

# ACGME Program Requirements for Graduate Medical Education in Musculoskeletal Radiology

*Effective: February 13, 1996*

In addition to complying with The Program Requirements for Residency Education in the Subspecialties of Diagnostic Radiology, programs must comply with the following requirements, which in some cases may exceed the common requirements.

## I. Scope and Duration of Training

### I.A. Definition and Scope of the Subspecialty

The musculoskeletal radiology training program constitutes a closely supervised experience in the application and interpretation of all imaging examinations and procedures as they relate to the analysis of disorders of the musculoskeletal system, including bones, joints, and soft tissues. The imaging methods and procedures include, but are not necessarily limited to, routine radiography, computed tomography, ultrasonography, radionuclide scintigraphy, magnetic resonance, arthrography, and image-guided percutaneous biopsy techniques. The objective of training in musculoskeletal radiology is to provide an organized, comprehensive, supervised, and progressively responsible full-time educational experience in the selection, interpretation, and performance of these examinations and procedures. A further objective is to provide the resident an opportunity to develop skills necessary for clinical and/or basic research in the subspecialty of musculoskeletal radiology.

### I.B. Duration of Training

Prerequisite training for entry into a diagnostic radiology subspecialty program should include the satisfactory completion of a diagnostic radiology residency accredited by the Accreditation Council for Graduate Medical Education (ACGME) or the Royal College of Physicians and Surgeons of Canada (RCPSC), or other training judged suitable by the program director.

## II. Faculty Qualifications and Responsibilities

The program director must be certified in diagnostic radiology or radiology by the American Board of Radiology or possess equivalent qualifications.

In addition to the program director, the program must include at least one person experienced in musculoskeletal radiology who has a substantial commitment to the training program. If necessary, other radiologists with expertise in certain imaging methods or procedures may function at least as part-time members of the training program. To ensure adequate supervision of the residents, there must be at least one full-time faculty person available for each two residents in the program.

## III. Facilities and Resources

### III.A. Space and Equipment

Modern facilities and equipment and adequate space must be available to ensure an adequate educational experience for the resident. Access to routine

radiographic, computed tomographic, scintigraphic, magnetic resonance, and ultrasound equipment must be provided. Adequate space for film display, film interpretation, and consultation with referring physicians must be available, and adequate office space, office supplies, and secretarial help for the conduct of research projects should be provided for musculoskeletal radiology faculty and residents. Assistance with literature searches, editing, statistical tabulation, and photography should be provided.

### III.B. Library

The training program must provide ancillary teaching resources including access to a medical library with a sufficient number of textbooks and journals related to musculoskeletal diseases and electronic literature search capabilities. A musculoskeletal radiology/pathology teaching file must be developed and available for use by the residents. The American College of Radiology teaching file will only partially meet this requirement.

## IV. Educational Program

### IV.A. Clinical Components

Residents in musculoskeletal radiology must be provided access to a variety of patients encompassing the entire range of disorders of the musculoskeletal system, including articular, degenerative, metabolic, hematopoietic, infectious, traumatic, vascular, congenital, and neoplastic diseases. The imaging methods and procedures available for training should include routine radiography, computed tomography, ultrasonography, radionuclide scintigraphy, magnetic resonance, arthrography, and image-guided percutaneous biopsy techniques.

The program curriculum must provide clinical experience and didactic sessions encompassing the entire spectrum of musculoskeletal diseases. This must include both the axial and the appendicular skeletons of both adult and pediatric patients. The resident must interpret, under appropriate supervision, diagnostic examinations that include routine radiography, computed tomography, and magnetic resonance. Furthermore, the resident must perform and interpret arthrograms. The program must provide experience with image-guided percutaneous biopsy procedures and exposure to ultrasonography, bone densitometry, and radionuclide scintigraphy as they relate to diseases of the musculoskeletal system. A log must be kept by each resident documenting the types of arthrographic and biopsy procedures that she or he performs. With regard to invasive procedures, residents are to be given graduated responsibility as competence increases; such responsibility should include preprocedural and postprocedural patient care. Emphasis is placed on close coordination and cooperation with referring physicians, including orthopedic surgeons, rheumatologists, and emergency department specialists, and on establishment of proper imaging protocols to ensure that excessive or inappropriate examinations are not ordered and performed. Access to both inpatients and outpatients is required.

### IV.B. Didactic Components

There must be didactic conferences and teaching sessions that provide coverage of musculoskeletal concepts related to anatomy, physiology, pathology,

orthopedic surgery, and rheumatology. Attendance at and participation in department conferences, such as daily film interpretation sessions, are required. Regularly scheduled interdepartmental conferences in, for example, orthopedic surgery, neurosurgery, and other appropriate surgical specialties; pathology; rheumatology; and oncology are also necessary components of the program. In addition, the training experience should include radiology oriented conferences with medical students and graduate medical staff. The resident also should be encouraged to attend at least one national meeting or postgraduate course dealing with musculoskeletal radiology during his/her fellowship year.

Although the precise responsibility of the resident will vary from one clinical conference to another, opportunities must exist for active participation in the formulation of a diagnosis and/or the generation of an imaging protocol; such participation is to be used as a means by which the program director and other faculty members judge the resident's progress.

#### IV.C. Resident Participation in Research

The training period in musculoskeletal radiology should provide sufficient research opportunities for the resident. He or she should be able to participate in the design, performance and interpretation of research studies and have the opportunity to develop competence in critical assessment of investigative techniques. Completion of at least one clinical or basic research investigation during the period of training is encouraged. Laboratory facilities to support research projects should be available in the institution.

#### IV.D. Interchange With Residents in Other Specialties

The presence of accredited training programs in orthopedic surgery and rheumatology is highly desirable.

Shared experiences with residents in orthopedic surgery, rheumatology, pathology, and other appropriate specialties, including surgical subspecialties, are strongly encouraged. When appropriate, supervision and teaching by faculty expert in these additional disciplines should be available.

#### IV.E. Duty Hours and Conditions of Work

(See Program Requirements for Residency Education in the Subspecialties of Diagnostic Radiology for details concerning duty hour requirements.)

### V. Evaluation

(See Program Requirements for Residency Education in the Subspecialties of Diagnostic Radiology for details concerning evaluation requirements.)

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