

**HONG KONG COLLEGE OF RADIOLOGISTS**  
**Higher Training (Radiology)**  
**Subspecialty Training in Musculoskeletal Radiology**

[This document should be read in conjunction with the *General Guidelines on Higher Training (Radiology)*]

**1. INTRODUCTION**

- 1.1 Musculoskeletal radiology is a well-defined subspecialty of radiology. It involves both diagnostic imaging and imaging intervention of the appendicular and axial musculoskeletal systems. Imaging support is provided specifically for Orthopaedic, Traumatology, Accident and Emergency, Sports Medicine and Rheumatology clinical subspecialties.
- 1.2 Training in Musculoskeletal Radiology can augment or be augmented from training in other radiology subspecialties particularly paediatric radiology (paediatric musculoskeletal conditions), oncology (musculoskeletal tumours), neuroradiology (spinal imaging), interventional radiology (aspiration, biopsy techniques, embolisation, chemoembolisation, investigation and treatment of pelvic or appendicular trauma and disease), cross-sectional imaging and nuclear medicine.
- 1.3 It is a category A subspecialty.

**2. OBJECTIVES**

The training curriculum is to ensure that trainees acquire:

- (a) A more in-depth exposure to the radiological, clinical, and pathological aspects of musculoskeletal diseases
- (b) A better understanding of the reasoning behind imaging of the common and less common musculoskeletal conditions, a knowledge of how to efficiently use the imaging modalities chosen and guidance on the reporting of musculoskeletal imaging investigations.
- (c) Some 'hands-on' experience of image-guided interventional procedures relating to the musculoskeletal system.
- (d) Improved clinical and management skills relevant to Musculoskeletal Radiology, enabling practical discussion with clinical colleagues, and a sensible approach to clinical problems.
- (e) Improved case presentation skills relevant to Musculoskeletal Radiology
- (f) An exposure to analytical and research methods
- (g) Sufficient insight to facilitate choice of future subspecialty.

### **3. TRAINING REQUIREMENTS**

#### **3.1 TRAINING CENTRE REQUIREMENTS**

A suitable training centre should ideally incorporate:

- (a) Access to general radiography, high resolution ultrasound (US), computed tomography (CT), magnetic resonance imaging (MRI), fluoroscopy, nuclear medicine, interventional procedures and angiography. If the training centre does not possess any of the above, the trainee can be attached to another appropriate hospital to fulfil training.
- (b) The presence of all of the following relevant clinical departments: Orthopaedics and Traumatology, Accident and Emergency providing an adequate workload of musculoskeletal disorders.

#### **3.2 TRAINER REQUIREMENTS**

As specified in the General Guidelines.

#### **3.3 DURATION OF TRAINING**

The recommended duration of training is six months. In some instances a training period of three months can be acceptable.

#### **3.4 DUTY SESSIONS**

3.4.1 Five or more service sessions weekly specific for the subspecialty are required.

3.4.2 It is recommended that the trainee obtains experience in the following:

- (a) Radiography – one general reporting session /week or one Accident & Emergency reporting session / week.
- (b) CT – the equivalence of one session, preferably two sessions per fortnight – with more than 50% of the examinations of the session being related to musculoskeletal subspecialty.
- (c) MRI – the equivalence of one session, preferably two sessions per week – with more than 50% of the examinations of the session being related to musculoskeletal subspecialty.
- (d) USG – the equivalence of one session per week – with more than 50% of the average number of scheduled examinations performed by the dedicated ultrasound equipment in the session being related to musculoskeletal subspecialty.
- (e) NM – the equivalence of one session, preferably two sessions per fortnight – with more than 50% of the examinations of the session being related to musculoskeletal subspecialty. (This may be in form of film reviewing / reporting sessions or reading during CRC's)
- (f) IR – Exposure to image-guided interventional procedures relevant to musculoskeletal radiology should be included. IR procedures could be either incorporated into the modality based sessions or in an IR session with musculoskeletal interventional procedures

### 3.5 MINIMUM NUMBER OF EXAMINATIONS REQUIRED

3.5.1 The number of examinations to be performed and *reported by a trainee* in the 6-month period:

<b>Modality</b>	<b>Region</b>	<b>RIS Coding</b>	<b>Requirement</b>
CT	Extremities, spine, thorax and pelvis	4205, 4206, 4301-4399	80
	2D and 3D Reconstruction	4403	30
MRI	Craniovertebral junction, spine.	8201-8208	80
	Limbs, brachial plexus, pelvis and sacral plexus	8401-8414, 8117-8118, 8309-8310, 8430, 8431	35
	Joints	8415-8429	70
Ultrasound	Limb bone / joint, muscle / soft tissues / spine	3221-3299	70
	Infant hip	3202	10
Procedures	Joint aspiration, arthrography, fine needle aspiration, biopsy and other musculoskeletal interventional procedures	2305, 2306, 4399, 7103 –7109 , 7503, 7508, 7510 –7512, 8429	14
Nuclear Medicine	Bone scan	9910-9999	15
	Gallium and white cell scan	9610, 9620, 9710	5

3.5.2 Trainee has to have experience and keep a detailed record (date of investigation, patient details, imaging modality and imaging diagnosis) of the following cases for six months of training:

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|--|----|
| (a) Musculoskeletal CT of acute spinal <i>or</i> appendicular trauma | 5  |
| (b) Musculoskeletal MR of joints other than knee                     | 5  |
| (c) Musculoskeletal MR of soft tissue, muscle or tendons             | 5  |
| (d) Musculoskeletal MR of bone lesion                                | 5  |
| (e) Musculoskeletal Ultrasound of soft tissue or muscle              | 10 |
| (f) Musculoskeletal Ultrasound of joints                             | 4  |
| (g) Radiographs with positive findings                               | 15 |
| (h) Spine IR procedures  | 2  |

### 3.5.3 Optional Requirements

- (a) The availability of additional more specialised imaging procedures over and above the 'core' requirements can further enhance the suitability of a training centre for Musculoskeletal Radiology.
- (b) These optional procedures may include MR arthrography, MR spectroscopy, MR diffusion, perfusion and flow imaging studies, functional studies (C1/C2

movement studies, patellofemoral tracking studies, kinematic joint or muscle studies), femoral torsion measurement, percutaneous or transarterial embolisation.

(c) Trainees should document the procedures performed in a training logbook.

### 3.6 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

3.6.1 Requirements for CRC as specified in the General Guidelines.

3.6.2 Journal Review and Research meeting – one session per month. Active participation in journal review / journal club, and audit/research activities.

### 3.7 PRESENTATIONS AND PUBLICATIONS

Please refer to the General Guidelines in Higher Training