

These training requirements apply to those who begin training on or after July 1, 2022.

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

TRANSITION TO DISCIPLINE (TTD)

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

Required training experiences (TTD stage):

1. Clinical training experiences
 - 1.1. Neuropathology: orientation and participation in the service
 - 1.2. Surgical pathology: orientation to, observation of, and select participation in
 - 1.2.1. Histology laboratory
 - 1.2.2. Gross dissection room
 - 1.2.3. Intraoperative consultation suite
 - 1.2.4. Pathology archives: retrieval of blocks, slides, reports
 - 1.2.5. Immunohistochemistry laboratory
 - 1.2.6. Molecular laboratory
 - 1.3. Autopsy suite: orientation to, observation of, and select participation in autopsies
 - 1.4. Orientation to the morgue
 - 1.5. Orientation to the staff and services in pathology offices

2. Other training experiences
 - 2.1. Orientation to the program, the institution, and the university
 - 2.1.1. Orientation to program, including expectations, scheduling, after hours responsibilities, formal teaching sessions, and faculty members
 - 2.1.2. Orientation to the staff and services in pathology offices
 - 2.1.3. Orientation to Competence by Design and initiation of an electronic portfolio and logbook
 - 2.1.4. Orientation to PGME office policies, procedures, and resources
 - 2.2. Orientation to hospital and laboratory services:
 - 2.2.1. Electronic medical record(s) and laboratory information system(s)
 - 2.2.2. Orientation to hospital policies and code of conduct
 - 2.2.3. Privacy and confidentiality requirements
 - 2.2.4. Laboratory safety, including workplace hazardous materials information system (WHMIS)
 - 2.2.5. Safety procedures, including handling of sharps and use of personal protective equipment
 - 2.2.6. Biosafety principles, including universal precautions when manipulating tissue, instruments, and chemicals (e.g., formalin)
 - 2.2.7. Other components of laboratory medicine
 - 2.2.7.1. Hematopathology
 - 2.2.7.2. Clinical chemistry
 - 2.2.7.3. Microbiology
 - 2.3. Formal instruction in
 - 2.3.1. Histology of normal organs
 - 2.3.2. Basic skills in microscopy
 - 2.4. Development of a personal learning plan
 - 2.5. Attendance at rounds and teaching sessions, which may include departmental rounds and teaching sessions, and interdisciplinary rounds

FOUNDATIONS OF DISCIPLINE (F)

The focus of this stage is the development of the knowledge and skills required to integrate clinical information in the diagnostic assessment of neurologic disease processes, as well as the development of foundational skills in surgical, intraoperative, and post-mortem pathologic assessment. This includes assessing patients and participating in their clinical care. It also includes handling surgical and autopsy specimens in the pre-analytical phase, performing gross and histologic examinations of surgical specimens, performing post-mortem gross examinations, and participating in the initial steps of intraoperative consultations.

Required training experiences (Foundations stage):

1. Clinical training experiences
 - 1.1. Adult neurology
 - 1.1.1. Inpatient ward
 - 1.1.2. Clinics
 - 1.2. Pediatric neurology
 - 1.2.1. Inpatient ward
 - 1.2.2. Clinics
 - 1.3. Adult neuro-oncology, including inpatient ward and/or clinics
 - 1.4. Neurosurgery, adult
 - 1.4.1. Inpatient ward
 - 1.4.2. Operative experience
 - 1.5. Internal medicine, inpatient ward
 - 1.6. Neuroradiology
 - 1.7. Neuropathology
 - 1.8. Anatomical pathology
 - 1.8.1. Surgical pathology across the breadth of cases, which must include bone and soft tissue, lymph node, and head and neck pathology
 - 1.8.1.1. Gross dissection room
 - 1.8.1.2. Microscopic examination and generation of final diagnosis (i.e., sign-out)
 - 1.8.1.3. Intraoperative consultation suite
 - 1.8.2. Cytopathology laboratory
 - 1.8.3. Autopsy
 - 1.8.3.1. Adult
 - 1.8.3.2. Forensic, adult and pediatric
 - 1.9. Molecular pathology, service or laboratory
 - 1.10. Interdisciplinary rounds relevant to the resident's current clinical training experience
2. Other training experiences
 - 2.1. Formal instruction in:
 - 2.1.1. Pathologic basis of disease
 - 2.1.2. Systemic pathology
 - 2.1.3. Bioethics
 - 2.1.4. Leadership
 - 2.2. Maintenance of the neuropathology program logbook and/or ePortfolio, as relevant

- 2.3. Critical appraisal activities, such as neuropathology journal club
- 2.4. Provision of formal and informal teaching for other residents
- 2.5. Participation in quality assurance activities

Recommended training experiences (Foundations stage):

- 3. Clinical training experiences
 - 3.1. Neonatal intensive care unit (NICU)
 - 3.2. Ophthalmic pathology
- 4. Other training experiences
 - 4.1. Orientation and instruction in the application of library resources
 - 4.2. In-training examinations
 - 4.3. Attendance and participation in conferences and scientific meetings relevant to neuroscience, neuropathology, neurology, and/or pathology
 - 4.4. Establishment of a mentor relationship for career planning

Optional training experiences (Foundations stage):

- 5. Specific and/or enhanced skills acquisition based on individual interest, career planning, and/or community needs

CORE OF DISCIPLINE (C)

In this stage residents build on the skills and knowledge of the previous stages to conduct intraoperative consultations and perform gross and histological surgical pathology assessments, and post-mortem examinations of the nervous system and associated structures, including brain dissections, as well as diagnostic assessments of neuromuscular biopsies. They provide reports of neuropathological examinations and autopsy findings. In addition, residents will demonstrate responsibility for presenting neuropathology findings at departmental and interdisciplinary case conferences.

Required training experiences (Core stage):

- 1. Clinical training experiences
 - 1.1. Neuropathology
 - 1.1.1. Surgical, adult and pediatric
 - 1.1.1.1. Gross dissection room
 - 1.1.1.2. Microscopic examination and generation of final diagnosis (i.e., sign-out)
 - 1.1.1.3. Intraoperative consultation suite
 - 1.1.1.4. Observation of muscle biopsy handling and gross dissection
 - 1.1.2. Autopsy
 - 1.1.2.1. Adult
 - 1.1.2.2. Pediatric, perinatal and fetal
 - 1.1.2.3. Forensic

- 1.1.3. Diagnostic electron microscopy
 - 1.1.4. Interdisciplinary rounds
 - 1.1.4.1. Central nervous system (CNS) tumour board rounds
 - 1.1.4.1.1. Adult
 - 1.1.4.1.2. Pediatric
 - 1.1.4.2. Other interdisciplinary rounds, which may include:
 - 1.1.4.2.1. CNS grand rounds
 - 1.1.4.2.2. Pathology grand rounds
 - 1.1.4.2.3. Neuromuscular
 - 1.1.4.2.4. Neuroradiology
 - 1.1.4.2.5. Epilepsy
 - 1.1.4.2.6. Stroke
2. Other training experiences
- 2.1. Formal instruction in:
 - 2.1.1. Neuroanatomy and neuroembryology
 - 2.1.2. Molecular pathology
 - 2.1.3. Disorders relevant to Neuropathology
 - 2.1.3.1. Developmental anomalies, including malformations
 - 2.1.3.2. Metabolic, including the effects of toxins and nutrition on the nervous system
 - 2.1.3.3. Infectious
 - 2.1.3.4. Neoplastic
 - 2.1.3.5. Neurodegenerative
 - 2.1.3.6. Vascular
 - 2.1.3.7. Trauma, including relevant forensic aspects
 - 2.1.3.8. Diseases of myelin
 - 2.1.3.9. Diseases of the pituitary
 - 2.1.3.10. Neuromuscular
 - 2.1.3.11. Inflammatory
 - 2.1.3.12. Iatrogenic
 - 2.1.3.13. Ophthalmic
 - 2.2. Maintenance of the Neuropathology program logbook and/or ePortfolio, as relevant
 - 2.3. Provision of formal and informal teaching for other residents, students, or other health professionals
 - 2.4. Critical appraisal activities, such as journal club
 - 2.5. Participation in scholarly activity
 - 2.6. In-training examinations
 - 2.7. Participation in patient safety and quality improvement activities
 - 2.8. Participation in quality assurance activities of the neuropathology laboratory

Recommended training experiences (Core stage):

3. Clinical training experiences
 - 3.1. Ophthalmic pathology
4. Other training experiences
 - 4.1. Attendance and participation in conferences and scientific meetings relevant to neuroscience, neuropathology, neurology, and/or pathology

Optional training experiences (Core stage):

5. Clinical training experiences
 - 5.1. Specific and/or enhanced skills acquisition based on individual interest, career planning, and/or community needs

TRANSITION TO PRACTICE (TTP)

The focus of this stage is the consolidation of skills required to participate in the delivery of neuropathology services as a junior member of staff. This includes managing the daily workload of a neuropathologist and representing Neuropathology in multidisciplinary meetings. During this final stage, residents will also be responsible for supervising laboratory staff and junior learners, as well as participating in quality control and quality assurance activities.

Required training experiences (TTP stage):

1. Clinical training experiences
 - 1.1. Neuropathology
 - 1.1.1. Surgical, adult and pediatric, including intraoperative consultation
 - 1.1.2. Autopsy
 - 1.1.2.1. Adult
 - 1.1.2.2. Pediatric, perinatal and fetal
 - 1.1.3. Afterhours coverage
 - 1.1.4. Interdisciplinary rounds
2. Other training experiences
 - 2.1. Instruction in laboratory management activities
 - 2.1.1. Remuneration and business models
 - 2.1.2. Workload indicators
 - 2.1.3. Legislative, regulatory, and policy frameworks relevant to laboratory practice
 - 2.2. Simulation-based training with a focus on communication skills
 - 2.2.1. Communicating neuropathology results to patients
 - 2.2.2. Medico-legal testimony (e.g., mock trial)

- 2.3. Instruction in the requirements of continuing professional development and maintenance of competence
 - 2.3.1. Development of a plan for continuing professional development
- 2.4. Provision of formal and informal teaching for other residents, students, or other health professionals
- 2.5. Participation in scholarly activity
- 2.6. Participation in an institutional quality assurance program
- 2.7. Participation in professional societies and committees relevant to the discipline

Recommended training experiences (TTP stage):

3. Other training experiences
 - 3.1. Pursue career goals in a specific field of interest
 - 3.2. Participation in the preparation of study proposals for research ethics board review
 - 3.3. Observation of courtroom proceedings

Optional training experiences (TTP stage):

4. Clinical training experiences
 - 4.1. Specific or enhanced skills acquisition based on individual interest, career plan, and/or community needs

CERTIFICATION REQUIREMENTS

Royal College certification in Neuropathology requires all of the following:

1. Successful completion of the Royal College examination in Neuropathology; and
2. Successful completion of the Royal College Neuropathology Portfolio.

NOTES:

The Neuropathology 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.

Alternative Route to Certification

Individuals who are eligible for Royal College certification in Anatomical Pathology or General Pathology may be eligible for an accelerated course of training leading to certification in Neuropathology, based on the achievement of competencies relevant to both disciplines. Assessments of the achievement of relevant competencies will be made on an individual basis by the accepting Neuropathology program director and the associated postgraduate medical education office, following the principles of the Royal College Credentials policy for Competence by Design.

Guidance for residents and programs regarding accelerated training for Anatomical Pathology and General Pathology residents in training or graduates

1. It is strongly recommended that early in their Anatomical Pathology or General Pathology training, individuals who intend to pursue training in Neuropathology contact the program directors of both their current program and the Neuropathology program to declare their intention and discuss how to tailor their training.
2. Relevant professional activities and training experiences during Anatomical Pathology or General Pathology will be reviewed on an individual basis by the accepting Neuropathology program and its postgraduate medical education office and may be credited towards achievement of competence in Neuropathology.
3. Transition to Discipline in the Neuropathology program can be used to verify and document achievement of Foundations and selected Core Neuropathology EPAs and to create an individualized curriculum. If acceptable to the program director in the originating program (i.e., anatomical pathology or general pathology), the final stages of training in that discipline could be used for this purpose as well.
4. Achievement of competence can be demonstrated with an individually tailored assessment plan, since it may not be feasible for these trainees to undergo the number of observations mandated in the current iteration of the EPAs.

MODEL DURATION OF TRAINING

Progress in training occurs through demonstration of competence and advancement through the stages of the Competence Continuum. Neuropathology 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 resident's singular progression through the stages, the availability of teaching and learning resources, or differences in program implementation. Duration of training in each stage is therefore at the discretion of the faculty of medicine, the competence committee, and the program director.

Guidance for programs

The Royal College Specialty Committee in Neuropathology's suggested course of training, for the purposes of planning learning experiences and schedules, is as follows:

2-3 months in Transition to Discipline

18-24 months in Foundations of Discipline

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24-36 months in Core of Discipline

6 months in Transition to Practice

Guidance for postgraduate medical education offices

The stages of the Competence Continuum in Neuropathology are generally no longer than

3 months for Transition to Discipline

24 months for Foundations of Discipline

36 months for Core of Discipline

6 months for Transition to Practice

Total duration of training – 5 years

This document is to be reviewed by the Specialty Committee in Neuropathology by JANUARY 31, 2024.

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