

Frederick Andermann Fellowship in Epileptology and EEG

Type of Fellowship

Clinical and Research Fellowship in Epileptology and EEG: **2 years.**

Number of positions: 1 or 2 per year, depending on funding

Name of Fellowship Supervisors

Dr Eliane Kobayashi, MD, PhD

Dr François Dubeau, MD

Fellowship Information

This is a two-year fellowship combining clinical epileptology and EEG in the adult population and a research project, at the Montreal Neurological Hospital and Institute. This two-year clinical and research fellowship aims to provide the candidate with knowledge on the basic principles in clinical epileptology and EEG, and to allow her/him developing basic skills in clinical research (it is expected that her/his research project will be presented in scientific meetings as an abstract and that a manuscript will be prepared for publication). At the end of this fellowship, it is expected that the trainee will be able to act as an independent epileptologist in an academic environment. During the first year, the fellowship includes a clinical rotation in the Epilepsy Unit (8 beds), participation to outpatient epilepsy clinics and a training in the acquisition and interpretation of EEGs in adults with epilepsy. The trainee will learn the mechanisms and classification of the Epilepsies and seizure types, their aetiologies, differential diagnosis, management and medical treatment and indications for surgical therapy. She/he will become familiar with the basic principles of the pharmacotherapy of the epileptic seizures. It is also expected that she/he will become familiar with basic underlying neurophysiology and the neuroanatomy of the electroencephalogram and have an understanding of the basic mechanisms involved in epilepsy. The trainee will review EEG abnormalities in epileptic disorders, will 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, and to EEG in the operating room (electrocorticogram). There will be a possibility of 3-month rotation in paediatric EEG at the Montreal Children Hospital (supervisor: Dr Bernard Rosenblatt). Candidate will benefit from an introductory exposure to Magnetoencephalography and Near Infra-Red Spectroscopy (NIRS), to high-resolution and post-processing MR imaging, Positron Emission Tomography, Neuropathology in epilepsy and to the basic principles of the neuropsychological evaluation. Candidate will also have an introductory exposure to clinical genetics related to epileptic disorders. During the first year but more specifically during the second year, the trainee will be involved in the preparation and development of a research project.

Name of the Teaching Faculty

- F Andermann, M Aubé, A Bernasconi, F Dubeau, E Kobayashi, M Veilleux and I Woods: clinical adult EEG.
- J Gotman, C Grova, E Kobayashi, JM Lina and F Dubeau: scalp and invasive intracerebral EEG monitoring, EEG analysis, EEG/fMRI, prediction and detection of seizures and source localization.

- C Grova, E Kobayashi and JM Lina: Magnetoencephalography and Near Infra-Red Spectroscopy.
- A Bernasconi and N Ladbon-Bernasconi: structural neuroimaging.
- E Kobayashi, P Rosa-Neto and JP Soucy: functional neuroimaging.
- M Jones-Gotman, V Sziklas and J Crane: neuropsychology.
- E Kobayashi, E Andermann and F Andermann: genetics of the epilepsies, phenotype/genotype studies in familial epilepsies.
- M Avoli and P Seguela: basic neurophysiology and experimental epilepsy models.
- J Hall and A Olivier: neurosurgery.
- B Rosenblatt: paediatric EEG.

The teaching faculty has a broad range of experience in clinical epileptology, EEG and continuous EEG monitoring, co-registered EEG/fMRI, magnetoencephalography, intraoperative EEG monitoring, high-resolution MR imaging and functional imaging, genetics and in basic neurophysiology. The Epilepsy Group has expertise in clinical care, teaching and research that covers a broad area of clinical and basic neurophysiology, epilepsy, epilepsy surgery, ICU monitoring, EEG/fMRI, structural and functional neuroimaging, genetics and neuropsychology.

Academic Facilities

The clinical epilepsy fellowship ties in with the EEG service and neurology training programs with weekly 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 related to epilepsy. Library access and materials relevant to fellowship training are available 7-days/week. The Montreal Neurological Institute and Hospital provides a unique environment for trainees with experts in clinical and basic neurosciences touching a large spectrum of interests and regularly interacting.

Fellow Duties and Responsibilities

During the first year:

The fellow participates in the Epilepsy Unit activities and is responsible for the management of patients admitted at the EMU and of patients with epilepsy disorders seen in consultation. The fellow is also involved in the interpretation and reading on continuous EEGs performed every day at the EMU, including invasive intracerebral studies. They may be on-call requirements during this fellowship. The fellows will help supervising residents doing rotation through the Epilepsy Monitoring Unit and EEG lab from adult or child neurology or neurosurgery programs who spend a time learning basics of clinical epileptology or electroencephalography. The fellow will also be organizing epilepsy conference (case presentation, EEG review and presentation, Thursday at 16h00) and will prepare a summary of EEG findings on patients in Epilepsy Monitoring Unit for the weekly epilepsy unit meeting (Monday at 11h00). The fellow will work closely with EEG technicians particularly with those in charge of the Epilepsy Monitoring Unit. She/he will participate to the decision-making process for patients admitted at the Epilepsy Monitoring Unit and to the neuro-ICU. Fellow will also respond to calls for per-operative electrocorticograms performed during elective epilepsy surgery. The fellow will become familiar with at least some of the research projects taking place in the Epilepsy Group, write a research proposal and start the research project.

During the second year:

The fellow will devote most of her/his time to a research project. The candidate will still participate to the different meetings, conferences or courses, and it is expected that she/he will help supervising residents and other junior fellows. It is expected that the research project will be presented at scientific meetings and will lead at least to one publication in a top international journal. The fellow will be the first author of this paper and should submit it prior to the end of the second year.

Evaluation

The fellow will be evaluated on a regular basis and given feedback as she/he learns with various staff members. We will use 3-month evaluations following the neurology resident evaluation form and a final evaluation will be given at the end of each year of training.

Eliane Kobayashi, MD, PhD
François Dubeau, MD,
Program Directors.

30-Jun-2011



Department of Neurology and Neurosurgery
Frederick Andermann Fellowship in Epileptology and EEG: Two-year Fellowship
(General and Specific Objectives)

The objectives of this fellowship are similar to that of the one-year Fellowship in Clinical Epileptology and EEG. The second year of the fellowship, however, emphasizes the preparation and development of a research project.

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 epileptic seizures and 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 classification, localization, differential and provisional diagnosis of epilepsy and epileptic seizures and their cause(s).
- 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 including routine and sleep EEG recordings, and non-invasive and invasive continuous EEG recording methods (detailed in objectives of EEG fellowship).

Knowledge

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

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 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 worsening of neurological status

Understand the role of national and international bodies (e.g. CLAE, CCNS, CSCN, ILAE, AES, AAN, etc.) in the promotion of neurological health and in the prevention, detection, and treatment of 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 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 professional performances and show that he/she recognizes his/her 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.