MALAYSIAN MEDICAL COUNCIL

SPECIALTY-SPECIFIC REQUIREMENTS (SSR)

(CLINICAL RADIOLOGY)

Prepared By:

Specialty Education Subcommittee (SEC)

of the Medical Education Committee (MEC),

Malaysian Medical Council

Approved by the Malaysian Medical Council:

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Preface

1. The Specialty-Specific Requirements (SSR) pertain to requirements within each specialty and specify the minimum requirements pertaining to the training curriculum, trainers, educational resources and head of programme.

2. The Specialty-Specific Requirements (SSR) are intricately linked to the MMC Malaysian Standards for Medical Specialist Training 2019, and the Standards and SSR must be read and applied together.

Attachment 2

Specialty-Specific Minimum Requirements for Training Curriculum (Based on Area 1.2.4 of Malaysian Standards for Medical Specialist Training) - Clinical Radiology

<table>
<tr><th>Specialty-Specific Requirements (Reference Standard)</th><th>Criteria</th></tr>
<tr><td>1) Minimum entry requirements for postgraduate training

(Standard 3.1.)</td><td>1. Fully registered with the Malaysian Medical Council with a current annual practicing certificate

2. Successful entry evaluation into the programme</td></tr>
<tr><td>2) Minimum duration of training programme

(Standard 1.2.4 - Table 2)</td><td>Completion of a minimum of 48 months of specialised training in the specialty program.</td></tr>
<tr><td>3) Structure of training (rotation/modules) and assessment

Training overview

Training rotation and case mix

(Standard 1.2.4 -</td><td>The program should have a clear pathway encompassing phases of training which shall include the basic and advanced components in Clinical Radiology.

<table>
<tr><th>Areas</th><th>Minimum Duration (Weeks)</th></tr>
<tr><td>General Radiology

including Emergency and Critical Care</td><td>164 weeks</td></tr>
<tr><td>Nuclear Medicine</td><td>8 weeks</td></tr>
<tr><td>Paediatric Radiology</td><td>8 weeks</td></tr>
<tr><td>Interventional Radiology</td><td>12 weeks</td></tr>
</table>
*Duration of training per year is 48 weeks</td></tr>
</table>

Table 3 & Table 4)	
4) Assessments (Standard 2.2.1)	Assessments should i. Employ appropriate methods and levels that are well aligned with learning outcomes. These include a variety of methods and tools such as written assessments, clinical assessments, supervisor's report, logbook, attendance, training attended, practice diary, and research report. ii. Include methods appropriate to assess communication skills, ethics and professionalism. iii. Include formative and summative assessments throughout each rotation, semester, or year of study. iv. Include clear criteria for progression to next year of study. v. Include an exit evaluation/assessment.
5) Additional requirements for completion of training (Standard 1.2.4)	1. Completion of graduate-level research or clinical audit project.
6) List of competencies to be acquired upon completion of training (Standard 1.1.4)	**<u>Generic competencies</u>** Able to: i. Diagnose, investigate and manage common Clinical Radiology cases whilst considering social, health economics and preventive aspects. ii. Anticipate and manage complications. iii. Work independently and in teams competently and professionally. iv. Practise good ethical conduct. v. Practise good and effective communication skills. vi. Perform critical review, plan and conduct scientific research. vii. Exemplify self-advancement through continuous academic and/or professional development including digital health. viii. Apply evidence-based medicine in the field of clinical radiology. ix. Demonstrate exemplary leadership qualities in the multi-disciplinary team management of clinical radiology cases. x. Demonstrate an entrepreneurial mindset, creative problem-solving and resilience.

	<u>Specialty specific competencies</u> Able to 1. Decide on the most appropriate imaging modality for any condition. 2. Perform and interpret routine ultrasound procedures including Doppler. 3. Interpret plain radiographs. 4. Interpret routine Computed Tomography (CT) examinations. 5. Perform and interpret routine fluoroscopy examinations. 6. Interpret mammography examinations. 7. Interpret Magnetic Resonance Imaging (MRI) examinations. 8. Interpret routine nuclear medicine examinations. 9. Perform basic/ Level 1 interventional procedures (Appendix 1) 10. Lead routine radiological conferences with the other clinicians. 11. Conduct Quality Assurance and Safety audits in the Clinical Radiological Services. 12. Produce appropriate and precise radiological reports for all examinations.

Note : These criteria represent the minimum standards. Each educational programme provider may exercise their autonomy to state criteria above and beyond these minimum standards.

Attachment 4

<table>
<tr><th colspan="3">Specialty-Specific Minimum Requirements for Training Centres and Head Programme (Based on Areas 3-6 of Malaysian Standards for Medical Specialist Training) – Clinical Radiology</th></tr>
<tr><th>Item no</th><th>Specialty-Specific Requirements
(Reference standard)</th><th>Criteria</th></tr>
<tr><td>4</td><td>Trainer-to-trainee ratio.

(Standard 3.1.3)</td><td>1:4</td></tr>
<tr><td>5</td><td>Minimum qualifications and experience of trainers

(Standard 4.1.2)</td><td>i. Registered with National Specialist Register

ii. Completed Training-of-Trainer course/equivalent</td></tr>
<tr><td>6</td><td>Minimum requirements for educational resource

(Standard 5.1.1)</td><td>The diagnostic facilities and equipment requirement of the programme training centres must collectively be able to accommodate the following minimum requirements:

1. Physical Facilities

<table><tr><th>Physical Facilities</th></tr><tr><td>Conference room</td></tr><tr><td>Tutorial room</td></tr><tr><td>Reporting room</td></tr><tr><td>Reporting workstations</td></tr><tr><td>Internet and wireless connection</td></tr></table>
2. Service Areas</td></tr>
</table>

Services Areas
General radiography
Fluoroscopy
Mammography
Ultrasound
Computed Tomography (CT) scan
Magnetic Resonance Imaging (MRI)
Angiography
Nuclear medicine

3. Equipment

Equipment
General x-ray machine
Fluoroscopic machine
Mammography machine
Ultrasound scanner
Computed Tomography (CT) scanner
Magnetic Resonance Imaging (MRI) scanner
Angiography machine
Gamma camera and/or PET scan machine

4. Radiological examinations **collectively** per year:

Details	Minimum Number (cases/year)
Radiological examinations	40,000 cases

<table>
<tr>
<td></td>
<td></td>
<td>5. Case Load (Case Mix)

The case load of the programme training centres must <u>collectively</u> be able to accommodate the following minimum requirement:

<table>
<tr><th>Areas</th><th>Minimum Quantity (cases/trainee/year)</th></tr>
<tr><td>Radiography</td><td>1500</td></tr>
<tr><td>Fluoroscopy</td><td>20</td></tr>
<tr><td>Mammogram</td><td>100</td></tr>
<tr><td>Breast ultrasound</td><td>50</td></tr>
<tr><td>Ultrasound</td><td>500</td></tr>
<tr><td>Computed Tomography (CT)</td><td>500</td></tr>
<tr><td>Magnetic Resonance Imaging (MRI)</td><td>200</td></tr>
<tr><td>Angiography and interventional</td><td>40</td></tr>
</table>
</td>
</tr>
<tr>
<td>7</td>
<td>Minimum qualifications and experience of Head of Programme

(Standard 6.2.2)</td>
<td>i. 5 years or more of working experience after national specialist registration

ii. Experience in administration and/or academic management</td>
</tr>
</table>

Note: These criteria represent the minimum standards. Each educational programme provider may exercise their autonomy to state criteria above and beyond these minimum standards.

Appendix 1

Category	Procedure Type	Minimum Number for Competency at End of Training
Level 1	Simple image guided biopsy	100
	Simple image guided aspiration and drainage	100
	Aortography/diagnostic arteriography	100
	Simple vascular access (PICC & non-tunnelled central line)	100
	AV Fistulogram	50

ACKNOWLEDGEMENT

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