Neuroradiology Elective
Competency Based Goals and Objectives

**Patient Care.** Provide family centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.

Objectives:
- Understand the indications for neuroimaging examinations and neuroradiological procedures in the evaluation of neurologic conditions
- Understand the role and limitations of computed tomography (CT), magnetic resonance imaging (MRI), magnetic resonance spectroscopy (MRS), and ultrasonography (US) in the evaluation of neurological conditions
- Recognize the risks, benefits, and patient impact of each radiologic procedure
- Observe and interpret imaging studies of the brain, orbits, facial bones, and emergency neuroradiology in the Neuroradiology Reading Room
- Observe and interpret studies of the spine, neck, sinuses, and temporal bones in the Neuroradiology Reading Room
- Observe fluoroscopically-guided lumbar punctures, myelograms, and chemotherapy injections

**Medical Knowledge.** Understand the scope of established and evolving biomedical, clinical, epidemiological, and social-behavioral knowledge needed by a pediatric neurologist; demonstrate the ability to acquire, critically interpret, and apply this knowledge in patient care.

Objectives:
- Understand the role of CT attenuation in the diagnosis of CNS disease
- Understand the role of MR sequences (T1, T2, T2*, DWI) and MR contrast in the diagnosis of CNS disorders
- Effectively generate a differential diagnosis based on neuroimaging findings
- Apply relevant history, neurologic examination findings, and pertinent evaluation and testing results in an effort to enhance neuroradiological interpretation and narrow differential diagnosis

**Interpersonal and Professional Communication.** Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families, and professional associates.

Objectives:
- Provide clinical assessment of cases to faculty, using correct terminology and with explanation of rationale based on appraisal of available clinical and neuroradiological data
- Interact in a collegial way with technical staff, including MR technologists, ultrasonographers, CT technologists, and administrative staff with goal of providing optimal patient care
- With direction, communicate urgent neuroradiological findings to ordering physician team
**Professionalism.** Demonstrate a commitment to carry out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.

Objectives:
- Adhere to daily schedule of events by attending teaching conferences and all reading sessions that do not conflict with clinical commitments
- Be present and ready for sign-out at the agreed time
- Protect patient privacy
- Demonstrate sensitivity to race, gender, ethnic background, religion, sexual orientation, and other social factors in dealing with patient care and interactions with other providers and other learners
- Treat colleagues at all levels with respect

**Practice-based Learning and Improvement.** Demonstrate knowledge, skills, and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one’s patient care practice.

Objectives:
- Access learning sources (textbooks, medical literature, online resources) to fill gaps in knowledge that are identified during case discussions
- Prepare cases for the multidisciplinary case neuroradiology case conference with radiology, neurology, and neurosurgery
- Identify strengths, deficiencies, and limits to knowledge and expertise
- Participate in the education of students, residents, and other health care professionals

**Systems Based Practice.** Understand how to practice quality health care and advocate for patients within the context of the health care system.

Objectives:
- Understand the role of the physicians order, appropriate history and the electronic medical record as they pertain to proper image interpretation
- Learn the relative cost to the patient and society of neurological imaging evaluations