Rotational learning objectives

**MEDICAL KNOWLEDGE OBJECTIVES**

During the first rotation, the resident should concentrate on his or her understanding of normal anatomy and common pathology as it is seen at MRI. The pathologies of Body Imaging should already be familiar by the third year of residency. The resident should begin a study of the physics of MR image acquisition.

By the end of the rotation the resident should be able to:

- Identify normal cross-sectional anatomy and 3-dimensional vascular anatomy of the chest, abdomen, pelvis and extremities as seen on the MRI
- Identify and/or describe common variants of normal
- Demonstrate a basic knowledge of MRI physics and contraindications to MR
- Demonstrate a basic knowledge of body MR protocols

**PRACTICE-BASED LEARNING OBJECTIVES**

By the end of the rotation the resident should be able to:

- Understand and discuss MRI safety issues including proximity of metal objects to the magnet, noise/hearing protection, and energy deposition due to RF electromagnetic radiation
- Discuss absolute and relative contraindications to MR imaging for a specific patient and generally
- Apply knowledge from other imaging modalities to the MR procedures performed
- Use information technology to increase knowledge of patient care

**SYSTEMS-BASED PRACTICE OBJECTIVES**

By the end of the rotation the resident should be able to:

- Understand when MRI is appropriately utilized for body imaging and when it is the test of choice
- Understand the appropriate use of MRI in the radiology delivery system
- Understand the role of MRI in the medical system, including costs, scheduling, and appropriate use of resources
- Demonstrate how MRI can be used to maximize quality of care
- Assist patients in understanding the role of his or her MRI procedures in the medical system that is providing his or her care
• Help maximize efficiency of all members of the MRI section, including clerical staff, technologists, radiologists and referring physicians

PATIENT CARE OBJECTIVES

By the end of the rotation the resident should be able to:

• Review patient history for appropriateness of the ordered study
• Screen for presence of metallic implants or medical devices
• Obtain informed consent for gadolinium contrast administration
• Accurately dictate findings and impression in the study report
• Communicate effectively and courteously with referring clinicians

INTERPERSONAL AND COMMUNICATION SKILLS OBJECTIVES

By the end of the rotation the resident should be able to:

• Work effectively with the technologists, nurses and doctors in the MRI service
• Demonstrate accurate and prompt verbal communication with the care team
• Dictate image reports accurately and promptly

PROFESSIONALISM OBJECTIVES

By the end of the rotation the resident should be able to:

• Demonstrate respect, compassion and integrity
• Demonstrate a commitment to ethical principles
• Maintain confidentiality of patient information
• Maintain a good attendance record
• Work independently when asked
• Respond to assignments in a timely fashion

ROTATION 2 (Radiology year 4)

MEDICAL KNOWLEDGE OBJECTIVES

During the last rotation, the resident is expected to become more organized and methodical in his or her approach to interpreting MRI studies. The resident should continue to improve upon his or her knowledge for the appearance of Body pathology as it appears at MRI.

By the end of the rotation the resident should be able to:

• Identify common pathologies of the chest, abdomen, pelvis and extremities as seen at MRI as well as pathologies uniquely diagnosed by MRI
• Identify and/or describe common artifacts and gain a basic understanding of their causes
• Improve knowledge of MRI physics and contraindications to MR.
• Improve knowledge of body MR protocols.

PRACTICE-BASED LEARNING OBJECTIVES

By the end of the rotation the resident should be able to:

• Improve knowledge of MRI safety issues including proximity of metal objects to the magnet, noise/hearing protection, and energy deposition due to RF electromagnetic radiation
• Improve knowledge of absolute and relative contraindications to MR imaging for a specific patient and generally
• Apply knowledge from other imaging modalities to the MR procedures performed
• Use information technology to increase knowledge of patient care

SYSTEMS-BASED PRACTICE OBJECTIVES

By the end of the rotation the resident should be able:

• To understand when MRI is appropriately utilized for body imaging and when it is the test of choice
• Advise clinicians with greater independence in the selection of MRI studies appropriately for their patients
• Understand the appropriate use of MRI in the radiology delivery system
• Understand the role of MRI in the medical system, including costs, scheduling, and appropriate use of resources
• Demonstrate how MRI can be used to maximize quality of care
• Assist patients in understanding the role of his or her MRI procedures in the medical system that is providing his or her care
• Lead in maximizing efficiency of all members of the MRI section, including clerical staff, technologists, radiologists and referring physicians

PATIENT CARE OBJECTIVES

By the end of the rotation the resident should be able to:

• Review patient history for appropriateness of the ordered study and advise with greater independence in the ordering of studies
• Screen for presence of metallic implants or medical devices and decide with greater independence if implants or devices represent a contraindication to MRI
• Obtain informed consent for gadolinium contrast administration
• Accurately dictate with greater independence findings and impression in the study report
• Communicate effectively and courteously with referring clinicians

INTERPERSONAL AND COMMUNICATION SKILLS OBJECTIVES:
By the end of the rotation the resident should be able to:

- Lead with greater independence the technologists, nurses and doctors in the MRI service
- Demonstrate accurate and prompt verbal communication with the care team
- Dictate image reports promptly with greater and greater accuracy

PROFESSIONALISM OBJECTIVES

By the end of the rotation the resident should be able to:

- Demonstrate respect, compassion and integrity
- Demonstrate a commitment to ethical principles
- Maintain confidentiality of patient information
- Maintain a good attendance record
- Work more independently when asked
- Respond to assignments in a timely fashion

RECOMMENDED READINGS:

- Berlex MRI made easy
- Computed Body Tomography with MRI correlation, Lee, Segal, Stanley
- Body MRI, Seigelman
- ACR Disc on MRI

Reviewed and Revised Oct 4, 2012
Alexander B. Steever, MD