

HONG KONG COLLEGE OF RADIOLOGISTS

GUIDELINES ON HIGHER SPECIALIST TRAINING (NUCLEAR MEDICINE)

[This document should be read in conjunction with the Training Regulations, Working Principles for Accreditation of Training Centres and Conduction of Training Programmes, and the Guidelines on General Nuclear Medicine Training.]

1. General Aspects

1.1 In this document and all documents on “Higher Specialist Training (Nuclear Medicine): Subspecialty Training” of various subspecialties, the following interpretation applies:

- “*Subspecialty Training*” = training for knowledge and skill in a subspecialty, and not attaining training for subspecialty accreditation
- “*Trainer*” = a Fellow of the Hong Kong College of Radiologists (Nuclear Medicine), or equivalent
- “*Co-trainer*” = a Nuclear Medicine physician other than a Fellow of Hong Kong College of Radiologists, but approved by the Hong Kong College of Radiologists to provide training supervision to trainees under specified conditions. A Co-trainer has the role to supervise trainees on daily training activities but cannot replace the role of Trainers in the overall supervision for trainees throughout the training period. All Co-trainers of the training centre need to be vetted and approved by the College.
- “*Subspecialty Trainer*” = a Fellow of the Hong Kong College of Radiologists or equivalent, and recognized by the Hong Kong College of Radiologists to be eligible to supervise the Higher Specialist Training trainees for training in specific subspecialties
- “*Trainee*” = a medical doctor registered as trainee with the Hong Kong College of Radiologists

Objectives of Higher Specialist Training:

- (a) To engage in subspecialty-based structured training with initiation towards subspecialty development
- (b) To establish the capability of independent practice in Nuclear Medicine
- (c) To be well versed in various disciplines of Nuclear Medicine to be an effective member of a team in the multidisciplinary approach on patient care
- (d) To develop appropriate professional maturity and 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 see point 1.8).
- (i) To acquire basic concept of quality improvement and clinical audit
- (j) To acquire knowledge of critical appraisal of literature

1.2 The following should be stressed in Higher Specialist Training:

- (a) Practical experience

- (b) In-depth knowledge and skill
 - (c) Increased responsibility
 - (d) Independent thinking and problem solving
 - (e) Familiarity with the appropriate problem-orientated clinical guidelines and procedural protocols
- 1.3 The 2 years of Higher Specialist Training should include the following components:
- (a) General Nuclear Medicine Training
 - (b) Subspecialty Training
 - (c) Radiology Training
 - (d) Training in relevant attributes: management, audit, quality assurance, research, medicolegal, communication, resource management, etc.
- 1.4 For a broad knowledge-based exposure, the 2 years of training should comply with the following criteria:
- (a) Minimum of 9 months fulltime training in General Nuclear Medicine;
 - (b) Minimum of 6 months in Subspecialty Training in Positron Emission Tomography/Computed Tomography;
 - (c) 3-month equivalent of Radiology training
 - (d) Remaining period: minimum of 6 months training in another subspecialty subject or minimum of 3 months training in each of the other two subspecialty subjects.
 - (e) The following optional pattern is acceptable during any specified subspecialty training period:
 - (i) A combination of one subspecialty subject and General Nuclear Medicine
 - (ii) A subspecialty training period can be split into two separate periods, but each period must be 3 months or more in duration.
- 1.5 All training programmes (General Nuclear Medicine training or Subspecialty Training) must be accredited by the College.
- 1.6 Part of the training can be conducted in satellite facilities of the accredited training centre. The requirements are delineated in the Working Principles for Accreditation of Training Centres and Conduction of Training Programmes.
- 1.7 Trainees may apply for recognition of external training activities as part of accredited training. The requirements are delineated in Section 10 of the Working Principles for Accreditation of Training Centres and Conduction of Training Programmes. The list of pre-approved external training activities will be distributed to the accredited training centres on regular basis or obtained from the College upon written request.
- 1.8 During the entire period of Basic and Higher Specialist Training, trainees should participate actively in research activities. At least one project must be accepted at College scientific meetings, or regional / international scientific conferences with the trainee as the oral presenter or first author of a poster presentation; and at least one Nuclear Medicine article with the trainee as the first author, must be published / accepted for publication in the Journal of the College or other indexed medical journals.
- 1.9 Within an accredited Specialist Training Programme of the College, a trainee may attach to another Specialty of the College to broaden his/her training exposure and to

fulfil the training requirements. When individual trainee undergoes the accredited Cross-Specialty training arrangement, he/she should be supervised by the accredited Trainer(s) or Co-trainer(s) of the attached accredited Training Centre under Hong Kong College of Radiologists. The Cross-Specialty training arrangement aims to broaden the exposure of trainees and is not equivalent to training for independent practice in the Cross-Specialty trained subject.

- 1.10 At least one audit project is to be conducted by the trainee. Stages of the audit project have to be presented in the regular audit meeting. The presentations have to be handed in during the exit assessment.

2. **Higher Specialist Training: General Nuclear Medicine**

- 2.1 The programme should differ from Basic General Nuclear Medicine Training, with emphasis on independent performance and supervising responsibility.
- 2.2 The programme should be arranged with designated assignments and rotations.
- 2.3 Teaching activities: to clinicians, junior trainee Nuclear Medicine physicians or Radiologists, radiographers, nurses, medical students, etc., to attain in-depth knowledge of a subject and to improve on presentation skills.
- 2.4 Management of and contribution to film museum and teaching files.
- 2.5 Audit and quality assurance activities.
 - 2.5.1 Before Exit Assessment, trainees should submit at least one original audit report in which they take up independent leading role in the submitted audit project. The pertinent audit project should be clinically oriented and is recommended to be related to their subspecialty training.
- 2.6 Academic activities: research techniques, presentation skill, literature review.
- 2.7 Nurture of professional attitude (ethical standards, legal responsibility, professional image, contribution towards professional organisations and activities, coordination with clinical colleagues for better healthcare)
- 2.8 Management responsibilities and skills.
- 2.9 Trainer : Trainee ratio must not be less than 1:2, preferably 1:1.

3. **Higher Specialist Training: Subspecialty Training**

- 3.1 Please note the interpretation of terminology in 1.1.
- 3.2 Standard format of application for accreditation should include: targets, structured programme, weekly duty sessions (modality, location), other activities, expected workload, qualification and achievement of trainers, etc.

- 3.3 The preferred minimum duration for exposure to one or two subspecialty(s) during Higher Training should be 6 months. The duration can be continuous or separated into two three-month training period.
- 3.4 Four or more duty sessions weekly specific for the subspecialty are advisable. On the average, each subspecialty session consists of 50% or more work related to that subspecialty.
- 3.5 For broader and more comprehensive exposure to various aspects of a subspecialty, appropriate attachment to another training centre is acceptable.
- 3.6 The minimum workload of subspecialty training (in terms of 6 months of training) will be defined by the College in the Training Guidelines for each Subspecialty. Workload required for 3 months of training is 50% of the requirement, except for specific conditions laid down in the pertinent Training Guidelines.
- 3.7 Trainer : Trainee ratio must not be less than 1:2, preferably 1:1.
- 3.8 **A subspecialty trainer** should have
- (a) At least 3 months of previous training in the subspecialty
 - (b) At least 18 months of continuous experience in the subspecialty after award of the Fellowship of HKCR, or equivalent
 - (c) Significant portion of clinical practice being in the subspecialty
 - (d) Related publications
 - (e) Related lectures / presentations
 - (f) Regular attendance of related subspecialty conferences in recent years.
- 3.9 All trainers of a programme need to be vetted and approved by the College at the accreditation of that programme. The training centre is responsible to report to the College any changes in the trainers of a programme for consideration of approval.
- 3.10 **Clinical Meetings**
- 3.10.1 Regular clinical meeting related the subspecialty, at least once every month.
- 3.10.2 Presentation by the trainee of at least 2 cases per month.
- 3.10.3 Participation in other clinically oriented meetings is desirable, and this may be specified in the Training Guidelines of specific subspecialty.
- 3.11 **Absence from Training**
- 3.11.1 Prolonged leave will reduce the time spent in training. Trainees absent from their training post for any period in excess of culmination of 60 calendar days during the period of Higher Specialist Training, apart from annual leave, study leave and prospectively approved full-time research program, should notify the College for corresponding adjustment of the training period requirement in respect of examination or accreditation. In addition, trainees should notify the College for any continuous absence (inclusive of sick leave, maternity leave or study leave) other than

annual leave of more than 14 calendar days during the training period. Trainee should also complete the Declaration of Absence from Training Form in the training logbook.

3.11.2 **Leave** of more than 4 weeks during 6 months of training (pro rata for other periods, e.g. 2 weeks (i.e. 14 days in continuity or an aggregate of 10 separate working days) during 3 months of training) requires compensatory training in the same subspecialty to ensure sufficient period of exposure.

3.12 Examination reports should be signed by the trainee if the cases are performed on his / her own independently. The report should be endorsed by the subspecialty trainer/co-trainer and the trainee if the case is performed by the trainee under direct supervision. To facilitate the assessment of workload of a new training centre, the records of Nuclear Medicine examinations with coding should be provided. The Radiology Information System (RIS) in HA Hospitals provides convenient conversion of examination data into training records. The RIS coding used in the Training Guidelines conforms to the prevailing numbering system. The subspecialty trainers and trainees should be aware of revision of the numbering system from time to time. For situations in which reporting or performing of examinations could not be accurately reflected via the standard method (e.g. RIS system of HA), trainees should use separate manual log with counter-signage by subspecialty trainers.

4. Radiology Training

4.1 Trainees are required to have 3-month equivalent of Radiology training in the Higher Specialist Training period, with emphasis on CT and MRI. During the Radiology training, exposure to other multiple imaging modalities, including plain film is encouraged.

The minimal workload of Radiology training in the Higher Specialist Training is as follows:

Examination	RIS Coding	Requirement
CT	4101 - 4499	300
MRI	8101 - 8699	200

5. Arrangement of Subspecialty Training for Trainees

5.1 Specific subspecialty training for individual trainee needs to be approved by the Department Head and Training Head. The Department Head and Training Head are responsible to handle the overlapping demands for subspecialty training.

6. Training Records

6.1 The record of experience of the examinations and procedures during the training period should be kept in the prescribed logbook of the Hong Kong College of Radiologists. Additional information can be supplied as appended sheets to the logbook where appropriate.

6.2 The logbooks from all trainees would be reviewed at three fixed check points, namely after Basic Specialist Training (i.e. after passing Final (Part II) Fellowship Examination),

after the first year of higher training and at the end of higher training (i.e. before Exit Assessment), by College to verify that appropriate training had been undertaken during the specified period under supervision of trainers.

7. Training Assessment

- 7.1 During the supervised training, it is essential for the trainer to help the trainees in understanding their limitation and identifying areas or complex problems where they need a second opinion or help.
- 7.2 The trainee should have a written assessment at 6-monthly intervals of the progress during the corresponding period, recorded in the logbook and signed by the supervising trainer and the trainee. The process should ensure that training objectives are met, remedial measures are proposed and any issues in the review period are discussed.
- 7.3 Particular attention should be paid to record the trainee's degree of proficiency in specific activities in order to attain independent practice.
- 7.4 Areas identified during the assessment process and requiring changes in the training infrastructure of the corresponding centre should be conveyed to the head of the department for consideration and implementation.

8. Remedial Training

- 8.1 If the trainee is unable to comply with the minimum requirement of number of examinations during the designated training period this can be made up any time during the Higher Specialist Training, as long as it is supervised, documented and recorded in the same manner.
- 8.2 Such remedial training would not be counted to extend the duration of subspecialty training.
- 8.3 The supervising trainer should be aware of the necessity for compensatory training if there is a significant period of leave despite the compliance with the minimum requirement of number of examinations. (Please refer to 3.11)

9. Accountability of Training Department

- 9.1 It is advisable that the Training Supervisor is not the same person as the Administrative Head of the Department.
- 9.2 **Accountability of the Training Head:**
 - (a) To initiate application for training accreditation by the College, with submission of the required data
 - (b) To manage the training department and be responsible for the supervised training provided in the department in accordance with the training regulations and guidelines

- (c) To report immediately to the College any significant discrepancy from the status on accreditation, in respect of training manpower, facilities and workload that may have occurred or are expected to occur. All training centres are required to regularly notify the College on the updated number of trainers, co-trainers and trainees, and any change of their status. Suboptimal number of trainers and co-trainers, or failure to timely report to College for important change of status of trainers and co-trainers might prompt the College to actively review the accreditation status of a training centre
- (d) To initiate timely consultation and notification with the College on matters related to training, especially on major change of training provision which may risk on jeopardizing the quality of training
- (e) To advance the views of the College and to disseminate to the trainees relevant information from the College
- (f) To facilitate the trainees to attend training and educational activities
- (g) To provide annual return to the College on the status of trainers, co-trainers and trainees, and the assessment forms of the trainees in the department
- (h) To meet the trainees regularly, to be able to evaluate and provide advice to the trainees in Nuclear Medicine
- (i) To answer trainees for questions relating to training, and channel the questions to College for consultation if necessary
- (j) To oversee the system of evaluation and monitoring on the level of supervision of trainees in different Nuclear Medicine procedures

Accountability of the **Trainee**:

- (a) To register as a trainee with the College on entry into the training system
- (b) To be aware of the scope, programme, facilities, workload and other aspects of training required in Nuclear Medicine
- (c) To participate in the training courses organised by the College, and the training activities held at the training department
- (d) To participate in and contribute to scientific and other activities organised by the College
- (e) To enter the training records in the logbooks regularly. The logbooks from all trainees would be reviewed at three fixed check points, namely after Basic Specialist Training (i.e. after passing Final (Part II) Examination), after the first year of higher training and at the end of Higher Specialist Training (i.e. before Exit Assessment), by College to verify that appropriate training had been undertaken during the specified period under supervision of trainers
- (f) To interact with the trainers during the regular appraisal sessions
- (g) To bring to the notice of the Training Supervisor, and if necessary the College, of any deficiency in the training programme for improvement at the specific training department
- (h) To prepare for the examination and assessments of training at different levels
- (i) To be fully aware of the Guide on Good Medical Practice of Radiologists by the College

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