory equipment selection
- 2.2. Apply evidence and management processes to achieve cost-appropriate care

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

- 3.1. Demonstrate leadership skills to enhance health care
  - 3.1.1. Apply knowledge of funding structures for laboratories
  - 3.1.2. Apply knowledge of the role and structure of 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

- 3.1.3. 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
- 3.1.4. Apply the principles of laboratory management
- 3.1.5. Develop test algorithms to diagnose common disorders
- 3.1.6. Develop and review quality control data, and take action as necessary
- 3.1.7. Supervise and direct the clinical laboratories at the level of the community or regional hospital, including
  - 3.1.7.1. Supervise and provide clinical direction of the biochemistry, microbiology, and hematopathology laboratory
  - 3.1.7.2. Direct the hospital infection control program as it pertains to the role and utilization of the hospital laboratory
  - 3.1.7.3. Supervise and provide clinical direction of a transfusion service in association with provincial, territorial, and national blood agencies
  - 3.1.7.4. Provide consultation services regarding appropriate use of, and possible alternatives to, blood component therapy
  - 3.1.7.5. Manage staffing and personnel
  - 3.1.7.6. Supervise budgeting, including personnel, materials, and capital equipment
  - 3.1.7.7. Supervise workload measurements
- 3.1.8. Apply knowledge of the principles of optimal laboratory utilization
  - 3.1.8.1. Manage equipment purchasing and selection
  - 3.1.8.2. Evaluate emerging technologies with a view to the possibility of integration in the laboratory

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*, diagnostic and clinical 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: Diagnostic and clinical 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 the role of laboratories regarding the health needs of individual patients
  - 1.2. Incorporate disease prevention, health promotion, and health surveillance into interactions with individual pathology encounters
  
- 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. Respond to community and hospital service demands, including the need for population screening, and detection and control of infectious disease
    - 2.3.2. Recognize and respond to situations where health advocacy and application of health care resources is required, including the introduction of improved instrumentation and methodologies to augment community health care
    - 2.3.3. Identify opportunities to advocate for appropriate infection control, blood product safety, reporting of communicable diseases, reporting of genetic diseases, and genetic testing where appropriate

## **Scholar**

### **Definition:**

As *Scholars*, diagnostic and clinical 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: Diagnostic and clinical 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
- 2.5. 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
- 3.4. 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 considering vulnerable populations
- 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
  - 4.5.1. Participate in the development of communication plans with public or media regarding medical issues and events

## **Professional**

### ***Definition:***

As *Professionals*, diagnostic and clinical 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: Diagnostic and clinical 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 clinical laboratory practice
- 1.3. Recognize and respond to ethical issues encountered in clinical laboratory practice
- 1.4. Recognize and manage conflicts of interest
- 1.5. Exhibit professional behaviours in the use of technology-enabled communication

#### **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. Recognized standards of workplace safety
  - 3.1.2. Regulations governing transportation of dangerous goods
  - 3.1.3. Personal privacy legislation and policy
  - 3.1.4. Relevant legislation and/or regulations governing the operation of laboratories, including issues of informed consent
  - 3.1.5. Regulations governing consent for autopsy and the types of cases that must be reported to the coroner or medical examiner
  - 3.1.6. Local regulations regarding the reporting of deaths to the coroner or medical examiner
  - 3.1.7. Regulations regarding the conduct of forensic investigations
  - 3.1.8. Regulations regarding retention of specimens and processed surgical, cytological, and autopsy material, and the retention of records
  - 3.1.9. Regulations regarding mandatory reporting of communicable disease
  - 3.1.10. Regulations regarding mandatory reporting of suspected child, intimate partner, or elder abuse
  - 3.1.11. Regulations regarding the reporting of critical results to treating physicians and other health care professionals
- 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 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 Diagnostic and Clinical 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

*DIAGNOSTIC AND CLINICAL PATHOLOGY COMPETENCIES (2019)  
MINOR REVISION - OCTOBER 2023*

This document is to be reviewed by the Specialty Committee in Diagnostic and Clinical Pathology by December 31, 2026.

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