

Elective: Pediatric Neurology; Department of Pediatrics and Child Health

OVERVIEW

The Section of Pediatric Neurology offers a unique opportunity for the medical student to experience the specialty of pediatric neurology. The student will be exposed to a combination of in-patient and out-patient pediatric neurology consultation services, sub-specialty didactic rounds, and opportunities to learn some pediatric neurology related procedures, such as lumbar puncture and basic electrophysiology. Teaching within the department is done one to one and each student will be assigned, for several consecutive days to a Pediatric Neurology Staff during in-patient service and to a different staff person in out-patient clinics.

Duration

Variable length of time from a minimum of two weeks to a maximum of four weeks, in the Section of Pediatric Neurology at the Children's Hospital Winnipeg.

Availability

In general, the rotation is available throughout the year, however, if two trainees are already assigned to a given period of rotation, we will not be able to accept another trainee during that time to ensure adequate one in one learning experience.

Call Responsibility

On call is not required

Locations

1. Section of Pediatric Neurology, AE 308, 820 Sherbrook Street, Childrens Hospital Winnipeg
2. Children Clinic, Unity Y, Childrens Hospital Winnipeg
3. Inpatient Units, Childrens Hospital Winnipeg

Preceptors

1. Dr. Michael Salman
2. Dr. Mubeen Rafay
3. Dr. Edward Leung
4. Dr. Samantha Marin
5. Dr. Aoife O'Carroll
6. Dr. Helen Xu

Contact Person

Dr. Samantha Marin
Assistant Professor and Teaching Coordinator
Section of Paediatric Neurology
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Elective: Pediatric Neurology; Department of Pediatrics and Child Health

LEARNING OBJECTIVES (CanMEDS)

Medical Expert

1. Demonstrate knowledge of the clinical, socio-behavioural, developmental and fundamental biomedical sciences relevant to resolving common pediatric neurology clinical problems.
2. Have reasonable understanding of etiology, diagnosis, management, natural history and prognosis of common neurologic disorders. These may include, but not limited to, the following:
 - a. Classification and management of seizures and epilepsy, including management of status epilepticus, and differential diagnosis of children presenting with episodic events such as breath holding spells, faints, tics and other movement disorders
 - b. Diseases presenting with sudden change in neurological status which could include coma, brain death, expanding intracranial lesions, raised intracranial pressure and cerebrovascular diseases including intracranial hemorrhage and strokes
 - c. Diseases of muscle, neuromuscular junction and peripheral nerves (e.g. muscular dystrophies, myopathies, floppy infant)
 - d. Approach to developmental delay and regression
 - e. Congenital malformations of the nervous system, including the skull
 - f. Localization of lesions in the central nervous system
 - g. Neurocutaneous syndromes
 - h. Headaches in childhood, including migraine
 - i. Infections (meningitis/encephalitis/abscess) and autoimmune disorders of the CNS (autoimmune encephalitis/CNS vasculitis).
 - j. Nystagmus, dizziness, vertigo and sensory deficits, i.e. blindness, deafness
3. Practice and develop skills of clinical examination and presentation (i.e. summary of history, physical examination with discussion of differential diagnosis and management).
4. Gain knowledge of the principles of neurophysiological, neuroradiological and neurometabolic investigations pertinent to Pediatric Neurological practice.
5. Develop skills in working with pediatric patients, parents/caregivers and other involved physicians.

Communicator

1. Gather information appropriate to pediatric neurology problems from children, adolescents, and families in a manner that is culturally sensitive, developmentally appropriate and family focused. Gather information not only about the disease but also about the patient's beliefs, concerns and expectations about the disorder.
2. Present pediatric neurology case history and examination to his/her supervising staff and other team members in a clear, concise and accurate manner.
3. Prepare written documentation for patients seen on both in-patient and out-patient pediatric neurology service in a clear, timely, accurate and organized manner.
4. Demonstrate the ability to counsel parents appropriately and effectively regarding a new neurological diagnosis or disorder and its prognosis.

Elective: Pediatric Neurology; Department of Pediatrics and Child Health

5. Demonstrate appropriate interviewing skills; communicate at an appropriate level with patients and families.
6. Demonstrate compassion and empathy by listening attentively, respond humanely to the concerns of patients and family members, understanding and recognizing their emotional and personal needs.

Collaborator

1. Establish and maintain a productive and responsible relationship with patients and families seen both on inpatient and outpatient pediatric neurology services.
2. Obtain and provide information and collaboration with the patient's primary care provider(s) in the community for continuity of care for patients with pediatric neurological problems and conditions.
3. Collaborate effectively and appropriately with other members of the health care team, demonstrating respect for their professional roles.

Manager

1. Demonstrate commitment to complete an accurate medical record for patients seen during the pediatric neurology rotation.
2. Demonstrate the ability to effectively coordinate the work with pediatric neurology team members, including nurse clinicians, secretaries, clinical clerks, and EEG technologists.
3. Recognize the importance of patient flow and increased efficiency, both on in-patient and outpatient neurology clinics.
4. Demonstrate an understanding of the importance of time management. Exhibit appropriate time management skills, with ability to prioritize, delegate and manage tasks.
5. Use information technology to effectively optimize patient care.
6. Demonstrate knowledge of the Canadian health care system and use of health care resources as it relates to complex pediatric neurological disabilities.

Health Advocate

1. Recognize opportunities to advocate for patients and their families children with complex and chronic neurological problems in improving the flow of patients through the health care system.
2. Recognize the importance of community services for patients with complex and chronic neurological problems (school, recreation, transportation) in the health of a community.
3. Demonstrate and promote active involvement of patients and families in medical decision-making and comprehensive care of the child.
4. Work with the patient and family to obtain needed services for care and ongoing family support.
5. Recognize that the health care needs of children are different from adults and change throughout the developmental continuum.

Scholar

1. Contribute to the creation, dissemination, application and translation of new medical knowledge and practice relevant to pediatric neurological disorders.
2. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others as appropriate.
3. Evaluate information and its sources critically and apply this appropriately to practice decisions.
4. Recognize gaps in knowledge and expertise and develop strategies for improvement.

Elective: Pediatric Neurology; Department of Pediatrics and Child Health

5. Seek out and receive feedback well with a goal of incorporating constructive feedback into clinical practice.

Professional

1. Demonstrate personal and professional attitudes consistent with a pediatric neurology subspecialist's role, including honesty, integrity, commitment, compassion and respect
2. Have a basic understanding of the principles of medical ethics and application to the care of pediatric neurology patients, and related to the issues of best interest, confidentiality, conflict of interest and access to care for children with complex and chronic neurological disorders
3. Demonstrate respect for others and diversity, including but not limited to patients, families, other physicians and professional colleagues; treat all persons with respect and regard for their individual worth and dignity in a fair and non-discriminatory manner; demonstrate awareness of emotional, personal, family and cultural influences on patient well-being and patients' rights and choices of medical care.
4. Recognize personal limitations and act upon them to always optimize patient care and safety. Demonstrate willingness to accept responsibility for errors.
5. Seek advice when necessary and accept advice graciously.
6. Show motivation and ability to learn.
7. Demonstrate a commitment to delivering the highest quality of care and to maintenance of competence.

INFORMATION

Out-Patient Clinics

These are held on Monday and Wednesday mornings from 8:30am – 12:00pm in Children's Clinic, Unit Y. You will be assigned to one staff member for Monday and Wednesday morning clinics. For most medical students, you will act as an OBSERVER in the Pediatric Neurology Clinic.

In- Patient Consult Service

Ward rounds with staff generally commence at around 9:00 am on non-clinic days but on clinic days, the rounds may occur after clinic in the afternoon (around 1:00 p.m.). Medical students are expected to have rounded *prior* to rounds with the staff, usually between 8:00 am - 9:00 am on non-clinic days and 7:30 - 8:30 am on clinic days. It is expected that the medical student have written progress notes in patients charts.

All new inpatient consultations to Pediatric Neurology Service will be reviewed by the on call Pediatric Neurologist. You may be assigned see new inpatient consultations. If you are assigned a consultation, we would recommend trying to complete a history and physical examination within 60-70 minutes, where possible.

Elective: Pediatric Neurology; Department of Pediatrics and Child Health

Teaching sessions

1. **Clinical Pediatric Neurology Rounds:**
 - a. Tuesday, 15:00 – 16:00 in CH181-3 (across from clinic Y)
 - b. During your rotation, you will be asked to present a topic of your choice once (typically the last Tuesday of your rotation)
 - c. Please discuss potential topics with Dr. Marin prior to your presentation
2. **Pediatrics Grand Rounds:**
 - a. Thursday, 8:00- 9:00 in Theater A
3. **Neuroradiology Rounds:**
 - a. Thursday, 11:30 – 12:30 in MRI reading room
 - b. All neuroimaging studies will be reviewed (predominantly inpatient, some outpatient images)
4. **EEG Teaching Session:**
 - a. This will be arranged with our EEG Technologists on your arrival
 - b. This will typically be scheduled for 1 hour on the 1st Friday of your rotation from 8:00 – 9:00
 - c. This will involve reviewing how an EEG is done and looking at how they are interpreted
5. **Seizure Safety Teaching:**
 - a. This is to be arranged with one of our Nurses (Ingrid, Daisy, or Gail)
 - b. Please ask them to page you when they have a teaching session planned during the time you are on service with potential times
6. **Neuroscience Rounds:**
 - a. Friday, 8:00 – 10:00 in Psych Building, 2nd floor conference room
 - b. The first hour is typically a case presentation by an adult neurology or neurosurgery resident, the second hour is typically a didactic session that may be pediatric or adult focused
 - c. Please discuss the topics with your staff prior to the session and decide with the staff on call if it is beneficial for you to attend
7. **Epilepsy Surgery Rounds:**
 - a. Every other Friday, 14:00 – 15:00 in CancerCare, 2nd floor conference room
 - b. Patients who are epilepsy surgery candidates will be presented in front of Pediatric Neurologists, Adult Epileptologists, Radiologists, Pathologists, Neuropsychologists
 - c. Decisions will be made regarding next steps in management
8. **Brain Tumor Rounds:**
 - a. Every other Friday, 13:00 – 14:00 in CancerCare, 2nd floor conference room
 - b. Pediatric patients with brain tumors are discussed, particularly with reference to pathology and ongoing management plans

SUGGESTED READINGS/ASSIGNMENTS/PROJECTS

- Neurological Examination Made Easy – Fourth Edition by Geraint Fuller
- Aids to the Examination of the Peripheral Nervous System – Fifth Edition
- Textbooks of Child Neurology: a) Fenichel, b) Menkes; c) Swaiman; d) Aicardi
- Neurology of the Newborn: Volpe.

Elective: Pediatric Neurology; Department of Pediatrics and Child Health

- Netter's Concise Neuroanatomy - Michael Rubin and Joseph E. Safdieh
- Childhood Epilepsy, Management from Diagnosis to Remission - Richard Appleton and Peter Camfield.
- Epilepsies of Childhood (3rd Edition) - O'Donohue.
- The Developing Human - Clinically Oriented Embryology; Moore.
- Selected videotapes available through Pediatric Neurology office.

EVALUATION/FEEDBACK – FIRST DAY/EXIT INTERVIEWS

The Teaching Coordinator in the Section of Pediatric Neurology reviews the expectations, goals and objectives for the rotation, particularly in relationship to the CanMEDS competencies.

An interim evaluation is provided midway through each rotation. A final face to face evaluation is provided at the end of the rotation. The resident is evaluated by each service attending with whom he or she has been on-service. The supervising faculty (Teaching coordinator/Program director in the Section of Pediatric Neurology) will be responsible for obtaining and reviewing these evaluations and providing face-to-face feedback to the trainee at the end of each rotation. Academic credit for this rotation will only be granted upon the completion of the evaluations of the trainee within ten business days of the end of the rotation.