Resident Level: PGY-3, 4

Setting: Residents will be trained to evaluate pediatric patients with neurological disease on the inpatient and consult services, as well as in the outpatient clinic setting.

Goals: The goal of the pediatric neurology residency rotation is to provide graduated inpatient and outpatient training in the assessment, evaluation and treatment of pediatric patients with a range of neurological diseases. The training in Child Neurology encompasses all areas of neurology with specific application to infants, children and adolescents. The Adult Neurology residents have a minimum of three months to gain experience in clinical management in the inpatient, outpatient, consultative, and emergency settings. This experience is broadened by seminars, conferences, and lectures in the basic and related sciences.

Objectives

Major Goals

Learning Objectives

To:
- Perform a neurological history, examination, and developmental evaluation of children of all ages.
- Describe the growth and development of the nervous system.
- Describe normal neurological development of the infant, child and adolescent.
- Demonstrate knowledge of the cardinal manifestations of neurological disease.

To obtain core working knowledge of the following areas:

A. Epilepsy
- Common causes of seizures in the infant, child and adolescent
- Management of status epilepticus
- Evaluation and management of new onset and recurrent seizures, including febrile seizures
- Epilepsy syndromes and their prognoses
- Distinction between seizures from nonseizure events, e.g. syncope, jitteriness, breath holding spells

B. Altered Level of Consciousness
- Major disease categories that cause lethargy and coma
- Brain death in children and the persistent vegetative state

C. Headache
- Migraine, increased intracranial pressure, and tension type headache: evaluation and therapeutic approach

D. Psychomotor Retardation and Behavioral Problems
- Approach to the child with learning disability, delayed speech, mental retardation, impaired attention, and behavioral problems

E. Neonatal Neurology
- Evaluation and treatment of common disorders in the term and preterm infant, including intracranial and intraventricular hemorrhage, neonatal encephalopathy, neonatal seizures, and periventricular leukomalacia.

F. Neurodegenerative Disorders

2/4/2008
• Presentation, evaluation and therapeutic approach to lysosomal storage disease, peroxisomal disorders, mitochondrial disorders, amino acid disorders and other metabolic and genetic disorders

G. Motor Unit Disorders
• Presentation and clinical course of disorders of the motor unit to include anterior horn cell (SMA), peripheral neuropathy (hereditary and non-hereditary, CMT), demyelinating (Guillain-Barre syndrome), neuromuscular junction and muscle disorders (Duchenne Muscular Dystrophy, Myotonic Dystrophy)

H. Upper Motor Neuron Syndromes
• Major causes of stroke in childhood and evaluation and therapeutic options
• Causes, evaluation and therapy of cerebral palsy
• Etiology and complications of a child with spinal dysraphism, hydrocephalus
• Etiology and complications of a child with brain malformation
• Etiology and complications of a child with traumatic spine and brain injury

I. Movement Disorders
• Differential diagnosis of tic (including Tourette Syndrome), chorea, ataxia, and dystonia
• Medications that can induce movement disorders

J. Neoplastic Disorders
• Common tumors of the neural axis in childhood (particularly those of the posterior fossa); the presenting symptoms and diagnostic evaluation

K. Infectious and Inflammatory Disorders
• Common infections of the neural axis in childhood (meningitis, encephalitis) and the evaluation and treatment
• ADEM (acute disseminated encephalomyelitis) and MS in children.

L. Neurocutaneous Syndromes
• Common disorders and the clinical manifestations

M. Special Senses
• Disorders of the visual and hearing system, acquired and congenital

• To describe the indications, technique, contraindications, and risks of the following neurodiagnostic tests: lumbar puncture (LP); electroencephalogram (EEG)
• computed axial tomography (CT)
• magnetic resonance imaging (MRI)
• electromyography (EMG) and nerve conduction velocities (NCV)
• visual, auditory, brainstem, somatosensory evoked potentials (VEP, BAER, SSEP)
• Nerve and muscle biopsy.

**Instructional methods and rotation specifics**

**STAFF:**
Thomas K. Koch, M.D., Chief
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Colin Roberts, M.D.
Amy Kao, M.D.
Joseph Pinter, M.D.

2/4/2008
1) Follow inpatients (consult or primary neurology)
   a. Write admission orders, progress notes, discharge summary/dictations
   b. For scheduled continuous video EEG admissions
      i. Admit patient
         1. If ample house staff in clinic, someone can break away to do this
            in the morning, otherwise later
         2. Epilepsy program nurse coordinator, Tammy Johnson, will have
            written orders that Dr. Roberts/Kao have co-signed—these
            orders will be in a green plastic folder wire basket in the 9N
            workroom
      ii. Pre-round and meet at DCH EEG lab at 8:30 am when you do not have
          morning conference
   c. If post-call, pre-round and touch base with Pediatric resident or sub-intern on the
      team before leaving (or attending if other team members are not present)
   d. If going to continuity clinic, sign-out to other team member or, if not available,
      the attending
   e. Cover the “Daytime inpatient ward/consult Pediatric Neurology beeper” along
      with the pediatric resident

2) Clinics
   a. Ped Neuro attending is aware of Wed pm OHSU, Friday am VA clinics
   b. A schedule will be emailed each Friday re: clinics for the next week

3) Conferences (“mandatory” conferences as discussed with Dr. Spencer)
   a. Monday 8:30 to 9:30 am morning report
   b. Monday 12:00 to 1:00 Neurorads/Neuro-onc
      i. Keep an eye out for interesting Peds studies to submit for Neurorads
         conference 1st/3rd/5th Mondays
   c. Wednesday 8:00 to 9:00 Grand Rounds
   d. 2nd Wednesday 4:30 to 5:30 Pediatric Neuroscience Seminar
   e. Friday 8:30 to 9:30 morning report
   f. Friday 12:30 to 1:30 clinical neurosciences

4) Curriculum Issues
   a. Pick up the “Pediatric Neurology Curriculum” packet by Larry Neville (see
      Andie Elliott/Amy Wright)
   b. Prepare brief presentations throughout the rotation, related to cases or any
      topics of interest, to give to the students, peds resident, and attending
   c. Child Neurology is a requirement, not a true “elective”
      i. No vacations should be taken during these rotations unless discussed
         with the attending
      ii. Residents on electives should be pulled for cross-coverage first