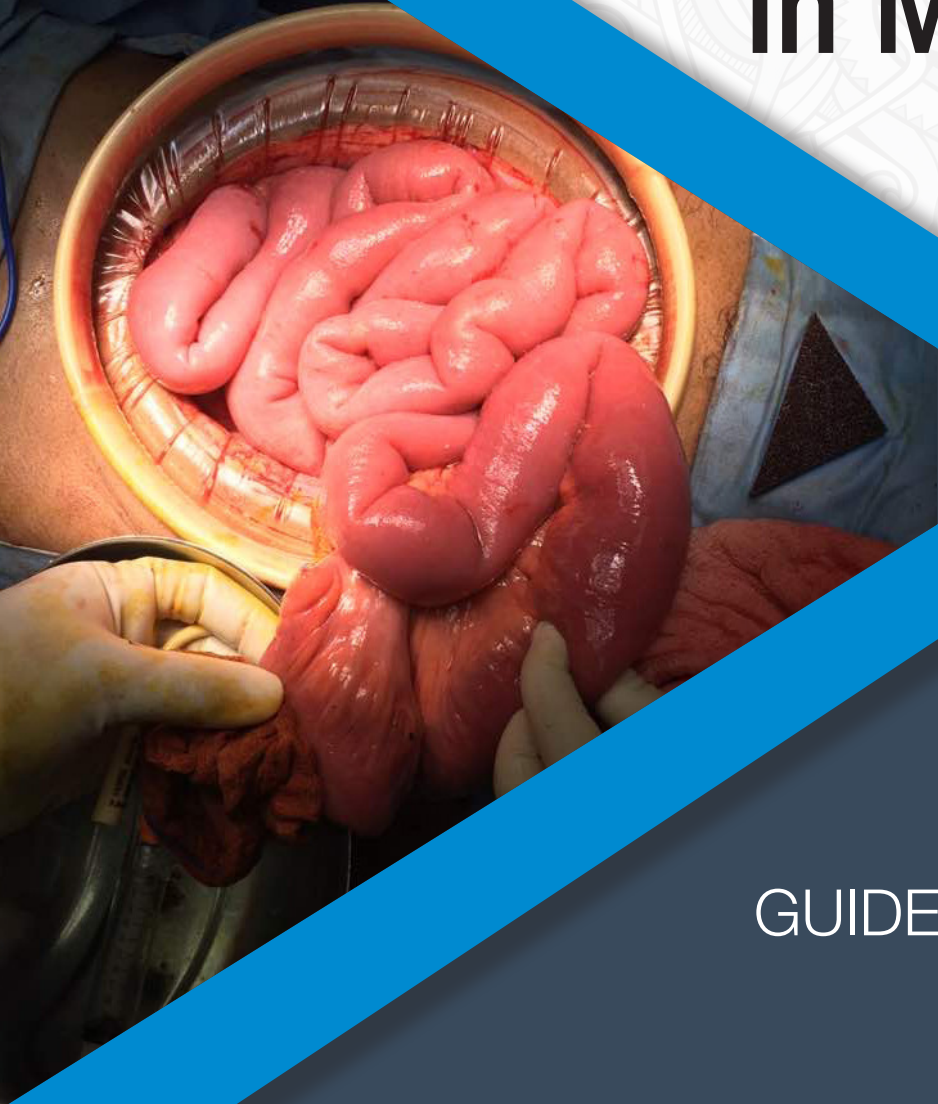


# General Surgery Postgraduate Training in Malaysia



GUIDE FOR APPLICANTS

VERSION 1, 2020

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# Preface

## What is this document?

This document is a guide for those applying to enter postgraduate training in General Surgery. It contains information on the entry requirements for the specialty training programme, the selection process and what the training entails. It is an extract from the Postgraduate Curriculum for General Surgery and provides key summaries about the training, structure, syllabus and assessments.

## The National Postgraduate Medical Curriculum

The General Surgery curriculum is the product of a collaborative effort by members of the Conjoint Specialty Committee for General Surgery comprising of representatives from the Malaysian Universities under the Ministry of Education (MoE), Ministry of Health (MoH), and the College of Surgeons, Academy of Medicine of Malaysia, (CSAMM).

This curriculum sets the training programme for General Surgery across the whole of Malaysia and ensures that specific standards are met to produce specialists who are highly skilled, competent and ethical in clinical practice.

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# Introduction

## Purpose of this guide

The purpose of this guide is to inform prospective applicants seeking a career in General Surgery. It summarises the key aspects of the curriculum, (entry requirements, process, training structure, assessments, some documentation and exit criteria), and provides a guide as to how to prepare and proceed with the application.

## What is General Surgery?

General Surgery is a clinical specialty managing surgically-related conditions affecting the gastrointestinal, hepatobiliary, breast, endocrine and vascular systems, which may present acutely or electively. In addition, general surgeons are the primary providers of polytrauma management. Surgeons need to know medicine as well as surgery and in Malaysia they deal with many systems and perform procedures which in other healthcare systems would be primarily dealt with by sub-specialists. For example, extradural haematomas would be managed by neurosurgeons in tertiary centres, but are managed by general surgeons in other centres. Surgery is an essential and vital component of healthcare from routine to life saving interventions. General surgery is becoming increasingly sub-specialised and the growing level of complexity of operations, with the requirement for complex technical skills, means that trainees will be looking at exposure and training opportunities in these sub-specialties and techniques.

## Size of the specialty

There are at present approximately 885 registered general surgeons, (NSR, 30 June 2020), practicing in Malaysia. As of May 2020, 342 are in the Ministry of Health, 115 in other government institutions and 418 are in private practice. A minimum of 1,444 general surgeons will be needed by 2030, for a projected population of 36.1 million and this is based on an overall target ratio of four general surgeons

per 100,000 population. Overall, for Malaysia, across all surgical specialties including general surgery, the target ratio is estimated to be 20-40 surgical, anaesthetic and obstetric physicians per 100 000 population. In terms of distribution, 70% of the population seeks healthcare in public hospitals which are currently serviced by 457 general surgeons. Given these factors, the target for training is 73 per year over the next 12 years. Currently, there is a shortage of general surgeons to meet the needs of the country and therefore an urgent need to increase their number.

## Unique features of the specialty

General Surgery is a specialty that encompasses the preoperative, operative, and postoperative management of patients with a broad spectrum of diseases, including those who may require nonoperative, elective, or emergency surgical treatment. It involves complex decision making and general surgeons must be competent in diagnosis as well as treatment and management, including operative intervention. Many general surgeons say they enjoy the intellectual challenges of their job, the quick results and active approach to the treatment of disease is almost unique in medicine. To perform an operation and see a patient's life improve almost immediately is a privilege and enormously satisfying. The surgeon has the responsibility of someone's life in their hands, meeting with patients and family members and/or carers to discuss treatment options and explain procedures. Surgeons will also undertake tests and arrange x-rays and scans to decide if an operation is needed or prepare a patient for the procedure.

## Why choose General Surgery as a career?

General Surgery is a fulfilling career involving direct patient care in acute situations. It involves exacting training and develops leadership and good judgement as well as physical skills. Surgery is challenging, varied, and rewarding

but also entails hard work and dedication. A surgeon's life isn't confined to the operating theatre, they need to divide their time between many activities, including; outpatient clinics, ward rounds and daily visits to check on the condition patients under their care, liaising with nursing staff and colleagues and teaching junior doctors. General surgeons need to be leaders, often taking full control of multi-disciplinary teams all working together to ensure the best possible care and outcome for patients. General Surgery provides a solid foundation for those wishing to develop in a particular sub-specialty. It is an exciting, innovative and constantly evolving speciality.

### **Is General Surgery for you?**

Being a general surgeon is unlike any other career, you get to operate on people, improve and sometimes even save their lives. It is a multi-skilled speciality requiring medical and surgical knowledge, dexterity, leadership and the ability to cope and communicate in sometimes difficult and emergency situations. A surgeon must regard their career as a vocation, and be capable and self-motivated to further develop their skills especially as techniques and technology advances. Do you have the qualities above and want a satisfying and gratifying career with a fantastic range of subspecialties and skills? If you want to make a significant change to an individual's quality of life and save lives, then General Surgery is definitely for you.



# 1. The General Surgery Programme

## Training pathways

There is only one pathway for attaining the qualification as a specialist in General Surgery, the Master's degree programme through the Ministry of Education pathway MOE-MOH. The training duration is outlined in the following section.

## Stages of training

The programme is made up of three Stages and the actual number of years may extend depending on the trainee's progress. The trainee is evaluated at each stage for progression to the next stage should they wish to pursue it.

### Stage 1: Basic Surgical Training (BST) (2 Years)

Following the completion of housemanship, doctors who wish to pursue a surgical career should register their interest with CSAMM who are responsible for the coordination of BST. Rotations in the general surgical units of recognised training centres for a minimum of two years are required. Specific training requirements are detailed in the BST Curriculum.

### Stage 2: Advanced Surgical Training (AST) (4-7 Years)

On completion of BST, trainees may apply for AST in programmes that offers a recognised higher qualification i.e. Master of General Surgery. The duration of AST is a minimum of four years, up to a maximum of seven years. Following successful completion of AST, and other criteria such as post qualification surgical experience a trainee must subsequently apply to the National Specialist Registry to be recognised as a General Surgeon.

### Stage 3: Higher Surgical Training (HST) (3-5 Years)

Sub-specialty training, or clinical fellowships, takes place through various pathways, in hospitals that fulfill the training criteria. This may include an overseas attachment. Sub-specialty training is for the acquisition of specific advanced skills (e.g. breast oncoplastic surgery, advanced minimally invasive surgery etc.), and requires a minimum of three years, with a maximum of five years. For further details, refer to the specific sub-specialty curricula.

Key elements of each stage are summarised in Figure 1.

**Figure 1: General Surgery Training Pathway**

	Basic	Advanced	Higher
	2 Years	4-7 Years	2-5 Years
<b>Objectives</b>	<p>Training in basic surgical competencies</p> <p>Evaluation of the suitability for AST</p>	<p>Training in advanced surgical competencies (including research)</p> <p>Evaluation of suitability for independent practice</p> <p>Laying the foundation for HST</p>	<p>Consolidation of general surgical experience (gazettement/NSR/GSWI)</p> <p><i>AND/OR</i></p> <p>Training in general surgical sub-specialties</p>

	Basic	Advanced	Higher
	2 Years	4-7 Years	2-5 Years
<b>Competencies</b>	<p><b>Knowledge</b></p> <p>Applied basic sciences: anatomy, physiology, pathology, medical microbiology</p> <p>Principles of surgery</p> <p><b>Skills</b></p> <p>Scrubbing &amp; hand-washing</p> <p>Gowning &amp; gloving</p> <p>OT navigation</p> <p>Suturing &amp; knotting</p> <p>Handling of instruments</p> <p>Handling of tissues</p> <p>Use of endolaparoscopic instruments</p> <p>Use of energy devices</p> <p>Wound management</p> <p>Universal precautions</p> <p>Antisepsis</p> <p>Basic burns management</p> <p><b>Professionalism</b></p> <p>Safe surgery practices</p> <p>Teaching</p> <p>CME activities</p> <p>Audit</p> <p>Research</p> <p>Ethics</p> <p>Clinical decision-making</p> <p>Teamwork</p> <p>Communication</p>	<p>Further develop knowledge, skills and professionalism in:</p> <ul style="list-style-type: none"> <li>• <b>General Surgery</b> <ul style="list-style-type: none"> <li>◇ Breast</li> <li>◇ Colorectal</li> <li>◇ Hepatobiliary</li> <li>◇ Endocrine</li> <li>◇ Trauma</li> <li>◇ Upper gastrointestinal</li> <li>◇ Vascular</li> </ul> </li> <li>• <b>Surgical specialties Mandatory:</b> <ul style="list-style-type: none"> <li>◇ Urology</li> <li>◇ Neurosurgery</li> </ul> </li> <li>• Optional: <ul style="list-style-type: none"> <li>◇ Plastics</li> <li>◇ Paediatric Surgery</li> <li>◇ Cardiothoracic Surgery</li> </ul> </li> <li>• <b>Relevant Electives (optional)</b></li> </ul> <p>Research competencies</p> <p>Value-based clinical decision-making</p>	<p>Refer to the relevant criteria / curricula.</p>

	Basic	Advanced	Higher
	2 Years	4-7 Years	2-5 Years
<b>Courses</b>	<p><b>Mandatory:</b></p> <p>Basic surgical skills (BSS)</p> <p>Basic Life Support (BLS)</p> <p>Science of tissue management (SoTM)</p> <p><b>Recommended:</b></p> <p>Advanced trauma life support (ATLS)</p> <p>Non-technical skills for surgeons (NoTSS)</p> <p>Care of the critically ill patient (CCrISP)</p>	<p><b>Mandatory:</b></p> <p>ATLS</p> <p>CCrISP</p> <p>NoTSS</p> <p>Gastrointestinal endoscopy</p> <p><b>Recommended:</b></p> <p>Hernioplasty</p> <p>Basic Laparoscopic Surgery: appendicectomy &amp; cholecystectomy</p> <p>Gastrointestinal resection &amp; anastomosis</p> <p>Mastectomy</p> <p>Thyroidectomy</p> <p>Surgical trauma care</p> <p>Research methodology</p> <p>Scientific writing skills</p> <p>Clinical statistics</p> <p>Good clinical practice</p>	<p>Refer to the relevant criteria / curricula.</p>
<b>Documentation</b>	<p>Surgical portfolio, with evidence of:</p> <p>rotations</p> <p>trainers' reports</p> <p>assessments</p> <p>EPAs</p> <p>courses</p> <p>presentations</p> <p>publications</p> <p>other achievements</p>	<p>As per BST</p> <p>Additional documentation:</p> <p>Successful completion of research project</p> <p>Case write-ups</p>	<p>As per BST</p>

	Basic	Advanced	Higher
	2 Years	4-7 Years	2-5 Years
<b>Assessments</b>	<p><b>Formative:</b></p> <p>WBAs - CBDs, CEx, DOPS, PBAs</p> <p>Multi-source feedback</p> <p><b>Summative:</b></p> <p>MRCS Part A / MedEx</p> <p>MRCS Part B</p>	<p><b>Formative:</b></p> <p>WBAs - CBDs, CEx, DOPS, PBAs, NoTSS</p> <p>MCQs/EMQ/essays</p> <p>Case write-ups</p> <p>Multi-source feedback</p> <p>Research progress presentations</p> <p><b>Summative:</b></p> <p>Entrance evaluation</p> <p>Part 1 examination</p> <p>Part 2 examination</p> <p>Defense of research project</p>	<p><b>Formative:</b></p> <p>CBDs</p> <p>Core topic presentations</p> <p>Critical appraisal of the literature</p> <p><b>Summative:</b></p> <p>Exit interview</p>
<b>Training Centres</b>	<p>Hospitals with GS service</p> <p>At least one GS trainer</p>	<p>Primary centres:</p> <p>Hospitals fulfilling all criteria for AST</p> <p>Secondary centres:</p> <p>Hospitals fulfilling some criteria for AST. Under oversight of primary centre; rotations not longer than six months.</p>	<p>Hospitals fulfilling criteria for HST.</p>

## 2. Entry Requirements

Prospective candidates must meet the academic and professional medical qualifications as outlined in this document with adequate clinical experience and must have

successfully completed Basic Surgical Training (BST as stated above), before applying for advanced surgical training. An applicant to AST must fulfil the following requirements:

### Master of General Surgery Entrance Requirements

#### MOH Administrative requirements:

A minimum of two years' service post-housemanship

Scores of 85% or more on annual performance evaluations for three consecutive years

Free of disciplinary issues

Written recommendations from two supervising consultants

#### University requirements:

A Bachelor of Medicine and Bachelor of Surgery degree, or equivalent medical qualification, as recognised by the Malaysian Medical Council.

At least one year of relevant surgical experience following full registration with the Malaysian Medical Council.

#### Other requirements:

Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia.

Satisfies the institution responsible for the programme in a recognised Entrance Evaluation.

Achieves at least IELTS Band 6.0 or TOEFL 550 if their first degree was obtained from a university where English is not the medium of instruction, or pass an English course determined by the appropriate authority.

Undergoes a minimum of three months' clinical attachment in a Malaysian surgical department prior to entry into advanced surgical training (for international applicants).

Has completed Basic Surgical Training (BST) (or its equivalent for international candidates).

### 3. Entry Process

Calls for applications will be advertised, and entrance evaluations conducted by the relevant authorities (e.g. Conjoint Specialty Committee for General Surgery).

Applicants from the Ministry of Health need to apply through the “Sistem Permohonan Hadiah Latihan Persekutuan”, (HLP)’s website at [ehlp.moh.gov.my](http://ehlp.moh.gov.my).

Other applicants who are not from the Ministry of Health are required to apply at the respective university’s graduate website; e.g., for University of Malaya, the online application is through the <http://ips.um.edu.my> website. The application status can be checked online at <http://pgadmission-status.um.edu.my> from two months after the application procedure is completed and confirmed.

Following Application, the entry process is a three-stage evaluation

1. All applicants are required to sit for the Medical Specialist Pre-Entrance

Examination, (MedEX), for General Surgery. The examination syllabus, or scope of knowledge, can be viewed at the Malaysian Examinations Council (Majlis Peperiksaan Malaysia, MPM) website, in reference to the MedEx Pre-Entrance Examination.

<http://portal.mpm.edu.my/documents/10156/bd398004-27d1-4098-a292-a0cc74432d89>

The Entrance Examination is given the greatest weight in ranking applicants, (40%).

2. Applicants who have passed the MedEX are required to submit their portfolios for review.
3. Interview and Assessment. Applicants will be called for the interview in January of the following year. The final list of successful applicants will be decided and made available by April of the same year for the postgraduate training intake in June of each year.

The tables below summarise the entry process for General Surgery training.

Application Entry Process and Timeline	
<b>MOH applicants</b>	Applications are made online at <a href="http://ehlp.moh.gov.my">ehlp.moh.gov.my</a> The application is to be completed by July of each year.
<b>Overseas/Private applicants</b>	Online application via the appropriate web link for postgraduate studies at each University
<b>Screening of applications</b>	Completed by end of October
<b>Interview and Assessment</b>	January each year
<b>Outcome of process</b>	April each year
<b>Briefing</b>	May each year. Report to the University June each year.



Application Evaluation	
<b>Medical Specialist Entrance Examination (MedEX)</b>	MedEX is a written examination comprising of 300 multiple choice questions (MCQ), made up of 60 questions with 5 stems each, and each stem requires a response.
<b>Portfolio submission and review</b>	A portfolio must be submitted and consists of the evidence of the applicants' professional qualifications and clinical experience. It is compulsory for the applicants to complete the portfolio requirements and submit it to the postgraduate training institution, after passing the MedEX. Applicants will be called for interview by the training institution <u>only following a satisfactory portfolio review</u> .
<b>Interview and Assessment</b>	The interview will be based on the clinical knowledge as well as clinical experience, opinions in General Surgery and assessment, and on communication aspects.

## Orientation Process

Training in General Surgery starts with an Orientation Process to ensure that trainees are familiar with the relevant clinical areas and practice, and introduced to trainers, supervisors and other academic/hospital staff in order to facilitate interactions and training opportunities.

The orientation process for General Surgery should include the following:

- Legal requirements (for example, Health and Safety training)
- Regulatory requirements of training (rules and regulations of program)
- Introduction to terms and conditions of training (Leave entitlement, expense claims, etc.)
- Basic introduction to the training centre
- A guided tour of the training centre
- Completion of government and administrative requirements (Tax forms, employment issues, Credentialing and Privileging in the training centre)
- Payroll details

- Introductions to key members of staff
- Specific job-role training expectations
  - ◇ Clinical
  - ◇ Academic; Research & Education

As advanced surgical training programmes may involve multiple clinical and academic facilities, orientation will take place over a number of days. Sufficient time should be set aside before the commencement of training and planned by members of the training faculty in advance.

**Attendance at the orientation process is compulsory. Failure to attend will result in the trainee not being able to commence their training.**

## 4. Syllabus

The syllabus defines what will be taught or learned throughout the training in General Surgery. It outlines the knowledge, procedural skills and professional values to be achieved by the trainees during each phase of the programme. The syllabus helps to set the expectations for both trainer and trainee as to what should be achieved during each phase. It is essential for trainees build their competencies in a progressive manner throughout the training programme. Full details on the syllabus can be found in the General Surgery Curriculum Document.

The programme is structured into three phases and progression to each successive phase of training will require increasing levels of competency in each domain.

### Phase I

On completion of Phase I, trainees are expected to demonstrate competencies in the **initial management of common, uncomplicated general surgical conditions**. These include:

- knowledge of the Basic Sciences and Principles of Surgery which includes applied surgical anatomy, applied physiology, general pathology and principles of surgery
- basic surgical skills in endoscopic and minor procedures in general surgical conditions
- professional behaviours for managing simple general surgical conditions.

Trainees will also gain exposure to the definitive management of more complex general surgical conditions and critical care, as well as explore related areas of interest through approved electives. Training placements must fulfil the following criteria:

- A minimum of one (1) year in total
- A minimum of six (6) months' placement in General Surgery, including modules in Basic Sciences and Principles of Surgery

- The option of up to two (2) electives of three (3) months' duration each in related specialties that are not included in Phase II or III, subject to the approval of the Programme Director.

Trainees will be expected **to initiate a research project**, and preferably complete the following milestones by the end of Phase I:

- successful defense of a research proposal
- ethics approval of research proposal
- submission of grant applications (if required)
- attendance at research-related courses

### Phase II

On completion of Phase II, trainees are expected to demonstrate competencies in the **initial management of common, uncomplicated acute non-general surgical conditions**, that would be managed by general surgeons in hospitals without non-GS specialties. Initial management would include:

- initiating resuscitation and initial investigations
- performing damage-control procedures
- effecting safe transfer to referral centres

Trainees will also gain exposure to the definitive management of more complex non-general surgical conditions. They will understand the scope of the specialty, be able to identify indications for appropriate referral, and provide essential services in areas with limited access to specialties. Training placements must fulfil the following criteria:

- A total duration of one (1) year.
- Four (4) placements of three (3) months each.
- Mandatory placements in Urology and Neurosurgery.

- Remaining placements to be selected from: Cardiothoracic Surgery, Intensive Care Medicine, Plastic & Reconstructive Surgery and Paediatric Surgery

The research project should ideally be in the data collection stage in Phase II.

### Phase III

On completion of Phase III, trainees are expected to demonstrate competencies in the **initial management of complex sub-specialty general surgical conditions, and definitive management of complicated common general surgical conditions.**

Trainees will be expected to play more of a leadership role in surgical teams, including supervising less-experienced colleagues and house officers. Training placements must fulfil the following criteria:

- A minimum of two (2) years in total in General Surgery and its sub-specialties
- A minimum of eight (8) placements of three (3) months each

At least four placements in General Surgery sub-specialties, to be selected from: Colorectal Surgery, Upper GI Surgery, Hepatobiliary Surgery, Breast Surgery, Endocrine Surgery, Vascular Surgery and Trauma Surgery

All milestones of the **research project must be completed** by the end of Phase III:

- successful defense of thesis
- approved submission of thesis (or equivalent)

The minimum skill attainment levels in index procedures for each phase of training is shown in the Appendix. For full details on the knowledge, procedural skills and professional values can be found in the General Surgery Curriculum document.

## 5. Assessment Tools

Assessments in surgical training are used to provide a measure of the functional readiness of a surgical trainee. Traditional assessments have focused on knowledge, clinical decision-making and technical skills. It is now recognised that the modern surgeon requires competencies in professional behaviours, which increases the complexity of measuring surgical competence.

It is the responsibility of each trainee to maintain a training portfolio of these activities as evidence that assessment of learning has taken place. Inability to provide such records (e.g. loss of electronic records), may require the trainee to repeat parts, or the whole, of the training programme.

There are primarily two types of assessments which can be summarily categorised as Formative and Summative.

### Formative Assessments

Many of these are associated with the Entrustable Professional Activities (EPAs);

- **Workplace-based assessments (WBAs)**

The purpose of work-place based assessments is to facilitate and improve learning by providing trainees immediate feedback in a real clinical environment, provide reflections, measure their performance and identify areas of development. A summary of WBAs is provided in the table below.

- **Logbook, Procedure-Based Assessments (PBAs), and Consolidation Sheets**

A surgical **logbook** documents the trainee's operating experience, and should be kept throughout training. The logbook should consist of the evidence of each patient's registration number, diagnosis, procedure or surgery done (PBA), and complications with the level of competence recorded. A **consolidation sheet** should summarise the trainee's experience. A periodic, regular

review (e.g. every six months), of the logbook should be carried out by the trainer with the trainee, to correlate the volume and variety of suitable procedures/surgery to the competence level of the trainee. A summary of the PBAs, and the required skill level at each phase is provided in the Appendix.

- **Portfolio**

The training portfolio is a compilation of evidence for training, learning and progression within the programme and should be reviewed regularly. The training portfolio should include the learning agreement, and the evidence of all training activities, assessments, as well as the Continuous Personal Development (CPD), portfolio.

### Summative Assessments

These are used as indicators of mandated competency achievement for successful completion of different phases of training. A trainee who fails any of these assessments will need to be extended in the programme, or may even fail to complete the programme. The following tools are used:

- Examinations
- External examinations (e.g. FRCS; MRCS or equivalent)
- Research thesis defense
- Annual evaluations

## WBA Assessment Summary

<b>Clinical Evaluation</b>
<b>Mini-Clinical Evaluation Exercise (MiniCEX), or Direct Observation of Clinical Encounters (DOCE)</b>
<b>Case-based Discussions (CbDs).</b> At AST level, cases discussed should be of critical conditions, or relatively uncommon/rare conditions with potentially devastating consequences if not appropriately managed.
<b>Technical Skills</b>
<b>Direct Observation of Procedural Skills (DOPS)</b> assesses a technical skill, e.g. suturing, rather than an entire procedure, and is more suited for use in the basic training curriculum.
<b>Procedure-based assessments (PBAs)</b> to assess the performance in carrying out a procedure, such as an operation, using a validated structured technical skills assessment form. Trainees are expected to show a progression in performance with successive assessments of the procedures listed in the syllabus.
<b>Presentation skills assessment tool</b>
To be used during daily handover meetings, ward rounds, journal club etc.
<b>Non-technical Skills (Professional behaviours)</b>
<b>Multi-source feedback tools</b>
<b>NoTSS assessment form</b>

**Exit Criteria**

Trainees must complete the following to exit advanced surgical training successfully:

1. A minimum of four years surgical training, in recognised training centres, comprising the following rotations:
  - ◇ three years of general surgery (of which one must be spent in general surgical sub-specialties) and
  - ◇ one year in non-general surgical specialties.
2. Formative assessments
  - ◇ All exit Entrustable Professional Activities (EPAs)
  - ◇ A minimum of three case write-ups from three different sub-specialties, in the format of a case report.
  - ◇ Satisfactory end-of posting evaluations
  - ◇ Successful defense of a research project on a surgical-related topic, as the principal investigator.
3. Required courses
4. Barrier assessments
  - ◇ Pass the Part I Examination
  - ◇ Pass the Part II (Exit) examination
  - ◇

## 6. Appendices

These tables provide a summary of the PBAs, and the required skill level at each phase of training.

### Skill Levels

Level	Descriptor
1	No experience expected
2	Has observed or knows of
3	Can manage part or parts with assistance
4	Can manage whole but may need assistance
5	Able to manage without assistance including potential common complications
6	Able to manage complex cases and their associated potential complications

### Minimum skill attainment levels in index procedures at exit of various phases in Advanced Training: (These link to assessments with PBAs)

Procedure	Skill Level				
	Entry	Phase 1	Phase 2	Phase 3	Post-specialty
OGDS	2	2	3	5	6
Colonoscopy	2	2	3	4	6
Laparoscopic appendicectomy	2	2	4	5	6
Open hernioplasty & herniotomy	2	3	4	5	6
PGU repair	2	3	4	5	6
Stoma	2	3	4	5	6
Small bowel resection + anastomosis	2	3	4	5	6
Right hemicolectomy	2	3	4	5	6
Mastectomy + axillary clearance	2	3	4	5	6
Thyroidectomy	2	3	4	5	6
Laparoscopic & open cholecystectomy	2	2	3	4	5
Laparotomy for trauma	2	3	4	5	6
Femoral Embolectomy	2	2	3	4	5



## Glossary of terms

CBD	Case-Based Discussion
CSAMM	College of Surgeons, Academy of Medicine of Malaysia
EPA	Entrustable Professional Activity
GS	General Surgery
IELTS	International English Language Testing System
MCQ	Multiple Choice Questions
MEC	Malaysian Examination Council
MedEx	Medical Specialist Pre-Entrance Examination
MiniCEX	Mini-Clinical Evaluation Exercise
MMC	Malaysian Medical Council
MOE	Ministry of Education
MOH	Ministry of Health
NPMC	National Postgraduate Medical Curriculum
NSR	National Specialist Registry
OSCE	Objective Structured Clinical Examination,
PBA	Procedure Based Assessments
ST	Specialty Training
TOEFL	Test of English as a Foreign Language
UK	United Kingdom
UM	Universiti Malaya
UKM	Universiti Kebangsaan Malaysia
USM	Universiti Sains Malaysia
WBA	Workplace-Based Assessment

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