HONG KONG COLLEGE OF RADIOLOGISTS

Higher Training (Radiology)

Subspecialty Training in Ultrasonography

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

1. INTRODUCTION

1.1 In comparison to other imaging modalities the unique features of ultrasonography (US) are:

(a) Lack of radiation hazard.

(b) Limited need for patient preparation, sedation and intravenous contrast agents.

(c) A broad spectrum of clinical applications that cover the whole body and done at one sitting.

(d) Real time imaging, particularly useful for guiding interventional procedures and dynamic studies.

1.2 The trainee radiologists developing their US skills, including B mode, colour Doppler and Spectral Doppler, must be able to use this technology:

(a) To obtain an image of optimal quality such that a definitive diagnosis could be made.

(b) When definitive diagnosis is not possible, to choose the next best imaging technique and be able to integrate the US information by recommending the best protocols to answer the clinical problems.

(c) To use US appropriately to solve problems raised by other imaging modalities.

1.3 The trainee must learn a unique set of skills in communication with clinical colleagues and other radiologists because of the following limitations of the technique:

(a) Demonstration of anatomy is limited

(b) Confusing artefacts are common

The trainee has to learn how to overcome these limitations.

1.4 Ultrasonography is a Category B subject.

2. OBJECTIVES

2.1 To increase and broaden practical skills particularly in advanced application of the technique, including Doppler studies

2.2 To learn how to best integrate the use of US into a diagnostic imaging plan for each

patient

2.3 To communicate and present findings to clinical colleagues and other radiologists systemically in the report including essential findings and relevant measurements

2.4 To be able to interpret Doppler and data generated by other radiologists or sonographers, and to ensure such data are obtained optimally

2.5 To have good knowledge of the biological effects of ultrasound and the technique in minimizing the possibility of injury due to inappropriate use of ultrasound

2.6 To be able to encourage appropriate use of US

2.7 To be able to supervise sonographers with cooperation to ensure optimal quality and efficiency

2.8 To have professional knowledge in current development of medical US imaging

3. TRAINING REQUIREMENTS

3.1 TRAINING CENTRE REQUIREMENTS

3.1.1 The hospital must have acute clinical units including surgery, medicine, paediatrics, obstetrics and gynecology.

3.1.2 The department must have at least one high-end ultrasound unit with a complete range of transducers, colour flow, pulsed Doppler, and harmonic imaging. 3D, extended view capabilities and fusion imaging are desirable but not essential.

3.1.3 Hospitals lacking adequate exposure to obstetric ultrasonography must send the trainees to a centre where they will be capable of performing at least 100 fetal scans for anomalies and 50 neonatal ultrasonograms. (In case the trainee has already acquired this experience by going through higher training in Obstetrics and Gynaecology Radiology this can count toward this further US training. The same principle shall apply to other subspecialties such as Paediatrics, Musculoskeletal, etc.)

3.2 TRAINER REQUIREMENTS

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

3.3 DURATION OF TRAINING

A minimum of three months and maximum of six months.

3.4 DUTY SESSIONS

3.4.1 There should be on the average five sessions of ultrasound per week.

3.4.2 It is better that there are not more than five in order to give the trainee the best opportunity to practice integration with other modalities during the training period.

3.5 MINIMUM NUMBER OF EXAMINATIONS REQUIRED

3.5.1 The core requirement:

Examination	***RIS* Coding***	***Requirement***
Abdomen & pelvis, Kidneys	3101, 3103	600
Intestine (which includes appendicitis, pyloric stenosis, intussusception)	3102	20
Head & neck	3201, 3204 – 3206	40
Musculoskeletal	3221 – 3299	30
Extremity for DVT	3306, 3309	60
Obstetrics & Gynaecology	3401 – 3403, 3304, 3411 – 3413, 3104**	230
Carotid and vertebral Doppler	3302	50
Scrotum	3210	10
Transrectal US (male)	3106	20
Transvaginal US	3105	40
Ultrasound-guided biopsy		
Abdomen & pelvis	7104, 7105	20
Superficial structures	7104, 7105	20
Ultrasound-guided aspiration / drainage	7109	20

**RIS refers to Radiology Information System of Hospital Authority.*

3.5.2 In the above requirement, gynaecology ultrasound (3104**) needs to be manually recorded since this is not separately coded on RIS. The quantity of 3104** also needs to be subtracted from pelvic ultrasound (3104) to obtain the true workload performed for non-gynaecological pelvic ultrasound.

3.5.3 Doppler studies on renal artery (native and graft), peripheral arteries and venous mapping (upper and lower limbs) are encouraged.

3.5.4 Miscellaneous US examinations e.g. eyes (3203), chest (3107, 3108), lower limb arteries (3307) would be advantageous.

3.5.5. For a three-month period rotation, 50% of the above number is acceptable.

3.6 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

3.6.1 The trainee should attend a minimum of two per month.

3.6.2 The number of cases presented at each meeting should not be less than five on average for all the meetings. Of these the trainee should present not less than two if meetings are held weekly and increased pro rata if meetings are less frequent, in order to attain the same number.

3.6.3 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 was exposed.

3.7 PRESENTATIONS AND PUBLICATIONS

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

3.8 OTHER REQUIREMENTS

3.8.1 In the regular assessment to be documented in the training logbook, particular attention should be paid to recording the degree to which the trainee has reached sufficient proficiency in specific activities in order to attain independent practice.

3.8.2 As US is still a fast developing technology the trainee should understand the principles and know the clinical utility of newly introduced techniques.

3.8.3 *Optional Requirements:*

(a) The trainee should be able to perform extended view and 3D studies. Application of US fusion imaging technique in diagnostic and interventional procedures are optional.

(b) It is advisable for the trainee to know how and when to perform US IV contrast studies.

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