EMERGENCY MEDICINE RESIDENCY

TRAINING REQUIREMENTS

(A) INTRODUCTION

Residencies in emergency medicine teach the fundamental skills, knowledge, and humanistic qualities that constitute the foundations of emergency medicine practice. Residents develop a level of clinical maturity, judgment, and technical skill required to practice emergency medicine, and the ability to incorporate new skills and knowledge during their careers and to monitor their own physical and mental well-being.

The overall duration of training must be 60 months

(B) PROGRAMME OVERVIEW

- Duration of training R1-R4 accredited by ACGME-I
- Duration of training R5 accredited by JCST

(C) TRAINING REQUIREMENTS

1. Residency Training R1-R4 (ACGME-I programme)

R1 to R3 - Junior Residency Programme
R4 to R5 - Senior Residency Programme

A. Resources

Clinical support services must be provided on a 24-hour basis. These services equate to meet reasonable and expected demands and must include nursing, clerical, intravenous, ECG, respiratory therapy, messenger/transporter, and phlebotomy services.

1. The hospital must ensure that all clinical specialty and subspecialty services are available in a timely manner for emergency department consultation and hospital admission.
    a. Clinical services should include, but are not limited to, internal medicine and its subspecialties surgery and its subspecialties, paediatrics and its subspecialties, orthopaedics, obstetrics and gynaecology. If any clinical services are not available for consultation or admission, the hospital must have a written protocol for provision of these services elsewhere. This may include written agreements for the transfer of these patients to a designated hospital that provides the needed clinical service(s).

2. The primary clinical site should have a minimum of 30,000 emergency department visits each year

3. At a minimum, all residents must maintain a record of all major resuscitations and procedures performed by each resident.

   a. The record must document their role, i.e., participant or director; the type of procedure(s); and age of patient.

   b. Only one resident may be credited with the direction of each resuscitation and the performance of each procedure.

B. Regularly Scheduled Didactic Sessions

The core curriculum must include a didactic program that is based upon the core knowledge content of emergency medicine.

1. All residents must have an average of at least five hours per week of planned educational experiences developed by the emergency medicine program.

2. The program must ensure that residents are relieved of clinical duties to attend these planned educational experiences. Although release from some off service rotations may not be possible, the program should require that residents participate, on average, in at least 70% of the planned emergency medicine educational experiences offered (excluding vacations). Attendance should be monitored and documented.

C. Clinical Experience

1. At least 50 percent of the residents' clinical experience must take place under the supervision of emergency medicine faculty. Such experience:

   a. must include a minimum of three months per year of emergency medicine experience; and,
   b. may include emergency medical services, toxicology, paediatric emergency medicine, sports medicine, emergency medicine administration, or research in emergency medicine.

2. Residents should have at least six months full time equivalent education in the care of infants and children (which are defined as the care of patients less than 18 years of age) and at least three of these months must be in an emergency setting.

   a. Alternatively, residents should have 16% of all their emergency department encounters in paediatric experience.

3. Residents should treat a significant number of critically ill or critically injured patients at the primary clinical site, constituting at least three percent or 1,200 of the emergency department patients per year, whichever is greater.

4. Residents must have at least three months of inpatient critical care rotations.

   a. During part of this experience, residents should have decision- making experience that allows them to develop the skills and judgment

necessary to manage critically ill and injured patients who present to the emergency department.

5. Residents must have experience in paramedic base station communications; emergency transportation and care in the field, including ground units and if possible air ambulance units; teaching and oversight of out-of-hospital personnel; and disaster planning and drills.
6. Residents must have sufficient opportunities to perform invasive procedures, monitor unstable patients and direct major resuscitations of all types on all age groups. The resident must make admission recommendations and direct resuscitations.
7. Residents should, on average, meet the following guidelines for Procedures and Resuscitations:

   Numbers include both patient care and laboratory simulations.

Adult medical resuscitation	45
Adult trauma resuscitation	35
Cardiac pacing	06
Central venous access	20
Chest tubes	10
Procedural sedation	15
Cricothyrotomy	03
Disclocation reduction	10
Intubations	35
Lumbar Puncture	10
Paediatric medical resuscitation	15
Paediatric trauma resuscitation	10
Pericardiocentesis	03
Vaginal delivery	10

2. Residency Training R5 (JCST Accredited programme)

The elective residency postings are:

12 months of Emergency Medicine (R5 year)

Institution	Program	Duration	Remarks
CGH	Emergency Ultrasound	6 months	Structured program
CGH	Administration in Emergency Medicine	Variable	

NHG-AHPL EM Residency	Emergency Medicine Teaching and Education Elective	4 months part-time 7 sessions, each of not less than 1 hour duration over a 6-month period.	Structured program with equal emphasis on undergraduate and residency education
NUHS	Observational Medicine	3-6 months	
NUHS	Emergency Ultrasound	3-6 months	
SGH	Research in Emergency Medicine	Variable (6 months recommended)	Structured teaching and hands-on research project
TTSH	Geriatric Emergency Medicine	6 months	Structured program

3. The 6 Key Competencies identified as:

A. Patient Care

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents must demonstrate competence in:

1. gathering accurate, essential information in a timely manner;
2. treating medical conditions commonly managed by emergency medicine physicians;
3. generating an appropriate differential diagnosis;
4. implementing an effective patient management plan;
5. performing the diagnostic and therapeutic procedures and emergency stabilization;
6. prioritizing and stabilizing multiple patients and performing other responsibilities simultaneously;
8. providing health care services aimed at preventing health problems or maintaining health;
9. interpret basic clinical tests and images;
10. recognizing and providing management of emergency medical problems;

10. using common pharmacotherapy;
11. providing basic preventive care;
12. properly sequencing critical actions for patient care and generating a differential diagnosis for an undifferentiated patient;
13. working with health care professionals to provide patient-focused care; and
14. performing Emergency Department bedside ultrasound.

B. 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. Residents must demonstrate the knowledge to:

1. evaluate patients with an undiagnosed and undifferentiated presentation;
2. interpret basic clinical tests and images;
3. recognize and manage emergency medical problems;
4. use common pharmacotherapy; and
5. appropriately use and perform diagnostic and therapeutic procedures.

C. Practice-based Learning and Improvement

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on continuous self-evaluation and life-long learning. Residents are expected to develop skills and habits to be able to meet the following goals:

1. identify strengths, deficiencies, and limits in one's knowledge and expertise;
2. set learning and improvement goals;
3. identify and perform appropriate learning activities;
4. systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;
5. incorporate formative evaluation feedback into daily practice;
6. locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems;
7. use information technology to optimize learning; and,
8. participate in the education of patients, families, students, residents and other health professionals.

D. Interpersonal and Communication Skills

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:

1. communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;
2. communicate effectively with physicians, other health professionals, and health related agencies;
3. work effectively as a member or leader of a health care team or other professional group;
4. act in a consultative role to other physicians and health professionals;
5. maintain comprehensive, timely, and legible medical records;
6. develop effective written communication skills;
7. demonstrate the ability to handle situations unique to the practice of emergency medicine; and,
8. effectively communicate with out-of-hospital personnel as well as non- medical personnel.

E. Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

1. compassion, integrity, and respect for others;
2. responsiveness to patient needs that supersedes self-interest;
3. respect for patient privacy and autonomy;
4. accountability to patients, society and the profession;
5. sensitivity and responsiveness to a diverse patient population, including but not limited to, diversity in gender, age, culture, race, religion, disabilities, and sexual orientation;
6. ability to discuss difficult patient outcomes and death honestly, sensitively, patiently, and compassionately; and
7. openness and responsiveness to the comments of other team members, patients, families, and peers.

F. Systems-based Practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

1. work effectively in various health care delivery settings and systems relevant to their clinical specialty;
2. coordinate patient care within the health care system relevant to their clinical specialty;
3. incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;
4. advocate for quality patient care and optimal patient care systems;
5. work in interprofessional teams to enhance patient safety and improve patient care quality;
6. participate in identifying system errors and implementing potential systems solutions; and
7. understand different medical practice models and delivery systems and how to best utilize them to care for the individual patient.

E) SUPERVISION AND WORK HOURS OF RESIDENTS

Supervision

All residents will be supervised by a designated supervisor. The ratio of all teaching faculty to residents should be 1:1 (applicable to R1-R4). The number of core clinical faculty to resident ratio must be no less than 1:6. 20% of resident's time must be protected for training.

Duty Hour and Work Limitations

Work hours can be defined as all clinical and academic activities related to residency training. When emergency medicine residents are on emergency medicine rotations, the following standards apply:

1. As a minimum, residents shall be allowed an average of one full day in seven days away from the institution and free of any clinical or academic responsibilities, including planned educational experiences;
2. While on duty in the emergency department, residents may not work longer than 12 continuous scheduled hours. There must be at least an equivalent period of continuous time off between scheduled work periods; and,
3. A resident should not work more than 80 scheduled hours per week seeing patients in the emergency department and no more than 72 duty hours per week. Duty hours comprise all clinical duty time and conferences, whether spent within or outside the educational program, including all on-call hours.

(F) LOG OF OPERATIVE / CLINICAL EXPERIENCE

All residents must to keep a log of their operative / clinical experience in the designated case log system.

(G) ASSESSMENT AND EXAMINATIONS

I. Supervisors Assessment

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

II. Feedback

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

III. Examinations

Intermediate Examinations

Residents must pass the MCEM or MMed (Parts A, B & C) or equivalent to progress to Senior Residency (R4).

Exit Examinations

The EM Exit Examination is a 3-part 5-section examination:

i. MOH-ABMS MCQ EM Examination
ii. Part A (a) Critical Appraisal Topic (CAT) Paper and (b) Teaching Structured Viva
iii. Part B (a) Clinical Structured Viva (8 stations)
iv. Part C (a) Administration Structured Viva

The ABEM MCQ paper was introduced in 2017 as a section in the exit exam for which the residents must pass. In 2019 the ABEM MCQ will replace previous SAQ exam.The resident can attempt the ABEM MCQ from residency year 4.

Weightage and Non-Compensation

The individual sections are non-compensatory i.e. a candidate must pass each section to obtain an overall pass for the exit exam.

A candidate must fulfil 2 criteria to pass Clinical Viva:

- Obtain an overall pass for the 8 questions AND
- Pass 6 out of the 8 clinical questions i.e. a candidate is only allowed to fail 2 questions in the Clinical Viva.

(H) CHANGES IN TRAINEESHIP PERIOD AND LEAVE OF ABSENCE

I. Changes in Training Period

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

II. Leave Of Absence

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

III. Overseas Postings

Overseas attachment during Senior Residency training is not permitted with the exception of Radiation Oncology and Neurosurgery (refer to JCST Circular 114/14).