

Neuroradiology (First Year, First Block)

This rotation involves beginning interpretation of digital radiographs, CT, and MR examinations of the head, neck and spine, fluoroscopically guided lumbar puncture, and contrast myelography.

Patient Care

Goal

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

Knowledge Objectives:

- (1) Understand plain films, CT, and MR scanning protocols and contrast media usage well enough to direct radiographic and CT studies in basic neuro patients, and
- (2) Recognize urgent and emergent findings on digital films, CT, and MR studies of the head and spine (intracranial hemorrhage, infarct, abscess, tumor, and fracture) and appropriately contact the referring clinician without being prompted.

Skill Objectives:

- (1) Become facile with PACs and utilize available information technology to manage patient information,
- (2) Assist the staff Radiologist in procedures including Myelography, Cisternography, Intrathecal chemotherapy injections and Fluoroscopically guided lumbar puncture.
- (3) Coordinate activities in the reading room, including providing direction for the technologists, consultation for other clinicians, and answering the phone.

Behavior and Attitude Objectives:

- (1) Work with the health care team in a professional manner to provide patient-centered care, and
- (2) Notify referring clinician for urgent, emergent, or unexpected findings, and document in dictation

Medical Knowledge

Goal

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents are expected to:

Knowledge Objectives:

- (1) Identify relevant anatomic structures on CT and MR images of the head and spine, including CT and MR arteriograms, and
- (2) Diagnose more common pathologic conditions in the head and spine and understand their pathophysiology.

Skill Objectives:

- (1) Accurately interpret all but the most complex CTs and MRs of the head, and
- (2) Perform and interpret basic post-processing (3D) of CT and MR arteriograms.

Behavior and Attitude Objectives:

(1) Recognize limitations of personal competency and ask for guidance when appropriate.

Practice-Based Learning and Improvement

Goal

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning. Residents are expected to develop skills and habits to be able to:

Knowledge Objectives:

(1) Assess CT images for quality and suggest methods of improvement.

Skill Objectives:

(1) Demonstrate independent self-study using various resources including texts, journals, teaching files, and other resources on the internet, and

(2) Facilitate the learning of students and other health care professionals.

Behavior and Attitude Objectives:

(1) Incorporate formative feedback into daily practice, positively responding to constructive criticism, and

(2) Follow-up interesting or difficult cases without prompting and share this information with appropriate faculty and fellow residents.

Systems Based Practice

Goal

Residents must demonstrate an awareness of, and responsiveness to, the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

Knowledge Objectives:

(1) Understand how their image interpretation affects patient care.

Skill Objectives:

(1) Provide accurate and timely interpretations to decrease length of hospital and emergency department stay,

(2) Appropriately notify the referring clinician if there are urgent or unexpected findings and document such without being prompted; and

(3) Practice using cost effective use of time and support personnel.

Behavior and Attitude Objectives:

(1) Advocate for quality patient care in a professional manner, particularly concerning imaging utilization issues.

Professionalism

Goal

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

Knowledge Objectives:

- (1) Understanding of the need for respect for patient privacy and autonomy, and
- (2) Understanding of their responsibility for the patient and the service, including arriving in the reading room promptly each day, promptly returning to the reading room after conferences, completing the work in a timely fashion, and not leaving at the end of the day until all work is complete. If the resident will be away from a service (for time off, meeting, board review, etc.), this must be arranged in advance with the appropriate faculty.

Skill Objectives:

- (1) Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

Behavior and Attitude Objectives:

- (1) Respect, compassion, integrity, and responsiveness to patient care needs that supersede self-interest.

Interpersonal and Communication Skills

Goal

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates. Residents are expected to:

Knowledge Objectives:

- (1) Know the importance of accurate, timely, and professional communication.

Skill Objectives:

- (1) Produce concise and accurate reports on most examinations,
- (2) Communicate effectively with physicians, other health professionals, and
- (3) Obtained informed consent with the utmost professionalism.

Behavior and Attitude Objectives:

- (1) Work effectively as a member of the patient care team.

Neuroradiology (Second Year, Second Block)

This rotation involves intermediate interpretation of plain films, CT, and MR examinations of the head, neck and spine, fluoroscopically guided lumbar puncture, and contrast myelography.

Patient Care

Goal

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

Knowledge Objectives:

- (1) Understand plain film, CT, and MR scanning protocols and contrast media usage well enough to direct CT studies in most neuro patients, and
- (2) Recognize urgent and emergent findings on CT and MR studies of the head and spine (intracranial hemorrhage, infarct, abscess, tumor, and fracture) and appropriately contact the referring clinician without being prompted.

Skill Objectives:

- (1) Become facile with PACs and utilize available information technology to manage patient information,
- (2) Perform with the staff radiologist procedures including Myelography, Cisternography, Intrathecal chemotherapy injections, Fluoroscopically guided lumbar punctures.
- (3) Coordinate activities in the reading room, including providing direction for the technologists, consultation for other clinicians, and answering the phone.

Behavior and Attitude Objectives:

- (1) Work with the health care team in a professional manner to provide patient-centered care, and
- (2) Notify referring clinician for urgent, emergent, or unexpected findings, and document in dictation

Medical Knowledge

Goal

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents are expected to:

Knowledge Objectives:

- (1) Identify relevant anatomic structures on CT and MR images of the head and spine, including CT and MR arteriograms, and
- (2) Diagnose more common pathologic conditions in the head and spine and understand their pathophysiology.

Skill Objectives:

- (1) Accurately interpret progressively more complex plain films, CTs and MRs of the head, neck and spine, and
- (2) Perform and interpret intermediate post-processing (3D) of CT and MR arteriograms.

Behavior and Attitude Objectives:

(1) Recognize limitations of personal competency and ask for guidance when appropriate.

Practice-Based Learning and Improvement

Goal

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning. Residents are expected to develop skills and habits to be able to:

Knowledge Objectives:

(1) Assess CT images for quality and suggest methods of improvement.

Skill Objectives:

(1) Demonstrate independent self-study using various resources including texts, journals, teaching files, and other resources on the internet, and

(2) Facilitate the learning of students and other health care professionals.

Behavior and Attitude Objectives:

(1) Incorporate formative feedback into daily practice, positively responding to constructive criticism, and

(2) Follow-up interesting or difficult cases without prompting and share this information with appropriate faculty and fellow residents.

Systems Based Practice

Goal

Residents must demonstrate an awareness of, and responsiveness to, the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

Knowledge Objectives:

(1) Understand how their image interpretation affects patient care.

Skill Objectives:

(1) Provide accurate and timely interpretations to decrease length of hospital and emergency department stay,

(2) Appropriately notify the referring clinician if there are urgent or unexpected findings and document such without being prompted; and

(3) Practice using cost effective use of time and support personnel.

Behavior and Attitude Objectives:

(1) Advocate for quality patient care in a professional manner, particularly concerning imaging utilization issues.

Professionalism

Goal

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

Knowledge Objectives:

- (1) Understanding of the need for respect for patient privacy and autonomy, and
- (2) Understanding of their responsibility for the patient and the service, including arriving in the reading room promptly each day, promptly returning to the reading room after conferences, completing the work in a timely fashion, and not leaving at the end of the day until all work is complete. If the resident will be away from a service (for time off, meeting, board review, etc.), this must be arranged in advance with the appropriate faculty.

Skill Objectives:

- (1) Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

Behavior and Attitude Objectives:

- (1) Respect, compassion, integrity, and responsiveness to patient care needs that supersede self-interest.

Interpersonal and Communication Skills

Goal

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates. Residents are expected to:

Knowledge Objectives:

- (1) Know the importance of accurate, timely, and professional communication.

Skill Objectives:

- (1) Produce concise and accurate reports on most examinations,
- (2) Communicate effectively with physicians, other health professionals, and
- (3) Obtained informed consent with the utmost professionalism.

Behavior and Attitude Objectives:

- (1) Work effectively as a member of the patient care team.

Neuroradiology (Third Year, Third Block and Elective)

This rotation involves advanced interpretation of plain films, CT, and MR examinations of the head, neck and spine, fluoroscopically guided lumbar puncture, and contrast myelography..

Patient Care

Goal

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

Knowledge Objectives:

- (1) Understand plain film, CT, and MR scanning protocols and contrast media usage well enough to direct CT studies in most neuro patients, and
- (2) Recognize urgent and emergent findings on CT and MR studies of the head and spine (intracranial hemorrhage, infarct, abscess, tumor, and fracture) and appropriately contact the referring clinician without being prompted.

Skill Objectives:

- (1) Become facile with PACs and utilize available information technology to manage patient information,
- (2) Perform fluoroscopically-guided lumbar punctures with occasional help from faculty, and
- (3) Coordinate activities in the reading room, including providing direction for the technologists, consultation for other clinicians, and answering the phone.

Behavior and Attitude Objectives:

- (1) Work with the health care team in a professional manner to provide patient-centered care, and
- (2) Notify referring clinician for urgent, emergent, or unexpected findings, and document in dictation

Medical Knowledge

Goal

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents are expected to:

Knowledge Objectives:

- (1) Identify relevant anatomic structures on CT and MR images of the head and spine, including CT and MR arteriograms, and
- (2) Diagnose more common pathologic conditions in the head and spine and understand their pathophysiology.

Skill Objectives:

- (1) Accurately interpret progressively more complex plain films, CTs and MRs of the head, neck and spine, and
- (2) Perform and interpret intermediate post-processing (3D) of CT and MR arteriograms.

Behavior and Attitude Objectives:

(1) Recognize limitations of personal competency and ask for guidance when appropriate.

Practice-Based Learning and Improvement

Goal

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning. Residents are expected to develop skills and habits to be able to:

Knowledge Objectives:

(1) Assess CT images for quality and suggest methods of improvement.

Skill Objectives:

(1) Demonstrate independent self-study using various resources including texts, journals, teaching files, and other resources on the internet, and
(2) Facilitate the learning of students and other health care professionals.

Behavior and Attitude Objectives:

(1) Incorporate formative feedback into daily practice, positively responding to constructive criticism, and
(2) Follow-up interesting or difficult cases without prompting and share this information with appropriate faculty and fellow residents.

Systems Based Practice

Goal

Residents must demonstrate an awareness of, and responsiveness to, the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

Knowledge Objectives:

(1) Understand how their image interpretation affects patient care.

Skill Objectives:

(1) Provide accurate and timely interpretations to decrease length of hospital and emergency department stay,
(2) Appropriately notify the referring clinician if there are urgent or unexpected findings and document such without being prompted; and
(3) Practice using cost effective use of time and support personnel.

Behavior and Attitude Objectives:

(1) Advocate for quality patient care in a professional manner, particularly concerning imaging utilization issues.

Professionalism

Goal

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

Knowledge Objectives:

- (1) Understanding of the need for respect for patient privacy and autonomy, and
- (2) Understanding of their responsibility for the patient and the service, including arriving in the reading room promptly each day, promptly returning to the reading room after conferences, completing the work in a timely fashion, and not leaving at the end of the day until all work is complete. If the resident will be away from a service (for time off, meeting, board review, etc.), this must be arranged in advance with the appropriate faculty.

Skill Objectives:

- (1) Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

Behavior and Attitude Objectives:

- (1) Respect, compassion, integrity, and responsiveness to patient care needs that supersede self-interest.

Interpersonal and Communication Skills

Goal

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates. Residents are expected to:

Knowledge Objectives:

- (1) Know the importance of accurate, timely, and professional communication.

Skill Objectives:

- (1) Produce concise and accurate reports on most examinations,
- (2) Communicate effectively with physicians, other health professionals, and
- (3) Obtained informed consent with the utmost professionalism.

Behavior and Attitude Objectives:

- (1) Work effectively as a member of the patient care team.