

Anaesthesiology & Critical Care Postgraduate Training in Malaysia



GUIDE FOR APPLICANTS

VERSION 1, 2023

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Published by:

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First Publication, 2023



Cataloguing-in-Publication Data

Perpustakaan Negara Malaysia

A catalogue record for this book is available
from the National Library of Malaysia

eISBN 978-967-0023-15-1

Acknowledgements

The steering group of the National Postgraduate Medical Curriculum Project would like to express their thanks to the following:

1. Professor Dr. Simon Frostick and Mr. David Pitts for the overall design of the curriculum templates, development of the Essential Learning Activities, editing of curriculum modules, consultation and coaching for writing groups.
2. Ministry of Higher Education for their funding support.
3. The Medical Development Division, Ministry of Health for their valuable support and practical insights.
4. Members of the Medical Deans Council for their unequivocal support for the project.
5. Members of Specialty/Conjoint Boards who have facilitated the work of individual specialties.

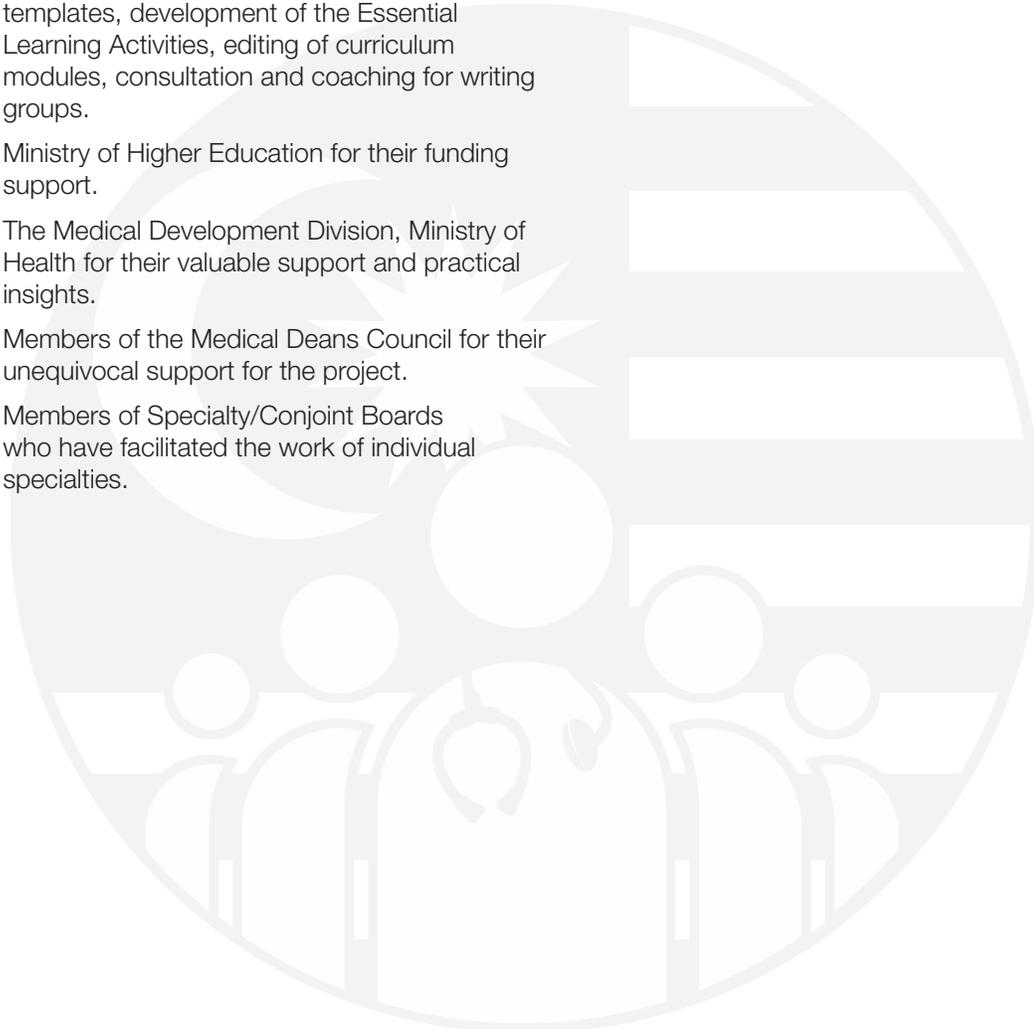


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Preface

What is this document?

This document is a guide for potential candidates applying to enter Postgraduate training in Anaesthesiology and Critical Care. It provides information on the entry requirements and process for the specialty training programme, the selection process, and what the training entails. It is an extract from the National Postgraduate Curriculum for Anaesthesiology and Critical Care, and provides key summaries about the training, structure, syllabus and assessments.

The National Postgraduate Medical Curriculum

The Anaesthesiology and Critical Care curriculum is the product of a collaborative effort by members of the Speciality Committee of Anaesthesiology and Critical Care, consisting of the Malaysian National Universities from the Ministry of Higher Education (MOHE), Ministry of Health (MOH), and College of Anaesthesiologists (CoA), Academy of Medicine, Malaysia.

This curriculum is intended to be the common training programme for Anaesthesiology and Critical Care across the whole of Malaysia, with the purpose of ensuring that specified standards are met so as to produce specialists who are highly skilled, competent and ethical in clinical practice.

The writers

This curriculum was written by a team of clinicians from the universities offering the programme, the MOH and CoA, supported by the Speciality Committee of Anaesthesiology and Critical Care. The core team of authors are acknowledged below:

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Cover photograph courtesy of Dr Haslan Ghazali, Consultant Anaesthesiologist, KPJ Kuantan Hospital and Editorial Board, Berita Anestesiologi, Malaysian Society of Anaesthesiologists, 2022

Introduction

What is Anaesthesiology and Critical Care?

Anaesthesiology and Critical Care is a speciality of Medicine where practitioners are specially trained to look after the physiological needs of patients around the perioperative period. As the care covers a period when the patients are acutely ill or have the potential to become so, most Anaesthesiologists are, with that training, able to provide critical and acute care for the intensive care patients.

Purpose of this guide

This guide is intended to inform prospective applicants seeking a career in Anaesthesiology and Critical Care. It summarises the key aspects of the curriculum (entry criteria, training structure, syllabus, and assessments), to guide applicants in preparing for application and entry into the specialty training.

Size of the speciality

There are 1220 specialists registered with the National Specialist Register (NSR), of which 1035 are Malaysians. The distribution is; 632 in the MOH, 443 in private practice, 8 in Ministry of Defence (MOD), 127 in public Universities and 10 in Private Universities. This equates to 3 specialists per 100,000 population, about half of the World Federation of Societies of Anaesthesiologists (WFSA), recommendation of 5 providers per 100,000 population.

Unique features of Anaesthesiology and Critical Care

The discipline is as broad as the spectrum of patients encountered, and this provides an extremely varied and diverse appeal for all practitioners. The specialty combines both thinking and procedural skills, and allows practitioners to keep up with technological and science of life developments. It incorporates a good knowledge of not only medicine and surgery but also physics and chemistry as anaesthesiologists work with complex equipment and gasses, sometimes across multiple practical procedures at the

same time. In addition, specialists work alongside practitioners of many other medical disciplines and have the chance to keep abreast of developments in other fields. Anaesthesiologists play a critical and varied role in the running of a hospital, across theatres, the labour ward, pain services and the ICU.

Although they are often the silent force behind the scenes, the environment in which they work in is varied and frequently exhilarating. Best known for their critical role in operating theatres, they are also involved in medical procedures such as carrying out assessments in critical care units, dealing with emergency situations and providing pain management. The anaesthesiologist can be regarded as the essential oil in the machinery.

Anaesthesiologists are well positioned to provide “care” that meets the acute needs of a patient. The focus and training within this specialty is always on the need to sustain life even when practitioners sub-specialise. Though it may appear challenging, it is not a specialty that is difficult to master under supervised and structured training.

Why choose Anaesthesiology and Critical Care as a career?

Anaesthesiologists are highly trained in looking after vulnerable patients where the specialist will see the effects of intervention immediately, contributing to the cure rather than just keeping symptoms at bay.

The discipline deals with a broad spectrum of patients ranging from newborn to the elderly, critically ill patients in ICU, as well as healthy individuals presenting for elective surgery. In addition, there are many opportunities for further sub-specialisation in the areas of intensive care, pain medicine and the care of various special populations. The need for appropriate, comprehensive multiskilled training is essential to ensure optimum care and patient safety.

Work is varied and challenging with practical procedures. Training combines the acquisition of knowledge and procedural skills, and an understanding of the equipment and technology used in operating theatres and the ICU.

Anaesthesiologists will need the ability to think quickly and methodically in critical situations, and have a good understanding of physiology, pharmacology and physics. Self-motivated, manual dexterity, leadership skills, being a team player and an attention to detail are qualities needed by anaesthesiology specialists.



1. The Anaesthesiology and Critical Care Programme

Pathways

Currently, there are two training pathways leading to the qualification as an Anaesthesiologist and Critical Care specialist in Malaysia: the University Pathway (M. Med, or equivalent), and the Parallel Pathway (Fellowship of College of Anaesthesiologists, Ireland, FCAI).

The training for both pathways follows a single standard, with aligned content and competencies but with different examination methods. The entry criteria, syllabus content, training, assessment tools and exit criteria are similar. The summative assessment (examinations), differences are described in the Assessment Tools chapter of the curriculum.

The six local universities and the professional degrees offered are shown in the below table.

Table 1: Professional Degrees offered by Universities

| University | Professional degree |
|---|--|
| Universiti Malaya | Master of Anaesthesiology |
| Universiti Kebangsaan Malaysia | Doctor of Anaesthesiology and Critical Care |
| Universiti Sains Malaysia | Master of Medicine (Anaesthesiology and Critical Care) |
| Universiti Putra Malaysia | Master of Medicine (Anaesthesiology) |
| International Islamic University Malaysia | Master of Medicine (Anaesthesiology) |
| Universiti Teknologi MARA | Master of Anaesthesiology and Critical Care |

The Parallel pathway certification is Certificate of Completion of Training, conferred by the College of Anaesthesiologists, Academy of Medicine, Malaysia.

Phases of training

All trainees will undergo training in accredited centres through various rotations in; anaesthesia, intensive care, and pain medicine. The programme is structured as a spiral progression of learning. Trainees are exposed to multiple and varied clinical encounters throughout all stages of training. Each time the trainee revisits the subject matter or re-encounters similar patient presentations it is structured towards reinforcing and advancing learning.

Training is divided into three Stages: **Basic** (Stage 1: Foundations of the discipline), **Intermediate** (Stage 2: Core of discipline) and **Advanced** (Stage 3: Transition to independent practice). Note that the University Pathway is a 4-year minimum programme whereas the Parallel pathway is a 6-year minimum programme.

In-training assessments are scheduled throughout the programme to provide guidance and feedback and facilitate trainees in identifying their learning needs to help them progress through the programme stages. In addition, summative assessments are strategically placed to ensure that trainees are ready to progress to the next stages of training.

The **Basic Stage** of training focuses on strengthening the basic knowledge of pharmacology, physiology and clinical sciences, as well as the principles of clinical measurements relevant to the practice of modern anaesthesia. The summative assessment at the end of this initial phase of training will therefore focus on the understanding of these basic sciences and their application in anaesthesia and critical care. To progress to the next stage, trainees must pass the following examinations; Part I Conjoint Examination on the University pathway, MCAI-OSCE/SOE and FCAI on the Parallel pathway.

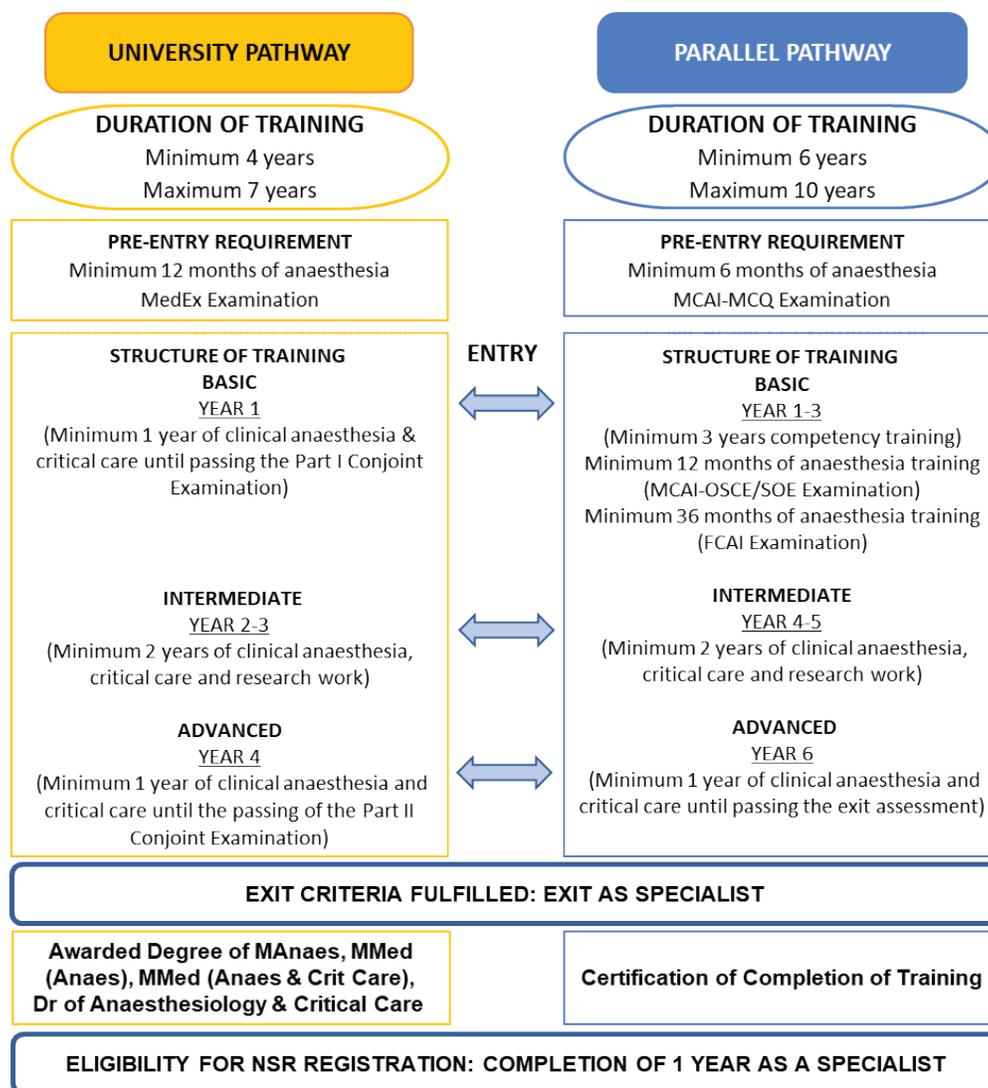
The **Intermediate Stage** of training prepares the trainees for greater responsibility in day-to-day anaesthesia practice, exposure to the various sub-specialities in anaesthesia practice, increased competency in handling both emergency and elective surgery, intensive exposure to critical care medicine in the various intensive care settings as well as the opportunity to develop leadership skills.

The final, **Advanced Stage** of training focuses on attaining more significant responsibility. The advanced trainee takes on the role of Registrar, which is almost equivalent to (and at the expected competency level of), of a junior anaesthesiologist in a general hospital.

Throughout the programme, (mainly Stages 2 and 3), there will be a requirement to carry out original research work culminating in the submission of a research report. The successful submission of the research report is one of the requirements for being eligible to sit for the exit Examination, (Part II for the University pathway and the Exit Assessment in the Parallel pathway).

The following figure summarises the structure of the training for the two training pathways.

Figure 1: Overview of Specialist Anaesthesiology and Critical Care Training Programmes in Malaysia



2. Entry Requirements

Table 2 summarises the entry requirements for Anaesthesiology and Critical Care training. The complete or definitive version is provided in the curriculum document.

Table 2: Summary of Entry Requirements

| Entry Requirement | University Pathway | Parallel Pathway | Evidence on application |
|--|---|---|---|
| Medical degree qualification recognised by the Malaysian Medical Council (MMC) | ✓ | ✓ | Medical degree certificate |
| Full registration with MMC or Country of origin Medical Board/Authority/Council | ✓ | ✓ | Malaysian applicants: MMC Full registration certificate Latest Annual Practising Certificate (APC) International applicants: Letter of Good Standing from their country-of-origin Medical Board/Authority/Council |
| Specific requirements | International applicants: Completed a satisfactory clinical attachment at the university of their application, or equivalent English proficiency assessments (minimum Academic IELTS band 6 or TOEFL score 650) | Passed MCAI –MCQ examination | International applicants of University pathway: English language proficiency certificate Parallel pathway applicants: MOH applicants: Application is supported by the Head of Department and CoA |
| Medical Specialist Pre-entrance Examination (MedEx) for Anaesthesiology | Fulfil selection criteria specified at https://rb.gy/8hmdsa | Not applicable | Applicants of University pathway: MedEx certificate |
| Clinical experience post-full registration with MMC or country of origin Medical Board/Authority/Council | Minimum 12 months of Anaesthesiology experience with satisfactory Referee Report | Minimum 6 months (in total) anaesthesia training post-housemanship prior to MCQ-MCAI in a Specialist-based, Regional or Accredited Hospital | Applicants of University pathway: Completed Malaysian Anaesthesiology Training Programme Referee Report |
| Essential Learning Activities (ELAs) | Safely and competently perform entry ELAs | | Based on ELA worksheets |

Essential Learning Activities

Entry Essential Learning Activities (ELAs), are activities that applicants must be able to perform safely and competently prior to starting postgraduate training. Applicants are expected to have developed the knowledge, skills, attitudes, and values in performing the following eight (8) entry ELAs in Anaesthesiology and Critical Care:

1. Evaluate and prepare pre-operative ASA 1 & 2 patients
2. Plan and conduct anaesthesia on ASA 1 & 2 patients
3. Maintain a patent airway
4. Monitor perioperative patients
5. Provide peri-procedural analgesia
6. Managing life threats
7. Harm prevention
8. Effective communication

These entry ELAs will be assessed based on ELA worksheets by two referees of applicant's choice on completion of the Malaysian Anaesthesiology Training Programme Referee Report. Items in these ELA worksheets are examples and do not constitute an exhaustive list in any aspect. The entry ELAs are shown in the Appendix.

3. Entry Process

There are two training pathways for this specialty and the entry process depends on the training pathway and scholarship scheme.

University pathway

All applicants for the university pathway will be required to reach Band 4 of the Medical Specialist Pre-entrance Examination for Anaesthesiology (MedEx). This examination is conducted annually and can be taken 6 months after housemanship. The results are valid for 3 years. **Attaining the required band at the MedEx does not guarantee entry into the programme.** Details of MedEx can be found on the Malaysian Examination Council (MPM, Majlis Peperiksaan Malaysia) website <https://rb.gy/yjdnlk> MOHE universities take turns organising the preparatory courses for MedEx and they are conducted annually.

Scholarships

MOH employees

Eligible applicants may apply for a scholarship from the MOH Postgraduate Training Division (Bahagian Pengurusan Latihan, BPL). Applications open annually and are advertised through print media and the official portals of the MOH. Updated information on the terms are available on <http://ehlp.moh.gov.my/>.

Following a selection process based on the scholarship eligibility, successful applicants will be notified of the award of scholarship. The award of the scholarship does not guarantee a place in the programme.

MOD/ MOHE employees

Applicants may apply their scholarships as advertised by the respective institutions' guidelines.

Application Process

MOH employees

Whilst the MOH scholarship is being processed, candidates must concurrently apply to the MOHE at the individual universities' website.

Private candidates/MOD/ MOHE employees

Applicants should apply directly to their university of choice. Applications may be made to multiple universities but successful applicants can accept only one offer. The application process is subject to the individual university guidelines.

Selection Process

Applicants will be ranked according to their collated scores of entry and scholarship eligibility requirements according to the following weightings: MedEx 75%, referee report 10%, service requirement 5%. Please note, these weightings may change on an annual basis.

The number of places offered depends on the places available at the universities, scholarship availability and national needs. For MOH applicants, the University selection will be allocated on the basis of availability depending on the posts available. However some Universities may also require an application to be made directly through their own systems. The final selection and placement will be determined by the MOH and the Specialty Committee.

Private candidates/MOD/ MOHE employees

The selection process is based on the entry criteria and scholarship eligibility (MOD/ MOHE candidates).

Outcomes

Successful candidates will receive an offer letter both from the scholarship awarding body and the respective universities, indicating the terms and conditions of the programme, scholarships and the next steps to finalise their entry into the programme. This may include a request for an acceptance of offer response and online registration.

Induction process

The induction process is in place to ensure candidates are familiar with the registration process, fees structure and payment, the programme, and their responsibilities and rights as trainees. It should also include an induction to

the university structures and processes and the healthcare facility.

Parallel pathway

In Malaysia, the FCAI parallel pathway training programme and CCT is overseen by the Ministry of Health (MOH) Malaysia, and the College of Anaesthesiologists Academy of Medicine Malaysia (CoA, AMM).

To apply for a training position on the MOH Parallel Pathway Training programme, an MOH medical officer must fulfil the general and specific requirements set by the MOH, submit an application to the MOH Postgraduate Training Division (Bahagian Pengurusan Latihan, BPL), and undergo a selection process. On acceptance for a training position, a candidate must be registered with the BPL, MOH and COA, and the AMM as a Parallel Pathway Trainee.

Non-MOH candidates training in accredited non-MOH facilities need to register with the COA and AMM and follow the same training structure.

Scholarships

Eligible MOH applicants may apply for scholarships from the MOH Postgraduate Training Division (Bahagian Pengurusan Latihan, BPL). Application for scholarships is advertised on the official portal of MOH at <http://ehlp.moh.gov.my/>.

Application process

After passing the MCAI – MCQ a candidate is eligible to apply for entry into the Parallel Pathway Training programme.

MOH employees

MOH candidates must fulfil all General (*Syarat Umum*), and Specialty Specific Requirements (*Syarat Khusus*). The entry requirements are:

1. General Requirements (*Syarat Umum*)
 - i. Complete 2 years housemanship
 - ii. Complete 1 year compulsory medical officer service
 - iii. Three (3) years LNPT average score $\geq 85\%$, including LNPT during housemanship

- iv. Other criteria as required by BPL, MOH.

2. Specialty Specific Requirements (*Syarat Khusus*) (in addition to the above)

- i. Pass the MCAI-MCQ examination
- ii. Minimum 6 months (in total), anaesthesia training post-housemanship prior to MCQ-MCAI in a Specialist-based Regional or Accredited Hospital. The applicant must provide evidence of entry Essential Learning Activities (ELAs), provided by the referees and contained within their logbook
- iii. Application is supported by the Head of Department.

Non- MOH employees

CAI Trainees outside of Ministry of Health Malaysia.

A candidate registered as a CAI Trainee outside of Ministry of Health Malaysia may apply to join the Parallel Pathway Specialist Training in Anaesthesiology programme in the Ministry of Health Malaysia. This is subject to the rules and regulations / policy of the MOH pertaining to specialist training of non-MOH candidates in MOH facilities, and the availability of training positions.

Selection process

The number of places offered depends on training positions available at MOH regional and accredited hospitals, scholarship availability and national needs. The final selection and placement will be determined by MOH and *Jawatankuasa Kecil Latihan Kepakaran Parallel Pathway Bidang Anestesiologi*. Applicants will be ranked according to their collated scores of entry based on the MCAI-MCQ exam result score, referee/HOD reports, service records and other deemed relevant factors. Passing the MCAI – MCQ examination does not guarantee entrance into the programme.

Outcomes

Successful candidates will receive an offer for entry into the programme from the BPL, MOH.

This will indicate the terms and conditions of entry into the programme and a contract. On acceptance of entry into the programme the candidate must register with BPL, MOH and COA, and the AMM as a Parallel Pathway Trainee.

Induction process

The induction process is overseen by the College of Anaesthesiologists, Academy

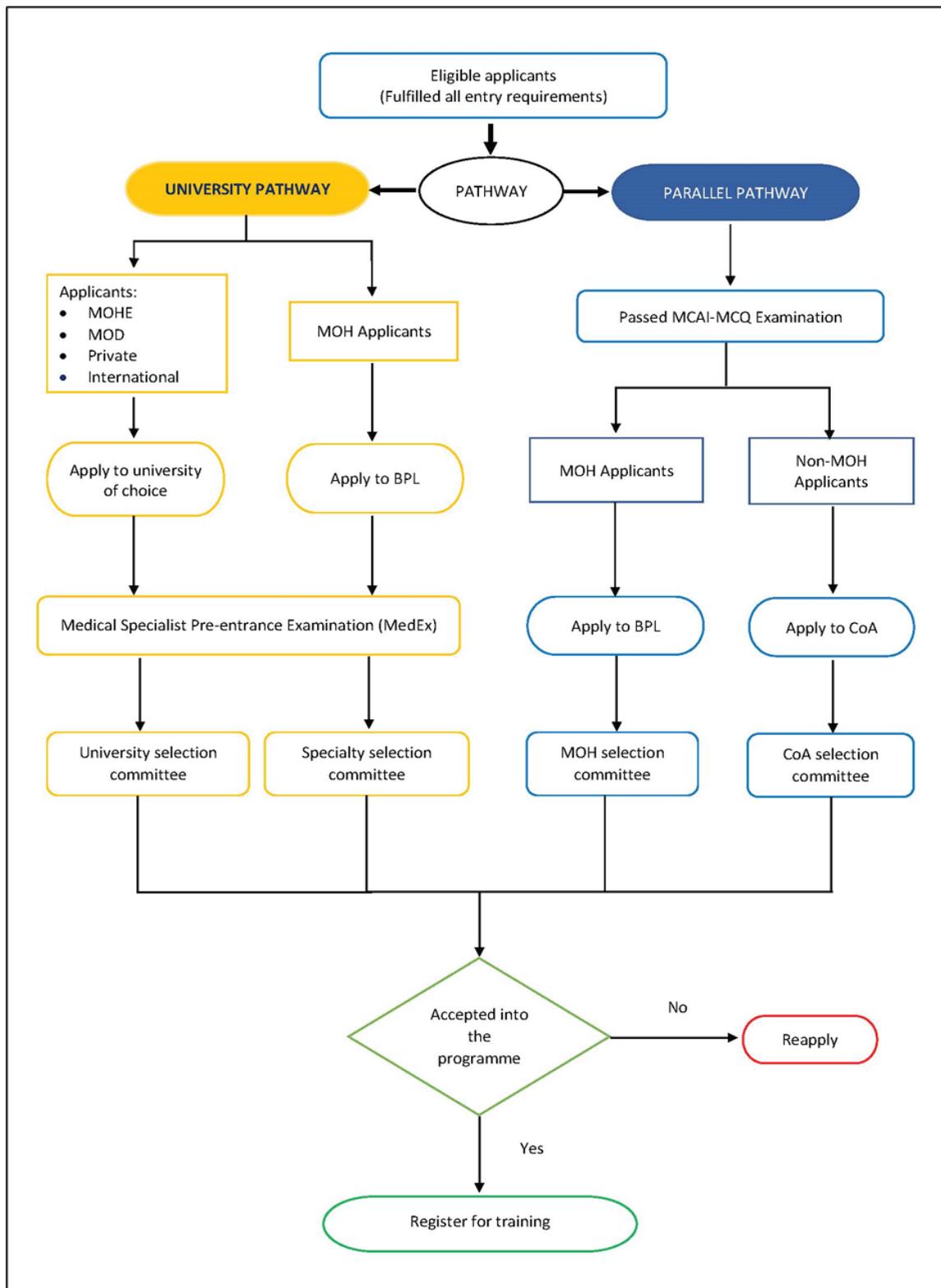
of Medicine Malaysia to ensure candidates are familiar with the registration process, programme structure, fees and their responsibilities as trainees.

Table 3 summarises the timelines for the entry process. Figure 2 summarises the entry process.

Table 3: Timelines for entry process for University Pathway

| Activities | Timeline |
|--|---|
| Application to universities (for non-MOH candidates: private, international, MOD, MOHE candidates) | Open all year, the deadline is August prior to the intended academic year of entry |
| Application to BPL (for MOH candidates) | July - August |
| Register for MedEx | As per MedEx website http://apps.mpm.edu.my/medex/public/register |
| Sit MedEx | As per MedEx website https://www.mpm.edu.my |
| List of applicants from BPL (MOH) and Universities forwarded to Specialty Selection Committee | January |
| Selection meeting (separate meetings for MOH and non-MOH applicants) | January/ February |
| Hadiah Latihan Perseketuan (HLP) confirmation (MOH candidates) | As per BPL website |
| Notification of successful application | March (non-MOH candidates) May (MOH candidates) |
| Registration | June |

Figure 2: The Entry Process into Anaesthesiology and Critical Training Programme



4. Syllabus

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

The Anaesthesiology and Critical Care programme is structured as a spiral curriculum (Figures 3 and 4). This means that trainees are exposed to multiple and varied clinical encounters throughout all stages of training. It is intended to reinforce and advance learning each time the trainee revisits the subject matter or re-encounters similar patient presentations. Through spiral learning, during the four years of the programme, trainees develop their clinical competence in the theory and practice of anaesthesiology, critical care and pain medicine via the three domains (Basic Science, Clinical Modules and Research), while providing clinical care.

Figure 3: Side view of the spiral: Funnel-shaped, demonstrating the increase in competence as trainees visit and revisit clinical modules, building on prior learning experiences.

Note in the parallel pathway the Basic Stage is years 1-3, Intermediate Stage years 4-5, Advanced year 6.

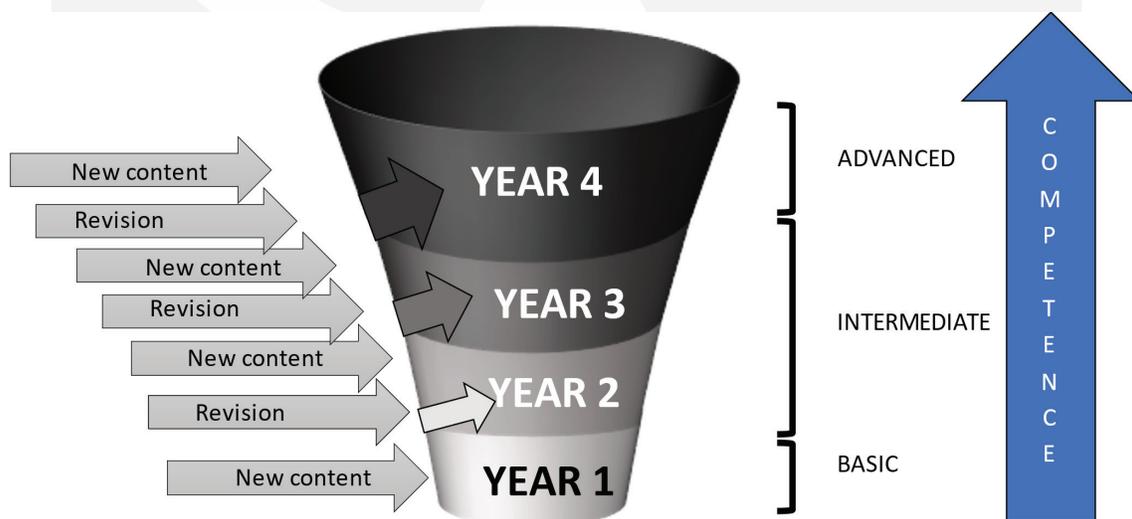
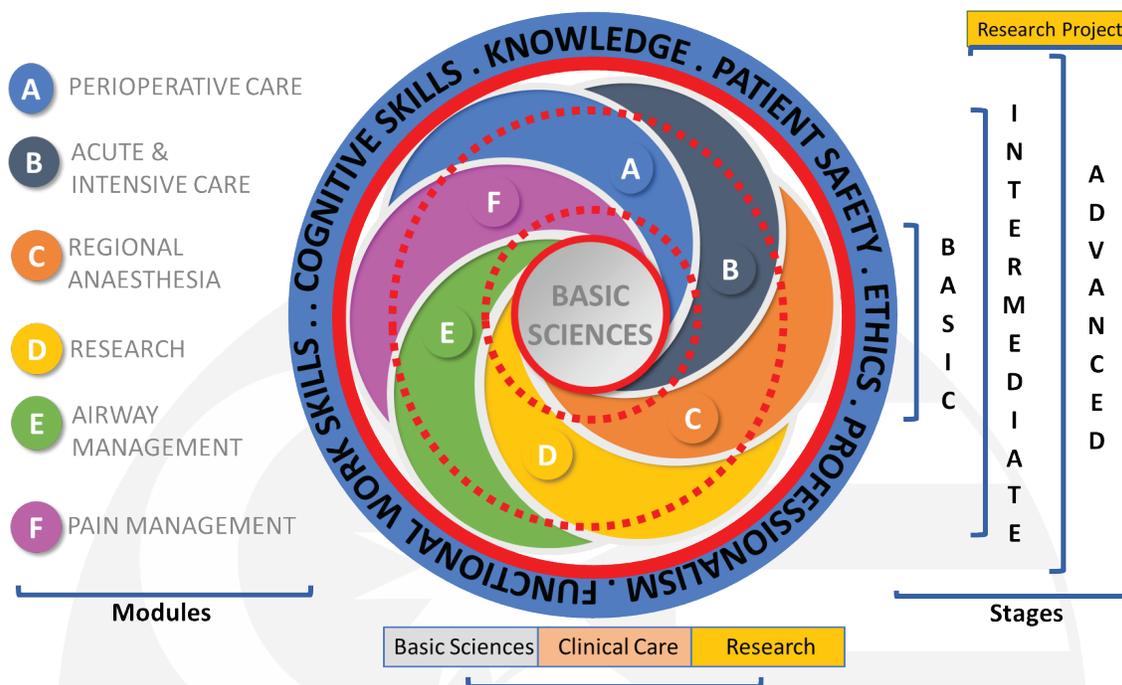


Figure 4: Anaesthesiology and Critical Care Spiral



Top view of the spiral: the three stages of the programme namely; Basic, Intermediate and Advanced, there are three domains; Basic Sciences, Clinical Care and Research. Within these domains there are seven modules, with basic sciences underpinning Anaesthesiology and Critical Care practice. They provide a foundation for clinical application and research.

Solid red circles represent the examinations at the end of basic and advanced stages of training, i.e. the examinations required for stage progression and successful completion of the programme.

Dotted red circles represent critical in-training assessment points for progress through the stages.

A summary showing the correlation between the stages of training with the domains and modules is presented in Table 4.

Table 4: Stages of training, domains and modules

| Stages | Domains | Modules/ subjects |
|---------------------------|--|---|
| Stage 1 (Basic) | Basic sciences | Physiology & Clinical Measurements Pharmacology |
| | Clinical: Basic anaesthesiology and critical care | BASIC Perioperative Care Acute and Intensive Care Regional Anaesthesia Airway Management Pain Management |
| Stage 2 (Intermediate) | Basic sciences | Physiology & Clinical Measurements Pharmacology Anatomy Physics |
| | Clinical: Intermediate anaesthesiology and critical care | INTERMEDIATE Perioperative Care Acute and Intensive Care Regional Anaesthesia Airway Management Pain Management |
| | Research | Research project |
| Stage 3 (Advanced) | Basic sciences | Physiology & Clinical Measurements Pharmacology Anatomy Physics |
| | Clinical: Advanced anaesthesiology and critical care | ADVANCED Perioperative Care Acute and Intensive Care Regional Anaesthesia Airway Management Pain Management |
| | Research | Research project |

5. Assessment Tools

Assessment in the Anaesthesiology and Critical Care programme measures the trainee’s knowledge, skills, professionalism, and ultimately readiness for independent, safe practice in Anaesthesiology and Critical Care. Formative and summative assessments will be carried out at several specific points during the training and continue until completion of the training programme.

There are four primary assessment methods, i.e., written tests, oral examinations,

performance tests and workplace-based assessments (WBAs). Any of these methods can be used for summative or formative assessment.

Table 5 summarises the assessment strategy to enable trainees and programme providers to collect evidence of the trainees’ competence.

Table 5: Assessment strategy

| Methods | Summative assessment | | | Formative assessment | | | | |
|------------------------|---|-----------------------------------|---|--------------------------------------|---|---|---|-----------------|
| | Written | Oral | Performance | Workplace-based assessments | | | | |
| Intention | Factual knowledge and capacity for clinical application | Capacity for clinical application | Performance in controlled situations | Performance integrated into practice | | | | |
| Tools | MCQ | Essay | Viva voce/ Structured oral examination | OSCE (parallel pathway only) | Analysis of performance, portfolio, logbook | Discussion of clinical cases: CBD | Observed clinical activities: PBA/ DOPs | 360 |
| Domains to be assessed | | | | | Professional development: Knowledge, Skills, Behaviours | Knowledge Clinical reasoning Risk evaluation Decision making Professional judgement Documentation | Psychomotor skills | Professionalism |
| Basic stage | Knowledge | Application | Application | Knowledge | | | | |
| | | | | Application | | | | |
| Advanced stage | Knowledge | Application | Diagnostic reasoning | | | | | |
| | Application | Analysis | Data analysis | | | | | |
| | | Evaluation | Decision making | | | | | |

Trainees are required to document all learning activities in their training portfolios to facilitate the monitoring of their progress. The contents of the portfolio must include the items in Tables 6 and 7 below.

Table 6: Portfolio content

| Content | Details | Timeline and outcomes | | | Comments |
|---|--|---|---|--|---|
| | | End of attachment | End of year | End of training | |
| Activities | Details | End of attachment | End of year | End of training | |
| Learning contract, plans and activities (including reflections, case logs, rotations) | Record of professional / personal development plan | Satisfactory completion of attachment | Satisfactory completion of year | Satisfactory completion of training | The portfolio is a record of all training activities and forms an important part of the evidence to demonstrate professional development |
| Workplace based assessments | PBA/DOPS | Satisfactory completion as tabulated in Appendix 13 | Satisfactory completion as tabulated in Appendix 13/ Parallel pathway Personal Development Plan | All PBA/ DOPS are to be performed up to the level of competent to perform unsupervised | WBAs provide an opportunity for feedback and reflection. They will also form part of the end of year/ training portfolio review. |
| | CBD A trainee prepares 3 cases. 1 case is selected for discussion. | | Minimum of 2 per year the first 2 years and 3 per year for subsequent years. | All domains of interest must be satisfactory | Domains of interest: Knowledge, reasoning, risk evaluation, decision-making, justifying decisions, prioritisation, documentation, case presentation |
| Presentations | Case presentation to peers with peer and trainer feedback | | | | |
| Supervisor reports | Time based summary of clinical and research progress | Satisfactory completion of attachment | Scheduled to a minimum of 6 monthly intervals Satisfactory completion of year | Satisfactory completion of training | Part of the portfolio and log book assessment |
| Courses, Workshops and Conference | Developing knowledge and skill | | | Certificate of attendance will be reviewed | Attendance must be recorded in the training portfolio |
| Research | Submission of research report | In Advanced Stage | | | Prerequisite to sit the exit assessment |
| Registrar readiness assessment | Review of training portfolio | Towards the end of Intermediate Stage | | | Identify learning gaps, to facilitate transition to advance practice. Ask trainees what they need. Flagging will be done in the department meeting To identify programme improvement measures |

Table: Portfolio content (examinations)

| Content | Details | Timeline and outcomes | | | Comments |
|---------------------|----------------------------|---|--------------------------------------|---|--|
| Examinations | | When | Components | Occurrence | |
| University pathway | Part I Conjoint | End of year 1 (end of Basic Stage) | Written MCQ Essay Viva voce | Twice a year in April/ May, October/ November | Must be completed within 7 years of training enrolment |
| | Part II Conjoint (exit) | End of year 4 (end of Advanced Stage) | Written MCQ Essay Viva voce | Twice a year in April/ May, October/ November | |
| Parallel Pathway | MCAI OSCE/ SOE | End of year 1 Minimum 12 months anaesthesia experience, 6 of 12 months being in a regional /accredited hospital | OSCE/SOE | Twice a year in April/ May, October/ November | Basic Stage |
| | FCAI | End year 3 Minimum 36 months, 30 of 36 months being in a regional /accredited hospital | Written Clinical/SOE | Twice a year in April/ May, October/ November | |
| | Competency Assessment | Year 4-6 in an accredited hospital | In-training assessment (viva) | Twice a year (June & Nov) | Intermediate and Advanced Stage |
| | Exit Assessment | | | End of year 6 | Advanced Stage |

6. Appendices

Entry Level ELAs

| Entry Essential Learning Activity 1 | | |
|--|--|--|
| Activity | Preoperative patient evaluation and preparation | |
| Description (if necessary) | Preoperative patient evaluation and Preparation in ASA 1 & 2 patients | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge <i>Know, Facts, Information</i> | Skills <i>Do, Practical, Psychomotor, techniques</i> | Attitudes & Values <i>Feel, behaviours displaying underlying values or emotions</i> |
| Discuss common medical problems and their anaesthesia implications Identify and communicate common anaesthetic complications that can occur | Performs general history taking and physical examination, order appropriate investigations and make necessary referrals Takes informed consent and communicates effectively with patients | Communicate with patients in a clear and polite manner Patience and diligence in eliciting long/complicated histories |
| Behavioural Markers | | |
| Positive Things that should be done, correct techniques or practices, things a trainee might do right | Negative Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Negative Passive Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Identify important/ urgent symptoms and signs Able to discuss with consultant patient's condition and investigations needed | Does not anticipate possible problems that may arise from patient's underlying comorbidities Not able to interpret basic investigations | Fails to refer to previous medical and anaesthetic notes Fails to communicate clearly the benefits and drawbacks of each anaesthetic technique when taking informed consent Fails to document anaesthetic assessment clearly |
| Assessment/ Evidence | | |
| Referees' report | | |

| Entry Essential Learning Activity 2 | | |
|--|---|--|
| Activity | Plans and conducts anaesthesia | |
| Description (if necessary) | Plans and conducts anaesthesia on ASA 1 & 2 patients for low and moderate risk surgery under supervision (specialist in OT complex) | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge <i>Know</i> , Facts, Information | Skills <i>Do</i> , Practical, Psychomotor, techniques | Attitudes & Values <i>Feel</i> , behaviours displaying underlying values or emotions |
| Discuss anaesthesia management plan | Administers anaesthesia on ASA 1&2 patients for low and moderate risk surgery | Recognises limitations and seeks expert advice |
| Identify the monitoring and the anaesthetic equipment, anaesthetic assistance and anaesthetic drugs needed | Prepares and chooses appropriate airways for intubation, preparing for basic regional anaesthesia (SAB) | Demonstrates interest to learn about and manage common complications associated with basic techniques of anaesthesia |
| Chooses appropriate drugs and prepare them accordingly | Performs routine checking of the anaesthesia delivery system as well as intubation equipment | Discuss the fatal consequences of wrong drug, wrong route and wrong dosage when given to patient |
| Selects common drugs used in anaesthesia and resuscitation | Prepare and labels drugs correctly | Drug errors must be notified immediately for remedial actions to be carried out |
| Discuss common complications and principles of immediate management | Manages airway, breathing, circulation and pain | |
| | Delivers general and spinal anaesthesia | |
| | Documents assessment, plan, conduct of anaesthesia and post-anaesthesia care | |
| Behavioural Markers | | |
| Positive | Negative | Negative Passive |
| Things that should be done, correct techniques or practices, things a trainee might do right | Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Detailed formulation of patient care plans, includes consideration of underlying clinical conditions, past medical history, and patient, medical, or surgical risk factors | Haphazard planning of peri-operative patient care | Ignore clear signs that the patient requires a higher level of management and supervision |
| Astute execution of the anaesthetic plan | Fail to identify problems and seek consultation | Miss out key complications intra and post operatively |
| | Fail to call for help early | Failure to notify complications |
| Assessment/ Evidence | | |
| Referees' report | | |

| Entry Essential Learning Activity 3 | | |
|--|--|--|
| Activity | Management of an obstructed airway | |
| Description (if necessary) | Recognising an obstructed airway and ensuring patency | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge <i>Know</i> , Facts, Information | Skills <i>Do</i> , Practical, Psychomotor, techniques | Attitudes & Values <i>Feel</i> , behaviours displaying underlying values or emotions |
| Describe the anatomy of the airways and sites of potential obstruction | Appropriately plan to manage an obstructed airway | Demonstrates good team work |
| Explain physiology of flow, cough and oxygenation | Select and perform the various techniques to ensure airway patency | Communicate effectively with family and next-of-kin of associated risks in the patient |
| Discuss the impact of sedatives on airway patency | Monitor adequacy of airway patency | Seek help from specialist in difficult situations |
| | Manage patients who have become obstructed in the airway | |
| Behavioural Markers | | |
| Positive | Negative | Negative Passive |
| Things that should be done, correct techniques or practices, things a trainee might do right | Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Assesses adequacy of the airway | Misinterprets early warning signs of airway obstruction | Failure to identify early warning signs and complications |
| Identify early warning signs of airway obstruction | Error in managing complications arising from airway obstruction | Failure of effective communication with interprofessional team |
| Consult early with seniors/ ENT | Requesting for help late | Failure to document the patient's assessment and other relevant events clearly |
| Clear documentation and record keeping | Inaccurate/false documentation of data | Failure to elicit help |
| Effective communication with interprofessional team | | |
| Reflect on practice and identify ways to improve care for the airway | | |
| Assessment/ Evidence | | |
| Referees' report | | |

| Entry Essential Learning Activity 4 | | |
|--|--|--|
| Activity | Monitoring of patients | |
| Description (if necessary) | Use of equipment to assist with the monitoring of life | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge <i>Know, Facts, Information</i> | Skills <i>Do, Practical, Psychomotor, techniques</i> | Attitudes & Values <i>Feel, behaviours displaying underlying values or emotions</i> |
| Discuss the principles of monitoring and interpretation of data | Select and perform the various monitoring parameters on the patient | Demonstrates good team work |
| Discuss options available for various organ system monitoring | Obtain informed consent for invasive monitors | Communicate effectively with family and next-of-kin of associated risks in the patient |
| Explain the impact of invasive monitors on patients | Check monitoring equipment for adequacy of function | Seek help from specialist in difficult situations |
| | Use monitoring data output to further manage the patients | |
| Behavioural Markers | | |
| Positive | Negative | Negative Passive |
| Things that should be done, correct techniques or practices, things a trainee might do right | Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Correctly uses monitoring output to manage patients | Misinterprets early warning signs from the output data | Failure to identify early warning signs |
| Identify early warning signs | Error in managing complications arising from monitoring | Failure of effective communication with interprofessional team |
| Consult early with seniors | Requesting for help late | Failure to document the monitored output |
| Clear documentation and record keeping | Inaccurate/false documentation of monitored data | Failure to elicit help |
| Effective communication with interprofessional team | | |
| Reflect on practice and identify ways to improve care | | |
| Assessment/ Evidence | | |
| Referees' report | | |

| Entry Essential Learning Activity 5 | | |
|--|--|--|
| Activity | Peri-procedural pain management | |
| Description (if necessary) | Ensure a safe and effective peri-procedural pain management | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge <i>Know</i> , Facts, Information | Skills <i>Do</i> , Practical, Psychomotor, techniques | Attitudes & Values <i>Feel</i> , behaviours displaying underlying values or emotions |
| Describe the physiology of pain and its negative implications | Elicit Pain Score | Demonstrate empathy and compassion for patients in pain |
| Discuss indications, contra-indications, dosage and side effects of commonly used analgesics | Prepare and deliver analgesics | Seek advice for management of pain that does not respond to routine therapies |
| Formulate a peri-procedure pain management plan | Recognise and initiate management of common pain states | Ensure post-procedure pain management plan is communicated properly to receiving team and documented accordingly |
| Behavioural Markers | | |
| Positive | Negative | Negative Passive |
| Things that should be done, correct techniques or practices, things a trainee might do right | Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Recognise pain and address it appropriately | Elicit Pain Scores wrongly | Ignore when a patient complains of pain |
| Have a plan to address intra- and post-procedure pain | Deliver drugs inappropriately | Not have a plan to address post-procedure pain |
| Assessment/ Evidence | | |
| Referees' report | | |

| Entry Essential Learning Activity 6 | | |
|---|---|---|
| Activity | Managing life threats | |
| Description (if necessary) | Manage a patient who is at the limit of physiological compensation | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge Know, Facts, Information | Skills Do, Practical, Psychomotor, techniques | Attitudes & Values Feel, behaviours displaying underlying values or emotions |
| Describe the features of an acutely ill patient | Recognise an acutely deteriorating patient | Aware of self-limitations in handling crisis |
| Describe resuscitation guidelines | Assess the extent of physiological reserves | Display assertiveness |
| Discuss reversible causes of acute deterioration | Initiates basic resuscitation | Aligns positively with team members |
| Behavioural Markers | | |
| Positive Things that should be done, correct techniques or practices, things a trainee might do right | Negative Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Negative Passive Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Calls for help early | Incorrect CPR | Does not call for help |
| Performs good quality CPR | Incorrect drugs and doses | Does not verify resuscitation status |
| Works as an effective team member | Delays initiating resuscitation | |
| Assessment/ Evidence | | |
| Referees' report | | |

| Entry Essential Learning Activity 7 | | |
|---|--|---|
| Activity | Preventing harm | |
| Description (if necessary) | Preventing harm to patients, self and colleagues by adhering to accepted standards | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge <i>Know</i> , Facts, Information | Skills <i>Do</i> , Practical, Psychomotor, techniques | Attitudes & Values <i>Feel</i> , behaviours displaying underlying values or emotions |
| Follow institutional safety policies for harm prevention: 1. Infection control, including hand washing 2. Gowning and gloving during invasive procedures 3. Sterile techniques 4. WHO Safe surgery saves lives campaign/ Time out 5. Labelling of drugs 6. Pre-transfusion checks | Performs infection control methods: hand washing, gloving, de-gloving, managing sharps Infection control during invasive procedures: gown, gloves, skin prep, draping, disposal of sharps Performs site verification and time out procedure Labelling drugs; drug name, concentration, date | Communicate with patients and team members in a clear and polite manner Adherence to safety policies Reporting of errors and near misses to supervisor |
| Behavioural Markers | | |
| Positive | Negative | Negative Passive |
| Things that should be done, correct techniques or practices, things a trainee might do right | Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Changing soiled gloves Preparation of patient/care area Participates in established institutional safety initiatives | Touching patients/ surfaces with soiled gloves Unsafe handling of sharps; recapping needles, not disposing sharps into sharp bin, walking with needles | Does not realise that a complication or potential harm has occurred, e.g. failing to recognise a change in patient's condition Not informing specialists in charge of errors or events |
| Assessment/ Evidence | | |
| Referees' report | | |

| Entry Essential Learning Activity 8 | | |
|--|--|--|
| Activity | Effective communication | |
| Description (if necessary) | Use of ISBAR technique in communication | |
| All items on the table below are examples, they do not constitute an exhaustive list in any aspect | | |
| Knowledge <i>Know</i> , Facts, Information | Skills <i>Do</i> , Practical, Psychomotor, techniques | Attitudes & Values <i>Feel</i> , behaviours displaying underlying values or emotions |
| Principles of concise communication to effectively convey information | Select and perform the various key information to convey | Plans and chooses key phrases appropriately |
| Impact of complete/accurate information relay | Manage information relay with various categories of providers | Establishes rapport especially with patient/ relatives and other care providers |
| Options available for transmission of information | Manage information relay with patients /relatives | Respect |
| | | Shows compassion |
| Behavioural Markers | | |
| Positive | Negative | Negative Passive |
| Things that should be done, correct techniques or practices, things a trainee might do right | Things that should not be done, incorrect techniques or practices, things a trainee might do wrong | Things that may be forgotten or omitted that constitute incorrect or substandard patient care, things a trainee might forget to do |
| Correctly uses the correct key words | Inappropriate use of terms/ phrases | Failure of effective communication with interprofessional team |
| Clear documentation and record keeping | False and inaccurate documentation of the communication | Failure to document the communication |
| Demonstrate empathy and compassion to patients | | Failure to request for help to improve communication |
| Demonstrate respect to fellow care providers | | |
| Reflect on practice and identify ways to improve communication | | |
| Assessment/ Evidence | | |
| Referees' report | | |

Glossary of Terms

| | |
|---------------|--|
| APC | Annual Practicing Certificate |
| BPL | Bahagian Pengurusan Latihan (Training Management Division) |
| CBD | Case-Based Discussion |
| CoA | College of Anaesthesiologists, Academy of Medicine, Malaysia |
| DOPS | Directly Observed Practical Skills |
| ELA | Essential Learning Activities |
| HO | House Officer |
| IIUM | International Islamic University, Malaysia |
| FCAI | Fellow of College of Anaesthetists, Ireland |
| MCAI-OSCE/SOE | Member of College of Anaesthetists, Ireland- Objective Structured Clinical Examination |
| MCAI-MCQ | Member of College of Anaesthetists, Ireland-Multiple Choice Questions Examination |
| MCQ | Multiple Choice Questions |
| MedEx | Medical Specialist Pre-Entrance Examination |
| MMC | Malaysian Medical Council |
| MO | Medical Officer |
| MOD | Ministry of Defence |
| MOH | Ministry of Health |
| MOHE | Ministry of Higher Education |
| MQA | Malaysian Qualifications Agency |
| MQF | Malaysian Qualifications Framework |
| NPMC | National Postgraduate Medical Curriculum |
| NSR | National Specialist Register |
| UKM | Universiti Kebangsaan Malaysia |
| UM | Universiti Malaya |
| UPM | Universiti Putra Malaysia |
| USM | Universiti Sains Malaysia |
| UiTM | Universiti Teknologi MARA |
| WBA | Workplace-based assessment |

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e ISBN 978-967-0023-15-1



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