



McGill

**Neurology Residency
Program**
Department of Neurology &
Neurosurgery

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**Adult Neurology Residency Training Program
McGill University
Objectives of Training and Training Requirements**

For Outpatient Neurology Clinics

Outline of the Rotation

During the final six months of training, during PGY5, residents will be assigned to a variety of general neurology and sub-specialty neurology outpatients clinics located at the adult neurology training hospitals. The overall objective of this rotation is to expose senior residents, on a long term basis, to the variety of neurological problems seen on an out-patient basis and to provide exposure to the pace of activity required to efficiently run an outpatient clinic. Residents will be exposed to and understand the importance of continuity of outpatient medical care. As well, residents will gain further experience in: 1) triaging with respect to limited imaging resources, 2) providing immediate clinical feedback to patients and families and 3) summarizing clinical impressions and investigation plans in consultation notes.

It is expected that each resident will attend a minimum of seven half-day clinics per week. Residents will be under the direct supervision of the staff member responsible for the particular clinic. It is expected that residents will have the opportunity to assess new consultations (2 to 3 new patients per half-day clinic) as well as see follow-ups: particularly if the patient has been initially assessed by the resident. Staff will reserve sufficient free time during scheduled clinics in order to review cases with the residents. Residents are expected to dictate consultation notes to the referring physician and/or enter written clinical notes into the patients' charts. Such communications and notes are to be reviewed by the staff supervisor.

1. Medical Expert/Clinical Decision-Maker

General Requirements

- Demonstrate diagnostic and therapeutic skills for ethical and effective patient care.
- Access and apply relevant information to clinical practice.
- Demonstrate effective consultation services with respect to patient care, education and legal opinions.

Specific Requirements

Provide scientifically based, comprehensive and effective diagnosis and management for outpatients with neurological disorders.

Clinical Skills

For a patient with a neurological complaint or disorder, the physician will be able to:

- Obtain a complete neurological history from adults and children obtaining a collateral history where necessary.
- Perform an appropriate physical examination.
- Determine whether a patient's symptoms and signs are the result of an organic or psychological disorder. Where they are due to an organic disorder, the resident must determine whether they result from unifocal, multifocal or diffuse involvement of the nervous system and, where possible, appropriately localize the lesion(s).
- Formulate an appropriate differential and provisional diagnosis.
- Outline an appropriate plan of laboratory investigation.
- Outline an appropriate therapeutic plan.
- Exhibit appropriate clinical judgment in outlining a differential diagnosis and an investigative and therapeutic plan, taking into account matters such as the patient's age, general health, risk and cost of investigative procedures, risk and cost of therapeutic interventions, and epidemiology of the disease.

Technical Skills

- Vestibular testing (Dix-Halpike).
- Identify and describe abnormalities seen in common neurological disorders on plain x-rays, cerebral and spinal angiograms, computerized tomography (CT) of the brain and spinal column, magnetic resonance imaging (MRI) of the brain and spinal column.
- With regard to a specific patient or clinical history, evaluates the relevance of a specific report on the following investigative procedures: electroencephalogram; motor and sensory nerve conduction study; electromyography; evoked responses; electronystagmogram; audiogram; perimetry; psychometry; cerebrospinal fluid (CSF) analysis; plain x-ray; angiogram; ultrasound and CT, MRI scans of the neuraxis.
- Identify and describe gross and microscopic specimens taken from the normal nervous system and from the nervous system of patients affected by the major neurological disorders.

Knowledge

- As a basis for clinical competence, the neurologist must be familiar with and able to describe or discuss:
- the clinical features, including presenting signs and symptoms, natural history, and prognosis, for the major neurological disorders including: neurological complications of systemic diseases, trauma to the nervous system, cerebrovascular disorders, nervous system tumors, infections of the nervous system, demyelinating disorders, anoxic/ischemic and toxic/metabolic encephalopathies, deficiency syndromes, neurocutaneous disorders, dementias, movement disorders, the epilepsy syndromes and clinical seizure types, headache disorders, sleep disorders, neurological disorders of pregnancy, disorders/diseases of the following anatomic structures; cerebellum, cranial nerves, special senses, roots, plexi, peripheral nerves, neuromuscular junctions, muscle
- the clinical features of the major psychiatric syndromes and their known or postulated neurochemical basis
- anatomical and neuro-imaging formats (when technically feasible)
- the anatomic and physiologic basis of the normal neurological examination taking into account the effect of age
- the pathophysiology of neurologic symptoms and signs in the major, primary and secondary neurologic disorders; (examples of these include seizures, spasticity, tremor, aphasia, etc.)

- the basic principles underlying the interpretation of the major clinical tests such as nerve conduction studies, electromyography, electroencephalography, evoked potentials, perimetry, electronystagmography, audiometry, psychometry and CSF analysis; the indications for, and potential value of and limitations and contraindications for, the tests in any clinical situation where their use is being contemplated
- the indications for, side effects and dosages of the major agents used in neurologic therapeutics
- the mechanism(s) of action of the major drugs used in neurological therapeutics
- the teratogenic effects of the major drugs used in neurological therapeutics
- the role of surgery in the therapy of neurological disorders including indications and contraindications for its use
- the role of rehabilitative medicine in the treatment of neurological disorders
- the pathologic changes (gross and microscopic) occurring in the major neurologic diseases
- infectious diseases of the nervous system
- the major bacteria causing nervous system infections including classification, staining characteristics, and antibiotic sensitivities
- the basic principles of clinical genetics
- the basic mechanisms of chromosomal division, and chromosomal abnormalities seen in the major neurological disorders that result from disturbances in these mechanisms
- the patterns of inheritance, where known, of neurological disorders
- the principles underlying and the diagnostic value of gene localization
- the biochemical basis for the major neurologic syndromes resulting from inborn errors of metabolism
- the major neurotoxicologic agents and their effects
- the therapeutic and toxic effects of irradiation on nervous tissue, its role in the treatment of, and its relationship to the production of nervous system disorders

2. Communicator

General Requirements

- Establish therapeutic relationships with patients/families.
- Obtain and synthesize relevant history from patients/families/communities.
- Listen effectively.
- Discuss appropriate information with patients/families and the health care team.

Specific Requirements

Communicate effectively with patients, their families and medical colleagues (particularly referring physicians), and other health care professionals in the outpatient settings. The Neurologist will:

- Communicate effectively and regularly with patients and their families.
- Be considerate and compassionate in communicating with patients and families, willingly provide accurate information appropriate to the clinical situation, with a reasonable attempt at prognosis.
- Communicate effectively and appropriately with nurses and paramedical personnel.
- When ordering investigative procedures, ensure there has been adequate communication about the patient with the person who will actually be doing and/or reporting the diagnostic study.

Counsel patients and others about aspects of prevention of neurologic disorders, including risk factors, and genetic and environmental concerns. The neurologist will:

- Recognize that complete patient care requires that, in addition to the need for making a correct diagnosis, a search for risk factors for the disorder be undertaken.
- Recognize that treatment for a patient with a neurological disorder may require in addition to specific medical and surgical interventions, the elimination of risk factors and genetic counselling.

3. Collaborator

General Requirements

- Consult effectively with other physicians and health care professionals.
- Contribute effectively to other interdisciplinary team activities.

Specific Requirements

Be an effective teacher of other physicians , particularly the referring physician, as well as a teacher to the patient and family members.

4. Manager

General Requirements

- Utilize resources effectively to balance patient care, learning needs, and outside activities.
- Allocate finite health care resources wisely.
- Work effectively and efficiently in a health care organization.
- Utilize information technology to optimize patient care, life-long learning and other activities.

Specific Requirements

Be proficient in professional skills related to the specialty in the outpatient setting.

Demonstrate the following professional skills in time management:

- Recognize that effective use of time depends upon punctuality.
- Recognize that effective use of time requires planning.
- Develop speed as well as accuracy in clinical skills.
- Reserve time for reading and keeping current with the neurological literature.
- Establish routines for carrying out regular activities and adhere to them.

Maintain complete and accurate medical records:

- Record and maintain a complete and accurate medical record for every patient seen; this record will include the patient's history and the findings on physical examination (including the neurological

examination), a differential diagnosis, a provisional diagnosis, a plan for management, appropriate progress notes, and a comprehensive discharge summary.

Effectively coordinate the work of the health care team:

- Indicate, by the treatment plan, that for the optimal treatment of many patients with neurological disorder, a team approach is necessary -- members of the team may include nurses, rehabilitation personnel (physiotherapists, occupational therapists, speech therapists, etc.), psychologists, social workers, etc.
- Identify where an important role(s) can be played by disease focused lay groups with regard to helping the patient and/or family and to facilitate its happening.

5. Health Advocate

General Requirements

Identify the important determinants of health affecting patients.

Contribute effectively to improved health of patients and communities.

Recognize and respond to those issues where advocacy is appropriate.

Specific Requirements

Learn about community resources and related patient support groups; provide assistance to access programs (e.g. home care, occupational and physiotherapy, drug plans, application for nursing homes etc) and participate in their activities.

Educate, be able to generate and access information (e.g. printed material, video tapes web sites) and be available as a resource person to counsel patients effectively on neurological disorders.

Counsel patients on the importance of taking responsibility for their own well-being and recognize the important determinants predisposing to neurological disorders (e.g. risk factors for transient ischemic attack (TIA) and stroke, teratogenic effects of anti-epileptic drugs).

Understand the role of national and international bodies(e.g. Alzheimer, Stroke, Multiple Sclerosis Societies) in the promotion of neurological health, and the prevention, detection, and treatment of neurological disorders.

6. Scholar

General Requirements

Develop, implement and monitor a personal continuing education strategy.

Critically appraise sources of medical information.

Facilitate learning of patients, house staff/students and other health professionals.

Contribute to development of new knowledge.

Specific Requirements

Be able to critically assess the neurological literature as it relates to patient diagnosis, investigation and treatment:

- Develop criteria for evaluating neurological literature.
- Critically assess the neurological literature using these criteria.
- Be familiar with the design of experimental and observational studies, especially randomized controlled trials.
- Be able to calculate absolute risk reductions, relative risk reductions and numbers needed to treat or harm.

7. Professional

General Requirements

Deliver highest quality care with integrity, honesty and compassion.

Exhibit appropriate personal and interpersonal professional behaviours with patients/families, peer residents and other health care professionals.

Practice medicine ethically consistent with obligations of a physician.

Specific Requirements

Demonstrate personal and professional attitudes consistent with a consulting physician role:

- Periodically review his/her own personal and professional performance against national standards set for the specialty.
- Be willing to include the patient in discussions concerning appropriate diagnostic and management procedures.
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved.

Be willing and able to appraise accurately his/her own professional performances and show that he/she recognizes his/her own limitations with regard to skill and knowledge by appropriately consulting other physicians and paramedical personnel when caring for the patient.

Be willing and able to keep his/her practice current through reading and other modes of continuing medical education and develop a habit of maintaining current his/her clinical skill and knowledge base through continuing medical education.