

Specialty Training Requirements (STR)

Name of Specialty:	Surgery in General
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Note : In addition to the training requirements stated in this STR, residents must comply with any other regulatory requirements or practice-based requirements mandated by the healthcare institutions or place of practice.

Scope of Surgery in General

Surgery in General (SIG) provides a common trunk broad-based foundational training in mostly general surgery and other foundational rotations in order to prepare residents for training in the surgical specialties of Cardiothoracic Surgery, Hand Surgery, Neurosurgery, Plastic Surgery, Urology and Paediatric Surgery.

Purpose of the Residency Programme

SIG residency programme is a comprehensive programme which provides residents with a common-trunk, broad-based training in General Surgery and other foundational rotations before entering surgical specialty training in Cardiothoracic Surgery, Hand Surgery, Neurosurgery, Plastic Surgery, Urology and Paediatric Surgery.

Admission Requirements

Applicants shall be admitted into SIG residency programme upon successful application and admission into the respective surgical specialties (Cardiothoracic Surgery, Hand Surgery, Neurosurgery, Plastic Surgery, Urology and Paediatric Surgery).

At the point of application for this residency programme,

- a) applicants must be employed by employers endorsed by Ministry of Health (MOH), and
- b) residents who wish to switch to this residency programme must have waited at least one year between resignation from his/her previous residency programme and application for this residency programme.

At the point of entry to this residency programme, residents must have fulfilled the following requirements:

- c) Hold a local medical degree or a primary medical qualification registrable under the Medical Registration Act (Second Schedule);
- d) Have completed Post-Graduate Year 1 (PGY1); and
- e) Have a valid Conditional or Full Registration with Singapore Medical Council.

Selection Procedures

Applicants of the respective surgical specialties (Cardiothoracic Surgery, Hand Surgery, Neurosurgery, Plastic Surgery, Urology and Paediatric Surgery) must apply for the respective programme through the annual residency intake matching exercise conducted by Ministry of Health Holdings (MOHH).

Less Than Full Time Training

Less than full time training is not allowed. Exceptions may be granted by Specialist Accreditation Board (SAB) on a case-by-case basis.

Non-traditional Training Route

Not applicable.

Separation

The Programme Director (PD) must verify residency training for all residents within 30 days from the point of notification for residents' separation / exit, including residents who did not complete the programme.

Duration of Specialty Training

The training duration must be 24 months.

Maximum candidature: All residents must complete the training requirements, requisite examinations and obtain their exit certification from JCST not more than 36 months beyond the usual length of their training programme. The total candidature for SIG is 24 months of SIG residency + Surgical Specialty Training + 36 months of candidature.

"Make-up" Training

"Make-up" training must be arranged when residents:

- Exceed days of allowable leave of absence / duration away from training
or
- Fail to make satisfactory progress in training.

The duration of make-up training should be decided by the Clinical Competency Committee (CCC) and should depend on the duration away from training and / or the time deemed necessary for remediation in areas of deficiency. The CCC should review residents' progress at the end of the "make-up" training period and decide if further training is needed.

Any shortfall in core training requirements must be made up by the stipulated training year and / or before completion of residency training.

Learning Outcomes: Entrustable Professional Activities (EPAs)

Residents must achieve level 3a for the following EPAs by the end of residency training:

	Title
EPA 1	Running Surgical Outpatient Clinics
EPA 2	Assisting Surgical Procedures
EPA 3	Facilitating Ward Rounds
EPA 4	Performing Calls

Residents must achieve level 3b for the following EPAs by the end of residency training:

	Title
EPA 5	<u>Providing Pre- and Post-operative Assessment and Care</u>

Learning Outcomes: Core Competencies, Sub-competencies and Milestones

The programme must integrate the following competencies into the curriculum, and structure the curriculum to support resident attainment of these competencies in the local context.

Residents must demonstrate the following core competencies:

1) Patient Care and Procedural Skills

Residents must demonstrate the ability to:

- Gather essential and accurate information about the patient
- Counsel patients and family members
- Make informed diagnostic and therapeutic decisions
- Prescribe and perform essential medical and surgical procedures
- Provide effective, compassionate and appropriate health management, maintenance, and prevention guidance

2) Medical Knowledge

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioural sciences, as well as the application of this knowledge to patient care.

3) System-based Practice

Residents must demonstrate the ability to:

- Work effectively in various health care delivery settings and systems relevant to their clinical specialty
- Coordinate patient care within the health care system relevant to their clinical specialty
- Incorporate considerations of cost awareness and risk/benefit analysis in patient care
- Advocate for quality patient care and optimal patient care systems
- Work in inter-professional teams to enhance patient safety and improve patient care quality. This includes effective transitions of patient care and structured patient hand-off processes.
- Participate in identifying systems errors and in implementing potential systems solutions

4) Practice-based Learning and Improvement

Residents must demonstrate a commitment to lifelong learning.

Resident must demonstrate the ability to:

- Investigate and evaluate patient care practices
- Appraise and assimilate scientific evidence
- Improve the practice of medicine
- Identify and perform appropriate learning activities based on learning needs

5) Professionalism

Residents must demonstrate a commitment to professionalism and adherence to ethical principles including the SMC's Ethical Code and Ethical Guidelines (ECEG).

Residents must:

- Demonstrate professional conduct and accountability
- Demonstrate humanism and cultural proficiency
- Maintain emotional, physical and mental health, and pursue continual personal and professional growth
- Demonstrate an understanding of medical ethics and law

6) Interpersonal and Communication Skills

Residents must demonstrate ability to:

- Effectively exchange information with patients, their families and professional associates
- Create and sustain a therapeutic relationship with patients and families
- Work effectively as a member or leader of a health care team
- Maintain accurate medical records

Other Competency: Teaching and Supervisory Skills

Residents must demonstrate ability to:

- Teach others
- Supervise others

Learning Outcomes: Others

SIG-Paediatric Surgery residents must attend a Basic Laparoscopy course.

SIG-Paediatric Surgery residents must obtain and maintain valid certification in the following:

- Basic Cardiac Life Support
- Advanced Cardiac Life Support
- Advanced Trauma Life Support
- Advanced Paediatric Life Support (must obtain certification as provider before resident starts SIG-elective rotation in R2)

Curriculum

The curriculum and detailed syllabus relevant for local practice must be made available in the Residency Programme Handbook and given to the residents at the start of residency.

The PD must provide clear goals and objectives for each component of clinical experience.

Learning Methods and Approaches: Scheduled Didactic and Classroom Sessions

Didactic sessions may include but not limited to:

1. Multidisciplinary conferences (e.g. ICU rounds, grand rounds, trauma rounds)
2. Morbidity and mortality conferences
3. Journal club with evidence-based reviews
4. Case-based discussion & learning
5. Simulation workshops or training

Residents must attend at least 70% of the scheduled monthly didactic sessions.

In the event where face-to-face meeting is disallowed, the didactic sessions and courses should be conducted via virtual platforms.

Residents are encouraged to attend the following: Communication course and Evidence Based Medicine course.

Learning Methods and Approaches: Clinical Experiences

Residents must complete the following rotations based on their surgical specialty.

Surgical specialty	Rotations
Cardiothoracic Surgery	General Surgery (12 months) Anaesthesiology (3 months) Emergency Medicine (3 months) Cardiothoracic Surgery (3 months) Cardiology (6 weeks) Respiratory Medicine (6 weeks)
Hand Surgery	General Surgery (12months) Anaesthesiology (3 months) Emergency Medicine (3 months) Hand Surgery (3 months) Elective rotation (3 months) in relevant posting e.g., Orthopaedic Surgery, Plastic Surgery

Neurosurgery	General Surgery (6 months) Anaesthesiology (3 months) Emergency Medicine (3 months) Neurosurgery (6 months) Neurology (3 months) Elective rotation (3 months) in one of following: • Orthopaedic Surgery • Otorhinolaryngology • Plastic Surgery • Ophthalmology
Paediatric Surgery	General Surgery (12 months in R1) Urology (3 months in R2) Thoracic (3 months in R2) Children's Emergency (3 months in R2) Paediatric Anaesthesia (3 months in R2)
Plastic Surgery	General Surgery (12 months) Anaesthesiology (3 months) Emergency Medicine (3 months) Plastic Surgery (3 months) Elective rotation (3 months) in relevant posting e.g., Orthopaedic Surgery, Hand Surgery or Plastic Surgery
Urology	General Surgery (12 months) Anaesthesiology (3 months) Emergency Medicine (3 months) Urology (3 months) Elective rotation (3 months) in relevant posting e.g., Renal Medicine

In the event of a protracted outbreak, whereby face-to-face on-site meeting is disallowed and cross-institution movement is restricted, residents will resume their rotation in their own sponsoring institution.

Learning Methods and Approaches: Scholarly / Teaching Activities

Residents are encouraged to perform the following scholarly activities:

	<i>Name of activity</i>	<i>Brief description: nature of activity, when it is attempted</i>
1.	<i>Research project</i>	<i>Participates in a research project which culminates in a publication in a peer-reviewed journal or oral / poster presentation in a local / overseas meeting or conference.</i>
2.	<i>Quality Improvement project</i>	<i>Actively involved in a quality improvement (QI) project which culminates in a publication in a peer-reviewed</i>

		<i>journal or oral/poster presentation in a local/overseas meeting or conference.</i>
3.	<i>Teaching (bedside or didactic)</i>	<i>Providing talks / teaching presentations at division / department level or at courses / workshops. Bedside supervision & teaching or taking medical students on attachment on the shopfloor.</i>

In the event of a protracted outbreak, whereby face-to-face on-site meeting is disallowed, the scholarly activities should be conducted over virtual platforms whenever possible.

Learning Methods and Approaches: Documentation of Learning

Residents must keep a log of their operative experience in the designated case log system as per their respective surgical specialty. Residents should record cases only if they have been actively involved in the pre-operative assessment, operative procedure, and post-operative care.

Residents must perform a minimum number of 150 operative cases over 2 years and to record the types of cases performed, observed or assisted as of below table¹.

Type of Procedures	Performed	Assisted	Observed
Cases in A&E			
Intubation (Rapid Sequence Intubation)			
FAST Ultrasound in Trauma			
Resuscitation of the sick surgical patient			
Chest Tube insertion			
Cases in Anaesthesia & ICU			
Intubation			
Setting Intra-arterial line			
Sedation / Monitored Anaesthesia Care			
Insertion of CVP line			
Operative Cases in General Surgery	Performed	Assisted	Observed

¹ Some procedures that residents may not experience in A&E / Anaesthesia rotations but done in skills laboratory and workshops should be stated separately.

Surgical incisions and extension			
Wound closure (suturing, stapling and others)			
Incision and drainage of superficial abscesses			
Haemostatic techniques, including adjuncts			
Lumps and Bumps excision			
Abdomen opening (laparotomy) and closure			
Hernia repair			
Appendicectomy			
Basic Laparoscopic Skills			
Bowel suturing			
Vascular anastomoses			
Drains insertion			
Perianal procedures			

Residents must observe and assist in a variety of endoscopic procedures and basic laparoscopy which must be logged into their operative experience.

SIG-Paediatric Surgery R2 residents should attend as supervised surgeon and / or assistant and log the following in the resident's logbook during their Urology/ Thoracic rotation.

Urology (adult) rotation (3 months)	Minimum
Nephrectomy (total + partial + radical / oncological and non-oncological)	5
Stone procedures	5
Cystoscopy (rigid + flexible + other transurethral procedures)	30

Thoracic (adult) rotation (3 months)	Minimum
Lung resection	20
Pleurodesis	5

Summative Assessments

	Summative assessments	
	Clinical, patient-facing, psychomotor skills, etc.	Cognitive, written, etc.
R2	IMRCS	The IMRCS Part A is a five-hour MCQ exam consisting of two papers taken on the same day. The AM paper is three hours and the PM paper is two hours in duration. Part B of the IMRCS is an objective structured clinical exam (OSCE). It tests: • Anatomy and surgical pathology; • Applied surgical science and critical care; • Clinical and procedural skills; and • Communication skills.
R1		

S/N	<u>Learning outcomes</u>	<u>Summative assessment components</u>	
		Component a: MCQ	Component b: OSCE
1	Medical Knowledge	√	√
2	Interpersonal & Communication Skills		√
3	Professionalism		√