Specialty Training Requirements (STR)

Name of Specialty:	Emergency Medicine
Chair of RAC:	Adj A/Prof Peng Li Lee
Date of submission:	10 March 2025

The Residency Advisory Committee (RAC) is responsible for completing this Specialty Training Requirements (STR) document. The STR provides the following for **Emergency Medicine** residency in Singapore:

Section	Requirement
A.	Purpose, Admission, Selection and Separation
B.	Specialty Governance Framework
C.	Programme of Learning and Learning Outcomes
D.	Programme of Assessments
E.	Quality Assurance and Improvement

Note:

- Statements that are for the purpose of explanation of the requirements will be in italics.
- In addition to the training requirements stated in this STR, residents must comply with any other regulatory requirements or practice-based requirements mandated by the healthcare institutions or place of practice.

Table of Contents

A. Purpose, Admission, Selection and Separation

This section introduces the specialty and describes the:

- *The purpose of the residency programme;*
- *The admission requirements and selection procedures for entry into training programmes; and*
- *The requirement for less than full time training and non-traditional training route.*

- Refer to the Standards Document section E for the corresponding standards, unless otherwise stated.

A.R1 Scope of Emergency Medicine

Corresponding standards in the Standards Document section E.1

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.

A.R2 Purpose of the Residency Programme

Corresponding standards in the Standards Document section E.2

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.

A.R3 Admission Requirements

Corresponding standards in the Standards Document section E.3

At the point of application for this residency programme,

a) applicants must be employed by employers endorsed by Ministry of Health (MOH), and

b) residents who wish to switch to this residency programme must have waited at least one year between resignation from his/her previous residency programme and application for this residency programme.

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

c) Hold a local medical degree or a primary medical qualification registrable under the Medical Registration Act (Second Schedule);

d) Have completed Post-Graduate Year 1 (PGY1); and

e) Have a valid Conditional or Full Registration with Singapore Medical Council (SMC).

A.R4 Selection Procedures

Corresponding standards in the Standards Document section E.4

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.

A.R5 Less Than Full Time Training

Corresponding standards in the Standards Document section E.5

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

A.R6 Non-traditional Training Route

Corresponding standards in the Standards Document section E.6

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 (US), Australia, New Zealand, Canada, United Kingdom (UK) 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 Joint Committee on Specialist Training (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.

A.R7 Separation

Corresponding standards in the Standards Document sections B.1.1.9 and B.1.1.11

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.

B. Specialty Governance Framework

This section describes:

- *The Specialty's governance framework; and*
- *How it supports the proper implementation and oversight of the curriculum and training.*

- Refer to the Standards Document section F for the corresponding standards, unless otherwise stated.

B.R1 Role of the RAC

Corresponding standards in the Standards Document section F.1

The RAC develops the specialty, guided by MOH, under the oversight of JCST and in collaboration with the SAB, taking into consideration the healthcare priorities and needs of Singapore. It establishes the specialist training objectives, outcomes and requirements for EM in the context of Singapore. This includes regular reviews and enhancements, where needed, to ensure relevance to Singapore's needs.

The RAC, assisted by JCST Examination Committee, also establishes the examinations blueprint for the EM Exit Examinations and ensure mapping of assessment methodology and tools to training curriculum, to achieve training objectives and outcomes for specialist certification. The RAC works with the MMed committee to ensure that there is equitable coverage and weightage of examination topics throughout the 5-year residency programme.

The chair and members of the RAC and their institution of employment or primary affiliation are listed in *Annex B.R1.*

B.R2 Governance of the RAC

Corresponding standards in the SSTS Standards Document section F.2

The EM RAC takes input from the JCST Examination Committee and Curriculum Committee. The JCST Examination Committee is further supported by 4 subcommittees with each anchoring each component of the EM Exit Examination:

a) Clinical Viva
b) Teaching
c) Administrative
d) Critical Appraisal Topic (CAT)

The EM RAC plays a governance role and makes decision with various stakeholders in mind: residents, PDs, faculty, JCST / SAB / MOH. When there is conflict, the issue is discussed at RAC meeting with invitation of relevant stakeholders to be present at the meetings.

PDs are kept updated of any changes to the training and examination requirements and will develop the training curriculum in accordance with the training requirements. PDs may provide feedback on training issues to the RACs regularly and any recommendations not in line with the prevailing policy and guidelines must be submitted to JCST/SAB for review and approval.

For any training-related and examination-related matters and issues, PDs should submit their recommendations/requests/feedback to the RAC for review first before JCST Secretariat submits to JCST/SAB for final approval.

Refer to *Annex B.R2* for the details on the committee and *Appendix 1* for the governance flowchart.

B.R3 Development and Improvement

Corresponding standards in the Standards Document section F.3

After its inauguration as a specialty in 1984, the structure of EM training in Singapore was a 3-year Basic Specialist Training (BST) followed by a 3-year Advanced Specialist Training (AST). Rotations in BST were controlled by MOH while AST trainees generally remained in a single hospital's emergency department. In 2007 the AST programme was shortened to two years with seamlessness from the BST phase. The national teaching programme evolved into a formal curriculum in 2008 with oversight by the Specialist Training Committee (STC), JCST.

When MOH introduced the US-style residency programme in 2009-10, STC was renamed the RAC. The RAC had oversight over all training and examination matters. The duration of residency training was kept as a seamless 5-year programme. The execution of training (including rotations) is delegated to individual programmes under the three Sponsoring Institutes. Accreditation Council for Graduate Medical Education (ACGME) International (ACGME-I) conducts external accreditation of the three programmes.

A curriculum committee, appointed by RAC, meets periodically to update the curriculum based on the Model for EM Practice and local requirements. RAC also appoints examination subcommittees for the Exit Examinations.

Inputs from the PDs are sought with regard to resident training curriculum, methods of assessment, duration of training, resident number per cohort, and standards of performance evaluation. This is done through:

- Involving PDs in relevant section of STR drafting.
- Inviting PDs to attend RAC meetings.
- PDs being kept abreast of development and RAC communication via emails.

For curricular design and assessment that pertains to certain subspecialty areas e.g. pre-hospital care, toxicology, ultrasound, RAC takes input from the respective existing subspecialty interest groups.

On top of the above, there are several surveys conducted at various levels from which programmes have access to and from which feedback on the programme is obtained.

1) ACGME-I surveys for residents & faculty
2) Programme / Institutional surveys for residents / faculty / Head of Department (HOD)

3) MOH-coordinated Employer survey on the quality of graduates

The PD and the Programme Evaluation Committee (PEC) reviews all survey data and feedback and incorporate into their own continuous programme improvement.

C. Programme of Learning and Learning Outcomes

This section describes:

- *Duration of Specialty training and "make-up" training;*
- *Expected learning outcomes for the area of practice: EPAs, competencies, milestones, others;*
- *Curriculum; and*
- *Learning methods and approaches: Scheduled didactic and classroom sessions, clinical experiences, scholarly activities, documentation of learning.*

- Refer to the Standards Document section G for the corresponding standards, unless otherwise stated.

C.R1 Duration of Specialty Training

Corresponding standards in the Standards Document section G.1

The training duration must be 60 months, comprising 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.

C.R2 "Make-up" Training

Corresponding standards in the Standards Document section G.2

"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.

C.R3 Learning Outcomes: Entrustable Professional Activities (EPAs)

Corresponding standards in the Standards Document section G.3

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 *Annex C.R3*.

C.R4 Learning Outcomes: Core Competencies, Sub-competencies and Milestones

Corresponding standards in the Standards Document section G.4

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

C.R5 Learning Outcomes: Others

Corresponding standards in the Standards Document section G.5

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).

C.R6 Curriculum

Corresponding standards in the Standards Document section G.6

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:
    i. The Geriatric Patient
    ii. 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

Please refer to Annex C.R6 for more information.

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.

C.R7 Learning Methods and Approaches: Scheduled Didactic and Classroom Sessions

Corresponding standards in the Standards Document section G.7

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.

C.R8 Learning Methods and Approaches: Clinical Experiences

Corresponding standards in the Standards Document section G.8

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.

C.R9 Learning Methods and Approaches: Scholarly/Teaching Activities

Corresponding standards in the Standards Document section G.9

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 examination committee for eligibility to sit for the Teaching Assessment of the EM Exit Examination

a) Attendance at Teaching–Related Continuing Medical Education (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 / House Officer (HO) / Medical Officer (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. Workplace-Based Assessment (WBA) such as mini Clinical Evaluation Exercise (mini-CEX) and Direct Observation of Procedural Skills (DOPS), mock Objective Structured Clinical Examinations (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.	Organize 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.

C.R10 Learning Methods and Approaches: Documentation of Learning

Corresponding standards in the Standards Document section G.10

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	6
Central venous access	20
Chest tubes	10
Procedural sedation	15
Cricothyrotomy	3
Dislocation reduction	10
Intubations	35
Lumbar Puncture*	5
Paediatric medical resuscitation	15
Paediatric trauma resuscitation	10
Pericardiocentesis	3
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).

D. Programme of Assessments

This section describes:

- *Overview, conjoint and overseas summative examinations;*
- *Summative assessments;*
- *Quality assurance for locally produced summative assessments; and*
- *Formative assessments.*

- Refer to the Standards Document section H for the corresponding standards, unless otherwise stated.

D.R1 Overview of Assessments

Corresponding standards in the Standards Document section H.1

The M Med (EM) Part A Examination has been conjoint with the Primary Examination in Emergency Medicine (PEEM) of the Hong Kong College of Emergency Medicine (HKCEM) since 2019.

We are working with HKCEM to work towards the conjoining of the M Med (EM) Parts B and C with the appropriate HKCEM Examination.

The decision to work towards conjoining the Singapore M Med (EM) Examinations with the equivalent HKCEM examinations was made some years ago (2015) to increase the robustness of the examinations with inclusion of a larger cohort of candidates that will allow better quality analysis of the questions, to increase acceptability of the local examinations within Singapore and in the region, and to move towards creation of a very strong intermediate examination in EM in the Asian region that would be relevant to local clinical practice. HKCEM was chosen as the conjoint partner owing to the strong showing of Hong Kong candidates with the Singapore candidates in the days prior to 2014 when both used to take the UK EM primary and intermediate examinations in EM. The decision was also made to do a graduated approach to the conjoint examinations. Therefore, the Part A Examinations were initially conjoined. We are working towards conjoining the Part B and eventually the Part C Examinations.

The M Med (EM) Examination Committee of Division of Graduate Medical Studies (DGMS), National University of Singapore (NUS) works with the HKCEM in all areas of examination development, including blueprinting, question setting, review of questions, examination administration, marking of scripts, board of examiner meetings and post-examination analysis.

The Part A conjoint examinations have been continuing over the last two years of the current pandemic. This is because the Part A Examinations are written examinations which do not require candidates to travel to other countries.
The same principle will be followed for the Part B Examinations which will also be written or conducted via virtual platforms.

For the Part C Examinations, we will work out arrangements for safe travel, if allowed at the time of the examination, or conducting separate examinations of similar standards, if safe travel arrangements cannot be made.

D.R2 Summative Assessments

Corresponding standards in the Standards Document section H.2

Residents are required to pass the following summative assessments:

<table>
<tr><td></td><td colspan="2">Summative assessments</td></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 minutes each

Teaching and Administration Portfolio
• 20 minutes viva component</td><td rowspan="2">CAT
• 2 hours written paper

American Board of Medical Specialties (ABMS) MCQ Examination
• 200 MCQs
• Examination duration approximately 6 hours10 minutes</td></tr>
<tr><td>R4</td><td></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></td><td>MMed (EM) Part A</td></tr>
</table>

D.R3 Quality Assurance for Locally Produced Summative Assessments: Written / Cognitive, Oral / Viva, Clinical / Patient-Facing / OSCE

Corresponding standards in the Standards Document sections H.3 and H.4

Name of examination and component:	**Examination**: Primary Examination **Component**: MMed (EM) Part A
Entry criteria	The entry criteria for the M Med (EM) Part A Examinations are: • Applicants must hold a primary medical qualification. • Part A may be taken in the first foundation year of training or its overseas equivalent.
Blueprint:	The blueprint for the M Med (EM) Part A Examination is initially drafted by the Part A (MCQ) Team of the M Med (EM) Examination Committee, DGMS, NUS. It is based on the EMCC. It is then discussed, vetted and finally endorsed by the M Med (EM) Examination Committee. The blueprint is also discussed with the Examination Committee of HKCEM, with which the examination is conjoined, for their inputs before finalisation.
Item/station writers:	The item writers attend the MCQ Examiners Course organised by the College of Emergency Physicians, AMS, Singapore. For those who are appointed before they attend the Examiners' Course, arrangements are made for them to attend the very next course organised. In addition, the Head of the M Med (EM) Part

	A Team provides supervision to them in their drafting of the Part A questions. Feedback about their items is provided, initially, by the Head of the Part A Team when they initially submit the questions they have drafted. Further feedback is provided during the Review of the Part A Questions session attended by all members of the Part A Team and by the Part A Team advisers and the Chairman of the M Med (EM) Examination Committee. The third opportunity for feedback is during the Standard Setting session organised by the M Med (EM) Examination Committee. A final opportunity would be after the Board of Examiners Meeting when the MCQ statistic for each question will be released and discussed. Recognition is provided to the item writers by formal letters of appointment signed by the Director, DGMS, NUS. Item writers are rewarded by CME points awarded by SMC on certification by DGMS. Members of the Part A Team then would apply to SMC for the points.
Item/station review:	Items are reviewed by the M Med (EM) Part A Question Setting Team, for content appropriateness and question quality, and these are, after modifications, sent for approval to the M Med (EM) Examination Committee, DGMS, NUS. Feedback is also obtained from the Examination Committee of HKCEM with which the Part A Examinations are currently conjoined. The item finalisation is done following recommendation by the M Med (EM) Part A Question Setting Team and approved by the M Med (EM) Examination Committee for the Part A diet held in the first half of the year. For the Part A diet held in the second half of the year, the Part A Team and the M Med (EM) Examination Committee provides feedback to the HKCEM before finalisation by that College.
Standard setting:	The Standard Setting Method used for the Part A is the Ebel method. The standard setters include the members of the M Med (EM) Part A Team and the M Med (EM) Examination Committee.
Examination administration:	The organisation is provided by the DGMS, NUS The Examination Administration Team has the following roles and responsibilities: 1. Determining the dates of the Part A Examinations based on the advice provided by the M Med (EM) Examination Committee and feedback from the HKCEM which co-organises the examination.

	2. Determining the examination preparation time-table on the advice of the Head of the Part A Team and the M Med (EM) Examination Committee. 3. Announcing the dates of the examinations on the NUS DGMS Examinations website and the criteria and regulations for the application for and conduct of the Examinations. 4. Making the arrangements for the conduct of meetings of the Part A Team. 5. Making the arrangements for the conduct of the examination, including venue, timings and invigilation. 6. Making the arrangements for the marking of the answer scripts and the conduct of the Board of Examiners Meeting. 7. Announcing the results to the candidates 8. Obtaining the post-hoc analysis results through the *Examsoft* software used to administer the examinations. 9. Transmitting the psychometric results to the Part A Team and to the M Med (EM) Examination Committee. 10. Maintaining the question bank of questions for the M Med (EM) Part A Examinations. Feedback for the Administration Team is provided by the M Med (EM) Examination Committee and the Part A Team. All items submitted via email are password protected. The password is provided to the Question Setting team through alternate communication channels. Only the Administration Team maintains the complete set of items written. Sharing of questions is done only during Team discussions. Assessments are on *Examsoft* and are password protected, being accessible to the candidates on examination day when they sign in to start the examination.
Written, cognitive examination:	The questions are produced in an electronic format. The examination is also conducted through an on-line password protected portal. There are no printed hard copies of the examination questions. In addition, access to *Examsoft* is restricted and password protected. The items are marked electronically through *Examsoft* software.
Examiners for oral/viva examination, clinical examination, OSCE:	Not applicable.

Conduct of oral/viva examination, clinical examination, OSCE:	Not applicable
Standardised and Real Patients:	Not applicable.
Board of Examiners (BOE):	There is a BOE meeting after the examination. The members of the BOE are the Head and members of the Part A Team, Chairman and members of the M Med (EM) Examination Committee and representatives of the Examination Committee, HKCEM. The BOE cannot pass a candidate who has obtained a “Fail" from a marker.
Post-examination analysis:	The item/station statistics and examination-level statistics are available/performed. The M Med (EM) Examination Committee reviews the results of the analysis and shares these with the Part A Team. If the item statistics are poor, the question is discussed to determine whether it is fair to the candidate. The results are kept within the DGMS, NUS.
Results and appeals:	A letter is sent to each candidate soon after the BOE Meeting. They are given a Pass / Fail letter and provided their overall score and the passing score for the examination. **Appeal process:** i. The candidate writes to DGMS to appeal. ii. DGMS will forward the appeal to the M Med (EM) Examination Committee. iii. The M Med (EM) Examination Committee will discuss the appeal with the Part A Team. iv. The result of the appeal will then be transmitted to the candidate by DGMS. v. To-date, there has not been an appeal. Feedback from the candidates about the examination would not be collected.
Continuity plan during a protracted outbreak:	The examination is still conducted. However, the candidates are separated by rooms based on their hospitals (i.e. only candidates from the same hospital would be allowed into a single room with

	appropriate distancing requirements). Each room will have a different invigilator. In addition, the examination will not be held in any healthcare institution. A reserve date is always allocated in the event the Part A needs to be postponed. The postponement is usually at an interval of 1-2 weeks. However, to-date, we have not needed to postpone the Part A Examinations. If there is likelihood of prolonged postponement or cancellation of the Part A Examinations, the matter will be brought to the attention of MOH for advice. However, the postponement will have no impact on the Resident's progression.

Name of examination and component:	**Examination**: Intermediate Examination **Component**: MMed (EM) Part B
Entry criteria	The entry criteria for the M Med (EM) Part B Examination are: 1. Applicants must have passed any one of the following Primary Medical Qualifications: • NUS Master of Medicine (EM) Part A Examination • Fellowship of Royal College of Emergency Medicine (FRCEM) Primary (formerly known as MCEM Part A / MRCEM Part A) examination before end 2019. • Primary examination of the Australasian College for Emergency Medicine • Primary examination of the HKCEM 2. Applicants must complete at least 24 months of accredited post-internship training of which at least 12 months should be in EM. These work experiences must be gained by the time of sitting the examination.
Blueprint:	• A five-year blueprint is initially drafted by the M Med (EM) Examination Committee. This is sent to the M Med (EM) Part B Team for feedback and suggestions. • Having received the feedback and suggestions, the blueprint is again reviewed by the M Med (EM) Examination Committee with all the feedback taken into consideration before the final blueprint is decided. • Approximately six months before the conduct of each diet of the Part B, the Part B Team and the M Med (EM) Examination Committee review the blueprint for the coming examination once again before sending it to the Question Setting Team for drafting the Part B scenarios and questions.

Item/station writers:	The item writers attend the Short Answer Question (SAQ) Examiners Course organised by the College of Emergency Physicians, AMS, Singapore. Some item writers were trained in the days before the local M Med (EM) Part B was started and these were trained by the Royal College of Emergency Medicine (UK). For those who are appointed before they attend the Examiners' Course, arrangements are made for them to pair with a seasoned question writer and attend the very next course organised. In addition, the Head of the M Med (EM) Part B Team provides supervision to them in their drafting of the SAQ questions. Feedback about their items is provided, initially, by the Head of the Part B Team when they initially submit the questions they have drafted. Further feedback is provided during the Review of the Part B Questions session attended by all members of the Part B Team and by the M Med (EM) Examination Committee. The third opportunity for feedback is during the Standard Setting session organised by the M Med (EM) Examination Committee. Recognition is provided to the item writers by formal letters of appointment signed by the Director, DGMS, NUS. Item writers are rewarded by Letters of Appreciation and CME points awarded by SMC on certification by DGMS and their application to SMC.
Item/station review:	Items are reviewed by the M Med (EM) Part B Question Setting Team over two review meetings, initially, and these are finally sent for approval to the M Med (EM) Examination Committee, DGMS, NUS. The Item finalisation is done following recommendation by the M Med (EM) Part B Question Setting Team and approved by the M Med (EM) Examination Committee.
Standard setting:	The Standard Setting Method used for the Part B is the Modified Angoff method. The standard setters include the members of the M Med (EM) Part B Team and the members of the M Med (EM) Examination Committee (total about 15-20 pax).
Examination administration:	The organisation is provided by the DGMS, NUS. The Examination Administration Team has the following roles and responsibilities: 1. Determining the dates of the Part B Examinations based on the advice provided by the M Med (EM) Examination Committee.

	2. Determining the examination preparation time-table on the advice of the Head of the Part B Team and the M Med (EM) Examination Committee. 3. Announcing the dates of the examinations on the NUS DGMS Examinations website and the criteria and regulations for the application for and conduct of the Examinations. 4. Making the arrangements for the conduct of meetings of the Part B Team. 5. Making the arrangements for the conduct of the examination, including venue, timings and invigilation. 6. Input the questions into the *Examsoft* system. 7. Making the arrangements for the marking of the answer scripts by the Examiners. 8. Making arrangements for the conduct of the Board of Examiners Meeting. 9. Announcing the results to the candidates. 10. Sending the anonymized results to a psychometrist appointed by the DGMS, NUS for post-hoc analysis. 11. Transmitting the psychometric results to the Part B Team and to the M Med (EM) Examination Committee. 12. Maintaining the question bank of questions for the M Med (EM) Part B Examinations. Feedback for the Administration Team is provided by the M Med (EM) Examination Committee, the Examiners for the Part B Examination and the Part B Team. All items submitted via email are password protected. The password is provided to the Question Setting Team through alternate communication channels. Only the Administration Team maintains the complete set of items written. Sharing of questions is done only during Team discussions and during the Standard Setting sessions. Access to *Examsoft* (examination software) is restricted, password-protected and only available to the candidates on Examination Day during the hours of the Examination.
Written, cognitive examination:	The questions are produced in an electronic format. The examination is also conducted through an on-line password protected portal. A copy of the images used in the examination, e.g. ECG, X-rays, Ultrasound images or pictures is printed on white paper to provide a clear representation to the candidates. These images are checked by the Head of the Part B Team and Chairman of the M Med (EM) Examination Committee before they are finalized for the conduct of the examination. The answers for each question of the Part B Examination are marked manually and independently by two Examiners.

	There are two Examiners for each question. These Examiners come from a Pool of Examiners which currently numbers 51. If there is a difference of more than 0.5 in the marks allocated, the Head of the Part B Team and the Chief Examiner oversee the adjudication of marks between the two examiners. If there is no agreement on the marks to be allocated, the marks are averaged to arrive at the final mark.
Examiners for clinical examination:	The examiners are selected from the Panel of Examiners for the M Med (EM) Exams maintained by DGMS, NUS DGMS, NUS approves each examiner. Examiners are added, just a few a year, as long as they indicate interest to be Examiners and have fulfilled the criteria set by DGMS, NUS. Examiners are reviewed every year, and if they have indicated a desire to step down as Examiners, can be delisted. SAQ Examiners Courses are conducted by the College of Emergency Physicians, AMS, Singapore. Chief Examiner and Head M Med (EM) Part B Team provide feedback to the Examiners during the marking of the scripts and soon after. The examiners are given a letter of thanks by Director, DGMS. There are no rewards accorded to the Examiners.
Conduct of clinical examination:	The examiners are briefed before they begin to mark the answer scripts. Two examiners for each question. The marks by the 2 examiners are averaged after appropriate adjudication mediated by Chief Examiner. It usually takes one day to complete the entire exam. For examiners: Three hours For candidates: Two hours
Standardised and Real Patients:	Not applicable.
Board of Examiners (BOE):	There is a BOE meeting after the Part B Examination. The members of the BOE are Director of DGMS, Chairman of the M Med (EM) Examination Committee, Head of the M Med (EM) Part B Team and the Examiners of the Part B Examination.

	The board decides on the candidates who are anonymized during the BOE discussions.
Post-examination analysis:	The item/station statistics and examination-level statistics are available/performed. There are discussed at the level of the Part B Team and the main M Med (EM) Examination Committee so that any lessons learnt from the analysis can be used to benefit future diets of the examinations. For clinical examination, there are no examiner performance statistics available / performed.
Results and appeals:	They will receive an official letter from DGMS soon after the answer sheets have been marked and the marks finalized by the Examiners. They will be informed whether they PASS / FAIL, their overall score, the passing score and the number of SAQ questions they have passed. **Appeal Process:** i. The candidate writes to DGMS to appeal. ii. DGMS will forward the appeal to the M Med (EM) Examination Committee. iii. The M Med (EM) Examination Committee will discuss the appeal with the Part B Team. iv. The Chair of the M Med (EM) Examination Committee or the Head of the M Med (EM) Part B Team will meet the candidate at DGMS and review with them their performance especially to help them identify their areas of weakness. v. The appeal is conducted under the oversight of DGMS. Feedback from the candidates about the examination would not be collected.
Continuity plan during a protracted outbreak:	The examination is still conducted. However, the candidates are separated by rooms based on their hospitals (i.e., only candidates from the same hospital would be allowed into a single room with appropriate distancing requirements) In addition, the examination will not be held in any healthcare institution. A reserve date is always allocated in the event the Part B needs to be postponed. The postponement is usually at an interval of 1-2 weeks. However, the postponement may sometimes be by a few months as occurred in 2020, when the postponement was advised by MOH owing to the COVID-19 pandemic.

	If there is likelihood of prolonged postponement or cancellation of the Part B examinations the matter will be brought to the attention of DGMS, JCST and MOH for advice on residency progression.

Name of examination and component:	**Examination:** Intermediate Examination **Component:** MMed (EM) Part C
Entry criteria	The only entry criterion for the M Med (EM) Part C Examination is that applicants must have passed the NUS Master of Medicine (EM) Part B Examination. Application for the Part C, in the first instance, would be together with the Part B. The two examinations are held at an interval of approximately 4 to 6 weeks. The only criterion for candidates applying for the Part C Examinations only would be a previous failure in the Part C Examination. Candidates are also required to pass the M Med (EM) Part C Examination within six years of having passed the M Med (EM) Part A Examination.
Blueprint:	• A five-year blueprint is initially drafted by the M Med (EM) Examination Committee. This is sent to the M Med (EM) Part C Team for feedback and suggestions. • Having received the feedback and suggestions, the blueprint is again reviewed by the M Med (EM) Examination Committee with all the feedback taken into consideration before the final blueprint is decided. • Approximately six months before the conduct of each diet of the Part C, the Part C Team and the M Med (EM) Examination Committee review the blueprint for the coming examination once again before sending it to the Question Setting team for drafting the Part C scenarios and marksheets.
Item/station writers:	The scenario writers attend the OSCE Examiners Course organised by the College of Emergency Physicians, AMS, Singapore. Some scenario writers were trained in the days before the local M Med (EM) Part C was started and these were trained by the Royal College of Emergency Medicine (UK). For those who are appointed before they attend the Examiners' Course, arrangements are made for them to attend the very next course organised. In addition, the Head of the M Med (EM) Part C Team provides supervision to them in their drafting of the OSCE scenarios and marksheets. Feedback about their stations is provided, initially, by the Head of the Part C Team when they initially submit the scenarios and

	marksheets they have drafted. Further feedback is provided during the Review of the Part C scenarios session attended by all members of the Part C Team. The scenarios are further presented to the M Med (EM) Examination Committee which provides the third opportunity for the Question setters to receive feedback. The fourth opportunity for feedback is during the Standard Setting session organised by the M Med (EM) Examination Committee. Recognition is provided to the question setters by formal letters of appointment signed by the Director, DGMS, NUS. Question setters are awarded CME points by SMC on certification by DGMS and their subsequent application to SMC.
Item/station review:	Scenarios and marksheets are reviewed by the M Med (EM) Part C Question Setting Team, initially, and these are finally sent for approval to the M Med (EM) Examination Committee, DGMS, NUS. The scenario and marksheet finalisation are done following recommendation by the M Med (EM) Part C Question Setting Team and approved by the M Med (EM) Examination Committee.
Standard setting:	The Standard Setting Method used for the Part C is the Modified Angoff method. The standard setters include the members of the M Med (EM) Part C Team, the members of the M Med (EM) Examination Committee and a few very senior Emergency Physicians from Singapore (usually about 15-20 pax).
Exam administration:	The organisation is provided by DGMS, NUS The Examination Administration Team has the following roles and responsibilities: 1. Determining the dates of the Part C Examinations based on the advice provided by the M Med (EM) Examination Committee. 2. Determining the examination preparation time-table on the advice of the Head of the Part C Team and the M Med (EM) Examination Committee. 3. Announcing the dates of the examinations on the NUS DGMS Examinations website and the criteria and regulations for the application of and conduct of the Examinations. 4. Making the arrangements for the conduct of meetings of the Part C Team. 5. Making the arrangements for the conduct of the examination, including venue, timings and examination. 6. Making the arrangements for the examining of the candidates by the Examiners.

	7. Making arrangements for the conduct of the BOE Meeting. 8. Announcing the results to the candidates 9. Sending the anonymised results to a psychometrist appointed by the DGMS, NUS for post-hoc analysis. 10. Transmitting the psychometric results to the Part C Team and to the M Med (EM) Examination Committee. 11. Maintaining the bank of scenarios and marksheets for the M Med (EM) Part C Examinations. Feedback for the Administration Team is provided by the M Med (EM) Examination Committee, the Examiners for the Part C Examination and the Part C Team. All scenarios and marksheets submitted via email are password protected. The password is provided to the Question Setting Team through alternate communication channels. Only the Administration Team maintains the complete set of scenarios and marksheets written. Sharing of questions is done only during Team discussions and during the Standard Setting sessions.
Written, cognitive examination:	Not applicable.
Examiners for clinical examination, OSCE:	The criteria for appointment of Examiners are set by DGMS, NUS and are as follows: Inclusion criteria: • EM Consultant for at least five years • Completed an accepted Examiners Course • Observed at least one diet of the Examination under supervision of the existing Examiners and Chief Examiners Exclusion criteria: • Those who are EM Residency PD / Associate Programme Director (APD) • Those who are Designated Institution Officers (DIO) for their Hospital's Residency Programmes • Those who have expressly stated a desire not to be Examiners for the M Med (EM) Examination. DGMS, NUS approve each examiner. Examiners are added, just a few a year, as long as they indicate interest to be Examiners and have fulfilled the criteria set by DGMS, NUS. Examiners are reviewed every year, and if they have indicated a desire to step down as Examiners, can be delisted. Current Examiners are those who have either been trained previously by the Royal College of Emergency Physicians (UK),

	prior to 2014 or who have subsequently been trained at the OSCE Examiners courses organised by the College of Emergency Physicians, AMS, Singapore. Examiners receive feedback from Chief Examiner, as and when necessary. In addition, Examiner performance is considered in the post-hoc analysis carried out by the appointed psychometrician. A letter of appointment is given to the Examiners by Director, DGMS, NUS each time they are available to be Examiners for the M Med (EM) Part C Examination. The Examiners are provided a honorarium by DGMS, NUS. This honorarium is paid to the hospital the Examiner works at. Payment to examiners would depend on the individual hospital's system of payment to her staff for work done outside the hospital.
Conduct of clinical examination, OSCE:	Examiners are briefed at the following sessions; • At a session on Review of OSCE stations (held 1-2 weeks before the Examination) when Examiners are first informed of the stations they would be examining • In the morning before the start of the Examination The calibration is done during the Standard Setting session which is carried out about 1-2 months prior to the conduct of the Examinations. To-date, we have not needed to conduct more than one concurrent circuit examining the same station. However, if this comes to pass in the future, the Examination Committee will work out processes and procedures with DGMS, NUS on examiner calibration. There are two examiners for each station. The final mark is the average of the marks of the two examiners. However, in the event one examiner passes the candidate and the other fails the candidate, or if there is >20% points difference in the scores awarded by the two examiners, adjudication is carried out under the supervision of the Chief Examiner. Averaging is conducted after the adjudication process. **How many days are required to complete the entire examination?** **What is the duration for each day:** **For Standardised Patient (SPs) and real patients?** 2 days: • Review of OSCE stations: This is conducted about 1 to 2 weeks before the actual examination, usually from

	about 8:30 am to about 12:30 pm (up to about 4 hours on that day) • Actual Part C Examination Day: For patients / SPs, they will need to be at the Examination centre by 7:00 am and get to leave at about 3:00 pm (about 8 hours). **For examiners?** 2 days: • Review of OSCE stations: This is conducted about 1 to 2 weeks before the actual examination, usually from about 8:30 am to about 12:30 pm (up to about 4 hours on that day) • Actual Part C Examination Day: For examiners they will need to be at the Examination centre by 7:00 am and get to leave after 4:00 pm after completion of the Board of Examiners Meeting and meeting the successful candidates. **For candidates?** 1 day: • Actual Part C Examination Day: Candidates must be onsite by 7:30 am and will initially leave at 3:00 pm and subsequently come for their results by 3:45 pm and leave after 4:00 pm.
Standardised and Real Patients:	The Scenarios for SPs are provided to the NUS SP Team at least two months before the examination. The NUS Team conducts the training of SPs. Two SPs are recruited for each station requiring an SP. The SPs are reviewed during the conduct of the OSCE Review Stations about 1-2 weeks prior to the examinations. Examiners work with the SPs to fine-tune the various aspects of the station so that both Examiner and SP have the same perspective of the station. The conduct of this review is under the overall supervision of Chief Examiner. The SPs are refreshed by the Examiners once again on the morning of the examinations. Feedback is provided to the SPs by the Examiners during and soon after the conduct of the examinations. In the event of any special situation requiring feedback to the NUS SP Team, such feedback is provided. Real patients are used for the Physical Examination stations if physical signs cannot be simulated by SPs. The Part C Question Setting Team recruits the patients from their individual hospitals. The examiner performing the recruitment

	ensures that the real patients fulfil the requirements of the station scenario and that the examination marksheets also fulfil the station scenario. Usually, two patients are recruited for each of the appropriate physical examination station. Yes, this is provided, if appropriate, by the Head of the M Med (EM) Part C Team.
Board of Examiners (BOE):	There is a BOE meeting after the examination. The members of the BOE are Director, DGMS, The Chairman of the M Med (EM) Examination Committee and the Examiners for that diet. The BOE can pass a candidate who has obtained a “Fail” from the marker. If over-riding the markers’ decision is considered, the markers must present their case for the marks given and the BOE would then discuss decide as to whether it would be appropriate to over-ride the markers’ decision.
Post-examination analysis:	The item/station statistics and examination-level statistics are available/performed. The statistics are shared with the Examination Committee, the Part C Team and with DGMS. For clinical exam, OSCE, examiner performance statistics available / performed are performed. Examination Committee will share the statistics with Examination Committee members and with DGMS. If appropriate, single examiners may be provided relevant information.
Results and appeals:	Candidates will receive an official letter from DGMS soon after the Board of Examiners Meeting. They will be informed whether they PASS / FAIL. **Appeal process:** i. The candidate writes to DGMS to appeal ii. DGMS will forward the appeal to the M Med (EM) Examination Committee. iii. The M Med (EM) Examination Committee will discuss the appeal with the Part C Team. iv. The M Med (EM) Examination Committee has also met the candidate to brief him/her on their performance in the Part C Examination and the areas where they did not perform well. v. The result of the appeal will then be transmitted to the candidate by DGMS. Feedback from candidates about the exam are not collected.

Continuity plan during a protracted outbreak:	The examination may be postponed and reconvened on a date acceptable to both DGMS, JCST and MOH. In addition, the examination will not be held in any healthcare institution. Appropriate safety precautions will be put in place to minimize contacts to only what is absolutely necessary for the safe conduct of the examination and for maintenance of the quality and robustness of the examination. Any postponement would be brought to the attention of DGMS, JCST and MOH and appropriate advice sought on the resident's progression.

Name of examination and component:	**Examination:** Exit Examination **Component:** Critical Appraisal Topic (CAT)
Entry criteria	Residents must have completed at least 12 months of Senior Residency and be certified eligible by PDs prior to sitting for the CAT Examination.
Blueprint:	The CAT Chair and Committee members.
Item/station writers:	New setters are tagged on with a pair of setters for one or two exam diets and are supervised by the CAT Chair. They received feedback in two phases, first from the CAT Chair during preparation of the item and then from the entire committee during the Standard Setting session. An appreciation letter would be issued to examiners, and CME points issued for question writers.
Item/station review:	Questions are reviewed at the Question Review and Standard Setting meeting. The final decision is made by the JCST Examination Committee led by the Chief Examiner.
Standard setting:	The Standard Setting method is Angoff method. The standard setters are the CAT Examination Subcommittee members.
Examination administration:	The JCST provides examination administration and support to produce and conduct the examination. The Exam Administration Team performs the following:

	a. Support chief examiner and examiners; b. Manpower and administrative support for the planning, reconnaissance, and conduct of the examination; and c. Support post examination analysis, result, dissemination, etc. Moving forward, RAC recommends organisation / examination administration to have a method of feedback collections from the examiners and candidates on its performance as a form of quality assurance and improvement. All examination items are password protected, and only circulated to intended recipients.
Written, cognitive examination:	The print/visual quality is checked by the Chief examiner/invigilator before they are finalized for the conduct of the examination. Based on the Committee's consensus examiners' guide at Standard Setting session, the items are marked. There are 2 markers. If both markers fail or both markers pass the candidates, the marks are averaged. If one marker passes and the other marker fails, the CAT Chair will mark, and her marks are final.
Examiners for oral/viva examination, clinical examination, OSCE:	Not applicable.
Conduct of oral/viva examination, clinical examination, OSCE:	Not applicable.
Standardised and Real Patients:	Not applicable.
Board of Examiners (BOE):	Not applicable.
Post-examination analysis:	Currently, there is no post-examination analysis being done. Moving forward, RAC recommends CAT Examination Subcommittee to perform post-examination analysis on the candidates' performances as a form of examination reliability and validity.

Results and appeals:	Candidates are notified on their examination result by PASS/FAIL letter. RAC will adhere to the JCST guidelines on the appeal process for exit examinations as shown below. Candidates, who wish to appeal against the exit examination results, must submit a written appeal to the RAC and JCST via JCST secretariat: 1. All appeals must be submitted in writing to the JCST secretariat within 30 days of the release of the examination results. 2. The appeal must clearly specify the issues disputed or improprieties that have deemed to adversely affect the examination outcome. 3. Appeals must be submitted by the candidate through the PD (applicable on residents), or HOD to the RAC and JCST. 4. Upon receiving the appeal, an Appeals Committee, consisting of the RAC Chairman, the JCST Examination Committee Chairman, the Chief Examiner and a senior specialist who is not involved in the exit examination, will review the issue(s) raised by the appellant and all relevant materials (i.e., mark sheets and audio recording of examination proceedings). 5. The Appeals Committee must complete their investigation and reach a consensus within 1 month from the date the appeal is being filed. They will recommend to JCST the outcome of their investigation: • The appeal is successful and the candidate to be granted a pass; or • The appeal is unsuccessful, and the candidate is required to re-sit for the next upcoming exit examination. JCST will make the final adjudication.
Continuity plan during a protracted outbreak:	The examination will be conducted via virtual platform in the respective institution. Since the residents is allowed to sit for this examination at the minimum period of 1 year into the senior residency, their progression may or may not be held back depending on time point they take the CAT examination.

Name of examination and component:	**Examination:** Exit Examination **Component:** Clinical Viva
Entry criteria	Residents must have completed at least 18 months of Senior Residency and be certified eligible by PDs prior to sitting for the Clinical Viva Examination.
Blueprint:	Blueprint is decided based on core topics and taxonomy. Questions are mainly be made up of code 3 topics with occasional code 2 topics included. This is based on a 2-year cycle templated against the current curriculum. Blueprint is decided on by the Clinical Viva Co-Chairs and Chief Examiner after discussion.
Item/station writers:	New station writers will tag on to more experienced writers and will take part in the question discussion session. The Committee would provide feedback on the respective questions during the question discussion meetings. An appreciation letter would be issued to examiners, and CME points issued for question writers.
Item/station review:	Two meetings are held to review and finalise the questions for each examination diet. The question discussion meeting is where the Committee reviews each question in detail and provides feedback on improvements and amendments to the question. The final review and Standard Setting meeting involve reviewing the amendments made at the question discussion meeting, and suggestions on any final amendments. The Committee would decide if there were any final amendments to be made to the questions.
Standard setting:	The Standard Setting method is Modified Angoff Method. Members of the Clinical Viva Examination Subcommittee and Examiners for the specific diet of the Clinical Viva.
Examination administration:	The JCST provides examination administration and support to produce and conduct the examination. The Examination Administration Team performs the following: a. Support chief examiner and examiners; b. Manpower and administrative support for the planning, reconnaissance, and conduct of the examination; and

	c. Support post examination analysis, result, dissemination, etc. Feedback is requested from candidates and examiners after the examination. All examination items are password protected, and only circulated to intended recipients.
Written, cognitive examination:	Not applicable.
Examiners for oral/viva examination, clinical examination, OSCE:	Emergency Physicians who had fulfilled the eligibility criteria could be invited to be an examiner. The examiner panel is approved by the Chief Examiners and thereafter by JCST. The local Examiner should meet all the following criteria: (a) Be in active practice, registered as a specialist of the relevant discipline, in accordance with the content requirement of the examination, with the SMC and holding a valid practising certificate. (b) **Examination Committee appointments and/or Candidate-Facing Examiners:** Have at least five (5) years of full-time equivalent consultant experience in the relevant discipline at a local healthcare institution. (c) **If only performing the following roles – Item writing, item review, form review, and standard setting:** Have at least five (5) years of full-time equivalent experience as a specialist in the relevant discipline at a local healthcare institution. (d) Have related experience in education and/or assessment at the undergraduate and/or graduate level for the relevant discipline. Examiners should undergo the necessary training based on the competencies required for the particular examination prior to performing their roles and ensure that the competencies are maintained throughout their appointment. (e) Not be concurrently appointed in roles identified to be mutually exclusive due to risk of conflict of interest or have other forms of conflict of interest such as family relationships. The examiners will be changed if they no longer fulfil the eligibility criteria as set by JCST, or when they have expressed an interest to step down as examiner.

	Newly appointed examiners are required to undertake one round of observership for the exit examination, before they are eligible to examine. New examiners would also be paired with more experienced examiners for the examinations. There is no formal feedback channel, but ad-hoc feedback is given by their partners. An appreciation letter is issued after the examination.
Conduct of oral/viva examination, clinical examination, OSCE:	Examiners are briefed on general details through email prior to the examination and are briefed by the Clinical Viva Co-Chairs on the examination day itself. Examiners are paired for each station, and hence there are 2 markers for each Clinical Viva station. The two examiners for each station should mark independently without adding up the total score. Administrative personnel would tally the marks. If both examiners' score gear towards the same direction, i.e., both pass or fails the candidate, the final score for the candidate will be the average of the two scores from the examiners. However, if the two scores are in different directions, i.e. one passes the candidate but the other fails the candidate, adjudication will be done between the two examiners to reach a final conclusion on pass/fail for that candidate. The average of the revised marks will be taken as the candidate's score for that station. The examination would run for 1 day. The duration which the examiners and candidates are involved will depend on the number of candidates.
Standardised and Real Patients:	Not applicable.
Board of Examiners (BOE):	There is a BOE meeting after the examination. The members of BOE would comprise of the Chief Examiner and Examiners. The BOE cannot pass a candidate who has obtained a "Fail" from marker.
Post-examination analysis:	The post-examination analysis was done for the January 2021 diet, whether it will be continued in the future would depend on resources available.

	Moving forward, RAC recommends Clinical Viva Examination Subcommittee to perform post-examination analysis on the candidates' performances consistently as a form of examination reliability and validity. Cronbach-alpha was used for the January 2021 diet. The statistics and information were with JCST Examination Committee members and RAC members as a form of feedback. For oral/viva, clinical examination, OSCE, the examiner performance statistics available / performed are not performed.
Results and appeals:	Candidates are notified with a Pass/Fail letter. RAC will adhere to the JCST guidelines on the appeal process for exit examinations as shown below. Candidates, who wish to appeal against the exit examination results, must submit a written appeal to the RAC and JCST via JCST secretariat: 1. All appeals must be submitted in writing to the JCST secretariat within 30 days of the release of the examination results. 2. The appeal must clearly specify the issues disputed or improprieties that have deemed to adversely affect the examination outcome. 3. Appeals must be submitted by the candidate through the PD (applicable on residents), or HOD to the RAC and JCST. 4. Upon receiving the appeal, an Appeals Committee, consisting of the RAC Chairman, the JCST Examination Committee Chairman, the Chief Examiner and a senior specialist who is not involved in the exit examination, will review the issue(s) raised by the appellant and all relevant materials (i.e., mark sheets and audio recording of examination proceedings). 5. The Appeals Committee must complete their investigation and reach a consensus within 1 month from the date the appeal is being filed. 6. They will recommend to JCST the outcome of their investigation: • The appeal is successful and the candidate to be granted a pass; or • The appeal is unsuccessful, and the candidate is required to re-sit for the next upcoming exit examination. 7. JCST will make the final adjudication.

Continuity plan during a protracted outbreak:	The examination will be held via virtual platforms. The July 2020 and July 2021 diets were conducted via Zoom successfully. Residents' exits may be delayed in both scenarios.

Name of examination and component:	**Examination:** Exit Examination **Component:** EM MCQ Examination (ABMS MCQ)
Entry criteria	• Certified by their residency PD to have satisfactorily completed at least 30 months of residency training at the time of examination application • Projected to be accepted into R4 (Senior Residency), and • Passed the DGMS, NUS, Master of Medicine (MMed) EM examinations **or** the Intermediate Examination in Emergency Medicine (IEEM) of the HKCEM. • Registered with the SMC. • Residents are expected to be competent in the 6 ACGME-I General Competencies.
Blueprint:	The EM Examination (MCQ) is designed to evaluate the extent of the candidate's knowledge and clinical judgement in the areas in which an EM physician should demonstrate a high level of competence. Expertise in the broad domain of EM, and the diagnosis and treatment of both common and rare conditions that have important consequences for patients will be assessed. The examination content is consistent with a pre-established blueprint developed and used by the American Board of EM. ABMS-S, in collaboration with MOH Singapore, modified the blueprint to ensure that the content and relative percentages reflect the practice of EM in Singapore. The blueprint will be reviewed and revised annually to ensure that it is current. The majority of questions are based on presentations occurring in settings that reflect current medical practice. Questions requiring simple recall of medical facts are in the minority; the majority of questions require integration of information from several sources, prioritisation of alternatives, and/or utilisation of clinical judgement in reaching a correct conclusion. Some questions require interpretation of pictorial material, such as ultrasound scans, magnetic resonance imaging scans, electrocardiograms, radiographs, computed tomograms, and photomicrographs (e.g. blood films, Gram stains).

Item/station writers:	No formal training beyond workshop in 2013. In recent years, newly appointed examiners have been introduced to item-writing through a video co-developed by ABMS and Osmosis (https://www.youtube.com/watch?v=LcIgpQRQLc4&t=2s). After that, new examiners may be provided with opportunities to observe up to one item/form review meeting to get familiarised with item writing and the quality assurance measures in place. Peer review done with whole Examination Committee during the annual item review meeting where all new items written for the year will be discussed. Formal letter of appointment and honorarium are given to item writers.
Item/station review:	All newly submitted items undergo a rigorous interim editing process. Items are reviewed and edited by ABMS-S staff to conform to specialty-specific style, as well as to meet standards for good item writing. Items that contain item-writing flaws are annotated and revisions are suggested where possible. Queries are made regarding missing information including references, rationales, and classification information. All images, illustrations, and slides are processed. The edited, annotated items are returned to members with the request that they respond to all queries and annotations and carefully review each item to ensure that the intent of the original item submitted was not inadvertently changed during the editing process. Members use change tracking to respond to queries and record changes to the edited items. The questions are then returned to ABMS-S. ABMS-S reviews all additions and changes and prepares the final version of each question for review at the Item Review Meeting. Each question is reviewed by the whole committee either face-to-face or via virtual platforms during the item/form review meeting. During the item/form review meeting, the final decision is made via consensus within the Committee. Each item is reviewed, and a decision is made to approve for use or to replace with an item from the replacement draft. The replacement items must have the same blueprint ID as the item to be replaced.

	When in doubt, the Chief Examiner and the Deputy Chief Examiner make the final call. At the conclusion of the Form Review Meeting, all items are approved for administration on the next scheduled examination. An ABMS-S staff member records the disposition for each item along with the final approved wording. They will also ensure that replacement items do not alter the statistical criteria used for building the original draft form. ABMS-S staff then makes the final updates to the items and re-runs statistical analyses. Thereafter, the items are proofread to ensure the accuracy of the updates. The examination is then published, and quality controlled for computer delivery.
Standard setting:	The Standard Setting method is Modified Angoff and Hosftee standard-setting procedures. The Standard-Setting is conducted annually. The local ABMS-S EM Examination Committee members and additionally appointed standard-setters will form the Standard-Setting Committee with 12 to 15 members each year.
Examination administration:	MOH and ABMS-S. They organise venue, registration, smooth running of examination in general, including invigilation. MOH reviews the satisfaction survey responses from the candidates that will be done after their examination. Items are all password encoded. **<u>Item Security</u>** The item bank is maintained by ABMS-S. During form review meetings or standard-setting meetings, ABMS-S does not send the items to the Committee members before the meeting. Instead, the items will be projected on screen for review by the respective committee. The members will only receive a copy of the blueprint, content classifications, and spreadsheet detailing performance statistics and other relevant information for each item in the form for their reference. **Examination Security** During the examination, to assure examinations security, the following are not permitted in the testing room: 1) All electronic devices, including cell phones, cameras, calculators, and recording devices 2) Watches 3) Study materials, books, notes, scratch paper

	4) Pens, pencils, highlighters and other writing instruments 5) Wallets and purses Candidates are required to leave their personal belongings outside the testing room in the lockers provided. In addition, candidates are only allowed to take scheduled breaks at the completion of each examination section. After each section is completed, candidates are not allowed to return to any questions and view/change any answers. Unscheduled breaks are discouraged and should not be used frequently. Candidates are not allowed to access study materials, cell phones, or any other electronic devices from their lockers during an unscheduled break.
Written, cognitive examination:	Before an item is scored, the following quality assurance measures are in place to ensure that the visual quality of the images used will not affect candidates' ability to answer the item correctly: 1) Review of a new item by the assigned reviewer 2) Item review meeting, where all members of the Examination Committee will review the item (together with any accompanied images) and agree to accept the item into the item bank 3) Form review meeting, where all members of the Examination Committee will review the item again before it is included in the final examination form 4) After the candidates attempt the examination, the Standard-Setting Committee will undergo a key validation process where the Committee reviews the item again together with statistics. If any visual quality is highlighted to be of concern, the Committee can choose to remove the item from the final form / remove it from scoring. Following examination administration, candidate item response data is processed, and a preliminary scoring is conducted to obtain item analysis results for use in the key validation and standard setting. During the key validation and Standard-Setting meeting, the Committee will review the items together with the item statistics. If the items or the keyed answers are found to be contentious, key validation actions may include: 1) Confirming the answer as originally keyed 2) Rekey a new answer 3) Key more than one option as correct

	4) Delete the item from scoring
Examiners for oral/viva examination, clinical examination, OSCE:	Not applicable.
Conduct of oral/viva examination, clinical examination, OSCE:	Not applicable.
Standardised and Real Patients:	Not applicable.
Board of Examiners (BOE):	Not applicable.
Post-examination analysis:	Difficulty index, discrimination index, point biserial are performed. ABMS-S reports pass-fail decision consistency (i.e., the proportion of examinees expecting to receive the same pass/fail decision if the equivalent tests were re-administered) in their final report. During the form review meeting, items are projected on the screen for review by the Examination Committee. Each member receives information regarding the performance statistics for each item in the draft form if the items were used previously.
Results and appeals:	Candidates notified of their results by a simple PASS/FAIL letter. **Appeal process:** Appeals regarding the results of the EM Examination (MCQ) should be submitted in writing within thirty (30) days of the release of exam results. Appellants will then be advised of the actual cost and payment mode to ABMS-S and/or its Member Boards. If the appeal is a request to re-score the examination, the consideration will be given to whether the need for a re-score is due to errors in the psychometric and scientific standards required for the entire examination, and if such request is justifiable. If approved, all cost involved in the re-score (approximately USD 250 to USD 350) will be borne by the appellant.

	Feedback from candidates about the examination are collected systematically. At the end of the examination, candidates may participate in an optional computer-based testing satisfaction survey. The survey includes topics regarding the examination venue, test environment, examination system, and the content of the examination. Candidates may also choose to share qualitative comments. The survey responses will be sent to the examination organiser (MOH). Any notable concerns that were highlighted by the candidates will be clarified with ABMS-S and appropriate actions to mitigate any inconvenience will be undertaken if necessary.
Continuity plan during a protracted outbreak:	Will postpone the examination until face-to-face onsite meeting is allowed. Consider proceeding with the examination with safe distancing measures (segregate by SIs). Residents' exits may be delayed in both scenarios.

D.R4 Quality Assurance for Locally Produced Summative Assessments: Direct Observation of Workplace Practice Summative Examination

Corresponding standards in the Standards Document section H.5

Name of examination and component:	Not applicable.

D.R5 Quality Assurance for Locally Produced Summative Assessments: Project and/or Thesis Summative Examination with/without an Oral Examination / Viva Voce

Corresponding standards in the Standards Document section H.6

Name of examination and component:	Not applicable.

D.R6 Quality Assurance for Locally Produced Summative Assessments: Summative Portfolio with/without an Oral Examination / Viva Voce

Corresponding standards in the Standards Document section H.7

Name of examination and component:	**Examination:** Exit Examination **Component:** Teaching Portfolio
Entry criteria	The portfolio is for adoption during senior residency or equivalent and is to be collated for a minimum period of 21 months.

	Residents must have completed at least 21 months of Senior Residency and be certified eligible by PDs prior to sitting for the viva component of the Teaching Portfolio.
Portfolio:	The planning of the educator's portfolio is meant to be all encompassing and provide the resident with sufficient breadth and depth of spectrum of exposure to learning and educational activities: • Exposure to adult learning pedagogies • Planning and development of learning activities • Reflective learning • Small group versus large group teaching • Junior learners (students, young medical officers and junior residents) versus peer teaching • Inter-professional teaching e.g., with nurses, allied health professionals, paramedics, others • Public education and lectures • Facilitation of practical teaching • Assessment conduct • Debriefing and evaluation • Supervisory and feedback experience • Mentoring experience to juniors or peer to peer mentoring The experience will be documented (on the forms provided in the portfolio). Supervisors will grade and make comments which will be submitted with the portfolio. Besides the supervisors' comments, the feedback from learners is also documented and collated for their exposures. These are aligned with Academy of Medical Educators (AoME) standards. The maximum duration of completion is dependent on candidate's maximum candidature.
Marking rubric:	The marking rubric is developed, reviewed, and finalised by the Examination Committee in conjunction with the EMCC Committee and RAC. There is feedback from all in the Committee and their inputs are taken into consideration and addressed appropriately.
Standard setting:	Not applicable.
Examination administration:	The JCST provides examination administration and support to produce and conduct the examination. The Examination Administration Team performs the following: a. Support chief examiner and examiners; b. Manpower and administrative support for the planning, reconnaissance, and conduct of the examination; and

	c. Support post examination analysis, result, dissemination, etc. All examination items are password protected, and only circulated to intended recipients.
Summative oral examination/viva voce:	Candidates will be examined on their portfolio. Examiners are selected from the Teaching Examination Subcommittee. All members will be given a chance. Examiners will be paired, preferably cross cluster. Examiners who are supervisors or mentors to candidates will not be allocated to assess that candidate. The Chair of the Teaching Examination Subcommittee will finalise the list of examiners, and JCST will give final approvals. Every term the members will be reviewed by the JCST Examination Committee. New members may be appointed, best to make up to about 20% of change at least for new blood. Some members may request to step down for certain reasons e.g., being appointed into a role with conflict-of-interest e.g. as PD or vice chair of education in their department. The selected examiners would usually have had their background training and qualifications. This will facilitate and add value. Otherwise, they would be sent for appropriate training, courses or even seminars as relevant when these rises. Newly appointed examiners are required to undertake one round of observership for the exit examination, before they are eligible to examine. This can be based on face-to-face feedback, assessment results if there are tests involved, certification of attendance qualifier for attending courses and training and other means. The performance may be feedback to HOD, or ACP Chair as relevant. They may get a Letter of Appreciation from the Chair of the Teaching Examination Subcommittee, or they may be given priority in tending courses and training.
Board of Examiners (BOE):	There is a BOE meeting after the examination. The members of the BOE are members/examiners involved in the conduct of the examination diet. There are at least 2 examiners per candidate to help in moderation and their marks can be averaged and they both will be called upon to provide feedback and inputs. If there are still issues the Chief Examiner will be called upon to decide and finalise.

Results and appeals:	Candidates are notified with a Pass/Fail letter. Since the commencement of the portfolio assessment, examiners are encouraged to return the marking matrix to the candidate and put down their inputs on the decision for certain scores. This open feedback is thought to be useful and can help candidates develop themselves and areas of weaknesses can be strengthened. RAC will adhere to the JCST guidelines on the appeal process for exit examinations as shown below. Candidates, who wish to appeal against the exit examination results, must submit a written appeal to the RAC and JCST via JCST secretariat: 1. All appeals must be submitted in writing to the JCST secretariat within 30 days of the release of the examination results. 2. The appeal must clearly specify the issues disputed or improprieties that have deemed to adversely affect the examination outcome. 3. Appeals must be submitted by the candidate through the PD (applicable on residents), or HOD to the RAC and JCST. 4. Upon receiving the appeal, an Appeals Committee, consisting of the RAC Chairman, the JCST Examination Committee Chairman, the Chief Examiner and a senior specialist who is not involved in the exit examination, will review the issue(s) raised by the appellant and all relevant materials (i.e., mark sheets and audio recording of examination proceedings). 5. The Appeals Committee must complete their investigation and reach a consensus within 1 month from the date the appeal is being filed. 6. They will recommend to JCST the outcome of their investigation: • The appeal is successful and the candidate to be granted a pass; or • The appeal is unsuccessful, and the candidate is required to re-sit for the next upcoming exit examination. 7. JCST will make the final adjudication.
Continuity plan during a	Virtual assessment via Zoom had been successfully conducted for 2-3 diets since the onset of Covid-19.

protracted outbreak:	Residents' exits may be delayed in both scenarios.

Name of examination and component:	**Examination:** Exit Examination **Component:** Administration Portfolio
Entry criteria	The portfolio is for adoption during senior residency or equivalent and is to be collated for a minimum period of 21 months. Residents must have completed at least 21 months of Senior Residency and be certified eligible by PDs prior to sitting for the viva component of the Administration Portfolio.
Portfolio:	The planning of the administrator's portfolio is meant to be all encompassing and provide the resident with sufficient breadth and depth of spectrum of exposure to management and administrative activities in the following areas: • Interpersonal and communication skills • Practice-based learning and improvement: • Professionalism • Systems-based practice • Disaster medicine. The experience will be documented (on the forms provided in the portfolio). Supervisors will grade and make comments which will be submitted with the portfolio. Besides the supervisors' comments, the feedback from learners is also documented and collated for their exposures. These are aligned with the Core Competencies based on the Model of Clinical Practice of EM. The maximum duration for completion is dependent on candidate's maximum candidature.
Marking rubric:	The marking rubric is developed, reviewed, and finalised by the Examination Committee in conjunction with the EMCC Committee and RAC. There is feedback from all in the Committee and their inputs are taken into consideration and addressed appropriately.
Standard setting:	Not applicable.
Examination administration:	The JCST provides examination administration and support to produce and conduct the examination. The Examination Administration Team performs the following: a. Support chief examiner and examiners;

	b. Manpower and administrative support for the planning, reconnaissance, and conduct of the examination; and c. Support post examination analysis, result, dissemination, etc. All examination items are password protected, and only circulated to intended recipients.
Summative oral examination/viva voce:	Candidates will be examined on their portfolio. Examiners are selected from the Administration Examination Subcommittee or from the pool of current/ex Chief of Emergency Departments. All members will be given a chance. Examiners will be paired, preferably cross cluster. Examiners who are supervisors or mentors to candidates will not be allocated to assess that candidate. The Chair of the Administration Examination Subcommittee will finalise the list of examiners, and JCST will give final approvals. When examiners no longer fulfil the eligibility criteria as set by JCST, or when they have expressed an interest to step down as examiner. The selected examiners would usually have had their background training and qualifications. This will facilitate and add value. Otherwise, they would be sent for appropriate training, courses or even seminars as relevant when these rises. Newly appointed examiners are required to undertake one round of observership for the exit examination, before they are eligible to examine. This can be based on face-to-face feedback, assessment results if there are tests involved, certification of attendance qualifier for attending courses and training and other means. An appreciation letter is issued after the examination.
Board of Examiners (BOE):	There is a BOE meeting after the examination. The members of the BOE are examiners for the examination. The BOE could not pass a candidate who has obtained a “Fail” from marker.
Results and appeals:	Candidates are notified with a Pass/Fail letter. RAC will adhere to the JCST guidelines on the appeal process for exit examinations as shown below:

	1. Candidates, who wish to appeal against the exit examination results, must submit a written appeal to the RAC and JCST via JCST secretariat: 2. All appeals must be submitted in writing to the JCST secretariat within 30 days of the release of the examination results. 3. The appeal must clearly specify the issues disputed or improprieties that have deemed to adversely affect the examination outcome. 4. Appeals must be submitted by the candidate through the PD (applicable on residents), or HOD to the RAC and JCST. 5. The Appeals Committee must complete their investigation and reach a consensus within 1 month from the date the appeal is being filed. 6. They will recommend to JCST the outcome of their investigation: • The appeal is successful and the candidate to be granted a pass; or • The appeal is unsuccessful, and the candidate is required to re-sit for the next upcoming exit examination. 7. JCST will make the final adjudication.
Continuity plan during a protracted outbreak:	Virtual assessment via Zoom had been successfully conducted for 2-3 diets since the onset of Covid-19. Residents' exits may be delayed in both scenarios.

D.R7 Formative Assessments

Corresponding standards in the Standards Document section H.8

The residents must complete the following formative assessments:

	Formative assessments	
	Clinical, patient-facing, psychomotor skills etc.	Cognitive, written etc.
R5 R4	• EPAs and EBDs • DOPS • Procedural and case log review • Resident performance review • MSF/360 feedback • Mock Clinical Viva • Mock OSCE	• American Board of Emergency Medicine (ABEM) In-Training Examination (ITE)

R3 R2 R1	• EPAs and EBDs • DOPS • Procedural and case log review • Resident performance review • MSF/360 feedback • Mock Clinical Viva • Mock OSCE	• ABEM ITE

	Core Competencies					
Evaluation Tools	**Patient Care**	**Medical Knowledge**	**Practice-Based Learning & Improvement**	**Interpersonal & Communication Skills**	**Professionalism**	**Systems-Based Practice**
Mini-CEX	✓	✓	✓	✓	✓	✓
SDOT	✓	✓	✓	✓	✓	✓
DOPS	✓	✓	✓	✓	✓	✓
Monthly Assessment by Supervisor	✓	✓	✓	✓	✓	✓
Resident Performance Evaluation	✓	✓	✓	✓	✓	✓
Monthly Case Based Discussion	✓	✓	✓	✓	✓	✓
Shift Cards	✓	✓	✓	✓	✓	✓
Mock OSCE	✓	✓	✓	✓	✓	✓
Chart Review (Applicable to EM Residents only)	✓	✓	✓	✓	✓	✓
CCC	✓	✓	✓	✓	✓	✓
EBM Exercise		✓	✓			
360 Feedback	✓			✓	✓	✓
ABEM-ITE	✓	✓				
Procedure and Case Log Reviews	✓	✓				

	Core Competencies					
Evaluation Tools	**Patient Care**	**Medical Knowledge**	**Practice-Based Learning & Improvement**	**Interpersonal & Communication Skills**	**Professionalism**	**Systems-Based Practice**
Mock Clinical Viva	✓	✓				
Mock Short Answer Questions	✓	✓				
ROSH Review	✓	✓				
Reflection	✓		✓		✓	✓

E. Quality Assurance and Improvement

This section describes the quality assurance and improvement of:

- *The purpose, admission and selection of the Specialty Training;*
- *The governance and strategic support;*
- *Programme of Learning; and*
- *Programme of Assessments.*

- Refer to the Standards Document section I for the corresponding standards, unless otherwise stated.

Purpose, Admission and Selection

E.R1 Purpose of the Specialty Training

Corresponding standards in the Standards Document section I.1

The purpose of the programme should be reviewed every 5 years (based on training cycle) to ensure that it is still relevant, and able to meet the training needs of our healthcare professionals. And the ones to review it, should be the RAC with input from PDs and HODs.

E.R2 Specialty Training Requirements

Corresponding standards in the Standards Document section I.2

The RAC will review the STR document every 3 years.

E.R3 Resident Admission and Selection

Corresponding standards in the Standards Document section I.3

The criteria are decided by MOH and RAC will follow accordingly. There is no review of this.

E.R4 Less Than Full Time Training and Non-traditional Training Route

Corresponding standards in the Standards Document section I.4

The eligibility for less than full time training is decided at programme level, but it should not exceed the maximum time frame for residency.

RAC will review requests for non-traditional training route, and the SAB will make the final decision.

Governance and Strategic Support

E.R5 Education Leadership: Curriculum / Education and/or Examination Committee(s)

Corresponding standards in the Standards Document section I.5

JCST Examination Committee

The JCST Examination Committee is nominated by the RAC and appointed by JCST.

The term for JCST Examination Committee is determined by JCST and it is currently an open term.

The RAC will take reference to the criteria stipulated in JCST Cir 001-2015 (please refer to attached *Appendix 2*) when nominating new members/replacement to JCST for approval.

Examination Subcommittees

Examination Subcommittees are re-appointed every 3 years, subject to approvals from the RAC and the JCST Examination Committee.

EMCC Committee

Curriculum Committees are re-appointed by RAC every 3-5 years. Members are all practicing emergency physicians, with representation from each emergency department, who are active in teaching and examining. Each committee updates the curriculum based on the latest Model for EM Practice and other local requirements.

The RAC will take reference to the criteria stipulated in JCST Cir 001-2015 (please refer to attached *Appendix 2*) when nominating new members/replacement to JCST for approval.

In addition to JCST's criteria for JCST Examination Committee, the RAC may also have other considerations as follows:

- Members of the examination subcommittees must be at least Consultant level and above.
- Members of the working committees/subcommittees are reviewed and approved by the RAC.
- The JCST Examination Committee should have representation from all clusters and should include the chairpersons of all the subcommittees.

For Examination Committees, their performance is reviewed through feedback from stakeholders and post-examination analysis.

Examination Committee members' learning and practices have followed the on-the-job training model as new members observe existing members. Some of the training has been ad hoc / opportunistic.

There are no additional criteria imposed by the RAC on Examination Committee training. The RAC will adhere to JCST's guidance on Exam Committee training matters. Each Residency Programme would also be responsible for ensuring that all faculty adhere to its faculty development roadmap.

E.R6 Specialty Training Review

Corresponding standards in the Standards Document section I.6

The programme will conduct PEC meeting once a year to review the residency programme. The programme will collate feedback and inputs of the programme through evaluations, residency dashboard from Graduate Medical Education (GME), chief residents and year representatives and core faculty. The programme will be evaluated based on curriculum, programme rotations, fulfilment of rotation requirement by residents, resident and faculty evaluation, resident progression, formative and summative assessment results. The PEC members will review and discuss on the collated data during the meeting. The strengths and weaknesses of the programme will be discussed in order to identify the areas of improvement for the programme. The PEC members consist of APD (PEC Chair), PD, Core Faculty, Chief Residents and Year Representatives for all residency years.

E.R7 Feedback from Programme Director(s)

Corresponding standards in the Standards Document section I.7

Feedback is done through existing regular monthly RAC meetings at the national level. At the Sponsoring Institution (SI) level, there are also regular monthly GMEC meeting.

E.R8 Feedback from Other Stakeholders

Corresponding standards in the Standards Document section I.8

- Graduate survey sent to HODs who employ the Associate Consultant (ACs). This is owned by MOH.
- Surveys for faculty and residents are done annually.
- Inputs are obtained from ultrasound/toxicology faculty and other subspecialty interest groups in designing of curriculum, when the EMCC Committee reviews the curriculum every 2-3 years.

E.R9 Communication

Corresponding standards in the Standards Document section I.9

Communication to the SIs, residents, PDs and other stakeholders are done during the quarterly RAC meetings, ad hoc meetings and via emails as appropriate.

Programme of Learning

E.R10 Duration of Residency Programme and “Make-up” Training

Corresponding standards in the Standards Document section I.10

The duration of the programme has always been 5 years. The entire programme is reviewed by the PEC yearly, and the syllabus by the EMCC Committee every 2-3 years. Should there be difficulty in fitting the syllabus into the 5 years, the 2

Committees and PDs should feedback to the RAC to review the duration of the programme.

For make-up training, the programme and RAC take guidance from MOH, e.g. maximum days of absence beyond which a posting should be repeated.

E.R11 Entrustable Professional Activities

Corresponding standards in the Standards Document section I.11

The EPAs shall be reviewed together with the associated milestones once in 3 years.

This is to ensure that the individual EPA remains relevant to current EM practice in Singapore.

A dedicated EPA workgroup at the Ministry level, comprising clinical faculty of the 3 existing SI EM programme with Emergency Physicians trained in EPA development, shall review the EPAs.

E.R12 Core Competencies, Sub-competencies and Milestones

Corresponding standards in the Standards Document section I.12

The associated milestones shall be reviewed together with the EPAs once in 3 years.

This is to ensure that the individual EPA remains relevant to current EM practice in Singapore.

A dedicated EPA workgroup at the Ministry level, comprising of clinical faculty of the 3 existing SI EM programme with Emergency Physicians trained in EPA development, shall review the EPAs.

E.R13 Other Learning Outcomes

Corresponding standards in the Standards Document section I.13

Not applicable.

E.R14 Learning Methods and Approaches: Didactic and Classroom Sessions

Corresponding standards in the Standards Document section I.14

At the national level, the Curriculum Committee reviews the teaching curriculum and its mode of delivery every 2-3 years, with feedback collated from residents and faculty involved in that teaching cycle. Both residents and faculty have the opportunity to comment on the scope, depth and mode of delivery of each teaching session. This feedback is reviewed annually at RAC level and PDs are

responsible to maintain the quality of teaching sessions conducted at their respective SI.

At the programme level, the PEC conducts (minimally) annual review of the programme, which includes teaching sessions conducted at both national & programme level.

E.R15 Learning Methods and Approaches: Clinical Experiences

Corresponding standards in the Standards Document section I.15

A review of the rotations is conducted and reviewed under the purview of the respective SI's PEC at least once a year.

The PEC includes a chair (which may or may not be the PD), PD, APD, Core Faculty & other Faculty, residents.

E.R16 Learning Methods and Approaches: Scholarly Activities

Corresponding standards in the Standards Document section I.16

A review of the scholarly activities is conducted and reviewed under the purview of the respective SI's PEC at least once a year.

The PEC includes a chair (which may or may not be the PD), PD, APD, Core Faculty & other Faculty, residents.

E.R17 Learning Methods and Approaches: Documentation of Learning

Corresponding standards in the Standards Document section I.17

A review of the required documentation will be done once every 3 years in line with EPAs/ milestones, to maintain relevancy to EM practice. This is done by the EPA workgroup which includes the PDs of all 3 SIs.

Programme of Assessments

E.R18 Overview of Assessments

Corresponding standards in the Standards Document section I.18

A review of all assessments shall be done at 2 levels, formative assessments within the programme (by the PEC) and summative assessments at the national level. this will be done 1 - 2 yearly for formative assessments and 5 yearly for summative assessments.

E.R19 Conjoint and Overseas or Non-Singapore Summative Examination

Corresponding standards in the Standards Document section I.19

To be reviewed every 5 years by the RAC/JCST Examination Committee.

E.R20 Summative Assessments

Corresponding standards in the Standards Document section I.20

To be reviewed every 5 years by the RAC/JCST Examination Committee.

E.R21 Formative Assessments

Corresponding standards in the Standards Document section I.21

Formative assessments will be reviewed every 1 - 2 years by the PEC. It will be based on correlations of FA to summative assessment outcomes (i.e. does it give an adequate indication of how the residents may perform in key examinations?) as well as resident and faculty feedback on appropriateness of the formative assessments.

Annex B.R1: Role of the RAC

S/N	Appointment	Name	Institution of employment or primary affiliation, and designation
1.	Chairperson	Adj A/Prof Peng Li Lee	NUH, HOD, Senior Consultant
2.	Member	Dr Gary Choa	NTFGH, HOD, Senior Consultant
3.	Member	Adj A/Prof Kenneth Heng Wei Jian	TTSH, Senior Consultant
4.	Member	Dr Derek Heng Jiun Yi	WH, Senior Consultant
5.	Member	Clin A/Prof Gene Ong	KKH, Senior Consultant
6.	Member	Dr Lai Shieh Mei	CGH, Senior Consultant
7.	Member	Dr Chan Kim Poh	SKH, Senior Consultant
8.	Member	Clin A/Prof Kenneth Tan Boon Kiat	SGH, HOD, Senior Consultant
9.	Member	Dr Keith Ho	AH, HOD, Senior Consultant
10.	Member	Dr Kathleen Khoo	KTPH, Consultant
11.	Member	Dr Seo Woon Li	NUH, HOD (Children's Emergency), Senior Consultant

Annex B.R2: Governance of the RAC

Curriculum/ Education Committee

S/N	Appointment	Name	Institution of employment or primary affiliation, and designation
1.	Chairperson	Adj A/Prof Kenneth Heng	TTSH, Senior Consultant
2.	Member	Dr Gan Han Nee	CGH, Senior Consultant
3.	Member	Dr Arif Tyebally	KKH, Senior Consultant
4.	Member	Dr Gregory Cham	NTFGH, Senior Consultant
5.	Member	Dr Quek Lit Sin	NTFGH, Senior Consultant
6.	Member	Adj A/Prof Victor Ong	NUH, PD, Senior Consultant
7.	Member	Dr Irwani Ibrahim	NUH, Senior Consultant
8.	Member	Dr Lau Thian Phey	NUH, APD, Senior Consultant
9.	Member	Dr Jeremy Wee	SGH, PD, Senior Consultant
10.	Member	Dr Wan Paul Weng	SGH, Consultant
11.	Member	Dr Kuhan Venugopal	SKH, Consultant
12.	Member	Dr Lee Chengjie	SKH, Consultant
13.	Member	Adj A/Prof Vivian Siu Wing Yin	TTSH, Senior Consultant
14.	Member	A/Prof Phua Dong Haur	TTSH, Senior Consultant
15.	Member	Dr Ng Wei Xiang	TTSH, PD, Senior Consultant
16.	Member	Dr Tam Howen	WH, Consultant

JCST Examination Committee

S/N	Appointment	Name	Institution of employment or primary affiliation, and designation
1.	Chairperson	Dr Chan Kim Poh	SKH, Senior Consultant
2.	Member	Dr Lai Shieh Mei	CGH, Senior Consultant
3.	Member	Dr Quek Lit Sin	NTFGH, Senior Consultant
4.	Member	Dr Irwani Ibrahim	NUH, Senior Consultant
5.	Member	Adj Prof Fatimah Lateef	SGH, Senior Consultant

CAT Subcommittee

S/N	Appointment	Name	Institution of employment or primary affiliation, and designation
1.	Chairperson	Dr Irwani Ibrahim	NUH, Senior Consultant
2.	Member	Dr Clara Seah	CGH, Senior Consultant
3.	Member	Clin A/Prof Tham Lai Peng	KKH, Senior Consultant
4.	Member	Dr Desmond Mao	KTPH, Senior Consultant
5.	Member	Dr Tan Hann Yee	KTPH, Consultant
6.	Member	Dr Lim Beng Leong	NTFGH, Senior Consultant
7.	Member	Dr Chua Mui Teng	NUH, Senior Consultant

8.	Member	Adj A/Prof Kuan Win Sen	NUH, Senior Consultant
9.	Member	Dr Pek Jen Heng	SKH, HOD, Senior Consultant
10.	Member	Dr Ng Yih Yng	TTSH, Senior Consultant

Teaching Subcommittee

S/N	Appointment	Name	Institution of employment or primary affiliation, and designation
1.	Chairperson	Adj Prof Fatimah Lateef	SGH, Senior Consultant
2.	Member	Clin A/Prof Sashikumar Ganapathy	KKH, HOD, Senior Consultant
3.	Member	Clin A/Prof Tham Lai Peng	KKH, Senior Consultant
4.	Member	Clin A/Prof Shanaz Matthew Sajeed	NTFGH, Senior Consultant
5.	Member	Dr Benjamin Leong	NUH, Senior Consultant
6.	Member	Dr Tess Teo	SGH, Consultant
7.	Member	Dr Chan Kim Poh	SKH, Senior Consultant
8.	Member	Dr Pek Jen Heng	SKH, HOD, Senior Consultant
9.	Member	Adj A/Prof James Kwan	TTSH, Senior Consultant

Clinical Viva Subcommittee

S/N	Appointment	Name	Institution of employment or primary affiliation, and designation
1.	Chairperson	Dr Chan Kim Poh	SKH, Senior Consultant
2.	Chairperson	Dr Lai Shieh Mei	CGH, Senior Consultant
3.	Member	Dr Geraldine Leong	CGH, Senior Consultant
4.	Member	Dr Ang Peck Har	CGH, Senior Consultant
5.	Member	Clin A/Prof Gene Ong	KKH, Senior Consultant
6.	Member	Clin A/Prof Tham Lai Peng	KKH, Senior Consultant
7.	Member	Dr Kathleen Khoo	KTPH, Consultant
8.	Member	Dr Mathew Yeo Yi Wen	KTPH, Consultant
9.	Member	Clin A/Prof Shanaz Matthew Sajeed	NTFGH, Senior Consultant
10.	Member	Dr Tan Xi Xiang Esther	NTFGH, Consultant
11.	Member	Adj Prof Shirley Ooi	NUH, Senior Consultant
12.	Member	Adj Prof Sim Tiong Beng	NUH, Senior Consultant
13.	Member	Clin A/Prof Kenneth Tan Boon Kiat	SGH, HOD, Senior Consultant
14.	Member	Dr Lim Jia Hao	SGH, Senior Consultant
15.	Member	Dr Pek Jen Heng	SKH, HOD, Senior Consultant
16.	Member	Adj A/Prof James Kwan	TTSH, Senior Consultant

17.	Member	Adj A/Prof Kenneth Heng Wei Jian	TTSH, Senior Consultant
18.	Member	Adj A/Prof Vivian Siu Wing Yin	TTSH, Senior Consultant
19.	Member	Dr Derek Heng Jiun Yi	WH, Senior Consultant
20.	Member	Dr Juliana Poh	WH, Senior Consultant

Admin Subcommittee

S/N	Appointment	Name	Institution of employment or primary affiliation, and designation
1.	Chairperson	Dr Quek Lit Sin	NTFGH, Senior Consultant
2.	Member	Clin A/Prof Eillyne Seow	KTPH, Senior Consultant
3.	Member	A/Prof Toh Hong Chuen	KTPH, Senior Consultant
4.	Member	A/Prof Peter Manning	NUH, Emeritus Consultant
5.	Member	Dr Lee Khai Pin	Parkway East Hospital, Paediatrician
6.	Member	Clin A/Prof R Ponampalam	SGH, Senior Consultant
7.	Member	Adj A/Prof Mohan Tiru	WH, Senior Consultant

Annex C.R3: Entrustable Professional Activities

Emergency Medicine EPA 1

<table>
<tr><td>Title</td><td colspan="2">EPA 1. Resuscitating and Care of Critically Ill Adult Medical/Surgical Patients</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td colspan="2">This activity includes all key activities that a resident will perform when providing care for critically ill patients in the emergency department:
1. Recognise critically ill Adult Medical/Surgical Patients
2. Identify deteriorating clinical states requiring critical care
3. Prioritise critical initial stabilization action
4. Perform BCLS and ACLS effectively as part of the resuscitation team
5. Mobilise hospital support services and coordinating recommendations from different members of the health care team to optimize patient care
6. Perform timely reassessment after intervention
7. Arrange appropriate disposition</td></tr>
<tr><td colspan="2">Limitations:
• This EPA is applicable to patients aged 16 and above.
• This EPA excludes resuscitation and care of critically ill Adult Medical/Surgical Patients in a setting outside of the Emergency Department (i.e., Medical Emergency Response Team / Code-blue Team or equivalent)
• This EPA does not include the care of critically ill trauma patients.
• This EPA excludes patients who have opted / designated for comfort care / maximum ward care for their end-of-life plans</td></tr>
<tr><td>Potential risks in case of failure</td><td colspan="2">Missed and delayed diagnosis leading to unnecessary morbidity and mortality</td></tr>
<tr><td>Sub competencies relevant for this EPA:
X = applies to this EPA</td><td colspan="2"><table>
<tr><td>PC 1: X</td><td>PC 7: X</td><td>PC 13:</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14: X</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3: X</td><td>PC 9: X</td><td>MK 1: X</td><td>P 1:</td><td></td></tr>
<tr><td>PC 4: X</td><td>PC 10: X</td><td>SBP 1:</td><td>P 2: X</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3: X</td><td></td></tr>
<tr><td>PC 6: X</td><td>PC 12: X</td><td>SBP 3:</td><td>ICS 1: X</td><td></td></tr>
</table></td></tr>
<tr><td>Required Knowledge,</td><td>K:</td><td>• ACLS protocols, resuscitation guidelines</td></tr>
</table>

Skills, Attitudes and Experiences, to enable summative entrustment		• Abnormal vital sign physiology; shock pathophysiology; pathophysiology of respiratory failure • Pharmacology of resuscitation drugs; use of inotropes and vasopressors • Severe sepsis management • Mechanical ventilation; non-invasive ventilatory management • Fluid resuscitation and assessment of fluid responsiveness • Blood transfusion and reversal of anticoagulation • Indications for mechanical circulatory support (ECMO) • Neuroprotective management • Code 3 non-trauma conditions in Emergency Medicine Core Curriculum

	S:	• Diagnostic: Point of care tests, point of care ultrasound, invasive and/or arterial monitoring
		• Therapeutic / management:
		  ○ Cardiopulmonary resuscitation; use of mechanical chest compression system
		  ○ Emergency airway procedures, difficult airway and crash airway management
		  ○ Oxygen supplementation and mask application
		  ○ Rapid sequence intubation (RSI)
		  ○ Mechanical ventilation, non-invasive ventilation
		  ○ Chest tube insertion
		  ○ Emergency IV and IO access; central venous access
		  ○ Defibrillation, cardioversion and emergency cardiac pacing
		  ○ Pericardiocentesis
		  ○ Measures to prevent secondary brain injury
		  ○ Post-resuscitative care bundle
		  ○ Others e.g., lavage, insertion of Sengstaken-Blakemore or Minnesota tube etc.

	A:	• Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem • Reliable: conscientious, pays attention to details, accountable, responsible, predictable • Integrity: truthful, good intentions, patient-centred, empathetic • Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback
	E:	Rotations: Anaesthesiology, Cardiology, Critical Care, Emergency Medicine, Medicine (General, Internal and/or Specialty), General Surgery Courses: BCLS, ACLS

<table>
<tr><td>Sources of information to support summative entrustment decision</td><td>
<table>
<tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr>
<tr><td>EBD and EPA assessment form</td><td>6 by end of R3
4 in R4
2 in R5</td><td>Simulation (for low frequency cases): number to be determined by PD</td></tr>
<tr><td>MSF</td><td>At least 1 each year</td><td>By different raters</td></tr>
<tr><td>Products to be evaluated: Procedure Log</td><td>Adult medical resuscitation and others</td><td>Refer to latest national requirement for number of resuscitation cases and other procedures
(Please refer to EM STR template section C.R.10 reproduced as Annex C for more details)</td></tr>
</table>
</td></tr>
<tr><td>EPA entrustment levels to attain in 5-year Emergency Medicine Residency</td><td>Level 2a at end of R1
Level 2b at end of R2
Level 3a at end of R3
Level 3c at end of R4
Level 4b at end of R5</td></tr>
<tr><td>Expiry</td><td>If not practiced for 12 months, level of supervision will regress to Level 2a until satisfactory completion of further assessment(s).</td></tr>
</table>

Emergency Medicine EPA 2

<table>
<tr><td>Title</td><td colspan="2">EPA 2. Resuscitating and Care of Critically Ill Adult Trauma Patients</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td colspan="2">This activity includes all key activities that a resident will perform when providing care for critically injured patients in the emergency department:
1. Recognise critically injured adult patients
2. Identify deteriorating clinical states requiring critical care
3. Initiate resuscitation of critically-ill adult trauma patients
4. Prioritise critical initial stabilization action
5. Perform ATLS effectively as part of the resuscitation team
6. Mobilise hospital support services and coordinating recommendations from different members of the health care team to optimize patient care
7. Perform timely reassessment after intervention
8. Arrange appropriate disposition</td></tr>
<tr><td colspan="2">Limitations:
• This EPA is applicable to patients aged 16 and above.
• This EPA excludes resuscitation and care of critically injured adult patients in a setting outside of the Emergency Department (i.e., Medical Emergency Response Team / Code-blue Team or equivalent)</td></tr>
<tr><td>Potential risks in case of failure</td><td colspan="2">Missed and delayed diagnosis leading to unnecessary morbidity and mortality</td></tr>
<tr><td>Sub competencies relevant for this EPA:
X = applies to this EPA</td><td colspan="2"><table>
<tr><td>PC 1: X</td><td>PC 7: X</td><td>PC 13:</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14: X</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3: X</td><td>PC 9: X</td><td>MK 1: X</td><td>P 1:</td><td></td></tr>
<tr><td>PC 4: X</td><td>PC 10: X</td><td>SBP 1:</td><td>P 2: X</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3: X</td><td></td></tr>
<tr><td>PC 6: X</td><td>PC 12: X</td><td>SBP 3:</td><td>ICS 1: X</td><td></td></tr>
</table></td></tr>
<tr><td>Required Knowledge, Skills, Attitudes and Experiences, to enable</td><td>K:</td><td>• ATLS protocols, damage control resuscitation and resuscitation guidelines
• Initial resuscitation and management of cervical spine, airway, breathing, circulation, disability and environment and exposure
• Secondary survey and management of trauma to body systems
• Management of burns</td></tr>
</table>

summative entrustment		• Management of trauma in special populations i.e., the elderly patient and pregnant patient • Abnormal vital sign physiology; shock pathophysiology • Mechanical ventilation; non-invasive ventilatory management • Fluid resuscitation and assessment of fluid responsiveness • Blood transfusion, massive transfusion protocol, reversal of anticoagulation • Pharmacology of resuscitation drugs; use of inotropes and vasopressors • Code 3 trauma conditions in Emergency Medicine Core Curriculum
	S:	• Diagnostic: Point of care tests, point of care ultrasound • Therapeutic / management: ○ Cardiopulmonary resuscitation; use of mechanical chest compression system ○ Emergency airway procedures, difficult airway and crash airway management ○ Oxygen supplementation and mask application ○ Rapid sequence intubation (RSI) with cervical spine protection ○ Mechanical ventilation ○ Chest tube insertion and decompression ○ Emergency IV and IO access; central venous access ○ Pericardiocentesis ○ Pelvic binder application ○ Fracture immobilisation and traction splint application ○ Measures to prevent hypothermia ○ Spine protection ○ Measures to prevent secondary brain injury ○ Others e.g., measures to prevent IVC compression in pregnant woman etc.
	A:	• Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem • Reliable: conscientious, pays attention to details, accountable, responsible, predictable • Integrity: truthful, good intentions, patient-centred, empathetic • Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback

<table>
<tr><td></td><td>E:</td><td>Rotations: Anaesthesiology, Critical Care, Emergency Medicine, Trauma/General Surgery, Orthopaedic Surgery
Courses: ATLS</td></tr>
<tr><td>Sources of information to support summative entrustment decision</td><td colspan="2"><table>
<tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr>
<tr><td>EBD and EPA assessment form</td><td>3 by end of R3
2 in R4
2 in R5</td><td>Simulation (for low frequency cases): number to be determined by PD</td></tr>
<tr><td>MSF</td><td>At least 1 each year</td><td>By different raters</td></tr>
<tr><td>Products to be evaluated: Procedure Log</td><td>Adult trauma resuscitation and others</td><td>Refer to latest national requirement for number of resuscitation cases and other procedures</td></tr>
</table></td></tr>
<tr><td>EPA entrustment levels to attain in 5-year Emergency Medicine Residency</td><td colspan="2">Level 2a at end of R1
Level 2b at end of R2
Level 3a at end of R3
Level 3c at end of R4
Level 4b at end of R5</td></tr>
<tr><td>Expiry</td><td colspan="2">If not practiced for 12 months, level of supervision will regress to Level 2a until satisfactory completion of further assessment(s).</td></tr>
</table>

Emergency Medicine EPA 3

<table>
<tr><td>Title</td><td colspan="2">EPA 3. Resuscitating and Care of Critically Ill or Injured Paediatric Patients</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td colspan="2">This activity includes all key activities that a resident will perform when providing care for critically ill or injured patients in the emergency department:
1. Recognise critically ill or injured paediatric patients
2. Identify deteriorating clinical states requiring critical care
3. Prioritise critical initial stabilization action
4. Perform Paediatric Advanced Life Support effectively as part of the resuscitation team
5. Mobilise hospital support services and coordinating recommendations from different members of the health care team to optimize patient care
6. Perform timely reassessment after intervention
7. Arrange appropriate disposition</td></tr>
<tr><td colspan="2">Limitations:
• This EPA is applicable to patients younger than 16 years.
• This EPA excludes resuscitation and care of critically ill or injured paediatric patients in a setting outside of the Emergency Department (i.e., Medical Emergency Response Team / Code-blue Team or equivalent)</td></tr>
<tr><td>Potential risks in case of failure</td><td colspan="2">Missed and delayed diagnosis leading to unnecessary morbidity and mortality</td></tr>
<tr><td>Sub competencies relevant for this EPA:
X = applies to this EPA</td><td colspan="2"><table>
<tr><td>PC 1: X</td><td>PC 7: X</td><td>PC 13: X</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14: X</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3: X</td><td>PC 9: X</td><td>MK 1: X</td><td>P 1:</td><td></td></tr>
<tr><td>PC 4: X</td><td>PC 10: X</td><td>SBP 1:</td><td>P 2:</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3: X</td><td></td></tr>
<tr><td>PC 6: X</td><td>PC 12: X</td><td>SBP 3:</td><td>ICS 1: X</td><td></td></tr>
</table></td></tr>
<tr><td>Required Knowledge, Skills, Attitudes and Experiences, to enable summative entrustment</td><td>K:</td><td>• PALS protocols, ATLS protocols, and resuscitation guidelines
• Code 3 paediatric conditions in Emergency Medicine Core Curriculum
○ Paediatric major trauma and burns resuscitation
○ Paediatric and neonatal resuscitation
○ Sick child assessment
○ Neonatal conditions</td></tr>
</table>

<table>
<tr><td></td><td></td><td>

Acute airway and respiratory tract conditions
Heart failure, myocarditis
Fever in a child, life-threatening infections
Seizures: febrile and non-febrile
Altered mental status and acute neurological conditions
Acute abdominal and GI conditions
Acute blood disorders: anaemia, febrile neutropenia, leukaemia, leucopoenia
Limb-threatening MSK conditions and injuries
Acute endocrine and metabolic disorders: DKA, hypoglycaemia, acid-base disorders, acute renal failure, sodium and potassium disorders, congenital adrenal hypoplasia etc.
Acute paediatric poisoning

</td></tr>
<tr><td></td><td>S:</td><td>Diagnostic: Point of care tests, point of care ultrasound
Therapeutic / management:
Paediatric medical and non-trauma resuscitation
Paediatric trauma resuscitation
Neonatal resuscitation</td></tr>
<tr><td></td><td>A:</td><td>Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem
Reliable: conscientious, pays attention to details, accountable, responsible, predictable
Integrity: truthful, good intentions, patient-centred, empathetic
Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback</td></tr>
<tr><td></td><td>E:</td><td>Rotation: Children’s Emergency Department
Courses: ATLS, PALS</td></tr>
<tr><td>Sources of information to support summative entrustment decision</td><td colspan="2">
<table>
<tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr>
<tr><td>EBD and EPA assessment form</td><td>1 for each 3-month posting in Children’s Emergency</td><td>Simulation (for low frequency cases): number to be determined by PD</td></tr>
<tr><td>MSF</td><td>At least 1 each year</td><td>By different raters</td></tr>
<tr><td>Products to be evaluated: Procedure Log</td><td>Paediatric medical and non-trauma resuscitation, and trauma resuscitation</td><td>Refer to latest national requirement for number of resuscitation cases and other procedures</td></tr>
</table>
</td></tr>
</table>

EPA entrustment levels to attain in 5-year Emergency Medicine Residency	Level 3a (with supervisor immediately available, all findings and decisions double checked) at end of Children's Emergency rotation
Expiry	If not practiced for 12 months, level of supervision will regress to Level 2a until satisfactory completion of further assessment(s).

Emergency Medicine EPA 4

<table>
<tr><td>Title</td><td colspan="2">EPA 4. Managing Adult Ambulatory Patients</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td colspan="2">This activity includes all key activities that a resident will perform when providing care in the ambulatory area:
1. Gather information through history and physical examination
2. Order diagnostic studies and investigations and interpret the results
3. Generate main and differential diagnoses
4. Distinguish an emergent / urgent condition from a non-emergent / non-urgent condition
5. Initiate management: pharmacological agents, procedures, education and advice, referral etc.
6. Consult a supervisor when needed / as per protocol
7. Communicate diagnosis(es) and management plan with/to patient and/or care-giver
8. Organize disposition and patient and/or care-giver education
9. Document the clinical encounter in the health record system
10. Switch tasks and organize workflow among 2 or more patients</td></tr>
<tr><td colspan="2">Limitations: This EPA is applicable to –
● Patients aged 16 and older
● Low acuity and stable patients</td></tr>
<tr><td>Potential risks in case of failure</td><td colspan="2">• Missed and delayed management leading to unnecessary morbidity
• Inappropriate discharge leading to re-attendance and / or unnecessary morbidity
• Inappropriate admission leading to suboptimal right-siting of care</td></tr>
<tr><td>Sub-competences relevant for this EPA:
X = applies to this EPA</td><td colspan="2"><table>
<tr><td>PC 1:</td><td>PC 7: X</td><td>PC 13: X</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14:</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3: X</td><td>PC 9: X</td><td>MK 1: X</td><td>P 1:</td><td></td></tr>
<tr><td>PC 4: X</td><td>PC 10:</td><td>SBP 1:</td><td>P 2: X</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3: X</td><td></td></tr>
<tr><td>PC 6: X</td><td>PC 12: X</td><td>SBP 3:</td><td>ICS 1: X</td><td></td></tr>
</table></td></tr>
<tr><td>Required knowledge, skills,</td><td>K:</td><td>For each of the Code 2 and 3 adult conditions listed in the current Emergency Medicine Core Curriculum:
● Applied basic science</td></tr>
</table>

<table>
<tr><td rowspan="4">attitudes and experiences to enable summative entrustment</td><td></td><td>● Presentation
● Triage criteria and priority
● Diagnosis: main and differential
● Diagnostic studies and investigations
● Management: pharmacological and non-pharmacological, and referral
● Prognosis, expected trajectory and complications
● Guidelines and resources</td></tr>
<tr><td>S:</td><td>“S”: information gathering from patient, care-giver and other sources
“O”: physical examination
“A”: interpretation, analysis and synthesis of findings and results from investigations, clinical reasoning, formulation and prioritization of diagnostic possibilities
“P”: plan management, interpersonal and communication skills, use shared decision-making model, perform procedures
Others: organization, task-switching, clinical documentation</td></tr>
<tr><td>A:</td><td>• Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem
• Reliable: conscientious, pays attention to details, accountable, responsible, predictable
• Integrity: truthful, good intentions, patient-centred, empathetic
• Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback</td></tr>
<tr><td>E:</td><td>Rotations in Cardiology, Emergency Medicine, Medicine (General, Internal and/or Specialty), General Surgery, Orthopaedic Surgery</td></tr>
<tr><td>Sources of information to support summative entrustment decision</td><td colspan="2"><table>
<tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr>
<tr><td>EBD and EPA assessment form</td><td>3 by end of R3
1 in R4</td><td>By supervisor and/or faculty</td></tr>
<tr><td>MSF</td><td>At least 1 each year</td><td>By different raters</td></tr>
</table></td></tr>
<tr><td>EPA entrustment levels to attain in 5-year Emergency</td><td colspan="2">Level 3a at end of R1
Level 3c at end of R2
Level 4a at end of R3
Level 4b at end of R4</td></tr>
</table>

Medicine Residency	
Expiry	If not practiced for 18 months, level of supervision will regress to one lower than last documented level until satisfactory completion of further assessment(s).

Emergency Medicine EPA 5

<table>
<tr><td>Title</td><td>EPA 5. Managing Paediatric Ambulatory Patients</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td>This activity includes all key activities that a resident will perform when providing care in the ambulatory area:
1. Gather information through history and physical examination
2. Order diagnostic studies and investigations and interpret the results
3. Generate main and differential diagnoses
4. Distinguish an emergent / urgent condition from a non-emergent / non-urgent condition
5. Initiate management: pharmacological agents, procedures, education and advice, referral etc.
6. Consult a supervisor when needed / as per protocol
7. Communicate diagnosis(es) and management plan with/to patient and/or care-giver
8. Organize disposition and patient and/or care-giver education
9. Document the clinical encounter in the health record system
10. Switch tasks and organize workflow among 2 or more patients</td></tr>
<tr><td>Limitations: This EPA is applicable to –
● Patients younger than 16 years
● Low acuity and stable patients</td></tr>
<tr><td>Potential risks in case of failure</td><td>• Missed and delayed management leading to unnecessary morbidity
• Inappropriate discharge leading to re-attendance and / or unnecessary morbidity
• Inappropriate admission leading to suboptimal right-siting of care</td></tr>
<tr><td>Sub-competences relevant for this EPA:
X = applies to this EPA</td><td>
<table>
<tr><td>PC 1:</td><td>PC 7: X</td><td>PC 13: X</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14:</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3: X</td><td>PC 9: X</td><td>MK 1: X</td><td>P 1:</td><td></td></tr>
<tr><td>PC 4: X</td><td>PC 10:</td><td>SBP 1:</td><td>P 2: X</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3: X</td><td></td></tr>
<tr><td>PC 6: X</td><td>PC 12: X</td><td>SBP 3:</td><td>ICS 1: X</td><td></td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td rowspan="4">Required knowledge, skills, attitudes and experiences to enable summative entrustment</td><td>K:</td><td>For each of the Code 2 and 3 paediatric conditions listed in the current Emergency Medicine Core Curriculum:
Applied basic science
Presentation
Triage criteria and priority
Diagnosis: main and differential
Diagnostic studies and investigations
Management: pharmacological and non-pharmacological, and referral
Prognosis, expected trajectory and complications
Guidelines and resources</td></tr>
<tr><td>S:</td><td>“S”: information gathering from patient, care-giver and other sources
“O”: physical examination
“A”: interpretation, analysis and synthesis of findings and results from investigations, clinical reasoning, formulation and prioritization of diagnostic possibilities
“P”: plan management, interpersonal and communication skills, use shared decision making model, perform procedures
Others: organization, task-switching, clinical documentation</td></tr>
<tr><td>A:</td><td>Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem
Reliable: conscientious, pays attention to details, accountable, responsible, predictable
Integrity: truthful, good intentions, patient-centred, empathetic
Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback</td></tr>
<tr><td>E:</td><td>Rotation: Children’s Emergency Department</td></tr>
<tr><td>Sources of information to support summative entrustment decision</td><td colspan="2"><table>
<tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr>
<tr><td>EBD and EPA assessment form</td><td>1 for each 3-month posting in Children’s Emergency</td><td>By supervisor and/or faculty</td></tr>
<tr><td>MSF</td><td>At least 1 each year</td><td>By different raters</td></tr>
</table></td></tr>
</table>

EPA entrustment levels to attain in 5-year Emergency Medicine Residency	Level 3b (with supervisor immediately available, key findings and decisions doublechecked) at end of Children's Emergency rotation
Expiry	If not practiced for 18 months, level of supervision will regress to one lower than last documented level until satisfactory completion of further assessment(s).

Emergency Medicine EPA 6

<table>
<tr><td>Title</td><td>EPA 6. Managing Adult Patients with Emergent or Urgent Conditions</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td>This activity includes all key activities that a resident will perform when providing care of a patient in the emergency department:
1. Gather information through history and physical examination
2. Order diagnostic studies and investigations and interpret the results
3. Generate main and differential diagnoses
4. Distinguish an emergent / urgent condition from a non-emergent / non-urgent condition
5. Initiate management: pharmacological agents, procedures, education and advice, referral etc.
6. Consult a supervisor when needed / as per protocol
7. Communicate diagnosis(es) and management plan with/to patient and/or care-giver
8. Organize disposition and patient and/or care-giver education
9. Document the clinical encounter in the health record system
10. Switch tasks and organize workflow among 2 or more patients</td></tr>
<tr><td>Limitations:
• This EPA is applicable to patients aged 16 and above.
• This EPA excludes resuscitation and care of critically ill or injured Adult Medical/Surgical Patients.
• This EPA excludes Resuscitating and Care of Critically Ill Adult Trauma Patients.
• This EPA excludes ambulatory patients</td></tr>
<tr><td>Potential risks in case of failure</td><td>• Missed and delayed management leading to unnecessary morbidity
• Inappropriate discharge leading to re-attendance and / or unnecessary morbidity
• Inappropriate admission leading to suboptimal right-siting of care</td></tr>
<tr><td>Sub competencies relevant for this EPA:
X = applies to this EPA</td><td>
<table>
<tr><td>PC 1:</td><td>PC 7: X</td><td>PC 13: X</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14: X</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3: X</td><td>PC 9: X</td><td>MK 1: X</td><td>P 1: X</td><td></td></tr>
<tr><td>PC 4: X</td><td>PC 10:</td><td>SBP 1:</td><td>P 2: X</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3: X</td><td></td></tr>
<tr><td>PC 6: X</td><td>PC 12: X</td><td>SBP 3: X</td><td>ICS 1: X</td><td></td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td rowspan="4">Required Knowledge, Skills, Attitudes and Experiences, to enable summative entrustment</td><td>K:</td><td>For each of the Code 2 and 3 adult conditions listed in the current Emergency Medicine Core Curriculum:
Applied basic science
Presentation
Triage criteria and priority
Diagnosis: main and differential
Diagnostic studies and investigations
Management: pharmacological and non-pharmacological, and referral
Prognosis, expected trajectory and complications
Guidelines and resources</td></tr>
<tr><td>S:</td><td>“S”: information gathering from patient, care-giver and other sources
“O”: physical examination
“A”: interpretation, analysis and synthesis of findings and results from investigations, clinical reasoning, formulation and prioritization of diagnostic possibilities
“P”: plan management, interpersonal and communication skills, use shared decision making model, perform procedures
Others: organization, task-switching, clinical documentation</td></tr>
<tr><td>A:</td><td>Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem
Reliable: conscientious, pays attention to details, accountable, responsible, predictable
Integrity: truthful, good intentions, patient-centred, empathetic
Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback</td></tr>
<tr><td>E:</td><td>Rotations: Cardiology, Emergency Medicine, Medicine (General, Internal and/or Specialty), General Surgery, Orthopaedic Surgery</td></tr>
<tr><td>Sources of information to support summative entrustment decisions</td><td colspan="2"><table>
<tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr>
<tr><td>EBD and EPA assessment form</td><td>6 by end of R3
2 in R4</td><td>By supervisor and/or faculty</td></tr>
<tr><td>MSF</td><td>At least 1 each year</td><td>By different raters</td></tr>
</table></td></tr>
</table>

EPA entrustment levels to attain in 5-year Emergency Medicine Residency	Level 3a at end of R1 Level 3c at end of R2 Level 4a at end of R3 Level 4b at end of R4
Expiry	If not practiced for 18 months, level of supervision will regress to one lower than last documented level until satisfactory completion of further assessment(s).

Emergency Medicine EPA 7

<table>
<tr><td>Title</td><td colspan="2">EPA 7. Managing Patients Who Need End-Of-Life Care</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td colspan="2">This activity includes all key activities that a resident will perform when providing care for imminently dying patients
1. Review and clarify end-of-life care plans
2. Review and determine if referral to coroner is needed in event of death in ED
3. Escalate to Palliative Care professionals where appropriate
4. Review and cease non-essential vital signs monitoring, investigations, and interventions
5. Initiate / continue pharmacological and non-pharmacological management for symptoms of impending death
6. Organize disposition and NOK / care-giver education about what to expect
7. Manage NOK’s / care-giver’s distress, and activate counsellor / social worker if needed</td></tr>
<tr><td colspan="2">Limitations:
• This EPA is applicable to patients aged 16 and above.
• This EPA is patients whose demise is expected within hours or days.</td></tr>
<tr><td>Potential risks in case of failure</td><td colspan="2">Inappropriate resuscitation and / or intervention that is not respectful of patient’s dignity and/or stated wishes</td></tr>
<tr><td>Sub competencies relevant for this EPA:
X = applies to this EPA</td><td colspan="2"><table>
<tr><td>PC 1:</td><td>PC 7: X</td><td>PC 13:</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14:</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3:</td><td>PC 9:</td><td>MK 1: X</td><td>P 1: X</td><td></td></tr>
<tr><td>PC 4:</td><td>PC 10:</td><td>SBP 1:</td><td>P 2: X</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3:</td><td></td></tr>
<tr><td>PC 6: X</td><td>PC 12:</td><td>SBP 3:</td><td>ICS 1: X</td><td></td></tr>
</table></td></tr>
<tr><td>Required Knowledge, Skills, Attitudes and Experiences, to enable summative entrustment</td><td>K:</td><td>• Describe the physical signs and symptoms of the dying process and common challenges for symptom management
• Describe and explain the range of potential indications for proportionate symptom control
• List medications used to treat symptoms of impending death and explain their mechanisms of action
• Recognize spiritual and cultural needs of imminently dying patients and their NOK</td></tr>
</table>

<table>
<tr><td rowspan="4"></td><td></td><td>Recognize roles and skills of interdisciplinary team members needed to achieve whole-patient care
Describe ethical principles and how they do or do not apply to end-of-life care
List situations that require referral to State Coroner, and requisite steps of sensitive death pronouncement and documentation</td></tr>
<tr><td>S:</td><td>Recognize the imminently dying patient and associated signs and symptoms
Manage physical symptoms of impending death
Facilitate communication to prepare NOK and healthcare providers that death is imminent
Utilize an interdisciplinary team approach to provide whole-patient care for the imminently dying patient and their NOK
Provide psychosocial support to NOK regarding common concerns, and be understanding for different coping and grieving styles
Organise appropriate disposition
Make the death pronouncement in a sensitive, respectful way</td></tr>
<tr><td>A:</td><td>Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem
Reliable: conscientious, pays attention to details, accountable, responsible, predictable
Integrity: truthful, good intentions, patient-centred, empathetic
Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback</td></tr>
<tr><td>E:</td><td>Rotation: Emergency Medicine</td></tr>
<tr><td>Sources of information to support summative entrustment decisions</td><td colspan="2"><table>
<tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr>
<tr><td>EBD and EPA assessment form</td><td>2 by end of R2
2 in R3
1 in R4
1 in R5</td><td>By supervisor and/or faculty</td></tr>
<tr><td>MSF</td><td>At least 1 each year</td><td>By different raters</td></tr>
</table></td></tr>
</table>

EPA entrustment levels to attain in 5-year Emergency Medicine Residency	Level 2b at R1 Level 3a at R2 Level 3c at end of R3 Level 4a at end of R4 Level 4b at end of R5
Expiry	If not practiced for 18 months, level of supervision will regress to one lower than last documented level until satisfactory completion of further assessment(s).

Emergency Medicine EPA 8

Explanation: This EPA is optional because some Emergency Departments do not have an extended observation facility where patients are cared for at least 8 hours

<table>
<tr><td>Title</td><td>EPA 8. (Optional) Managing Patients in the Extended Observation Facility</td></tr>
<tr><td rowspan="2">Specification and limitations</td><td>This activity includes all key activities that a resident will perform when providing care for patients in the observation facility
1. Gather information through history and physical examination
2. Review patients’ care episode prior to admission to the observation facility
3. Order diagnostic studies and investigations and interpret the results
4. Generate main and differential diagnoses
5. Initiate and continue management: pharmacological agents, procedures, education and advice, referral etc.
6. Review patients during observation and manage changes to their conditions
7. Consult a supervisor when needed / as per protocol
8. Communicate diagnosis(es) and management plan with/to patient and/or care-giver
9. Organize disposition and patient and/or care-giver education
10. Present the patients during ward round with the Emergency Physician
11. Follow up and complete the changes after the round
12. Hand over patients to the team for next shift
13. Document the clinical encounter in the health record system</td></tr>
<tr><td>Limitations:
• This EPA is applicable to patients aged 16 and above.
• This EPA is applicable to the extended observation facility of at least 8 hours
• This EPA excludes patients who are under observation of less than 8 hours</td></tr>
<tr><td>Potential risks in case of failure</td><td>• Missed and delayed management leading to unnecessary morbidity
• Inappropriate discharge leading to re-attendance and / or unnecessary morbidity</td></tr>
<tr><td>Sub competencies relevant for this EPA:
X = applies to this EPA</td><td>
<table>
<tr><td>PC 1:</td><td>PC 7: X</td><td>PC 13:</td><td>PBLI 1:</td><td>ICS 2: X</td></tr>
<tr><td>PC 2: X</td><td>PC 8: X</td><td>PC 14:</td><td>PBLI 2:</td><td>ICS 3: X</td></tr>
<tr><td>PC 3: X</td><td>PC 9:</td><td>MK 1: X</td><td>P 1:</td><td></td></tr>
<tr><td>PC 4: X</td><td>PC 10:</td><td>SBP 1:</td><td>P 2: X</td><td></td></tr>
<tr><td>PC 5: X</td><td>PC 11: X</td><td>SBP 2: X</td><td>P 3: X</td><td></td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td></td><td colspan="2"><table><tr><td>PC 6: X</td><td>PC 12: X</td><td>SBP 3: X</td><td>ICS 1: X</td><td></td></tr></table></td></tr>
<tr><td rowspan="4">Required Knowledge, Skills, Attitudes and Experiences, to enable summative entrustment</td><td>K:</td><td>For each of the Code 2 and 3 conditions listed in the current Emergency Medicine Core Curriculum:
Applied basic science
Presentation
Triage criteria and priority
Diagnosis: main and differential
Diagnostic studies and investigations
Management: pharmacological and non-pharmacological, and referral
Prognosis, expected trajectory and complications
Guidelines and resources</td></tr>
<tr><td>S:</td><td>“S”: information gathering from patient, caregiver, and other sources
“O”: physical examination
“A”: interpretation, analysis and synthesis of findings and results from investigations, clinical reasoning, formulation, and prioritization of diagnostic possibilities
“P”: plan management, interpersonal and communication skills, use shared decision-making model
Others: organization, task-switching, clinical documentation</td></tr>
<tr><td>A:</td><td>Agency: appropriate self-confidence, proactive toward work, team-player, collegial, anticipates and prepares for problem
Reliable: conscientious, pays attention to details, accountable, responsible, predictable
Integrity: truthful, good intentions, patient-centred, empathetic
Humility: observes limits, escalates to senior and asks for help appropriately, receptive to feedback</td></tr>
<tr><td>E:</td><td>Rotations in Emergency Medicine, Cardiology, Orthopaedic Surgery, General Surgery, and Medicine (General / Internal and/or Specialty)</td></tr>
<tr><td>Sources of information to support summative entrustment decisions</td><td colspan="2"><table><tr><th>Tools</th><th>Number to be completed satisfactorily</th><th>Additional specifications</th></tr><tr><td>EBD and EPA assessment form</td><td>6 by end of R3
2 in R4
1 in R5</td><td>By supervisor and/or faculty</td></tr></table></td></tr>
</table>

	MSF	At least 1 each year	By different raters
EPA entrustment levels to attain in 5-year Emergency Medicine Residency	Level 3a at R1 Level 3b at R2 Level 3c at end of R3 Level 4a at end of R4 Level 4b at end of R5		
Expiry	If not practiced for 18 months, level of supervision will regress to one lower than last documented level until satisfactory completion of further assessment(s).		

Entrustability Levels

Level 1: Not allowed to practise EPA, allowed to observe.

Level 2: Allowed to practise EPA only under proactive, full supervision.
Level 2a: As co-activity with supervisor.
Level 2b: With supervisor in room ready to step in as needed.

Level 3: Allowed to practise EPA only under reactive/on-demand supervision.
Level 3a: With supervisor immediately available, all findings and decisions double checked.
Level 3b: With supervisor immediately available, key findings and decisions double checked.
Level 3c: With supervisor distantly available (e.g., by phone, next room), findings and decisions promptly reviewed.

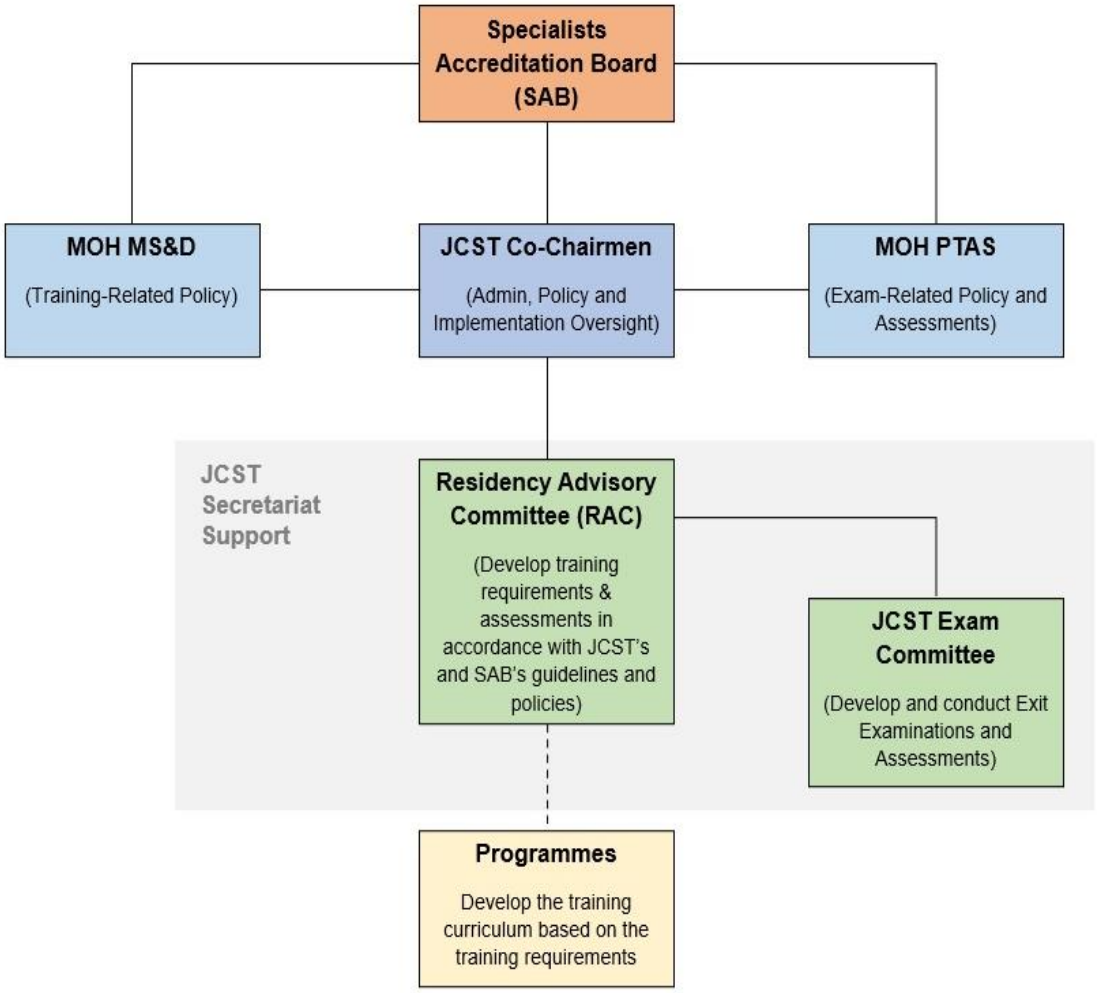
Level 4: Allowed to practise EPA unsupervised.
Level 4a: With remote monitoring (e.g., end of shift).
Level 4b: Without monitoring.

Level 5: Allowed to supervise others in practice of EPA independently.

Annex C.R6: Curriculum

Item	Documents
C.R6: Curriculum	EMCC Book 2023 Final_v3 dated 21 Nov

Appendix 1: B.R1 RAC Flowchart



Appendix 2: E.R5 JCST Examination Committee

Appendix 2 -JCST Cir001-2015 - JCST Ex