

HONG KONG COLLEGE OF RADIOLOGISTS

Higher Training (Radiology)

General Radiology

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

1. INTRODUCTION

- 1.1 Higher Training in General Radiology comprises enhanced exposure to plain films, special radiological examinations like GI and contrast studies, mammography, ultrasonography, computed tomography, angiography, interventional radiology, radionuclide imaging and magnetic resonance imaging. It also includes mandatory training exposure to PET-CT with no less than 4 weeks of consecutive attachment in PET-CT centres that are approved by the College. (See point 4)
- 1.2 The program needs to be structured and in accordance with the requirements in this guideline.
- 1.3 At least 9 months of the Higher Training period should be dedicated to structured training in General Radiology. Outside these 9 months, General Radiology training can be either full time or combined with other subspecialty training.

2. OBJECTIVES

- (a) To develop initiation towards subspecialty development
- (b) To establish the capability of independent practice in general radiology
- (c) To be well-versed in various imaging modalities to be an effective member of a team in the multidisciplinary approach on patient care
- (d) To develop appropriate professional attitude
- (e) To be motivated towards continuous professional development
- (f) To engage in teaching activities to gather experience to develop as future trainer
- (g) To participate in management and planning activities with exposure to resource management and enhanced awareness in clinical management strategies
- (h) To engage in research projects and presentations (Also refer to point 1.8 in the General Guidelines on Higher Training (Radiology))
- (i) To acquire basic concept of quality improvement and clinical audit
- (j) To acquire knowledge of critical appraisal of literature
- (k) To further develop in breadth of radiological knowledge, including recent advances in new imaging technology and new applications of imaging in various disease entities

3. TRAINING REQUIREMENTS

3.1 TRAINING CENTRE REQUIREMENTS

The training should be conducted in the training centre accredited by the College.

3.2 TRAINER REQUIREMENTS

3.2.1 The Trainer in general radiology can at the same time be a Subspecialty Trainer or Co-Trainer.

3.2.2 Trainer to trainee ratio should be at least 1:1.

3.3 DURATION OF TRAINING

3.3.1 The program should be structured.

3.3.2 Flexibility should be given in counting the training period to facilitate administrative convenience, e.g. separated in 3-month blocks of general training.

3.3.3 Rotation to other recognized training centres would be encouraged, aiming at broadening the exposure of the trainee. The training facilities involved under such arrangement should satisfy the basic requirements for training purpose. The training arrangement including period of rotation, level of training involved in the rotation, any on-call or emergency duty arrangement, leave arrangement, etc. should be submitted in details for approval by College before the rotation commences. The training should at all-time be conducted under supervision by accredited trainer(s) or co-trainer(s). The principles of training supervision is delineated in 'Working Principles for Accreditation of New Training Centres'.

3.4 DUTY SESSIONS

3.4.1 Weekly duty should include

- (a) Plain film reporting
- (b) CT examinations
- (c) US examinations

3.4.2 The following 5 items should be included in the period of training so that the minimum examination number can be achieved

- (a) Basic angiographic / Interventional radiology (IR) examinations
- (b) MRI examinations
- (c) Nuclear medicine (or radionuclide imaging) examinations
- (d) Mammogram examinations.
- (e) Contrast/fluoroscopy studies

3.5 MINIMUM NUMBER OF EXAMINATIONS REQUIRED IN WHOLE HIGHER GENERAL RADIOLOGY TRAINING

3.5.1 The trainee is expected to have performed the following examinations:

Examination	RIS Coding	Requirement
Plain film reporting	1101 – 1799	1,000
Ultrasonography	3101 – 3599	400
Computed tomography	4101 – 4499	800
Contrast/fluoroscopy studies	2101 – 2499	20
Vascular & IR examinations	6101 – 7599	80
Magnetic resonance imaging	8101 – 8699	200
Mammogram	5001 – 5099	80
Radionuclide Imaging (excluding PET-CT)	9001 – 9999	30

In Higher General Radiology Training, a trainee may be considered competent of independent performance and reporting of MRI examinations, provided that

- i) Ready access to specialist consultation is available if necessary.
- ii) The trainee has prior experience of supervised performance and reporting of 400 MRI examinations including those attained in basic training.
- iii) The trainee has satisfied the evaluation of the Training Centre and considered to be competent in this regard.

3.5.2 For Vascular and IR examinations, the requirement for minimum number of supervised cases specified in Vascular and Interventional Radiology Higher subspecialty will also apply to trainees in Higher General Training.

3.6 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

The trainee should chair or present cases in at least 10 clinico-radiological meetings in 6 months.

3.7 PRESENTATIONS AND PUBLICATIONS

As specified in the General Guidelines on Higher Training (Radiology).

3.8 OTHER REQUIREMENTS

3.8.1 During on-call duties, the trainee should be able to attend to most basic vascular or IR radiological requests, and to assist in high level IR procedures. The on-call frequency should be at least once a week on average.

3.8.2 It is expected that arrangement will be made for the trainee to receive management training, to assist in administration of the department, and to be involved in quality assurance and medical audit activities.

4. **MANDATORY TRAINING EXPOSURE TO PET-CT**

4.1 INTRODUCTION

- 4.1.1 Positron Emission Tomography/Computed Tomography (PET-CT) is a major imaging tool providing functional and morphologic information, applicable in particular oncology, cardiology, neurology and infection/inflammatory imaging.
- 4.1.2 Its application should be in correlation with other organ imaging modalities (radiography, ultrasonography, computed tomography, etc.). Integration of the various imaging modalities is essential in the diagnostic process, including when and how to use PET-CT in problem-solving of mainly oncological conditions.
- 4.1.3 The PET-CT training in higher general training aims at introductory level, built on the foundation of basic training obtained before the intermediate examination, with presumed general knowledge on nuclear physics, radiation dosimetry and radiopharmacy. The exposure to PET-CT cases in this period could also be counted to meet the requirements for PET-CT of specific higher subspecialty training.
- 4.1.4 This serves a mandatory component and an integral part of General Higher Training (Radiology).

4.2 OBJECTIVES

- 4.2.1 To acquaint with patient preparation, radiopharmaceuticals administration, image acquisition, image data processing, identifying imaging pitfalls and variants, interpretation of imaging findings in PET-CT studies;
- 4.2.2 To be capable of interpreting and unifying information from all imaging studies to achieve the most specific diagnosis in common oncological PET-CT studies;
- 4.2.3 Exposure to PET-CT studies for infection/inflammation, neurology and cardiology indications is advisable;

4.3 TRAINING REQUIREMENTS

4.3.1 TRAINING CENTRE REQUIREMENTS

- 4.3.1.1 The pre-requisite is the presence of **at least one full functioning PET-CT scanner with an annual caseload of at least 2000.**
- 4.3.1.2 Ancillary facilities related to PET-CT such as library and film museum should be available.

4.3.2 TRAINER REQUIREMENTS

- 4.3.2.1 With 2 years of continuous experience in PET-CT following the award of FHKCR and currently practicing PET-CT.

4.3.3 DURATION OF TRAINING

4.3.3.1 In principle, the training duration is no less than 4 weeks consecutively. A trainee should not take more than 4 calendar days off within this training period. If the trainee is unable to comply with the required training duration during the designated training period, this should be made up during the Higher Training.

4.3.4 DUTY SESSIONS

4.3.4.1 No less than 8 sessions per week is required.

4.3.4.2 The PET-CT sessions assigned to a trainee should NOT overlap with other duty sessions. Supervised reporting is always advisable and would be counted in assessing trainees in fulfilling the minimum number of examinations required for training.

4.3.5 MINIMUM NUMBER OF EXAMINATIONS

The minimum workload of a trainee for training in PET-CT is 60 cases for 4-weeks' training. The minimum number for each examination category is as follows:

Examination Category	RIS Coding	Requirement
Oncology	9P43-9P49, 9C43-9C49	50
Neurology, Cardiology, Infection and inflammation	9P13, 9P19, 9C13, 9C19, 9P20, 9P29, 9P30, 9P31, 9P39, 9C30, 9C31, 9C39	Optional

Exposure to PET-MR studies is optional but advisable.

If the trainee is unable to comply with the minimum requirement of number of examination during the designated training period, this should be made up during the Higher Training.

4.3.6 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

4.3.6.1 Intradepartmental Clinico-radiological meeting should be held regularly at least once every 2 weeks, with trainee presenting cases for discussion. The trainee is expected to present and discuss the PET-CT in the meetings.

4.3.6.2 The trainee should also attend Clinico-radiological meetings relevant to the practice of PET-CT.

4.3.7 PRESENTATIONS AND PUBLICATIONS

4.3.7.1 Please refer to the General Guidelines on Higher Training (Radiology).

4.3.8 OTHER REQUIREMENTS

4.3.8.1 The program should also encompass other academic activities, including audit and quality assurance activities, management of or contribution to film museum and teaching files in respect of PET-CT cases.

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