

# HONG KONG COLLEGE OF RADIOLOGISTS

## Higher Training (Radiology)

### Subspecialty Training in Paediatric Radiology

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

#### 1. INTRODUCTION

1.1 Paediatric Radiology was one of the earliest subspecialties of radiology, and is recognized as a distinct subspecialty in advanced societies. It is dedicated to the imaging diagnosis and intervention in neonates, infants, children and adolescents.

1.2 Paediatric Radiology is characterised by:

- (a) The differences in physiology and anatomy of children and patients of different ages;
- (b) Different spectrum of diseases and pathologies, many being congenital, developmental or related to growth;
- (c) The great emphasis on ionising radiation protection and safety because of the greater sensitivity of growing tissues to radiation damage and induction of malignancy;
- (d) The need to develop skills that enable the radiologists to obtain diagnostic examinations from paediatric patients;
- (e) The need to understand the involvement of the parents and family in management of children's disease.

1.3 Paediatric radiology is a category A subspecialty.

#### 2. OBJECTIVES

2.1 To gain a practical understanding of how a child's physiology and anatomy affects image quality, and dictates differences in requirements for intravenous contrast and sedation

2.2 To gain understanding of the effects of growth and development on image interpretation and making diagnosis

2.3 To learn about paediatric pathologies

2.4 To be able to select and plan the best imaging strategies for every diagnostic problem

2.5 To be able to explain to, and involve the parents in, the diagnostic process and

to answer their questions and address their anxieties

- 2.6 To be able to interpret clinicians' request and communicate meaningfully results to the clinicians
- 2.7 To be able to communicate to larger groups of clinical and radiological colleagues
- 2.8 To appreciate the problems involved in research in paediatric radiology in order to be able to apply the published literature to everyday practice

### **3. TRAINING REQUIREMENTS**

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

- 3.1.1 The training centre must have clinical units for Paediatrics, Paediatric Surgery or a Surgical Unit that manages/operates on paediatric surgical cases, Neonatal Intensive Care Unit (NICU), Special Care Baby Unit (SCBU) and Paediatric Intensive Care Unit (PICU).
- 3.1.2 Radiological department equipment must include
  - (a) Ultrasound with appropriate high frequency transducers
  - (b) Fluoroscopy with paediatric dose reduction options
  - (c) CT with proper paediatric protocols in use
  - (d) NM
  - (e) MRI
- 3.1.3 All Training Centres are part of the **HKCR Paediatric Radiology Training Network**. The trainee may rotate between hospitals within the Network, subject to approval by the College, in order to gain exposure to a spectrum of paediatric subspecialties and to fulfill training requirements.

Hong Kong Children's Hospital (HKCH) is expected to take up a unique and important role in the training in Paediatric Radiology. In view of the establishment of HKCH and the related paediatric service re-organisation in 2018, the case-mix and training provision of existing individual Paediatric Radiology Training Centres will be affected. It is anticipated that HKCH will become part of the **HKCR Paediatric Radiology Training Network**.

The mechanism and period of rotation will be arranged via the training supervisors among the Accredited Training Centres.

- 3.1.4 Paediatric Angiography and Radiological Intervention (except intussusception reduction) are not to be included for practical experience in this training programme. These should be restricted to either the full time experienced interventionalists, or to post-accreditation subspecialty training. Observation of or assistance at such procedures is encouraged.

3.1.5 Medical physicist must be available to monitor radiation protection and to help in the introduction of new techniques.

### 3.2 TRAINER REQUIREMENTS

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

### 3.3 DURATION OF TRAINING

3.3.1 Ideally a minimum of six months for a radiologist requiring a working knowledge in paediatric radiology to deal with related clinical problems in practice.

3.3.2 One year would suit those wishing to specialise in this subject after accreditation and should count towards the necessary two years of subspecialty training for full recognition as a paediatric radiologist.

3.3.3 A three-month duration is acceptable but not recommended.

### 3.4 DUTY SESSIONS

3.4.1 The recommended weekly pattern of training sessions would be one session each or equivalent of the following:

*US, Fluoroscopy, CT, MRI, NM (alternate weeks)*

3.4.2 Sufficient time and workload should be assigned to *plain film reporting* of paediatric patients.

### 3.5 MINIMUM NUMBER OF EXAMINATIONS REQUIRED

3.5.1 The average total number of paediatric cases per session as calculated from the table listed under 3.5.3 is expected to assist the heads of training in assessing the possible viability of offering a Paediatric Radiology Training Programme.

3.5.2 As there are no specific RIS coding for Paediatric examinations; the statistics should be retrieved from RIS for patients 18 years of age or younger.

3.5.3 The following table shows the minimum requirement for 6-month training:

<b>Examination</b>	<b>RIS Coding (please refer to 3.5.2)</b>	<b>Requirement</b>
<b>Plain Film Reporting</b>	1101-1799	200
<b>Ultrasound</b>		
Brain	3201	60
Abdomen, Intestine, Pelvis	3101, 3102, 3104	60
Urinary System	3103,	60
Musculoskeletal		
Hip	3202	10
Spine	3251	10

<b>Examination</b>	<b>RIS Coding (please refer to 3.5.2)</b>	<b>Requirement</b>
Others	<i>Excluding the above</i>	20
<b>Fluoroscopy/Contrast studies</b>		
Ba/swallow/enema/meal/ FT	2102-2109, 2199	10
MCU	2201-2209, 2299	15
or MCU + VUS	2201-2209, 2299 ( <i>excluding the above</i> ) + 3322	30 (Minimum 5 MCU + 25 VUS)
Others	<i>Excluding the above</i>	5
<b>CT</b>		
Brain	4101, 4102	30
Others	4103-4499	30
<b>MRI</b>		
Brain	8101, 8102	60
Others	8103-8699	40
<b>NM</b>		
DTPA/MAG3/DMSA	9420- 9499	15
Others	<i>Excluding the above</i>	10

3.5.4 Exposure to neonatal (<1 month of age) imaging is essential. While a minimal requirement has not been defined, examinations performed for this age group should be separately recorded and logged in the training period of Paediatric Radiology.

### 3.6 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

Trainees should attend all general paediatric and paediatric subspecialties (eg. paediatric surgical and paediatric oncology) meetings.

A list of all cases presented with notes on discussions would be an ideal method to demonstrate the quality of experience to which the trainee has been exposed. This should be appended to the logbook.

### 3.7 PRESENTATIONS AND PUBLICATIONS

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

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

*Revised version endorsed by HKCR Council Meeting on 25 February 2014*

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