

**2019**

**MINOR REVISION - OCTOBER 2023  
VERSION 1.1**

*These training requirements apply to those who begin training on or after July 1, 2019.*

The following training experiences are required, recommended, or optional, as indicated.

### **TRANSITION TO DISCIPLINE (TTD)**

*The focus of this initial stage is orientation to the program and institution policies, protocols, resources, and facilities, including laboratory safety, and issues of patient privacy and confidentiality. During this stage residents will participate in basic specimen handling and microscopy, and will demonstrate an understanding of clinicopathologic correlation.*

#### **Required training experiences (TTD stage):**

1. Clinical training experiences
  - 1.1. Observation of and select participation in
    - 1.1.1. Intraoperative consultation
    - 1.1.2. Gross specimen dissection
    - 1.1.3. Specimen preparation
    - 1.1.4. Tissue processing
    - 1.1.5. Slide preparation
2. Other training experiences
  - 2.1. Orientation to the diagnostic and molecular pathology<sup>1</sup> service
    - 2.1.1. Orientation to laboratory facilities: autopsy suite, gross dissection room, intraoperative consultation suite, specimen accessioning room, and histology laboratory
    - 2.1.2. Familiarization with and access to clinical laboratory work stations, including
      - 2.1.2.1. Microscope, camera, access to laboratory information system (LIS),

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<sup>1</sup> Formerly recognized by the Royal College as Anatomical Pathology. The discipline name change was officially approved in July 2023.

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- dictation system, and library/computer with internet access
- 2.1.2.2. Multiheaded microscope and conference room
- 2.1.3. Orientation and instruction in
  - 2.1.3.1. Basic skills in microscopy
  - 2.1.3.2. LIS, dictation system, and electronic patient record (EPR)
  - 2.1.3.3. Principles of normal histology
  - 2.1.3.4. Principles of tissue handling
- 2.1.4. Orientation to pathology reporting
- 2.2. Orientation to the program, hospital(s), and university
  - 2.2.1. Orientation to Competence by Design
  - 2.2.2. Orientation to postgraduate medical education (PGME) policies and resources
  - 2.2.3. Orientation to hospital policies and the institutional code of conduct
- 2.3. Development of a personal learning plan
- 2.4. Participation in the diagnostic and molecular pathology residency formal curriculum, e.g., academic half days

**Recommended training experiences (TTD stage):**

- 3. Clinical training experiences
  - 3.1. Departmental and/or multidisciplinary rounds
- 4. Other training experiences
  - 4.1. Orientation to specialized laboratories: immunohistochemistry; molecular pathology; immunofluorescence; electron microscopy (EM)
  - 4.2. Orientation to the ergonomics of work stations

**FOUNDATIONS OF DISCIPLINE (F)**

*The focus of this stage is the development of the knowledge and skills required to integrate clinical and laboratory information in the evaluation of disease processes. This includes assessing patients and performing gross dissection and microscopic reviews of simple surgical specimens, as well as triaging specimens for ancillary studies. During this stage residents will demonstrate their understanding of hospital autopsy protocol and perform basic technical tasks in autopsies.*

**Required training experiences (Foundations stage):**

- 1. Clinical training experiences
  - 1.1. Relevant patient care areas, including
    - 1.1.1. Oncology inpatient and outpatient experience
    - 1.1.2. Surgery inpatient and operative experience, including the experience of intraoperative consultation to pathology

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- 1.1.3. Other clinical disciplines<sup>2</sup> with a high volume of clinicopathologic correlation
- 1.2. Diagnostic and molecular pathology services
  - 1.2.1. Intraoperative consultation suite
  - 1.2.2. Accessioning station
  - 1.2.3. Gross dissection room
  - 1.2.4. Histology/cytopathology laboratory
  - 1.2.5. Molecular/cytogenetics laboratory
  - 1.2.6. Digital imaging/photography station
  - 1.2.7. Autopsy suite
- 1.3. Multidisciplinary patient conferences involving pathology
2. Other training experiences
  - 2.1. Formal instruction in
    - 2.1.1. Anatomy as relevant to surgical and autopsy pathology dissection
    - 2.1.2. Normal histology and variants
    - 2.1.3. Basic sciences related to pathology
    - 2.1.4. Completion of pathology requisitions
    - 2.1.5. Legal issues, privacy, ethics, and the principles of informed consent for autopsy and/or research
    - 2.1.6. Quality assurance (QA) and laboratory management
    - 2.1.7. Basic skills in digital imaging
    - 2.1.8. Basic skills in photography
  - 2.2. Maintenance of a personal learning plan
  - 2.3. Maintenance of the Diagnostic and Molecular Pathology program logbook and/or ePortfolio, as relevant

**Recommended training experiences (Foundations stage):**

3. Clinical training experiences
  - 3.1. Medical imaging
  - 3.2. Other clinical experiences in preparation for the Medical Council of Canada Qualifying Examination Part II (MCCQE Part II)
4. Other training experiences
  - 4.1. Formal instruction in
    - 4.1.1. Teaching skills
    - 4.1.2. Research methodology

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<sup>2</sup> Examples include dermatology, gastroenterology, and gynecology.

- 4.2. Attendance at scientific lectures and/or meetings
- 4.3. Simulation training in the triage of tissues for routine and ancillary studies

## **CORE OF DISCIPLINE (C)**

*In this stage, residents build on the skills and knowledge of the previous stages to conduct intraoperative assessments, perform gross dissection of all specimens, perform medical, forensic, and pediatric autopsies, manage cytopathology specimens, select, and interpret molecular and non-molecular test results, and generate complete and accurate reports. During this stage, residents recognize clinicopathologic correlations while participating in direct patient care. In addition, residents will demonstrate responsibility for participation in quality management, teaching, and the maintenance of a personal learning, wellness, and career plan.*

### **Required training experiences (Core stage):**

- 1. Clinical training experiences
  - 1.1. Diagnostic and Molecular pathology service across the full breadth of cases: age; complexity; diagnosis
    - 1.1.1. Intraoperative consultation suite
    - 1.1.2. Accessioning station
    - 1.1.3. Gross dissection room
    - 1.1.4. Histology/cytopathology laboratory
    - 1.1.5. Molecular/cytogenetics laboratory
    - 1.1.6. Digital imaging/photography station
    - 1.1.7. Hospital autopsy suite
    - 1.1.8. Forensic autopsy suite
  - 1.2. Supervision and/or teaching, and assessment of junior residents, medical students, or other learners
  - 1.3. On-call/after-hours coverage of Diagnostic and Molecular pathology service
  - 1.4. Multidisciplinary patient conferences
    - 1.4.1. Longitudinal interaction and participation in clinicopathological conferences (CPCs)
    - 1.4.2. Case preparation, presentation, and participation, in the role of a staff pathologist, in multidisciplinary clinical team rounds such as tumour boards and/or clinicopathologic rounds
    - 1.4.3. Preparation and presentation of cases at rounds for multidisciplinary clinics, for example outpatient clinics, the operating room, genetics counselling sessions, cancer clinics, endoscopy clinics, and/or colposcopy clinics
- 2. Other training experiences
  - 2.1. Formal instruction in
    - 2.1.1. Core areas of Diagnostic and Molecular Pathology
      - 2.1.1.1. Surgical pathology
        - 2.1.1.1.1. Intraoperative pathology

- 2.1.1.2. Gross pathology
  - 2.1.1.3. Cytopathology
  - 2.1.1.4. Pediatric and perinatal<sup>3</sup> pathology
  - 2.1.1.5. Neuropathology
  - 2.1.1.6. Autopsy pathology
  - 2.1.1.7. Forensic pathology
  - 2.1.1.8. Ancillary studies
    - 2.1.1.8.1. Special histochemical stains
    - 2.1.1.8.2. Immunohistochemistry and in situ hybridization
    - 2.1.1.8.3. Immunofluorescence
    - 2.1.1.8.4. Molecular pathology, including cytogenetics
    - 2.1.1.8.5. Flow cytometry
    - 2.1.1.8.6. Electron microscopy
  - 2.1.1.9. Digital photography and slide scanning
  - 2.1.1.10. Principles of laboratory management and resource utilization
- 2.1.2. Career planning
- 2.1.3. Physician wellness
- 2.2. Journal club
- 2.3. Completion and presentation of a scholarly project
- 2.4. Maintenance of a personal learning plan
- 2.5. Maintenance of the Diagnostic and Molecular Pathology program logbook and/or ePortfolio, as relevant

**Recommended training experiences (Core stage):**

- 3. Clinical training experiences
  - 3.1. Diagnostic and Molecular Pathology in a community hospital-based setting
  - 3.2. Direct patient care in relevant clinical areas, such as multidisciplinary cancer clinic(s)
- 4. Other training experiences
  - 4.1. Formal instruction in pathology informatics
  - 4.2. Participation in university and/or hospital committees/organizational structure

**Optional training experiences (Core stage):**

- 5. Clinical training experiences

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<sup>3</sup> *This includes fetuses, stillbirths, placentae, infants, and children.*

5.1. Simulation training in fine needle aspiration biopsy (FNA)

6. Other training experiences
  - 6.1. Formal postgraduate training leading to an advanced degree, such as master of science (MSc), master of education (MEd), or doctor of philosophy (PhD)
  - 6.2. Collaboration in basic science research

## **TRANSITION TO PRACTICE (TTP)**

*The focus of this stage is the consolidation of skills required to participate in laboratory management as a junior member of staff; manage the daily workload of a diagnostic and molecular pathologist, including surgical pathology, intraoperative consultations, cytopathology, and autopsy; and represent Diagnostic and Molecular Pathology on multidisciplinary teams. In addition, residents select, interpret, and integrate the implications of molecular pathology into patient management. During this final stage residents will also be responsible for supervising laboratory staff, including junior learners.*

### **Required training experiences (TTP stage):**

1. Clinical training experiences
  - 1.1. Diagnostic and Molecular pathology services
    - 1.1.1. Intraoperative consultation suite
    - 1.1.2. Accessioning station
    - 1.1.3. Gross dissection room
    - 1.1.4. Histology/cytopathology laboratory
    - 1.1.5. Molecular/cytogenetics laboratory
    - 1.1.6. Digital imaging/photography station
    - 1.1.7. Autopsy suite
  - 1.2. Supervision and/or teaching, and assessment of junior residents, medical students, or other learners
  - 1.3. Direction of laboratory staff, as required
  - 1.4. On-call/after-hours coverage of Diagnostic and Molecular pathology service
  - 1.5. Case preparation, presentation, and participation, in the role of a staff pathologist, in multidisciplinary clinical team rounds such as tumour boards and/or clinicopathologic rounds, including conveying the results and clinical significance of molecular pathology tests
2. Other training experiences
  - 2.1. Participation in laboratory management
  - 2.2. Participation in an institutional QA program
  - 2.3. Career planning
    - 2.3.1. Instruction in the requirements of continuing professional development and maintenance of competence
    - 2.3.2. Instruction in diagnostic and molecular pathology practice models, including academic, community, and private laboratories

**Recommended training experiences (TTP stage):**

3. Other training experiences
  - 3.1. Further training in research, education, and/or leadership

**Optional training experiences (TTP stage):**

4. Clinical training experiences
  - 4.1. Direct patient care in relevant clinical areas
5. Other training experiences
  - 5.1. Teach audiences other than junior learners
  - 5.2. Training in leadership and administration
  - 5.3. Formal instruction in
    - 5.3.1. Personal financial planning
    - 5.3.2. Remuneration/contracts
  - 5.4. Formal postgraduate training leading to an advanced degree, such as master of science (MSc), master of education (MEd), or doctor of philosophy (PhD)

**CERTIFICATION REQUIREMENTS**

Royal College certification in Diagnostic and Molecular Pathology requires all of the following:

1. Successful completion of the Royal College examination in Diagnostic and Molecular Pathology; and
2. Successful completion of the Diagnostic and Molecular Pathology Portfolio.

**NOTES:**

*The Diagnostic and Molecular Pathology Portfolio refers to the list of entrustable professional activities across all four stages of the residency Competence Continuum, and associated national standards for assessment and achievement.*

**MODEL DURATION OF TRAINING**

*Progress in training occurs through demonstration of competence and advancement through the stages of the Competence Continuum. Diagnostic and Molecular Pathology is planned as a 5-year residency program. There is no mandated period of training in each stage. Individual duration of training may be influenced by many factors, which may include the student's singular progression through the stages, the availability of teaching and learning resources, and/or differences in program implementation. Duration of training in each stage is therefore at the discretion of the faculty of medicine, the competence committee, the residency training committee, and the program director.*

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**Guidance for programs**

*The Royal College Specialty Committee in Diagnostic and Molecular Pathology suggested course of training, for the purposes of planning learning experiences and schedules, is as follows:*

*1-3 blocks in Transition to Discipline*

*6-12 blocks in Foundations of Discipline*

*36-42 blocks in Core of Discipline*

*6-12 blocks in Transition to Practice*

*\*One block is equal to 4 weeks*

**Guidance for postgraduate medical education offices**

*The stages of the Competence Continuum in Diagnostic and Molecular Pathology are generally no longer than*

*3 blocks for Transition to Discipline*

*12 blocks for Foundations of Discipline*

*42 blocks for Core of Discipline*

*12 blocks for Transition to Practice*

*\*One block is equal to 4 weeks*

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

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