



MALAYSIAN MEDICAL COUNCIL

SPECIALTY-SPECIFIC REQUIREMENTS (SSR)

(TRANSFUSION MEDICINE)

Prepared By:

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

Approved by the Malaysian Medical Council:

24th September 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.

Specialty-Specific Minimum Requirements for Training Curriculum (Based on Area 1.2.4 of Malaysian Standards for Medical Specialist Training) - Transfusion Medicine													
Specialty-Specific Requirements (Reference Standard)	Criteria												
1) Minimum entry requirements for postgraduate training (Standard 3.1.)	1. Fully registered with the Malaysian Medical Council with a current annual practicing certificate 1. Successful entry evaluation into the program												
2) Minimum duration of training programme (Standard 1.2.4 - Table 2)	Completion of a minimum of 48 months of specialized training in the specialty program.												
3) Structure of training (rotation/modules) (Standard 1.2.4 - Table 3 & Table 4) Training overview Training rotation/modules and case mix	The training shall cover the core areas which include clinical and technical aspects of Transfusion Medicine as follows: i. Blood procurement and donor management ii. Component processing and plasma fractionation iii. Blood inventory management iv. Clinical Transfusion v. Immunohaematology vi. Transfusion Microbiology vii. Laboratory Haematology viii. Quality Assurance ix. Haemovigilance x. Tissue typing and Cellular therapy xi. Regenerative medicine The clinical training shall include rotations in the following disciplines for a total duration of at least 18 months (inclusive in the 192 weeks), with a minimum of 10 weeks in each Area below: <table border="1"> <thead> <tr> <th>Area</th><th>Duration</th></tr> </thead> <tbody> <tr> <td>Haematology and Oncology</td><td>10 weeks</td></tr> <tr> <td>Accident & Emergency</td><td>10 weeks</td></tr> <tr> <td>Anaesthesiology</td><td>10 weeks</td></tr> <tr> <td>Obstetric & Gynaecology</td><td>10 weeks</td></tr> <tr> <td>Paediatrics</td><td>10 weeks</td></tr> </tbody> </table>	Area	Duration	Haematology and Oncology	10 weeks	Accident & Emergency	10 weeks	Anaesthesiology	10 weeks	Obstetric & Gynaecology	10 weeks	Paediatrics	10 weeks
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*Effective learning period per year or 12 months is 48 weeks						
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, research report, communication skills including methods appropriate to assess ethics and professionalism. ii. Include formative and summative assessments throughout each rotation, semester, or year of study. iii. Include clear criteria for progression to next year of study. iv. Include an exit evaluation/assessment.					
5) Additional requirements for completion of training (Standard 1.2.4)	i. Completion of graduate-level research or clinical audit project. ii. Satisfactory completion of required certification as follows: a. Good Clinical Practice (GCP) certification					
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 Transfusion Medicine related cases and donors 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 Transfusion Medicine ix. Demonstrate exemplary leadership qualities in the multi-disciplinary team management of Transfusion Medicine cases. x. Demonstrate an entrepreneurial mindset, creative problem-solving and resilience.					

	<u>Specific specialty competencies</u> i. Provide consultation on clinical transfusion. ii. Report clinical immunohematology cases. iii. Report and provide consultation on transfusion reaction. iv. Provide consultation in transfusion microbiology. v. Report and manage adverse donor reaction. vi. Manage blood procurement and inventory. vii. Lead quality Management initiatives in transfusion laboratory.
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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 for Training Centres and Head Programme (Based on Areas 3-6 of Malaysian Standards for Medical Specialist Training) - Transfusion Medicine																
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)	Training centres must collectively provide services, equipment and a case mix as follows: i.Physical facilities: a. Educational resources shall include adequate: <table><tr><td>Facilities</td></tr><tr><td>Lecture Hall</td></tr><tr><td>Seminar Room</td></tr><tr><td>Medical Officer Room</td></tr><tr><td>Clinical Laboratory</td></tr><tr><td>On-Call Call Room</td></tr><tr><td>Meeting Room</td></tr><tr><td>Library</td></tr><tr><td>Internet Access</td></tr><tr><td>Multipurpose Laboratory</td></tr></table> b. There should be facilities for special needs such as lifts, toilets for the disabled, ramps for easy access and parking for the disabled. ii.Services Areas The laboratory(ies) must be accepted or accredited by the relevant body for transfusion medicine laboratory or equivalent services. <table><tr><th>Service Areas</th><th>Details</th></tr><tr><td></td><td>Blood Procurement</td></tr></table>	Facilities	Lecture Hall	Seminar Room	Medical Officer Room	Clinical Laboratory	On-Call Call Room	Meeting Room	Library	Internet Access	Multipurpose Laboratory	Service Areas	Details		Blood Procurement
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			Blast freezer
			Platelet agitator and incubator
			Label printer
			Sealer
			Sterile Docking Machine
			Blood irradiator/X ray
		For Clinical Transfusion	Immunohaematology analyzer
			Incubator
			Centrifuge for sample tube
			Water bath
			Gel card centrifuge
			Gel card incubator
			Blood fridge
			Plasma freezer
			Platelet agitator
		For Quality Control	Ph meter
			Residual white blood cell analyzer
			Coagulation factor analyzer
			Hematology analyzer
			Low plasma hemoglobinometer
			Temperature logger
		For Stem Cells Unit	Liquid nitrogen storage and refill tank
			Storage Freezer
			Flow cytometry
			Cell culture incubator
			Cell culture inverted microscope
			Biological Safety Cabinet
		For Transfusion Microbiology	Blood screening analyzer (serology)
			Blood screening analyzer (nucleic acid testing)
			Blood freezer for sample archiving
			Sample centrifuge
			Biohazard Safety Cabinet
			Deionized water equipment
			Rotators
			Autoclaves for sterility purposes (for reactive blood bag)
			Vortex
			Thermometer infrared
			Temperature monitoring system
		For DNA Extraction	Vortex
			Minispin
			Centrifuge

			Thermomixer
			Refrigerated centrifuge
			Analytical balance
			DNA quantification analyser
		For Molecular Analysis	Thermal cycler
			Vortex
			Minispin
			Centrifuge
			UV- cleaner box
		For HLA antibody	HLA antibody analyzer/detection system
			Vortex
			Minispin
			Shaker
		For Cell Isolation	Centrifuge
			Vortex
			Automated Cell counter
			Automated cell washer
		For Flow Crossmatch	Flow cytometer
			Vortex
			Centrifuge
		iv. Number of patients transfused a. Number of patients transfused for each institute/hospital/training center: At least 2, 000 patients per year.	
		v. Case Load (Case Mix)	
		The case load of the programme training centres must collectively be able to accommodate the following minimum requirements:	
		Areas	Minimum Quantity (cases/trainee/year)
		Blood centre	1,000 donations
		Immunohematology laboratory	500 cases for routine and specialized tests
		Blood Component preparation	1,000 preparations
		Viral screening	1,000 samples
7	Minimum qualifications and experience of Head of Programme (Standard 6.2.2)	i. 5 years or more of working experience after national specialist registration. ii. Experience in administration and/or academic management.	

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

Glossary for Lab Based

*Relevant body(ies) refers to Department of Standards Malaysia, SIRIM and etc.

ACKNOWLEDGEMENT

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