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Introduction

Welcome to your rotation in Paediatric Neurology. We hope your rotation is an educational and enriching experience. Enclosed in this introductory manual is a description of our section including clinical and academic activities, expectations and objectives of the rotation and a description of the evaluation process. We have also provided a useful list of reading material that will help you fulfill your educational objectives.

On the first day of your rotation, you will meet with Dr. Andrade to go over the rotation, expectations and objectives. Please come prepared with 3 personal learning objectives to discuss at this meeting.

During your rotation we would encourage you to complete 1-2 observed histories and physicals. It would be best to arrange a time for these in the first week with any of the

faculty in Paediatric Neurology. If you require assistance in arranging these, please let Dr. Andrade know.

Staff List:

Paediatric Neurology Faculty:

Dr. Andrea Andrade (Educational Director) - Medically refractory epilepsies, epilepsy surgery, EEG and stroke (15215)

Dr. Craig Campbell (Section head) - Neuromuscular disorders and headaches (17367)

Dr. Simon Levin- Neonatal neurology, movement disorders (14634)

Dr. Janette Mailo- Cerebral palsy clinics and community general neurology (15455)

Dr. Narayan Prasad-Neurometabolic disorders, epileptic encephalopathies, ketogenic diet (14132)

Nurse Practitioner

Margo Devries-Rizzo- headache clinic, epilepsy surgery, comprehensive epilepsy clinics (17359)

Clinical Fellows:

Dr. Ahmad Alanezi (Pediatric Neurology fellow) (18671)

Dr. Eugenio Zapata (Neuromuscular fellow)

EEG Technologists;

Giannina Holloway

Vinita Thomas-Achankunju

Vince Gauthier

Nurse Case Managers:

Brad Ferris, RN (Peds-EMU and outpatient)

Social Worker:

Cara Gordon

Administrative assistants:

Kara Bigelow (Dr. Levin, Dr. Prasad and epilepsy program coordinator)

Zena Jaworski (Dr. Andrade, Dr. Campbell and peds neuro-educational coordinator)

CLINICS:

There are pediatric neurology clinics every day; each faculty/section member has her/his own clinics. Dr. Levin, Dr. Prasad and Margo Devries-Rizzo, NP run their clinics in the PMDU area. Dr. Andrade and Dr. Campbell run their clinics in the B2-Smile Zone area. All the clinic charts are prepared in advance by the admin assistants.

There are also comprehensive/complex care clinics run by different members of the staff:

1. Neurometabolic Clinics (Dr. Prasad/B5 Genetics Clinic)
2. Neuromuscular Clinics (Dr. Campbell/Dr. Zapata- B2 “Smile Zone space”)
3. Movement Disorders Clinic (Dr. Levin/Dr. Jenkins- PMDU)
4. Comprehensive Epilepsy Clinic-CEC (Dr. Andrade/Margo Devries-Rizzo N.P-B2 space)
5. Stroke Clinic (Dr. Andrade)
6. Headache Clinic (Margo Devries-Rizzo, NP)

Before you start your rotation you will receive a clinic schedule where you have been assigned and you are expected to participate.

PLEASE KINDLY LET US KNOW IN ADVANCE IF YOUR OTHER CLINICAL OR ACADEMIC DUTIES INTERFERE WITH ANY OF YOUR ASSIGNED CLINICS SO WE CAN FIND BACK UPS IN ADVANCE.

WARD:

Pediatric Neurology is typically a consulting team (except for Peds-EMU/See below section). We receive consultation requests on a daily basis from CTU (general peds), pediatric ICU, Neonatal ICU and pediatric emergency department.

Residents in the ward are expected to complete consults, write progress notes and follow up on those patients, communicate suggested plan with the primary team, assist the primary team organizing testing when warranted, attendance to family meetings of the patients they are following.

Formal weekly handover happens every Monday at 8:30 AM in the B2-conference room (B2-208) **(ALL TRAINEES ARE EXPECTED TO ATTEND INDEPENDENTLY IF THEY ARE ASSIGNED TO WARD OR TO CLINICS, IF FOR UNEXPECTED REASONS YOU CAN NOT ATTEND PLEASE NOTIFY THE CONSULTANT ON CALL AND DR. ANDRADE)**

PEDS-EMU (PEMS)-

The pediatric epilepsy monitoring unit (service) consists of prolonged vEEG recordings that can last from 24 hours up to a week. The aim of the Unit is to improve the diagnostic yield of children with paroxysmal events and possible epileptic seizures characterizing these events on vEEG.

Video-EEG is also the first step evaluating children who are potential candidates for epilepsy surgery.

The Peds EMU admits around 4 patients per week, these admissions are elective and are scheduled by the epilepsy program coordinator (Kara Bigelow), these patients are pediatric neurology primary patients which means the resident/medical student rotating in the ward is in charge to admit, place orders and write progress notes and discharge summary for each of these patients.

The cases are reviewed on a daily basis by the ward team, and a close communication with Dr. Andrade (pediatric epileptologist who reads the study) is essential in order to decide the duration of stay, changes in medications and any other plan. The trainees are welcome to stop by and review the cases with Dr. Andrade if time allows.

Academic Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
A M	8:30: 9:30 AM (EVERY MONDAY)B2- Smile Zone morning handover (All trainees and all faculty)	7:00-8:00 SEIZURE CONFERENCE (First Tuesday of the month) 8:00-9:00 CNS Rounds (UH, Auditorium A)	800: Pediatric Grand Rounds 830: B6-100	8:00-900: PINCC Rounds (Smile Zone, last Thursday of the month)	8:00-9:00 EPILEPSY ROUNDS (UH- Aud C) 11:12- Peds Neuroscience Rounds (Smile Zone B2)
P M					Informal case based teaching (Smile Zone) Time variable

Resident Expectations:

CLINIC- The focus of the rotation in the clinics is to expose the trainee to the most common pediatric neurology chief complaints coming from pediatricians and GPs in the community. The clinic encounters will allow the trainee to obtain a history that is focused in the chief neurology question, the trainee will also learn to complete and interpret the findings of a neurological exam in a child, and to generate a comprehensive plan with the supervision and teaching from faculty. The trainee is responsible for completion of clinic dictations and placing orders for patients seen in the clinics. It is advisable that the trainee reviews the clinic charts in advance and read about the patient's specific problem.

WARD/PEDS-EMU- During the ward week, the trainee will be exposed to the most common acute neurological problems, acute decompensations in chronic patients, neurological emergencies, neuropharmacology, neuro-imaging interpretation, neuro intensive care, and neonatal neurology. The trainee will learn the variations of neurological exam in different settings (ER, ICU, and NICU). During this time, the trainee will complete all the consults and present to the attending on call, follow up on these patients and write progress notes, making sure there is a follow up plan for the patients upon discharge. The trainee on the ward will be also in charge for the Peds EMU, where she/he will be exposed to different types of pediatric epilepsies and paroxysmal disorders, management of anticonvulsants, and EEG basics. The trainee will learn how to obtain detail seizure semiology and epilepsy history, the trainee will become familiar with the most up to date seizure and epilepsy classification systems and the use (dosages, indications, interactions and side effect profile) of anticonvulsants. Residents are responsible for teaching medical students and junior learners and to supervise their consults and progress note prior to presenting to the faculty.

ACADEMIC EXPECTATIONS-

During their time in pediatric neurology, the pediatric resident will be required to prepare one case based presentation on a Friday Peds Neuroscience rounds, the schedule date will be given to residents in advance, so please stay tuned and have a case ready for presentation. The trainee can schedule some time with members of the faculty to go over their presentations.

The adult neurology resident will be required to prepare two case based presentations for Pediatric Neuroscience rounds during their 3 month rotation.

Clerkship Expectations:

Clerks are expected to spend one week on the ward and one week on the clinic. Clerks must attend Monday morning handover.

During their ward week, clerks are responsible to complete consultations and present to the faculty. They should go over the cases in advance with the residents. Clerks must be present during inpatient rounds when they are in the ward.

During their clinic week, clerks are expected to read the charts in advance, complete a full H&P and present the case to the faculty. The clerk is responsible for dictating all the patient reports that she/he saw in clinic in a timely manner. Clerks can write orders that must be reviewed and co-signed by the faculty running the clinic.

Objectives of the Rotation

1. To develop an approach to the following clinical problems:
(History, physical exam, investigations, differential diagnosis, management plan)

A. Seizures and epilepsy

1. Febrile seizures
2. First unprovoked seizure
3. Status epilepticus
4. Seizure classification
5. Epilepsy classification
6. Pediatric epilepsy syndromes
7. Anticonvulsants
8. Basic EEG interpretation
9. Medically refractory epilepsy
 - a. General indications and types of epilepsy surgery
 - b. Vagal Nerve Stimulation (VNS)
 - c. Ketogenic Diet

B. Pediatric Neurology Emergencies

1. Status epilepticus
2. Pediatric stroke
3. Acute paralysis
4. Altered mental status
5. Other acute focal neurological deficits
6. Severe headache
7. TBI
8. Neurological infections – meningitis encephalitis

C. Neuro-intensive care

1. Status epilepticus and other paroxysmal events
2. Coma and altered mental status
3. TBI
4. Stroke

D. Neonatal neurology

- a. HIE
- b. Neurological complications of prematurity

- c. Neonatal seizures
 - d. Hypotonic baby
 - e. Neonatal Stroke
 - f. Neurogenetic conditions
- E. Neurometabolic and Neurogenetic conditions
- F. Neuromuscular diseases
- G. Headaches
2. To develop an understanding and appreciation of the impact of neurological conditions on:
 - Educational achievement
 - Psychosocial Functioning
 - Family emotional, economic and psychosocial functioning
 3. Recognize the impact of the patient's culture on understanding, reaction, and management of chronic neurological illness.
 4. Recognize the unique contributions of each member of a multidisciplinary health care team in caring for children with chronic neurological conditions.
 5. Identify the key components of delivering poor outcomes/bad news in relation to neurological conditions.
 6. To become familiar with the following issues relevant to the ongoing care of a neurological patient
 - Physiotherapy, OT, ST and mobility
 - Learning difficulties, resources
 - Palliative Care
 - Mental health comorbidities
 - Symptom management (ex. Spasticity, drooling, sleep disturbances)
 7. To become familiar with the following issues relevant to the ongoing care of a patient with a chronic neurological disease
 - Anticonvulsant toxicity and side effect profile
 - Neuroimaging modalities and indications (risks, need for sedation, etc.)
 - Genetic testing
 - Procedures: lumbar puncture, muscle/skin biopsy
 - Neurophysiology testing: EEG, vEEG, NCS/EMG, EP's

Evaluations:

At the mid and end of the rotation, you will meet with Dr. Andrade to discuss the evaluation of your performance. Please set up a formal time with her in the first week of your rotation. Feedback on your experience in the rotation will be most appreciated. If at any time you have concerns about the rotation, please contact Dr. Andrade.

At the end of rotation, pediatric residents and adult neurology residents will complete an “end of rotation quiz” which is 10 MCQs. This will give you a nice objective measure of how much you learned during your pediatric neurology rotation. Soon after you are done with your quiz, Dr. Andrade will go over the answers with you.

Your formal evaluation will be a compilation of feedback from the entire faculty and will be filled in One45.