

# HONG KONG COLLEGE OF RADIOLOGISTS

## Higher Training (Radiology)

### Subspecialty Training in Thoracic Radiology

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

#### 1. INTRODUCTION

1.1 Thoracic Radiology is a well-defined subspecialty of Radiology in which expertise in the radiological management and treatment of thoracic diseases is required.

1.2 The characteristics of this subspecialty are summarized below:

- (a) It embraces all aspects of imaging although emphasis is placed on chest radiography and computed tomography (CT) of the thorax particularly high resolution CT (HRCT).
- (b) It provides specific imaging support to the following groups of clinicians: respiratory physicians, cardio-thoracic surgeons, intensive care physicians and thoracic oncologists.

1.3 It is a category A subspecialty.

#### 2. OBJECTIVES

The training should ensure that the trainee acquires:

2.1 Clinical and management skills relevant to Thoracic Radiology to enable him to discuss with clinical colleagues and to recommend the best choice of imaging modality.

2.2 A deeper knowledge of the radiological, pathological and clinical aspects of thoracic diseases.

2.3 A clear understanding of the indications, contraindications and complications of radiological procedures relating to the thorax.

2.4 Expertise in image guided biopsy of the lung (e.g. fine needle aspiration), pleural fluid aspiration, and drainage of empyema and pneumothorax.

2.5 Case presentation skills.

2.6 Reasonable amount of audit, analytical and research skills.

#### 3. TRAINING REQUIREMENTS

### 3.1 TRAINING CENTER REQUIREMENTS

- 3.1.1 On-site access to helical/multi-detector computed tomography (MDCT) scanner.
- 3.1.2 Able to access other relevant investigations of thoracic diseases including ultrasound (US), nuclear medicine, PET/CT, angiography and magnetic resonance imaging (MRI). If the training centre is deficient in any of these modalities, the trainee can be attached to other training hospitals for appropriate experience.
- 3.1.3 Exposure to the following two clinical subspecialties must be available in the training program: (1) thoracic surgery, (2) respiratory medicine.
- 3.1.4 In addition, an intensive care unit should be present.
- 3.1.5 Availability of a thoracic oncology unit is advisable.
- 3.1.6 Provision of basic thoracic interventional procedures such as image guided FNAC of thoracic lesions (mediastinal / pleural / lung), empyema or lung abscess drainage, and aspiration of pleural effusion.
- 3.1.7 Availability of actual hands-on experience or observation of sophisticated interventional procedures such as bronchial artery embolization and tracheo-bronchial stenting will enhance the credit standing of the training centre. Exposure to these optional procedures can be arranged for trainees from centres without them.
- 3.1.8 Regular combined clinico-radiological meetings (which should include patho-radiological meeting).

### 3.2 TRAINER REQUIREMENTS

As specified in the General Guidelines on Higher Training.

### 3.3 DURATION OF TRAINING

Training period of 6 months is advisable.

### 3.4 DUTY SESSIONS

The trainee should participate in the following sessions of thoracic radiology:

- (a) Plain film reporting - 2 sessions\* per week
- (b) CT – 2 sessions per week
- (c) US - 1 session per month
- (d) Non-vascular chest interventional radiology (image guided FNA of lung nodule etc.) – 1 session per week
- (e) Combined clinico-radiological meetings – 1 per week
- (f) MRI exposure is necessary- preferably one session per month

(g) PET/CT- at least one session per month

### 3.5 MINIMUM NUMBER OF EXAMINATIONS REQUIRED

<b>Examination/Procedure</b>	<b>RIS Coding</b>	<b>Requirement</b>
Plain CXR reporting	1301	400
CT thorax	4201, 4202	
(1) Lung cancer staging		70
(2) Characterization of lung nodules		30
(3) Suspected pulmonary embolism		10
(4) Emergency thoracic CT (aneurysm, chest trauma)		10
(5) Characterization of CXR abnormality		50
(6) Intrathoracic malignancy other than lung cancer		50
HRCT including expiratory scans of the thorax :	4201	
(1) Interstitial lung disease including emphysema		40
(2) Small and large airways disease (bronchiectasis, bronchiolitis obliterans, tracheal abnormalities)		40
Radionuclide imaging such as bone scan, V/Q scan & PET/CT	9P60 regional PET for solitary pulmonary nodule 9P61 whole body PET for lung cancer Other PET/CT study Other NM study 9xxx	40 (at least 30 from PET/CT studies)
Interventional procedures:		
(1) Image guided fine needle aspiration / biopsy of thoracic diseases (pleural / mediastinal / lung mass), pleural fluid aspiration, empyema or lung abscess drainage	7103-7109 (XR guided, US guided or CT guided)	50

3.5.1 If adequate experience cannot be gained in one centre, attachment to other training centres will be necessary.

3.5.2 *Remarks:*

- (a) Different CT thorax performed should be recorded manually in a specific log sheet designed for thoracic radiology to be attached to the logbook.
- (b) Adjustment of the ratio of different categories of CT thorax performed in the training institute can be made according to different disease patterns seen in individual institute.

### 3.6 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

The trainee should be encouraged to attend the following international and

regional conferences pertaining to this specialty:

- (a) Radiological Society of North America (RSNA) meeting with attendance of chest radiology
- (b) The Fleischner Society – Annual Conferences on Chest Disease / other chest meetings organized by the Society
- (c) Meetings organized by Society of Thoracic Radiology / Japanese Society of Thoracic Radiology / Korean Society of Thoracic Radiology
- (d) ASDIR / ESDIR – meetings on Chest radiology
- (e) European Congress of Radiology with attendance on chest radiology
- (f) Meetings organized by European Society of Thoracic Imaging
- (g) American Thoracic Society (ATS) Annual Meeting
- (h) European Respiratory Society Annual Congress
- (i) Courses on thoracic radiology organized by Royal College of Radiologists, UK
- (j) Courses on thoracic radiology organized by international renown institutions (e.g. UCSF, St. Bartholomew's Hospital etc.) that can obtain local CME credit
- (k) Local meetings relating to thoracic radiology that can be accredited for CME

### 3.7 PRESENTATIONS AND PUBLICATIONS

Please refer to the General Guidelines in Higher Training.

### 3.8 OTHER REQUIREMENTS

3.8.1 The trainee should also be able to evaluate pleural and chest wall abnormalities using ultrasound.

3.8.2 The trainee should have a working knowledge of the following:

#### ***MRI of the thorax***

Imaging of brachial plexus

Imaging of Pancoast tumour

Imaging of central vessels (aorta- for chronic dissection/ aneurysm and pulmonary artery- for pulmonary embolism/ hypertension etc)

Imaging of mediastinum and chest wall diseases

Imaging of intrathoracic vascular abnormalities [arteriovenous malformation (AVM), pulmonary sequestration etc]

The above mentioned studies are desirable and should be recorded manually in the log book.

### 3.8.3 Optional requirements:

- (a) Research – the equivalent of 1 session per week.
- (b) There are interventional techniques which do not form the core

curriculum, but experience of which the trainees is recommended to have.

- (c) Experience for the following techniques, which can also be gained with attachment to other institutions. These can be in the form of actual hands-on experience or as an observer.

Embolization of bronchial artery

Embolization of AVM

Stenting of superior vena cava / tracheo-bronchial tree

Pulmonary / Thoracic aortic angiogram

Superior vena cavagram

Upper limb venogram

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