Specialty Training Requirements (STR)

Name of Specialty:	Emergency Medicine
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Contents

Scope of Emergency Medicine 2
Purpose of the Residency Programme 2
Admission Requirements 2
Selection Procedures 2
Less Than Full Time Training 3
Non-traditional Training Route 3
Separation 3
Duration of Specialty Training 3
“Make-up” Training 3
Learning Outcomes: Entrustable Professional Activities (EPAs) 4
Learning Outcomes: Core Competencies, Sub-competencies and Milestones 4
Learning Outcomes: Others 6
Curriculum 6
Learning Methods and Approaches: Scheduled Didactic and Classroom Sessions 7
Learning Methods and Approaches: Clinical Experiences 7
Learning Methods and Approaches: Scholarly / Teaching Activities 8
Learning Methods and Approaches: Documentation of Learning 10
Summative Assessments 11

Scope of Emergency Medicine

Emergency Medicine (EM) is a medical specialty dedicated to the diagnosis and treatment of a wide spectrum of patient presentations and acuity that span the breadth of clinical medicine and surgery.

As first-line providers, Emergency Physicians are primarily responsible for initiating resuscitation and stabilisation and performing the initial investigations and interventions necessary to diagnose and treat illnesses or injuries in the acute phase.

The care is 24/7, unscheduled and caters to undifferentiated disease presentations in all ages.

Purpose of the Residency Programme

The purpose of EM Residency Programme is to train doctors in the specialty of EM to cater to the acute and time-sensitive care at Accident and Emergencies (A&Es) / Urgent Care Centres across Singapore. These EM specialists run the A&Es 24/7 and provide a bridge between community care and hospital care and is the point of triage for inpatient specialty access and care. EM specialists provide life-saving interventions and stabilise critically ill patients as well as help navigate patients requiring specialty care through the healthcare system through right-siting principles.

Admission Requirements

At the point of application for this residency programme,

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

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

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

Selection Procedures

Applicants must apply for the programme through the annual residency intake matching exercise conducted by Ministry of Health Holdings (MOHH).

Continuity plan: Selection should be conducted via a virtual platform in the event of a protracted outbreak whereby face-to-face on-site meeting is disallowed and cross institution movement is restricted.

Less Than Full Time Training

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

Non-traditional Training Route

The programme should only consider the application for mid-stream entry to residency training by an International Medical Graduates (IMG) if he / she meets the following criteria:

a) He / she is an existing resident or specialist trainee in the United States, Australia, New Zealand, Canada, United Kingdom and Hong Kong, or in other centres / countries where training may be recognised by the SAB
b) His / her years of training are assessed to be equivalent to the local training by JCST and / or SAB.

Applicants may enter residency training at the appropriate year of training as determined by the Programme Director (PD) and RAC. The latest point of entry into residency for these applicants is Year 1 of the senior residency phase.

Separation

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

Duration of Specialty Training

The training duration must be 60 months, comprising of 36 months of junior residency and 24 months of senior residency.

Maximum Candidature: All residents must complete the training requirements, requisite examinations and obtain their exit certification from JCST not more than 36 months beyond the usual length of their training programme. The total candidature for EM specialty is 60 months EM residency + 36 months candidature.

"Make-up" Training

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

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

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

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

Learning Outcomes: Entrustable Professional Activities (EPAs)

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

	Title
EPA 3	Resuscitating and Care of Critically Ill or Injured Paediatric Patients

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

	Title
EPA 5	Managing Paediatric Ambulatory Patients

Residents must achieve level 4b of the following EPAs by the end of residency training:

	Title
EPA 1	Resuscitating and Care of Critically Ill Adult Medical Patients
EPA 2	Resuscitating and Care of Critically Ill Adult Trauma Patients
EPA 4	Managing Adult Ambulatory Patients
EPA 6	Managing Adult Patients with Emergent or Urgent Conditions
EPA 7	Managing Patients Who Need End-Of-Life Care
EPA 8	(Optional) Managing Patients in the Extended Observation Facility

Information on each EPA is provided in here.

Learning Outcomes: Core Competencies, Sub-competencies and Milestones

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

Residents must demonstrate the following core competencies:

1) Patient Care and Procedural Skills

Residents must demonstrate the ability to:

- Gather essential and accurate information about the patient.
- Counsel patients and family members.
- Make informed diagnostic and therapeutic decisions.

- Prescribe and perform essential medical procedures.
- Provide effective, compassionate, and appropriate health management, maintenance, and prevention guidance.

2) Medical Knowledge

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

3) System-based Practice

Residents must demonstrate the ability to:

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

4) Practice-based Learning and Improvement

Residents must demonstrate a commitment to lifelong learning.

Resident must demonstrate the ability to:

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

5) Professionalism

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

Residents must:

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

6) Interpersonal and Communication Skills

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

Other competency: Teaching and Supervisory Skills

Residents must demonstrate ability to:
- Teach others
- Supervise others

Learning Outcomes: Others

Residents must attend Medical Ethics, Professionalism and Health Law course conducted by Singapore Medical Association (SMA) and Geriatric Medicine Modular Course by Academy of Medicine Singapore (AMS).

Curriculum

The curriculum must include a didactic programme on the following subject areas as applied to EM patients:

1. Signs, Symptoms and Presentations
2. Abdominal and Gastrointestinal Disorders
3. Cardiovascular Disorders and Resuscitation
4. Cutaneous Disorders
5. Endocrine, Metabolic and Nutritional Disorders
6. Environmental Disorders
7. Head, Ear, Eye, Nose, Throat Disorders
8. Hematologic Disorders
9. Immune System Disorders
10. Obstetrics and Gynaecology
11. Psychobehavioural Disorders
12. Renal and Urogenital Disorders
13. Thoracis-Respiratory Disorders
14. Toxicologic Disorders
15. Traumatic Disorders
16. Procedures and Skills Integral to the Practice of EM
17. Emergency Care Delivery Relevant to Special Populations:
    1. The Geriatric Patient
    2. The Obese Patient

iii. The Paediatric Patient
18. Emergency Medical Services
19. Emergency Ultrasound
20. Critical Appraisal and Research
21. Teaching
22. Emergency Department Administration

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

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

Learning Methods and Approaches: Scheduled Didactic and Classroom Sessions

The programme must provide the following conferences:

1. Multidisciplinary conferences (e.g., ICU rounds, hospital conference, Trauma rounds)
2. Morbidity and mortality conferences
3. Journal club with evidence-based reviews
4. EM Core Conference
5. Simulation Training

Residents must fulfil at least 70% of the MOH protected training time requirement.

Pandemic continuity plan: Lectures or tutorials must be conducted via virtual platforms. Face-to-face teaching is subjected to the prevailing safe management precautions.

Learning Methods and Approaches: Clinical Experiences

Residents must undergo the following rotations:

- At least 21 months in Adult Emergency Department (ED) (minimum of 3 months per residency year)
- 4 months in critical care (including critical care of infants and children)
- At least 0.5 months in obstetrics, or 5 low-risk normal vaginal deliveries
- At least 5 months in Paediatric EM

Pandemic Continuity Plan: The programme must:

- Halt cross-cluster rotations. The PD is to decide if residents in transit are to be rotated back to their parent EDs or stay in their fostered hospitals, based on prevailing movement control rules by MOH.
- Source alternative rotations in fostered hospital
- Delay rotation and re-instate when movement is allowed.

- Residents should only be deployed for a maximum of 2 months to pandemic community facilities or screening centres, if there is a national need to do so.

Learning Methods and Approaches: Scholarly / Teaching Activities

Residents must compile the residents' teaching and emergency administration portfolios during their senior residency years, which document the teaching and administration learning outcomes detailed in the curriculum.

The two portfolios must have the following components:

1) Teaching Portfolio

<u>Minimum requirements for submission</u> to exam committee for eligibility to sit for the Teaching Assessment of the EM Exit Exam

a) Attendance at Teaching–Related CME
- Attendance of at least 4 of the teaching-related Emergency Medicine Core Curriculum (EMCC) topics: residents should note that each session may have 2 or more topics
- At least 1 other teaching/education related session outside of EMCC

b) Teaching Activities
- Minimum of 3 teaching sessions to be collated by the time of submission of portfolio – one of which must include a detailed lesson plan for which the resident was involved in planning and execution (e.g. using Kerns 6 steps approach)
- The sessions should be conducted for at least 2 different learner groups (e.g. medical students / HO/MO / residents / nurses / paramedics / allied health professionals)
- The sessions should be conducted using at least 2 different formats (e.g. lecture, bedside, small group, simulation, flip classroom, etc.)

c) Assessment of Learners
- Minimum of 3 assessment sessions to be collated by the time of submission of portfolio.
- The sessions should be conducted for at least 2 different learner groups (e.g. medical students / HO/MO / residents / nurses / paramedics / allied health professionals)
- The sessions should be conducted using at least 2 different formats (e.g. WBA such as mini-CEX and DOPS, mock OSCE etc.)

d) Evaluation & Feedback as a Clinical Teacher
- Minimum of 2 Direct Observation of Teaching Skills (DOTS) by time of submission of portfolio

e) Supervision
- Minimum of 1 supervision session by time of submission of portfolio

f) Reflective Log

- Minimum of 1 reflection (250 – 500 words) in each of the following categories:
  1. A teaching session during which resident feels he/she has done well
  2. A teaching session during which resident feels there is room for improvement
  3. A session when resident assesses the learners
  4. A supervision experience

g) Electives – optional

These electives are entirely optional i.e. the resident can choose not to undertake any elective and his/her ability to pass the Teaching Portfolio is not affected.

2) Administration Portfolio

These assignments and reports are **mandatory** requirements in the portfolio:

1.	Lead or co-lead to manage a complaint case, and complete a report – please refer to the report template.
2.	Lead or co-lead to investigate / manage a critical incident, and complete a report – please refer to the report template.
3.	Attend a hospital-level emergency preparedness exercise or table-top exercise, and complete a report – please refer to the report template (this can be in R3, 4 or 5, and can be in the resident's home-institution or another institution)

The resident must select **at least two** assignments from the following:

4.	Organise and lead one department Morbidity and Mortality conference, and complete a report.
5.	Serve as a resident representative in a committee/workgroup/taskforce and complete a report of the work done. A copy of the letter stating the appointment of the resident must be included in the portfolio.
6.	Serve alongside an EM faculty member in a committee/workgroup/taskforce and complete a report of the work done. Either a copy of the letter stating the appointment of the resident or testimonial from the faculty member must be included in the portfolio.
7.	Complete a project as a leader or member. A summary or poster-abstract of the project must be included in the portfolio.
8.	Complete a new or review an existing ED policy, protocol or procedure. The new or existing and revised policy/protocol/procedure and a summary of the literature / evidence that has influenced the writing of the policy/protocol/procedure must be included.

9.	Examine a set of ED data that is routinely/regularly collected and has been trended over the last 2-3 years. Present the findings to the PD and Head/Chief of Department and file into the portfolio: 1) Summary of the presentation and discussion. 2) PD / HOD's assessment on the management of the data, quality of the proposal for change & improvement (where relevant).

PD must review the residents' teaching and emergency administration portfolios prior to the end of residency training, and residents must do a viva voce defence of their teaching and administration portfolios as summative assessment.

Pandemic continuity Plan: The viva voce defence of the residents' teaching and administration portfolios should be conducted via virtual platforms. Projects which cannot be completed due to safe distancing measures may be replaced with a writeup instead.

Learning Methods and Approaches: Documentation of Learning

Residents must keep a log of the procedures that they have performed:
The log should be reviewed regularly by the faculty and PD.

Compulsory procedure requirements:

Procedure	Minimum number
Adult medical resuscitation	45
Adult trauma resuscitation	35
Cardiac pacing	06
Central venous access	20
Chest tubes	10
Procedural sedation	15
Cricothyrotomy	03
Dislocation reduction	10
Intubations	35
Lumbar Puncture*	5
Paediatric medical resuscitation	15
Paediatric trauma resuscitation	10
Pericardiocentesis	03
Vaginal delivery*	5
Emergency department bedside ultrasound	165

Cricothyrotomy, pericardiocentesis and cardiac pacing are rare procedures and can all be simulated.

Breakdown of Ultrasound requirement:

Application	Minimum number

Extended-Focused Assessment with Sonography in Trauma	25
Focused Assessment for Abdominal Aortic Aneurysm	25
Focused Cardiac Ultrasound	25
Focused Lung Ultrasound	25
Focused Assessment for Lower Limb Deep Venous Thrombosis	15
Focused Gallbladder Ultrasound	25
Focused Genitourinary Ultrasound	25
Total	165

Residents are required to complete compulsory procedural requirements before exit (R5).

Summative Assessments

Residents are required to pass the following summative assessments:

<table>
<tr><th></th><th colspan="2">Summative assessments</th></tr>
<tr><td></td><td>Clinical, patient-facing, psychomotor skills etc.</td><td>Cognitive, written etc.</td></tr>
<tr><td>R5</td><td>Clinical Viva
• 8 stations
• 15 mins each

Teaching and Administration Portfolio
• 20 mins viva component</td><td rowspan="2">CAT (can be attempted upon completion of 12 months of SR)
• 2 hours written paper

ABMS MCQ Examination (can be attempted upon completion of 36 months of residency training, and accepted into SR)
• 200 MCQs
• Exam duration approx 6 hrs 10 mins</td></tr>
<tr><td>R4</td><td>N/A</td></tr>
<tr><td>R3</td><td rowspan="2">MMed (EM) Part C</td><td rowspan="2">MMed (EM) Part B</td></tr>
<tr><td>R2</td></tr>
<tr><td>R1</td><td>N/A</td><td>MMed (EM) Part A</td></tr>
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