

HONG KONG COLLEGE OF RADIOLOGISTS

Higher Subspecialty Training in Oncologic Radiology

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

1. INTRODUCTION

- 1.1 Oncologic Radiology is a well-defined subspecialty of Radiology.
- 1.2 It embraces all aspects of oncological imaging (including US, breast imaging, CT, radionuclide imaging, MRI and PET-CT) and interventional procedures.
- 1.3 It is a category A subspecialty.

2. OBJECTIVES

The training program should ensure that the trainee acquires:

- 2.1 Comprehensive knowledge in pathology, radiological findings, clinical aspects, diagnosis, staging, treatment and interventions of oncologic diseases.
- 2.2 A clear understanding of the indications, contraindications and complications of radiological imaging and interventions relating to the oncologic diseases.
- 2.3 Clinical and management skills relevant to Oncologic Radiology to enable him/her to discuss with clinical colleagues and to recommend the best choice of imaging and interventional option.
- 2.4 Reasonable amount of audit, analytical and research skills.
- 2.5 Medical physics related to imaging and treatment of oncological diseases. Understanding the physics principles of oncological imaging modalities is important to allow a deeper appreciation of advanced imaging techniques to characterize tissues.

3. TRAINING REQUIREMENTS

3.1 TRAINING CENTRE REQUIREMENTS

- 3.1.1 Able to access the relevant imaging and interventional procedures related to oncologic diseases including US, breast imaging, CT, radionuclide imaging, PET/CT and MRI.
- 3.1.2 The oncologic NM and PET/CT training should be conducted in accredited HKCR Nuclear Medicine and PET/CT training centers.
- 3.1.3 If the training center is deficient in any of the modality, the trainee should attach to other training hospitals for appropriate experience.
- 3.1.4 The training center should be providing comprehensive and integrated cancer service with the presence of most of the oncology related specialties/subspecialties, including (1) clinical oncology, (2) neurosurgery, (3) cancer surgery, (4) gynecological oncology, (5) musculoskeletal oncology, (6) hematological oncology and (7) paediatric oncology.
- 3.1.5 If the training hospital is short of any of the oncology related specialty or subspecialties, the trainee should attach to other training hospitals for appropriated exposure.
- 3.1.6 If paediatric oncology subspecialty is not available in the training center, the trainee is mandatory to attach to a paediatric oncology center for at least 4 consecutive weeks, 6 consecutive weeks or 8 consecutive weeks during the 6-month, 9-month or 12- month Oncologic Radiology training, respectively.
- 3.1.7 Regular combined clinico-radiological meetings (including multidiscipline team meetings and patho-radiological meetings) should be available. Trainees are expected to attend regular clinico-radiological meetings and to communicate with the clinical colleagues to have better understanding of the imaging findings of different variety of oncologic diseases as well as role of radiology and interventions in cancer patients' management plan.

3.2 TRAINER AND CO-TRAINER REQUIREMENTS

- 3.2.1 The Trainer should have at least 9 months previous training in Oncologic Radiology. Or, the Trainer should have previous training for a total of at least 9 months in at least 3 out of the following oncology related subspecialties: Oncologic Radiology, Thoracic Radiology, Gastrointestinal & Hepatobiliary Radiology, Breast Radiology, Head & Neck Radiology, Neuroradiology, Obstetrics & Gynecology Radiology, Musculoskeletal Radiology, Genitourinary Radiology, Paediatric Radiology and Interventional Radiology.
- 3.2.2 The Co-trainer should have at least 6 months previous training in Oncologic Radiology.

Or, the Co-trainer should have previous training for a total of at least 6 months in at least 2 out of the following oncology related subspecialties: Oncologic Radiology, Thoracic Radiology, Gastrointestinal & Hepatobiliary Radiology, Breast Radiology, Head & Neck Radiology, Neuroradiology, Obstetrics & Gynecology Radiology, Musculoskeletal Radiology, Genitourinary Radiology, Paediatric Radiology and Interventional Radiology.

3.2.3 A Vascular and Interventional Radiology subspecialty Trainer/Co-trainer, or an Oncologic Radiology subspecialty Co-trainer who should have at least 6 months previous training in Interventional Radiology (preferably in Interventional Oncology), can supervise the interventional oncology aspect of the training program. The Vascular and Interventional Radiology subspecialty Trainer/Co-trainer cannot substitute the role of the Oncologic Radiology Trainer/Co-trainer.

3.2.4 Others as specified in the Guidelines on Higher Specialist Training (Radiology).

3.3 DURATION OF TRAINING

9-12 months of training is desirable, 6 months is acceptable but not recommended.

3.4 MINIMUM NUMBER OF EXAMINATIONS REQUIRED FOR 9-MONTH TRAINING

Examination/ Procedure	RIS Coding	Requirement
CT (should include the following oncological diseases):- (1) Head and Neck tumors (2) Thoracic tumors (3) Abdominal tumors (4) Pelvic tumors (5) Musculoskeletal tumors (6) Other malignancies	4101 - 4499	1200
MRI		500
(A) MR Brain (1) Primary brain/ meningeal tumors including lymphoma (2) Metastatic brain tumors	8101, 8102, 8105, 8106, 8107, 8108, 8113, 8114, 8601, 8603, 8604, 8605, 8608, 8609, 8610	120
(B) MR Head and Neck (1) Nasopharyngeal carcinoma (2) Other head and neck malignancies	8103, 8104, 8111, 8112, 8115, 8116, 8117, 8118,	100

Examination/ Procedure	RIS Coding	Requirement
	8119, 8120, 8121, 8122, 8123, 8124, 8125, 8126, 8127	
(C) MR Breast	8301, 8302	10
(D) MR Abdomen including MRCP (1) Primary and metastatic liver malignancies (2) Other malignancies	8305, 8306, 8307, 8308, 8311, 8314, 8317, 8318, 8319, 8321, 8614, 8617	80
(E) MR Pelvis (1) Prostate (2) Gynecological malignancies (3) Rectal cancer	8309, 8310, 8314, 8315, 8316, 8614, 8617	90
(F) MR Spine or extremity for bone or soft tissue tumors	8201-8299, 8401-8499, 8604	100
Breast Imaging Mammography	5001	100
Radionuclide imaging Ga-67/Tl-201/ Tc-99m MIBI/ I-131-MIBG/ In-111-pentetate/ Tc-99m(V)-DMSA scintigraphy/ I-131 scintigraphy/ SLN/ ROLL procedures/ Tc-99m-MDP/HDP scintigraphy (for oncological indications)	9710, 9713, 9714, 9720, 9723, 9730, 9711, 9715, 9770, 9712, 9722, 9731, 9732, 9733, 9910-9941	60
PET/CT	9P43-9P49, 9C43-9C49	60
Interventional Procedures (1) Image guided FNAC or biopsy (2) Central venous catheter placement such as PICC, tunnel catheter insertion, Port-a-catheter insertion (3) Image guided thermal/ cryoablation (4) Chemoembolization/ Radioembolization	7103-7107, 7511, 6309 7512 6301.TC, 6301.TR	120 At least 5 cases

Examination/ Procedure	RIS Coding	Requirement
(5) Superior vena cava stenting	6303.SU	At least 5 cases
(6) Other oncology related interventional procedures	(Manual Log)	

3.5 If adequate experience cannot be gained in one center, attachment to other training hospitals will be necessary.

3.6 **RADIOTHERAPY CONTOURING**

3.6.1 Trainees are expected to observe or assist in the radiotherapy contouring process.

3.6.2 Trainees are highly encouraged to discuss with the treating oncologist how the oncological image interpretation in each case may guide the target delineation or treatment decision.

3.6.3 MINIMUM NUMBER OF RADIOTHERAPY CONTOURING (OBSERVED OR ASSISTED) REQUIRED FOR 9-MONTH TRAINING

Region	Requirement (number of cases)
Brain	3
Head and Neck (including at least 1 nasopharyngeal carcinoma)	6
Thorax (including at least 1 lung cancer)	3
Abdomen	3
Pelvis (including at least 1 rectal cancer, 1 prostate cancer and 1 gynaecological cancer)	6
Musculoskeletal (including at least 1 spine metastasis)	3

3.6.4 Whenever available, trainees are encouraged to observe or assist in a wide variety of radiotherapy modality e.g. two dimensional radiotherapy, conformal radiotherapy, intensity modulated radiotherapy, stereotactic radiotherapy and brachytherapy.

3.6.5 The trainees are required to attend at least 2 Medical Physics training sessions conducted and coached by qualified and experienced Physicists focusing on:

- how to select suitable imaging techniques,
- how to apply data analysis tools
- understanding the strengths and weaknesses of data analysis
- fundamental radiotherapy techniques such as brachytherapy, IGRT, IGBT

- e) how advanced imaging techniques improve tumor delineation, dose painting precision and effectiveness of treatment delivery.

3.7 CLINICAL RADIOLOGICAL CONFERENCES AND OTHER MEETINGS

The trainees should attend at least 1 Combined Clinico-radiological Meeting related to Oncology (including Multidisciplinary Team Meetings and Patho-radiological Meetings) per week. The trainees are encouraged to join as many Combined Clinico-radiological Meetings as possible.

3.8 PRESENTATIONS AND PUBLICATIONS

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

- 3.9 Oncologic Radiology related research or audit project (Optional).

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