



**MALAYSIAN MEDICAL COUNCIL**

**SPECIALTY-SPECIFIC REQUIREMENTS (SSR)**

**(NEUROSURGERY)**

Prepared By:

Specialty Education Subcommittee (SEC)  
of the Medical Education Committee (MEC),  
Malaysian Medical Council

Approved by the Malaysian Medical Council:

25<sup>TH</sup> June 2024

## **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.

<b>Specialty-Specific Minimum Requirements for Training Curriculum (Based on Area 1.2.4 of Malaysian Standards for Medical Specialist Training) - Neurosurgery</b>												
<b>Specialty-Specific Requirements</b>  (Reference Standard)	<b>Criteria</b>											
1) Minimum entry requirements for postgraduate training  (Standard 3.1.)	i. Fully registered with the Malaysian Medical Council with a current annual practising certificate  ii. 2 years of experience in surgical related fields post housemanship (1 year in neurosurgery, 6 months in general surgery, 6 months in other surgical related fields)  iii. Successful entry evaluation into the programme											
2) Minimum duration of training programme  (Standard 1.2.4 - Table 2)	Completion a minimum of 48 months of specialised training in the specialty programme.											
3) Structure of training (rotation/modules)  (Standard 1.2.4 - Table 3 & Table 4)  Training overview  Training rotation/modules and case mix	The program should have a clear pathway encompassing phases of training which shall include the basic and advanced components in neurosurgery. <table border="1" style="margin-top: 10px;"> <thead> <tr> <th style="width: 30%;">Areas</th> <th style="width: 30%;">Details</th> <th style="width: 40%;">Minimum Duration (months)</th> </tr> </thead> <tbody> <tr> <td>Neurosurgery</td> <td style="text-align: center;">-</td> <td style="text-align: center;">40</td> </tr> <tr> <td rowspan="2">Non-neurosurgical specialties</td> <td>Neurology</td> <td rowspan="2" style="text-align: center;">8</td> </tr> <tr> <td>Critical Care</td> </tr> </tbody> </table>		Areas	Details	Minimum Duration (months)	Neurosurgery	-	40	Non-neurosurgical specialties	Neurology	8	Critical Care
Areas	Details	Minimum Duration (months)										
Neurosurgery	-	40										
Non-neurosurgical specialties	Neurology	8										
	Critical Care											

	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Neuroradiology and/or Neuropathology</td> </tr> </table> <p>*Duration of training per year is 48 weeks</p>		Neuroradiology and/or Neuropathology
	Neuroradiology and/or Neuropathology		
<p>4) Assessments</p> <p>(Standard 2.2.1)</p>	<p>Assessments should</p> <ul style="list-style-type: none"> <li>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, research report, communication skills including methods appropriate to assess ethics and professionalism.</li> <li>ii. Include formative and summative assessments throughout each rotation, semester, or year of study.</li> <li>iii. Include clear criteria for progression to next year of study.</li> <li>iv. Include an exit evaluation/assessment.</li> </ul>		
<p>5) Additional requirements for completion of training</p> <p>(Standard 1.2.4)</p>	<ul style="list-style-type: none"> <li>i. Completion of graduate-level research or clinical audit project.</li> <li>ii. Basic Life Support</li> <li>iii. Advanced Trauma Life Support</li> <li>iv. High Speed Drilling course</li> <li>v. Ethics and Biostatistics Course</li> <li>vi. Research Methodology</li> </ul>		
<p>6) List of competencies to be acquired upon completion of training</p> <p>(Standard 1.1.4)</p>	<p><b><u>Generic competencies</u></b></p> <p>Able to:</p> <ul style="list-style-type: none"> <li>i. Independently manage common neurosurgery cases holistically, including complications, whilst considering social, health economics and preventive aspects</li> <li>ii. Function competently and professionally in a team-based environment</li> <li>iii. Maintain a high level of integrity and ethical conduct in practice</li> <li>iv. Ensure effective communication with patients, colleagues and other healthcare-adjacent providers</li> <li>v. Advance the evidence-based practice of surgery through research, audit and scientific writing</li> </ul>		

vi. Exemplify life-long learning through continual professional development, including acquisition of new skills and competencies

vii. Demonstrate exemplary leadership qualities, including setting and maintaining standards, supporting others and having the resilience to cope with pressure

viii. Cultivate an entrepreneurial mindset, balancing risks and benefits, for creative problem-solving

**Specific specialty competencies**

Able to perform the following procedures competently including pre- operative and post-operative care:

<b>Type of surgery (performed independently)</b>	<b>Minimum Number of Cases Performed Independently</b>
<p><b><u>CSF Diversion Procedures</u></b></p> <p>1) External Ventricular Drainage</p> <p>2)Ventriculoperitoneal Shunt</p>	<p>50</p> <p>30(Adult)</p> <p>10 (Paeds)</p>
<p><b><u>Burrhole Drainage of Subdural Collection</u></b></p>	<p>20</p>
<p><b><u>Supratentorial Craniotomy</u></b></p> <p>Evacuation of Blood Clots /Trauma / Tumours</p>	<p>30 (Adult)</p> <p>10 (Paeds)</p>
<p><b><u>Decompressive Craniectomy</u></b></p>	<p>20</p>
<p><b><u>Infratentorial Craniotomy /Craniectomy</u></b></p>	<p>10</p>

	Trauma/ Tumour/ Infection	
	<b>Spine – Cervical / Lumbar Anterior and Posterior Approaches Non Instrumented</b>	<i>5</i>
	<b>Lumbar Puncture / Drain</b>	<i>10</i>

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

**Specialty-Specific Minimum Requirements (Items 4-7) for  
Training Centres (Based on Areas 3-6 of Malaysian Standards  
for Medical Specialist Training) -**

**Neurosurgery**

Item no	Specialty-Specific Requirements (Reference standard)	Criteria																
4	Trainer-to-trainee ratio. (Standard 3.1.3)	1:4																
5	Minimum qualifications and experience of trainers (Standard 4.1.2)	i. Registered with National Specialist Register ii. Completed training-of-trainer course/equivalent																
6	Minimum requirements for educational resource (Standard 5.1.1)	<p>The diagnostic facilities and equipment requirement of the programme training centres must <b>collectively</b> be able to accommodate the following minimum requirement:</p> <p>i. Services</p> <table border="1"> <thead> <tr> <th align="center" colspan="2">Services/Facilities</th> </tr> </thead> <tbody> <tr> <td colspan="2">Teaching hospital with wards, clinics, operating theatres</td> </tr> <tr> <td colspan="2">Critical care facilities</td> </tr> <tr> <td colspan="2">Emergency facilities</td> </tr> <tr> <td colspan="2">Educational facilities (library, lecture rooms/auditoriums, Audiovisual (AV) facilities)</td> </tr> <tr> <td colspan="2">Nursing and physiotherapy (general and critical care)</td> </tr> </tbody> </table> <p>ii. Equipment</p> <table border="1"> <thead> <tr> <th align="center">Equipment</th> <th align="center">Quantity</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Services/Facilities		Teaching hospital with wards, clinics, operating theatres		Critical care facilities		Emergency facilities		Educational facilities (library, lecture rooms/auditoriums, Audiovisual (AV) facilities)		Nursing and physiotherapy (general and critical care)		Equipment	Quantity		
Services/Facilities																		
Teaching hospital with wards, clinics, operating theatres																		
Critical care facilities																		
Emergency facilities																		
Educational facilities (library, lecture rooms/auditoriums, Audiovisual (AV) facilities)																		
Nursing and physiotherapy (general and critical care)																		
Equipment	Quantity																	

		Imaging equipment (radiography, Ultrasonography (USG), Computed Tomography (CT), Magnetic Resonance Imaging (MRI), interventional radiology & intraoperative imaging)	1 each										
		Operation Theatre (OT) equipment for the relevant specialties, critical care equipment, intraoperative microscope, intraoperative neurophysiology monitoring, pathology equipment (for Histopathology Examination (HPE), frozen sections, microbiology)	1 each										
		<p>iii. Case Load</p> <p>The case mix and case load of the programme training centres must <b>collectively</b> be able to accommodate the following minimum requirements:</p> <table border="1"> <thead> <tr> <th>Areas</th> <th>Quantity Per year</th> </tr> </thead> <tbody> <tr> <td>Departmental clinic</td> <td>1500</td> </tr> <tr> <td>Surgical admissions</td> <td>500</td> </tr> <tr> <td>Elective</td> <td>100</td> </tr> <tr> <td>Emergencies neurosurgical operations</td> <td>250</td> </tr> </tbody> </table>		Areas	Quantity Per year	Departmental clinic	1500	Surgical admissions	500	Elective	100	Emergencies neurosurgical operations	250
Areas	Quantity Per year												
Departmental clinic	1500												
Surgical admissions	500												
Elective	100												
Emergencies neurosurgical operations	250												
7	Minimum qualifications and experience of Head of Programme (Standard 6.2.2)	<p>i. 5 years of working experience after national specialist registration</p> <p>ii. Experience in administration and/or academic management</p>											

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



## ACKNOWLEDGEMENT

### Authors:

#### **Specialty Education Subcommittee (SSC) Edu Neurosurgery 2022 – 2024**

1. Dr. Regunath Kandasamy (Chair)
2. Datuk Dr. Pulivendhan a/I Sellamuthu
3. Dato' Dr. Nasser bin Abdul Wahab
4. Dr. Noor Azman bin Abd. Rahman
5. Dr. Saiful Azli bin Mat Nayan
6. Dr. Ravi a/I S. Krishnapillai
7. Prof. Dr. Dharmendra Ganesan

#### **Specialty Education Subcommittee (SSC) Edu Neurosurgery 2024 – 2026**

1. Dr. Regunath Kandasamy
2. Dato' Dr. Nasser bin Abdul Wahab
3. Dr. Noor Azman bin Abd. Rahman
4. Dr. Ravi a/I S. Krishnapillai
5. Prof. Dr. Zamzuri Idris
6. Prof. Madya Dr. Vairavan Narayanan

### Editors:

#### **Medical Education Committee (MEC)**

1. Prof. Datuk Dr. Rohaizat Bin Yon (Chair)
2. Prof. Dato' Dr. Mafauzy bin Mohamed
3. Prof. Dr. Zaleha Abdullah Mahdy
4. Prof. Datin Dr. Yong Rafidah binti Abdul Rahman
5. Prof. Dr. G. R. Letchuman Ramanathan
6. Dato' Dr. Jiffre bin Din
7. Dato' Dr. Jafri Malin bin Abdullah
8. Prof. Dr. Azad Hassan Bin Abdul Razack
9. Prof. Dato' Dr. Yang Faridah binti Abdul Aziz
10. Dr. Sri Wahyu Binti Taher
11. Prof. Dr. Sharifah Sulaiha Binti Syed Aznal
12. Prof. Dr Shatriah Binti Ismail
13. Prof. Dr. Lee Way Seah
14. Dr. Rafidah Binti Abdullah

#### **Specialty Education Subcommittee (SEC)**

1. Prof. Dr. G. R. Letchuman Ramanathan (Chair)
2. Dr. Hirman bin Ismail
3. Prof. Dr. Jamiyah binti Hassan
4. Prof. Dr. Nazimah Idris
5. Dr. Giri Shan
6. Dr. Hanif Hussein
7. Prof. Madya Dr. Bahiyah Abdullah
8. Datuk Seri Dr. Paras Doshi