Department of Neurology and Neurosurgery Clinical and Research Fellowship Application Form

Type of Fellowship

One year EEG Fellowship at the Montreal Neurological Institute and Hospital.
Number of positons: 1
Name of Fellowship Supervisors Frédérick Andermann, MD
François Dubeau, MD
Jean Gotman, PhD
Jeff Jirsch, MD
Bernard Rosenblatt, MD

Fellowship Information

This is a one year fellowship concentrating on EEG in the adult population: Montreal Neurological Hospital and Montreal General Hospital (9 months) and Montreal Children Hospital (3 months).

Fellowship includes training in the acquisition and interpretation of EEGs across the age range from neonate to adult. The trainee will learn the basic underlying neurophysiology and the neuroanatomy of the electroencephalogram and gain an understanding of the basic mechanisms in a variety of neurological and neurosurgical disorders including epilepsy, degenerative, infectious, toxic-metabolic, traumatic and vascular disorders. The trainee will review: normal features of the EEG from the neonatal period to adolescence and adulthood; EEG abnormalities in epileptic disorders, structural lesions of the brain, metabolic, infectious and degenerative disorders; and effects of drugs and other substances on EEG activity. The candidate will also be given exposure to EEG in epileptic patient monitored both with scalp EEG and invasive intracerebral EEG recordings, to EEG in the neuro-intensive care unit for critically-ill patients in status epilepticus, with subarachnoid hemorrhage due to ruptured aneurym, in coma or unexplained confusional state, and in trauma patients in surgical ICU (Dr Jirsch, MGH), and to EEG in the operating room (electrocorticogram).

Research may include work in EEG and neuroICU, in epilepsy EEG monitoring, invasive EEG and EEG/fMRI (F Dubeau and J Gotman), in EEG monitoring in trauma patients (J Jirsh) and in magnetoencephalography (E Kobayashi).

Names of the Teaching Faculty

- F Andermann, M Aubé, A Bernasconi, F Dubeau, E Kobayashi, M Veilleux and I Woods (MNH) – adult EEG.
- J Jirsch (MGH) – adult EEG.
- J Gotman (MNI) – scalp and invasive intracerebral EEG monitoring, EEG/fMRI and source localization.
- F Andermann, ME Dilenge, C Poulin, B Rosenblatt and B Zifkin (MCH) – pediatric EEG and Evoked Potentials.

The teaching faculty has a broad range of experience in electroencephalography and continuous EEG monitoring, co-registered EEG/fMRI, magnetoencephalography and intra-operative EEG monitoring. The department has expertise in clinical care, teaching and research that covers a broad area of clinical neurophysiology, epilepsy, epilepsy surgery, ICU monitoring and EEG/fMRI.

Academic Facilities

The EEG fellowship ties in with the adult epilepsy and neurology training programs with availability of academic half day, neurology and neurosurgery rounds (weekly) and epilepsy conferences (weekly), and with a research group lab meeting (weekly). There is an active research program offering resources for fellowship trainees doing a clinical research project in electrophysiology related to epilepsy, trauma or neuro-ICU (Drs F Dubeau, J Gotman, J Jirsch, E Kobayashi). The EEG department at the MNH benefits of the expertise of highly qualified EEG technicians who help trainees and fellows learning the various technical aspects of EEG recording. Library access and materials relevant to fellowship training are available easily 7-days/week.

Fellow Duties and Responsibilities

The EEG Clinical Neurophysiology fellow participate in the EEG lab activities and is responsible for the interpretation, reading and report on routine and continuous EEGs performed every day (there are ~ 4000 routine and continuous EEGs performed per year at the MNH, and another ~ 1500 routine EEGs from outside hospitals). There are no on-call requirements during this fellowship.

The fellow will supervise residents rotating through the EEG lab from the adult neurology or child neurology programs who spend a month at a time learning some basics of electroencephalography. The fellow will also be organizing the epilepsy conference (EEG review and presentation, Thursday at 16h30) and will prepare a summary of EEG findings on patients in the Epilepsy Monitoring Unit for the weekly epilepsy unit meeting (Monday at 11h00).

The Head technician at the MNH is Mrs Guylaine Potvin. The fellow will work closely with EEG technicians particularly together with those in charge of the Epilepsy Monitoring Unit. The fellow will help supervise the care and management of in- and out-patients who present to the EEG department for EEG tests. The fellow will participate in the decision-making process for patients admitted to the Epilepsy Monitoring Unit, to the neuro-ICU or medical and surgery ICU; for instance, they will help determine when and for how long patients would need urgent EEG or continuous EEG monitoring. They will respond to urgent EEG interpretation and provide preliminary interpretation when necessary. The fellow will also respond to calls for per-operative ECoG performed during elective epilepsy surgery

It is expected that the fellow will attend the weekly lab meeting of the research group, supervised by Dr J Gotman, every Friday 16h00. It is also expected that the fellows would be integrated in an on-going or new research project.

Evaluation

The fellow will be evaluated on a daily basis and given feedback as he or she learns to read EEGs with various staff members. We will use monthly evaluations using the neurology resident evaluation form and a final evaluation will be given at the end of the year of training.

McGill

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Department of Neurology & Neurosurgery

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Department of Neurology and Neurosurgery
EEG and Epilepsy Fellowship (General and Specific Objectives)

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 patients with epilepsy.

Clinical:

For a patient with epilepsy or allied disorder, the resident 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 a disorder related to epilepsy.
- Formulate an appropriate localization, differential and provisional diagnosis of epilepsy if appropriate.
- 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

- To learn/review detailed, practical anatomy of epilepsy.
- Other technical skills related to fellowship in EEG.

Knowledge

- Acquire and understand the neuroanatomic principles and pathological substrates of EEG and epilepsy.
- Become familiar with the neurophysiological principles, the basic mechanisms related to epilepsy.
- Learn the major categories or classifications related to epilepsy.
- Learn clinical neuropharmacology related to epilepsy.
- Acquire expertise in the decision making related to epilepsy.

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 both the inpatient and outpatient settings. The resident 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.
- Learn to write concise reports of the clinical findings with conclusions and recommendations comprehensible to the non-specialist.
- Communicate effectively and appropriately with the 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.

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 (including medical students and house officers), other health care personnel, and patients. The resident will:

- Provide instruction to medical students and more junior physicians at a level appropriate to their clinical education and professional competence.
- Willingly share knowledge with others with whom they are associated, thus ensuring the most effective delivery of health care to patients.

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 diagnosis and treatment of epilepsy.

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, 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 *f*amily 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 worsening of neurological status

Understand the role of national and international bodies (e.g. ILAE, American Epilepsy Society, AAN) in the promotion of neurological health, and the prevention, detection, and treatment of peripheral nervous system 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.

Be able to participate in clinical or basic science studies as a member of a research team:

- Be able to describe principles of good research.
- Use the above principles, and be able to judge whether a research project is properly designed.
- Be prepared to present research findings to peers at local, national or international conferences.

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.