

UAMS Adult Neurology Residency Neuroradiology Rotation Curriculum Rev. 02/12/2008

Summary Description of Rotation

Neuroradiology is an essential component of training in Neurology. Neurology residents are offered an elective rotation for one month during the PGY2-4 years; they may take more than one elective rotation. Residents who take more than one elective in Neuroradiology are expected to build upon and expand their previous experience in Neuroradiology, relative to the six core competencies.

The goal of the one month Neuroradiology rotation is to expose the resident to a broad range of neuroimaging, and to educate the other Neurology residents in Neuroradiology. This is accomplished through individual study, individual training in neuroimaging interpretation, and attendance at weekly conferences.

Educational Goals Summary

The intent of this rotation is to give you competence in utilizing neuroradiology in your clinical practice. This involves more than merely reading the studies; it involves having sufficient understanding of the technical issues of neuroradiology, interpretation of the neuroimaging studies, and the understanding of clinical significance in a given clinical situation.

Assessment Summary

Resident performance will be assessed in the six core competencies:

1. Patient Care (PC)
2. Medical Knowledge (MK)
3. Interpersonal and Communication Skills (ICS)
4. Practice Based Learning and Improvement (PBLI)
5. Professionalism (P)
6. Systems Based Practice (SBP)

At the end of the rotation, the resident should receive and/or complete the following assessments:

1. Verbal feedback from Attending Physician;
2. Written assessment of performance in the six core competencies;
3. Resident assessment of Attending Physician.

OTHER RESPONSIBILITIES

- Attend all neurology conferences
- Attend your resident continuity clinic

WEEKLY SCHEDULE

Monday:

8:30 -12: Review of neuroimages.

12-1: Basic science conference.

1-3: Review of neuroimages.

3-5: Image interpretation with attending.

Tuesday

8 -12: Resident clinic/or Review of neuroimages.

1-5: Resident clinic/or Review of neuroimages.

Wed:

8-12: Review of neuroimages.

12-1: Conference.

1 - 4: Image interpretation with attending.

4 – 5: Neuropathology conference.

5 – 6: Neuroradiology conference.

Thursday

8 -12: Resident clinic/or Review of neuroimages.

1-5: Resident clinic/or Review of neuroimages.

Friday

8:15 – 9:30: Neurology Grand Rounds.

9:30-12: Review of neuroimages.

12-1: Clinical neurophysiology conference.

1-3: Review of neuroimages.

3-5: Image interpretation with attending.

Reading material - See Reading List Distributed Separately.

Rotation Orientation

The orientation occurs on Day 1 of the rotation by the Residency Program Director and the Attending Physician on the service (Dr. Eduardo Angtuago). This written handout is provided then.

Supervision

Primary supervision for the rotation will be by Dr. Eduardo Angtuaco.

Mix of Diseases

Residents will meet the goals and objectives of the rotation through the study of neuroimaging of a broad variety of neurological disorders, including vascular, infectious, neoplastic, traumatic, and degenerative disorders.

Conferences:

The neuroradiology rotation is associated with numerous clinical conferences. Attendance is required. These conferences include:

1. Basic Neuroscience Conference (Monday 12:00- 1:00 pm- JWS Bldg., 8th floor – Lucy Library)
2. Program Director’s Core Competency and Ethics Conference, 1 Wednesday per month, noon - JWS Bldg., 8th floor – Lucy Library)
3. QA (M&M) Conference 1st Wed per month, 7:30 AM - JWS Bldg., 8th floor – Lucy Library)
4. Neuropathology Conference (Wednesdays 4 pm - JWS Bldg., 8th floor – Lucy Library)
5. **Neuroradiology Conference** (Wednesdays 5 pm - JWS Bldg., 8th floor – Lucy Library)
6. Neurology Grand Rounds (Fridays 8:15-9:30 pm- JWS Bldg., 12th floor)
7. Clinical Neurophysiology Conference (EEG & EMG) Fridays @ noon - JWS Bldg., 8th floor – Lucy Library)
8. Movement Disorders Conference, 1 Monday per month as scheduled, 5:00 PM - JWS Bldg., 8th floor – Lucy Library)
9. Epilepsy Journal Club, 1 Monday per month as scheduled, 5:00 PM - JWS Bldg., 8th floor – Lucy Library)
10. Stroke Journal Club, 1 Wednesday per month as scheduled, noon - JWS Bldg., 8th floor – Lucy Library)

Reading List – Distributed separately.

SPECIALTY: Neurology

ROTATION EXPERIENCE: Adult Neurology Neuroradiology Rotation

PATIENT CARE

Neuroradiology Rotation (PGY2-4) Patient Care		
Objectives	Teaching Methods	Assessment Strategy
Interpret non-invasive imaging studies of the brain, spine, and vascular supply to these regions including anatomic imaging CT, CT perfusion, multiplanar imaging and advanced image reconstruction; anatomic imaging, MR angiography, MR perfusion, MR spectroscopy, diffusion imaging, diffusion tensor imaging and functional MR; plain radiography; nuclear medicine studies including PET; and new and evolving imaging techniques.	Direct supervision by faculty neuroradiologists Review of teaching images Performance feedback Conferences	Faculty rotation rating & evaluation RITE Program Director semi-yearly review
Interpret invasive procedures including diagnostic catheter-based cerebral angiography; percutaneous minimally-invasive procedures for image-guided biopsies, spinal canal access (for myelography, spinal fluid analysis, and medication installation); and spine interventions.	Direct supervision by faculty neuroradiologists Review of teaching images Performance feedback Conferences	Faculty rotation rating & evaluation RITE Program Director semi-yearly review

MEDICAL KNOWLEDGE

Neuroradiology Rotation (PGY 2-4) Medical Knowledge		
Objectives	Teaching Methods	Assessment Strategy
Discuss indications, limitations, risks, alternatives and appropriate utilization of neuroradiologic imaging and interventional procedures.	Direct supervision by faculty neuroradiologists Review of teaching images Performance feedback Conferences	Faculty rotation rating & evaluation RITE Program Director semi-yearly review
Describe normal anatomy, physiology and genetics of the central and peripheral nervous systems.	Direct supervision by faculty neuroradiologists Review of teaching images Performance feedback Conferences	Faculty rotation rating & evaluation RITE Program Director semi-yearly review
Discuss pathophysiology, pathology, anatomy, and genetics of diseases that affect the brain, neck and spine, including congenital, traumatic, vascular, neoplastic, infectious, inflammatory, metabolic, and neurodegenerative disorders.	Direct supervision by faculty neuroradiologists Review of teaching images Performance feedback Conferences	Faculty rotation rating & evaluation RITE Program Director semi-yearly review
Describe neuroradiologic consequences of medical and surgical treatments for diseases of the brain, head, neck, organs of special sense, skull base, and spine.	Direct supervision by faculty neuroradiologists Review of teaching images Performance feedback Conferences	Faculty rotation rating & evaluation RITE Program Director semi-yearly review

INTERPERSONAL AND COMMUNICATION

Neuroradiology Rotation (PGY 2-4) Interpersonal and Communication		
Objectives	Teaching Methods	Assessment Strategy
Communicate effectively with patients, colleagues, referring physicians, and other members of the health care team concerning imaging appropriateness, informed consent, safety issues, neuroimaging test/procedure results.	Direct supervision by faculty neuroradiologists Performance feedback Conferences	Feedback at conferences Faculty rotation rating & evaluation Program Director semi-yearly review
Deliver a cogent consultation to clinical colleagues.	Direct supervision by faculty neuroradiologists Performance feedback Conferences	Feedback at conferences Faculty rotation rating & evaluation Program Director semi-yearly review
Interact in a mature and responsible manner with colleagues and faculty.	Direct supervision by faculty neuroradiologists Performance feedback Conferences	Feedback at conferences Faculty rotation rating & evaluation Program Director semi-yearly review

PRACTICE BASED LEARNING AND IMPROVEMENT

Neuroradiology Rotation (PGY2-4) Practice Based Learning and Improvement		
Objectives	Teaching Methods	Assessment Strategy
Critical review and personal record of difficult and interesting cases, and develop a life-long practice of applying knowledge from cases encountered.	Direct supervision by faculty neuroradiologists Independent study Performance feedback Conferences	Self assessment Faculty rotation rating & evaluation Case log (encouraged) Program Director semi-yearly review
Research clinical and neuroradiological questions regarding patient's neurological problems using information technology to access on-line medical information to support their own education and to improve patient care and education.	Electronic medical record Medline/OVID searches-patient centered Conference presentations	Self assessment Faculty rotation rating & evaluation Program Director semi-yearly review
Evaluate the clinical literature applying knowledge of epidemiology, biostatistics, and research study design.	Direct supervision by faculty neuroradiologists Independent study Medline/OVID searches-patient centered	Self assessment Faculty rotation rating & evaluation Program Director semi-yearly review
Facilitate the learning of medical students and fellow residents.	Role Modeling Oral presentations	Self assessment Faculty rotation rating & evaluation

PROFESSIONALISM

Neuroradiology Rotation (PGY 2-4) Professionalism		
Objectives	Teaching Methods	Assessment Strategy
Interact responsibly with colleagues, co-workers, and faculty taking into consideration culture and gender issues.	Role Modeling Oral presentations	Self assessment Faculty rotation rating & evaluation
Demonstrate appropriate use of the EMR in regards to patient respect and confidentiality.	EMR training Online HIPAA training	Self assessment Faculty rotation rating & evaluation
Demonstrate responsibility for contributing to the weekly Neurology neuroradiology conference.	Direct supervision by faculty neuroradiologists Independent study Performance feedback	Faculty rotation rating & evaluation

SYSTEM BASED PRACTICE

Neuroradiology Rotation (PGY2-4) System Based Practice		
Objectives	Teaching Methods	Assessment Strategy
Develop an understanding of the logistics involved in proper performance of neuroimaging studies.	Direct supervision by faculty neuroradiologists Independent study Performance feedback	Self assessment Faculty rotation rating & evaluation
Critically assess new neuroradiology imaging modalities, protocols, and procedures.	Direct supervision by faculty neuroradiologists Independent study Performance feedback	Self assessment Faculty rotation rating & evaluation Nursing staff evaluation
Develop expertise in conference scheduling and coordination in healthcare systems.	Direct supervision by faculty neuroradiologists Independent study Performance feedback	Self assessment Faculty rotation rating & evaluation Nursing staff evaluation