

HONG KONG COLLEGE OF RADIOLOGISTS

Higher Training (Radiology)

Subspecialty Training in Radionuclide Imaging

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

1. INTRODUCTION

- 1.1 Radionuclide Imaging (RI) is a technique-based subspecialty of diagnostic radiology that encompasses dynamic and static nuclear imaging of pathophysiologic processes, radiotracers, and quality control of nuclear imaging instruments.
- 1.2 Radionuclide Imaging contributes functional and morphologic information on the human body.
- 1.3 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 RI in problem- solving of other imaging modalities.
- 1.4 Radionuclide Imaging as subspecialty training is built on the foundation of basic training obtained before the intermediate examination, with presumed general knowledge on nuclear physics, radiation dosimetry and radiopharmacology.
- 1.5 It is a Category B subspecialty.

2. OBJECTIVES

- 2.1 To be capable of interpreting and unifying information from all imaging studies to achieve the most specific diagnosis;
- 2.2 To understand the physiologic uptake mechanism and distribution of radiopharmaceutical in order to develop a proper interpretative approach of nuclear medicine images;
- 2.3 To understand the principles of RI in general and be able to apply appropriate data analysis and image reconstruction algorithm in case of SPECT studies;
- 2.4 To be able to make clinical management decision including but not limited to choice of radiopharmaceuticals, prescription of imaging protocols and special projection tailored for the pathology of interest;

- 2.5 To know when and how to use RI in problem-solving of other imaging modalities; and to develop an integrated approach in choosing the best imaging modality for different disease entities;
- 2.6 To develop communication and teaching skills;
- 2.7 To have opportunity and guidance for research;
- 2.8 To have appropriate professional attitude and motivation towards continuous professional development;

3. TRAINING REQUIREMENTS

3.1 TRAINING CENTRE REQUIREMENTS

- 3.1.1 The pre-requisite is the presence of at least one full functioning¹ gamma camera which has the capability in performing planar dynamic and static studies, whole body scan and SPECT/gated SPECT² acquisition. Without this, the arrangement of sufficient sessions or workload, and the pursuance of adequate RI knowledge will not be possible for both the trainees and trainers.
- 3.1.2 Ancillary facilities related to RI such as library and film museum should be available.

¹ Full functioning gamma camera refers to weekly sessions at least 8 out of 10 in order to accumulate sufficient workload.

² Gated SPECT acquisition is important technique in nuclear cardiology.

3.2 TRAINER REQUIREMENTS

- 3.2.1 The Trainer from Radiology or Nuclear Medicine (with 2 years of continuous experience in RI following the award of FHKCR and currently practicing RI).
- 3.2.2 As specified in the General Guidelines on Higher Training (Radiology).

3.3 DURATION OF TRAINING

The subspecialty training can be taken in 6 months or in 3 months (brief training).

3.4 DUTY SESSIONS

- 3.4.1 Irrespective of the duration of training, a minimum of 5 sessions per week are required, including appointment booking, patient preparation, radiopharmaceuticals administration, image acquisition, image data processing⁴, interpretation of imaging findings and preparation of reports.
- 3.4.2 The RI sessions assigned to trainee should NOT overlap with other duty sessions.

Supervised reporting is always advisable.

3.5 MINIMUM NUMBER OF EXAMINATIONS REQUIRED

| Examination Category | RIS Coding | Requirement |
|------------------------------------|-------------------------|--------------------|
| Cardiovascular and Pulmonary | 9100-9199 9810-9899 | 40 |
| Endocrine | 9220-9299 | 50 |
| Nephrology and Urology | 9420-9499 | 60 |
| Hematology, Infection and Oncology | 9510-9799 | 20 |
| Skeletal | 9910-9999 | 100 |
| Neurology, GI and Hepatobiliary | 9010-9099 9301-9399' | 20 |
| PET/CT | 9C13-9C49 9P13-9PCT | 60 |

** Overall requirement: at least 400.

3.5.1 For 3 months of training, 50% of the above number in each category is the acceptable minimum.

3.6 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

3.6.1 Intradepartmental Nuclear Radiology case rounds should be held regularly at least once every fortnight, with trainee presenting cases for discussion. The trainee is expected to present and discuss the subspecialty materials in the meetings.

3.6.2 The trainee should also attend Clinico-Radiological meetings relevant to the practice of Radionuclide Imaging.

3.7 PRESENTATIONS AND PUBLICATIONS

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

3.8 OTHER REQUIREMENTS

3.8.1 The program should also encompass other academic activities, including audit and quality assurance activities, management of and contribution to film museum and teaching files in respect of RI cases.

3.8.2 Additional training in a local or overseas centre with clinical PET facilities is advisable.

Last version endorsed by HKAM Council Meeting on 17 November 2011 and effective from 1 July 2012

Revised version endorsed by HKAM Council Meeting on 20 October 2016 and effective from 1 July 2017