SURGERY-IN-GENERAL RESIDENCY

TRAINING REQUIREMENTS

(A) INTRODUCTION

The Surgery-in-General (SIG) programme is a comprehensive 24 month programme which provides residents with a common trunk broad-based training before entering into surgical specialty training in Cardiothoracic Surgery, Hand Surgery, Neurosurgery, Plastic Surgery, Urology and Paediatric Surgery.

(B) PROGRAMME OVERVIEW

The 24 months of training must include 12 months in General Surgery rotations; 6 months in at least two of: emergency medicine, orthopaedic surgery and anaesthesia/critical care; 3 months in the assigned surgical specialty; and another 3 months in a rotation relevant to the surgical specialty unless stipulated otherwise in section D under postings. In the 24 months, the SIG resident is expected to consolidate his clinical skills in surgical patient management and achieve competence in clinical and operative surgery. SIG residents must document involvement in a sufficiently broad spectrum of complex procedures to be able to progress to R3 (i.e. into respective surgical subspecialties).

(C) ADMISSION REQUIREMENTS

Entry Criteria/Pre-requisites

To be eligible to apply for the SIG programme, the applicant must have completed transitional residency year or an approved house officer year. They must have been pre-selected for residency training via national interviews, ranking and matching to a surgical specialty. The number of resident positions is to be set by the SIG RAC under the advice of MOH. Residents must complete the training in the same programme.

(D) TRAINING SYLLABUS

Core Knowledge
SIG residents are expected to have an in-depth knowledge of the following:

Surgical Anatomy and Pathology
- a) The breast
- b) Gastrointestinal system
- c) Hepatobiliary system (including the pancreas)
- d) Head and neck
- e) Skin and soft tissues

Clinical Surgery
- a) Nutrition support (parenteral and enteral) and fluid/electrolyte balance in surgical conditions
- b) Considerations in preparation for surgery
- c) Principles of skin and wound closure/healing
- d) Sepsis and antisepsis in surgery
- e) Antibiotic therapy and prophylaxis in surgery
- f) Electrocautery and other coagulation devices including lasers in surgery
- g) Considerations in the elderly surgical patient

Acute Care

a) Resuscitation and circulatory physiology
b) Physiological response in trauma, injury and burns
c) Assessment and management of the patient with multiple injuries

Adjunct Topics

a) Haematologic disorders
b) Immunology in relation to transplantation
c) Oncology
d) Surgical endocrinology

Core Surgical Procedures

SIG residents should have a broad exposure to cases. At the minimum, procedural experiences must include:

a) Lumps and bumps
b) Abdomen opening (laparotomy) and closure
c) Appendicectomy
d) Hernia repair
e) Perianal procedures
f) Circumcision
g) Emergency resuscitation of the surgical patient

Postings

All SIG residents are to complete:

1) Twelve months of general surgery rotations including breast surgery, colorectal surgery, gastrointestinal/hepatobiliary surgery, head and neck surgery, paediatric surgery, soft tissue surgery, surgical oncology, trauma and non-operative trauma (e.g. management of burns) and vascular surgery.

2) Six months in equally divided rotations of at least two of the three following rotations: emergency medicine, orthopaedic surgery and anaesthesia/critical care.

3) Three months in the assigned surgical (or related) specialty.

4) Three months in relevant elective specialty (e.g. renal medicine for urology).

All SIG-Paediatric Surgery residents are to complete:

1) Twelve months of general surgery rotations including breast surgery, colorectal surgery, gastrointestinal/hepatobiliary surgery, head and neck surgery, paediatric surgery, soft tissue surgery, surgical oncology, trauma and non-operative trauma (e.g. management of burns) and vascular surgery.

2) Six months in equally divided rotations of at least two of the three following rotations:
   a. Emergency medicine or Children's Emergency,
   b. Anaesthesia or Paediatric Anaesthesia
   c. Paediatric Medicine

3) Six months in either Urology or Thoracic

All SIG-Neurosurgery residents are to complete:

1) Six months of general surgery rotations

2) Six months of Neurosurgery

3) Three months of Neurology

4) Three Elective Postings (Three months each) chosen from among
   - Orthopaedics
   - Anaesthesia/ICU
   - ENT
   - Plastic Surgery
   - Emergency
   - Opthalmology

All SIG-Cardiothoracic Surgery residents are to complete:

1) Twelve months of general surgery rotations

2) Three months of Cardiothoracic Surgery

3) 3 months of Anaesthesia [Including at least 1 month Surgical Intensive Care Unit (SICU)]

4) 3 months of Emergency Medicine

5) 6 weeks of Cardiology

6) 6 weeks of Respiratory Medicine

Training and teaching programmes

The training programme must regularly provide both structured lectures and clinical teaching (e.g. Grand Ward Rounds, Journal Club, M&M Sessions, X-Ray Meetings, Topic Presentations, etc.). The content of teaching must include the core knowledge listed in Annex A. All residents should be granted protected time for training programmes and are expected to attend at least 80% of all training activities. The programme should document recommended textbooks for the resident's reference, with the caveat that sole reliance on textbook review is inadequate.

4. CORE COMPETENCIES ASSESSED

The SIG resident must attain proficiency in 7 competency areas.

Medical Knowledge

Residents must have a good grasp of the basic sciences, clinical epidemiology as applied to the *core knowledge* topics (listed above), namely in surgical anatomy and pathology; clinical surgery; acute care; and the adjunct topics.

Interpersonal and Communication Skills

Residents must have strong interpersonal skills that allow the establishment of rapport and trust with patients, their relatives and other healthcare professionals. Residents are expected to:

- Accurately elicit and synthesize information obtained from patients, families and colleagues;
- Demonstrate an awareness of both verbal and non-verbal cues in communication;
- Conduct patient consultations effectively, conveying information and explanations accurately and in a manner that is respectful, empathetic and honest;

- Demonstrate the ability to deal with difficult situations e.g. breaking bad news, dealing with distraught or verbally abusive patients or relatives, counselling for organ donation or HIV testing etc.

Practice-based Learning and improvement

Residents must demonstrate the self-motivation to direct their own learning, as well as the means to address deficiencies. Residents are expected to:

- Consult other healthcare professionals as appropriate;
- Identify and participate in appropriate learning opportunities;
- Be open to providing and receiving feedback to and from other healthcare professionals;
- Critically appraise medical literature and apply knowledge to practice, as appropriate;
- Be adept at using information technology for learning and improvements to healthcare delivery;
- Participate in departmental/programme learning opportunities e.g. mortality and morbidity meetings, Journal club, etc;
- Keep abreast of medical knowledge relevant to practice and ensure that clinical and technical skills are maintained.

Professionalism

Patients and the public must be able to trust physicians implicitly with their lives and well being. To justify this trust, doctors have to maintain a good standard of care, conduct and behaviour. The resident must:

- Be dedicated to providing competent, compassionate and appropriate medical care to patients;
- Be an advocate for patients' care and well being and endeavour to ensure that patients suffer no harm;
- Provide access to and treat patients without prejudice of race, religion, creed, social standing, disability or financial status;
- Maintain the highest standards of moral integrity and intellectual honesty;
- Treat patients with honesty, dignity, respect and consideration, upholding their right to be adequately informed and their right to self-determination;
- Keep confidential all medical information about patients;
- Regard all fellow professionals as colleagues, treat them with dignity and accord them respect.

Systems-based Practice

Residents must be familiar with the healthcare system of Singapore and be aware of his/her role in the healthcare system. The resident must demonstrate:

- Ability to work as part of an inter-professional team in the delivery of patient care, and appreciate the role of the different healthcare professionals in the context of holistic patient management;
- Awareness of the cost-benefits and effective allocation of finite healthcare resources in healthcare;
- An understanding of the continuum of healthcare, including primary, tertiary and long-term care, as well as palliative and end-of-life care.

Patient Care

Residents must be able to deliver care that is patient-centred and medically necessary/appropriate. Residents must demonstrate proficiency in:

- Identification of the clinical problem(s);
- Formulation and implementation of care that is patient-centric and medically necessary;

- Procedural skills necessary for executing care plans;
- Stabilization and/or initial management of patients with severe, complex illnesses and injuries.

Faculty Development

Residents as Future Teachers is uniquely included in the list of core competencies the residents have to be cultivated in. Residents have to be trained as effective role models, teachers and leaders to junior doctors, other healthcare trainees and medical students. Residents are expected to

- To teach and guide junior residents in clinical skills, procedures, and patient care
- Participate in co-ordinating medical students and junior residents teaching programs

(E) SUPERVISION OF RESIDENTS

All residents will be supervised by a designated supervisor. The ratio of all teaching faculty to residents should be 1:1. The number of core clinical faculty[1] to resident ratio must be no less than 1:6.

(F) ASSESSMENT AND FEEDBACK

Log of operative experience

All residents are expected to keep a log of their operative experience in the designated case log system. Residents should record cases only if they were actively involved in the pre-operative assessment, operative procedure and post-operative care. Residents must perform adequate minimum number of 150 cases over the 2 years. The operative experience should include a variety of endoscopic procedures and basic laparoscopy.

Assessment

The supervisor's evaluation of the resident should be performed using the designated form and then submitted to the RAC for review.

Feedback

Residents should perform an evaluation of teaching faculty and the training programme using the designated forms. These forms must be submitted to the RAC and kept absolutely confidential.

Intermediate examination

SIG residents are expected to complete the Intercollegiate MRCS exam, or equivalent, in order to be eligible for progression into R3 year.

(G) CHANGES IN TRAINEESHIP PERIOD AND WITHDRAWAL OF TRAINEESHIP

I. Changes in Training Period

Residency should be continuous. If a training programme is interrupted for any reason whatsoever, the SIG RAC may at its discretion, require the trainee to undergo a further period of training in addition to the minimum requirements of the programme or terminate the residency altogether. All trainees are required to conform to the residency training plan as approved by SIG RAC and complete all the exit and training requirements within the maximum candidature.

[1] The core faculty of the training department (e.g. core faculty of general surgery) can also be considered if they are engaged in teaching of SIG residents.

II. Leave of Absence

All residents are to comply with the prevailing MOH policy on Leave of Absence.

III. Overseas Postings

Overseas attachment during Senior Residency training is not permitted with the exception of Radiation Oncology and Neurosurgery (*refer to JCST Circular 114).*

ANNEX A

TRAINING CURRICULUM FOR SURGERY-IN-GENERAL

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1. SYALLABUS

2. CORE KNOWLEDGE

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Acute Care
- d) Resuscitation and circulatory physiology
- a) Physiological response in trauma, injury and burns
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Adjunct Topics
- a) Haematologic disorders
- b) Immunology in relation to transplantation
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3. CORE SURGICAL PROCEDURES

SIG residents should have a broad exposure to cases. At the minimum, procedural experiences must include:

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