**MUSCULOSKELETAL RADIOLOGY**

*Knowledge Based Objectives:* The resident should be able to:

1. Discuss basic bone physiology.
2. Describe the stages different types of fractures go through in the process of healing.
3. List and describe the basic principles of examination of musculoskeletal studies.
4. State the indications for computed tomography, MR and bone scans.
5. Name and describe the various common types of bone and joint trauma, other than fractures.
6. Name and differentiate between various forms of arthritis, including laboratory and clinical findings of each type.
7. State the radiographic features that differentiate benign and malignant bone tumors.
8. Name and describe clinical/pathological/radiological features of congenital and acquired bone pathologies.
9. Name and describe clinical/pathological/radiological features of metabolic bone diseases.
10. Describe the radiographic features of inflammatory bone/joint diseases.

*Technical Skills:* The resident should be able to:

1. Identify, with a high level of accuracy, most types of bone fractures.
2. Recognize the commonly used radiographic projections in musculoskeletal radiology.
3. Arrange musculoskeletal images in an orderly fashion for review and interpretation.
4. Identify normal musculoskeletal structures and some of the normal variants.
5. Given an appropriate radiograph, identify the following categories of bone pathology:
   i. Inflammatory processes
   ii. Bone tumors
   iii. Congenital and acquired diseases
   iv. Metabolic diseases
6. Given a radiograph demonstrating bone pathology listed in #5 above and pertinent clinical/pathological information, identify common pathologies in each category.
7. Demonstrate increasing skill in quality and quantity of dictation of musculoskeletal images.

*Decision-Making and Value Judgment Skills:* The resident should be able to:

1. Given musculoskeletal radiographs that are not diagnostic without further study, state whether the patient should have additional exams in CT, MR, or nuclear imaging.
2. Given a radiograph of a healing bone fracture, determine the stage of bone healing.
3. Given a patient with musculoskeletal pathology, review radiographs and clinical history, then make decision about the appropriateness of nuclear, CT, and/or MR imaging.