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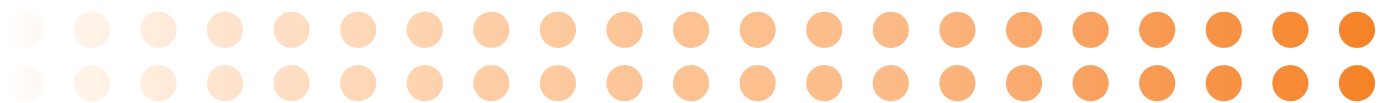
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# Generalist Emergency Medicine

## Curriculum



## Acknowledgements

ACRRM wishes to thank the following people for their time and expertise in the development of this curriculum statement:

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We would also like to thank A/Prof Janie Dade Smith, Director, RhED Consulting Pty Ltd for her advice and assistance during the curriculum development process.

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# 1. Background

This Generalist Emergency Medicine Curriculum builds on the Advanced Specialised Training Curriculum in Emergency Medicine and on the emergency medicine component of the ACRRM Primary Curriculum.

This curriculum recognizes that the scope and depth of knowledge and skills required by a Generalist Emergency Medicine doctor will vary depending on the location of practice. Numerous factors may impact clinical experience and requirements including the urgency of the clinical situations encountered the frequency of encounters and the availability of on-site support services. However, this curriculum seeks to define the generic minimum standards required for Generalist Emergency Medicine practice across the range of potential contexts.

By its nature, the practice of emergency medicine also has considerable overlap with a number of other specialist disciplines, particularly anaesthetics, surgery, orthopaedics, internal medicine and paediatrics. Acute aspects of most disciplines have relevance to the practice of emergency medicine.

## 2. Purpose and Requirements

### 2.1 Purpose

The aim of this curriculum is define the competencies required for independent Generalist Emergency Medicine practice in settings outside major metropolitan hospitals where there is not immediate on-site support from specialist practitioners.

### 2.2 Target group

This curriculum targets Fellows of ACRRM with an Advanced Skills Training year in Emergency Medicine (or equivalent qualifications and experience) who are undertaking Generalist Emergency Medicine training. It would be of most relevance to doctors wishing to pursue a career in emergency medicine at a senior level outside major metropolitan hospitals.

### 2.3 Duration

The minimum period of time required for Generalist Emergency Medicine training is 18 months full time or equivalent part time. It is recommended that this period should consist of:

- 12 months emergency medicine
- 3 months anaesthesia (or suitable structured learning program in emergency airway management and emergency ventilation with certified competence)
- 3 months critical care (ICU/CCU).

The training program will take into account other professional, personal and family needs and will offer the flexibility for individuals to undertake part time training. It will also allow flexibility for participants to undertake their Generalist Emergency Medicine training in two or more blocks, and will not disadvantage candidates who choose this option. As far as possible, time in anaesthesia and critical care should be undertaken in single continuous blocks.

## 2.4 Potential posts

Generalist Emergency Medicine training must be undertaken in institutions accredited by ACRRM. Such institutions must have the caseload and teaching capacity to provide training in a sufficient range of emergency conditions to meet the requirements of this curriculum.

The majority of training must be completed in a hospital with the following features:

- a 24 hour medically staffed emergency department
- a Director of Emergency Medicine with appropriate postgraduate qualifications
- specialist inpatient services covering the core disciplines of General Surgery, Orthopaedics, Internal Medicine, Paediatrics and Psychiatry
- access for candidates to support and supervision by experienced clinicians at all times
- the commitment and ability to provide the required level of teaching and experience.

Candidates should spend significant time in an emergency department, anaesthesia department, intensive care department and coronary care unit. It would be highly desirable that candidates also undertake a brief attachment in a smaller rural or remote hospital emergency department for an understanding of the particular challenges of delivering emergency care in those settings.

Periods of attachments to larger institutions or specialist hospitals may be highly desirable for areas such as critical care, women's health and children's health. This may be especially important for candidates at smaller institutions with lower acuity case mix.

## 2.5 Prerequisites

Prior to undertaking GEM training, the candidate must have:

- completed FACRRM training (or equivalent)
- completed an Advanced Specialised Training year in Emergency Medicine
- satisfactorily completed the Early Management of Severe Trauma (EMST), Emergency Life Support (ELS) and Advanced Paediatric Life Support (APLS) courses (or equivalent).

This Generalist Emergency Medicine Curriculum assumes as pre-requisite knowledge and skills all the competencies set out in the Advanced Specialised Training Curriculum in Emergency Medicine. In particular, the following competencies have been assumed:

- high-level competence in Advanced Life Support
- high-level competence in primary and secondary survey
- recognition of the compromised/at risk airway
- competent basic airway manoeuvres
- competent in basic intubation
- basic ventilation techniques – EAR, bag/mask ventilation
- principles of oxygenation and ventilation
- perform and interpret Adult and Paediatric Glasgow Coma Scales
- competent common emergency procedures, as outlined in the ACRRM Primary Curriculum and Advanced Specialised Training Curriculum in Emergency Medicine.

### 3. Rationale

There are a number of important differences between emergency medicine practice in rural and regional locations and that in major metropolitan settings. Even when considering larger regional hospitals, key differences such as limited physical resources, fewer specialist staff, and long lead times for retrieval to more specialised centres differentiate these from their major metropolitan counterparts. Such differences mean that generalist emergency medicine doctors are required to practice a broader range of skills with a greater degree of autonomy than many of their colleagues in metropolitan teaching hospitals.

The scope of practice required by the generalist emergency medicine doctor will vary depending on the location of practice. This curriculum seeks to outline the generic requirements that define safe and competent generalist emergency medicine practice across the range of Generalist Emergency Medicine contexts.

It is noted that many patients who present to emergency departments do not have life threatening emergency conditions. However, their management in the emergency department may be appropriate under various circumstances. Such situations are not included in this curriculum and fall under primary training covered in the Primary Curriculum.

The focus of this curriculum is on building the clinical skills required for Generalist Emergency Medicine practice. However, the leadership and management aspects of Generalist Emergency Medicine practice are also taken into consideration and highlighted.

## 4. Learning Outcomes

The domains of rural and remote general practice, as defined by ACRRM, provide a framework for organising the learning outcomes for this curriculum. The domains are:

1. Core clinical knowledge and skills
2. Extended clinical practice
3. Emergency care
4. Population health
5. Aboriginal and Torres Strait Islander health
6. Professional, legal and ethical practice
7. Rural and remote context.

These domains are integrated with the fields of competency essential to the rural or regional generalist emergency medicine doctor:

- Initial management
- Definitive emergency care
- Common emergency procedures
- Ongoing management
- Recognition and management of unusual but serious conditions
- Transfer and transportation
- Utilisation of available resources
- Communication
- Leadership and teamwork.

The competency framework in **Table 1** outlines the practice requirements for the Generalist Emergency Medicine doctor. It defines the level of autonomy required in the management of various types of clinical emergencies and non-clinical responsibilities – from completely **autonomous** management (**A**) to management with **distant guidance (D)**, or with **on-site support (O)**. It also defines the integration between the *Domains of rural and remote general practice* and the *Fields of competency*.

**Table 1: Competency Framework**

Key: **A** = manage autonomously, **D** = manage with distant guidance, **O** = manage with on-site support, **n/a** = not applicable

	FIELDS OF COMPETENCY								
	Initial management	Time-critical & definitive emergency care	Common emergency procedures	Ongoing management	Uncommon but serious conditions	Transfer / transportation	Utilisation of available resources	Communication	Leadership and teamwork
<b>Integrated domains</b>	3,7	3,7	3	1,4	2	3	6	1,5,6	2,6
<b>CLINICAL CONTENT AREAS</b>									
Airway emergencies	A	A	A	D	D	D	A	A	A
Respiratory emergencies	A	A	A	D	D	D	A	A	A
Anaesthesia and analgesia	A	D	A	O	O	D	A	A	D
Circulatory emergencies	A	A	A	D	O	D	A	A	A
Other causes of shock	A	D	A	D	D	D	A	A	A
Neurological emergencies	A	A	A	D	D	D	A	A	A
Psychiatric emergencies	A	D	A	O	D	D	D	A	A
Musculo-skeletal emergencies	A	D	A	D	D	A	A	A	A
Soft tissue emergencies and burns	A	A	A	D	D	A	A	A	A
ENT, Dental and maxillofacial emergencies	A	A	A	D	D	D	A	A	A
Abdominal and genito-urinary emergencies	A	D	A	D	D	A	A	A	A
Ophthalmological emergencies	A	D	A	D	O	D	A	A	A
Metabolic and endocrine emergencies	A	A	A	D	D	D	A	A	A
Dermatological emergencies	A	A	A	D	D	A	A	A	n/a
Toxicology and toxinology	A	D	A	D	D	A	A	A	A
Environmental emergencies	A	A	A	D	D	D	D	A	D
Infectious diseases	A	D	A	D	D	D	D	A	D
Sepsis	A	A	A	D	O	D	A	A	A
Paediatric and neonatal emergencies	A	D	A	D	O	D	A	A	D
Obstetric and gynaecological emergencies	D	D	D	O	O	D	D	A	D
<b>NON-CLINICAL CONTENT AREAS</b>									
Forensic medicine and legal issues	A	D	A	D	D	D	A	A	D
Retrieval and special transport	A	D	A	D	D	n/a	A	A	A
Imaging and laboratory investigations	A	A	A	D	D	n/a	A	A	n/a
General topics	A	D	A	D	D	D	D	A	D
Emergency department management	A	n/a	A	O	D	D	A	A	A

## **4.1 Domain 1. Core clinical knowledge and skills**

### **4.1.1 Diagnostic investigations**

The candidate will demonstrate high-level understanding of the selection criteria, protocols, principles and limitations of the following tests, and demonstrate the ability to competently perform these tests and/or interpret their results as appropriate:

- point of care pathology including venom detection kit (VDK)
- arterial blood gas
- lumbar puncture and CSF manometry
- plain x-rays – high-level competence in emergency interpretation pending definitive reporting, including adult and paediatric chest, spine, abdomen and extremities
- CT scans – competent emergency interpretation, pending definitive reporting
- emergency use of intravenous contrast
- electrocardiography (ECG)
- Focused Assessment with Sonography for Trauma (FAST) ultrasound
- Abdominal Aortic Aneurysm (AAA) ultrasound
- ultrasound for vascular access
- ultrasound in early pregnancy
- swallowing assessment
- oximetry
- capnography
- cardiotocography (CTG).

### **4.1.2 Telemedicine**

The candidate will demonstrate high-level skills in use of tele-medicine technology, including:

- uploading x-rays, clinical images and other data to consult with distant specialists
- clinical photography skills.

### **4.1.3 Ongoing management**

The candidate will demonstrate the ability to provide appropriate post-stabilisation care to emergency patients, including:

- management to maintain the patient in a stable condition prior to admission to an inpatient unit or transfer to another facility
- preparation for transfer.

### **4.1.4 Complicating anatomical conditions**

The candidate will discuss the features of congenital and acquired conditions that may predispose patients to emergency presentations and/or complicate emergency management:

- congenital heart disease
- congenital maxillofacial and other anatomical abnormalities
- acquired anatomical abnormalities.

### **4.1.5 Rational and safe prescribing**

The candidate will demonstrate the ability to consistently make rational and safe prescribing decisions in the emergency department.

#### **4.1.6 Doctor-patient communication**

The candidate will demonstrate the ability to utilise effective and appropriate communication skills and strategies with emergency patients and/or their family members and friends across the spectrum of ages, disability levels, and culturally and linguistically diverse backgrounds:

- proficiency in spoken and written English
- taking sensitive, difficult and/or complex case histories – e.g. psychiatric patients, sexual assault and domestic violence victims, adolescent patients, patients with speech impairment from strokes
- showing understanding, sensitivity and respect for the communication styles and social dynamics of different cultural groups in highly stressful situations
- use of interpreter services
- dealing with distressed relatives
- effective communication with aggressive and other 'difficult' patients
- assisting junior staff members in difficult situations
- recognising unsuccessful communication and attempting different strategies.

#### **4.1.7 Refugee and migrant health**

The candidate will demonstrate knowledge of particular medical conditions and needs of refugees and migrants arriving in Australia.

### **4.2 Domain 2. Extended clinical practice**

#### **4.2.1 Differential diagnosis**

The candidate will demonstrate the ability to make accurate and timely differential diagnoses in emergency situations.

#### **4.2.2 Uncommon but serious conditions**

The candidate will outline the diagnostic features and initial management of rarely encountered and diagnostically difficult conditions which have potentially serious consequences if misdiagnosed. The following list illustrates some examples of such uncommon but serious conditions:

- acute epiglottitis
- traumatic rupture of the diaphragm
- dissecting thoracic aortic aneurysm
- spinal cord injury without radiological abnormality
- non-accidental injury
- concealed pregnancy
- abdominal sepsis in the elderly
- exotic infections.

#### **4.2.3 Secondary injuries**

The candidate will outline the risk factors for secondary injuries in emergency patients, discuss strategies for reducing these risks, and outline appropriate management of secondary injuries if/when they occur:

- renal failure
- cardiac failure
- adult respiratory distress syndrome (ARDS)
- disorders of coagulation

- cerebral hypoxia
- multi-system failure
- sepsis
- neurovascular compromise.

#### **4.2.4 Anaesthesia and analgesia**

The candidate will demonstrate high-level competence in anaesthetic and analgesic decision-making and delivery:

- discuss the factors involved in making difficult anaesthetic decisions – neonates, young children, elderly, shock, co-morbidities, burns, facial and neck trauma, congenital abnormalities, obesity
- demonstrate the ability to apply these decision making skills appropriately in real-life or simulated emergency situations
- demonstrate high-level ability in the following basic anaesthetic techniques:
  - drug dosage and calculations
  - regional nerve blocks
  - rapid sequence induction
  - neuroleptanaesthesia
  - pain monitoring during anaesthesia
  - procedural sedation and monitoring, including combination and dissociative agents
- demonstrate competent independent ability in the following post-basic anaesthetic techniques:
  - pre-intubation airway assessment
  - inhaled anaesthesia
  - anaesthetic induction and maintenance
  - rapid sequence induction
  - regional anaesthetic techniques
  - management of malignant hyperpyrexia and suxamethonium apnoea
  - anaesthetic techniques for dental emergencies
- demonstrate competence in the following advanced anaesthetic techniques:
  - identification of failed intubation
  - failed intubation drill and equipment failure drill
  - use of LMA, ILMA and other alternative airways
  - jet insufflation and surgical airway techniques
  - set-up and use of non-invasive ventilation and portable ventilation
  - anaesthesia monitoring
- Demonstrate competent, safe, effective independent administration of emergency, post-operative and labour analgesia – including intravenous, but excluding epidural.

#### **4.2.5 Referral and transfer**

The candidate will demonstrate the ability to identify those patients requiring referral and transfer to a higher level of care, and to safely manage the referral and transfer process. This includes:

- knowing own limitations
- knowing when, how and where to refer appropriately

- maintaining patient in a stable condition until handover to appropriate transportation
- completing required legal documentation for involuntary transportation of patients with acute psychosis.

#### **4.2.6 Handover**

The candidate will demonstrate the ability to undertake safe and effective handover of patients within the emergency department and during intra-hospital and inter-hospital transfers.

#### **4.2.7 Patient discharge**

The candidate will demonstrate the ability to identify which patients may be safely discharged from the emergency department for ongoing care in the community, and to safely manage the discharge process. This includes:

- discharge assessment
- arranging discharge medication
- communicating with general practitioner and community services
- discharge report/paperwork.

#### **4.2.8 Palliative care**

The candidate will demonstrate the ability to provide appropriate palliative care in the emergency department for patients awaiting admission or transfer to an appropriate facility.

#### **4.2.9 Forensic medicine**

The candidate will demonstrate high-level understanding of the clinical and medico-legal requirements for management of physical and/or sexual assault cases, including:

- sexual assault examination and specimen collection
- recognition of non-accidental injury patterns in children and domestic partners
- understanding of the Coronial investigation process
- writing medico-legal reports
- giving evidence in court
- treatment of minors and persons in custody.

#### **4.2.10 Use of blood and blood products**

The candidate will demonstrate the ability to consistently make rational and safe decisions regarding the use of blood and blood products in the emergency department.

#### **4.2.11 Leadership and teamwork**

The candidate will demonstrate the ability to take a clinical and operational leadership role in the emergency department and to work as an effective team member or offer leadership to inter-professional teams where appropriate, including:

- co-ordinating and managing a team,
- working appropriately and effectively with emergency services (police, fire brigade, ambulance) and retrieval services
- working as an effective team member in a non-leadership role where appropriate

- providing leadership to emergency department staff members, inpatient services and non-medically trained individuals.

### **4.3 Domain 3. Emergency care**

#### **4.3.1 Triage**

The candidate will outline the principles of triage and discuss their application to emergency situations.

#### **4.3.2 Initial assessment and stabilisation**

The candidate will demonstrate (in either real or simulated contexts), high-level competence in initial assessment and stabilisation of the entire range of acute illness and injury, including:

- competent advanced life support
- complex resuscitation
- recognition of the seriously unwell conscious patient, including ability to identify relevant “red flags”
- appropriate prioritization and sequencing of assessments, investigations and management tasks in emergency cases, including:
  - seriously unwell conscious patients
  - patients with undifferentiated severe acute pain
  - undifferentiated unconscious patients
  - undifferentiated sick children
  - major/serious/complicated adult and paediatric trauma – multiple trauma, head trauma, chest, pelvic, spine, major limb, maxillofacial, abdominal (blunt and penetrating),
  - acutely psychotic patients, including suicide risk assessment
  - undifferentiated acute infections
- assessment and management of multiple casualty scenarios.

#### **4.3.3 Advanced emergency procedures**

The candidate will discuss selection principles and competently demonstrate a comprehensive range of advanced emergency procedures, including:

- high-level skills in difficult airway maintenance – including C-spine trauma, burns, maxillofacial and laryngeal trauma, laryngeal oedema, swelling, epiglottitis, foreign body, anatomical abnormalities and variations:
  - non-standard positioning
  - non-standard laryngoscopes
  - bougies and introducers
  - rapid sequence induction
  - high-level competence in laryngeal mask airway (LMA)
  - high-level competence in intubating laryngeal mask airway (ILMA)
  - competent, independent needle cricothyroidotomy and other percutaneous cricothyroidotomy techniques
  - high-level competence in surgical cricothyroidotomy under supervision.
- advanced ventilation techniques – for situations including acute pulmonary oedema, severe asthma, acute or severe respiratory infections, blunt or penetrating chest trauma, near drowning and pulmonary aspiration:
  - high-level competence in manual ventilation techniques

- mechanical ventilation techniques
- high-level competence in non-invasive ventilation
- use of a portable ventilator
- insertion of chest drains
- difficult intra-venous placements:
  - non-standard sites
  - intra-osseous insertion
  - venous cutdown
- central venous access and central venous pressure (CVP) monitoring
- arterial line insertion
- use of syringe drivers and fluid pumps
- rapid infusion techniques
- monitoring fluid balance.

#### **4.3.4 Time-critical and Definitive emergency management**

The candidate will demonstrate high-level ability in providing safe and effective time-critical and definitive emergency management for a comprehensive range of emergency conditions, including:

- airway and breathing emergencies – difficult foreign bodies, severe asthma, respiratory distress tension pneumothorax, compromised airways, hypoventilation, hypoxia and chest trauma:
  - competent, independent needle thoracocentesis
  - competent, independent intercostal catheter insertion and chest drainage
- circulation emergencies – chest pain, acute coronary syndromes, cardiogenic shock, hypovolaemic shock, hypertensive emergencies, haemostatic emergencies, cardiac tamponade, acute myocardial infarction, thrombo-embolic emergencies including pulmonary embolism, gas embolism and anaphylaxis:
  - application of Advanced Cardiac Life Support (ACLS) algorithms
  - defibrillation, cardioversion and external cardiac pacing
  - cardiac monitoring
  - risk stratification
  - thrombolytic therapy, including management of complications
  - competent and independent platelet inhibitor and anticoagulant therapy
  - competent and independent hypotensive therapy
  - competent pericardiocentesis with on-site or distant guidance
  - competent and independent haemostatic therapy
  - anti-arrhythmic therapy, including management of complications
  - competent and independent administration of inotropes and other pressor agents
  - principles of angioplasty and stenting, including management of complications
  - principles of occult blood loss in trauma
  - competent and independent blood transfusion and fluid resuscitation including principles of minimum volume fluid resuscitation
- neurologic emergencies – neurologic trauma, coma, stroke, cerebral ischaemia, space occupying lesions, intracranial haemorrhage, subarachnoid haemorrhage, altered mental status, acute confusional states, delirium, undifferentiated

headache, Guillian-Barre Syndrome, seizures, status epilepticus, meningitis, neurogenic shock:

- seizure monitoring and control
- competent performance of burr hole with distant guidance from a neurosurgeon
- competent immediate care of patient with a neurological deficit
- musculoskeletal emergencies – simple and complex fractures and dislocations, compound wounds, spinal injuries, ischaemic limbs, degloving injury, amputated digits, acute back pain/sciatica and injuries with neurovascular compromise:
  - competent and independent splinting, casting and reduction of simple fractures and dislocations
  - reduction/stabilisation of complex fractures/dislocations under guidance, including minimisation of neurovascular compromise
  - initial management of compound wounds
  - initial management of spinal injuries, including awareness of patterns of spinal injury without radiological abnormality
  - repair of simple tendon injuries
  - competent and independent joint aspiration
  - compartment syndrome identification, monitoring and initial management including escharotomy
- dermatological and soft tissue emergencies – foreign bodies, abscesses, thermal, chemical and electrical burns, inhalational burns, frostbite, necrotising infections, bite wounds, contaminated wounds, atrophic skin, lip and face wounds, joint wounds, crush injury, neurovascular injury, degloving injury, acute desquamating conditions:
  - removal of superficial foreign bodies
  - competent and independent abscess drainage
  - assessment of wounds for closure suitability
  - management of difficult wounds
  - competent and independent initial management of moderate and severe burns
  - initial management of rhabdomyolysis/acidosis
  - competent and independent pressure care of soft tissues at risk from ischaemia and infection
  - competence in common plastic surgical techniques to improve cosmetic appearance and cover defects
  - regulation of body temperature in patients with dermatological emergencies
- Obstetric and gynaecologic emergencies – haemorrhage in early pregnancy, trauma in pregnancy, miscarriage, precipitate delivery, common labour and delivery complications, hypertensive urgencies, hyperemesis, pre-eclampsia, eclampsia and post-partum problems including fluid embolus, uterine rupture, haemorrhage, sepsis and retained products of conception (POC):
  - initial management of haemorrhage in early pregnancy
  - initial management of trauma in pregnancy
  - management of miscarriage
  - timely recognition and transfer of patients requiring surgical intervention
  - management of common labour and delivery complications
  - seizure control in eclampsia
  - competent and independent management of precipitate delivery

- competent initial management of post-partum complications
- abdominal and urologic emergencies – acute renal failure, foreign body ingestion, abdominal trauma, acute urinary retention, renal or ureteric calculi, oesophageal varices, paraphimosis, acute ano-rectal conditions:
  - initial management of acute renal failure
  - removal of accessible GI foreign bodies
  - urethral and suprapubic catheterisation
  - control of oesophageal varices
  - reduction of paraphimosis with on-site or distant guidance
- metabolic and endocrine emergencies – hypoglycaemia, diabetic ketoacidosis (DKA), hyperosmolar non-ketotic states, hypokalaemia, hyperkalaemia, hypocalcaemia, hypercalcaemia, hyponatraemia and Addisonian crisis:
  - competent and independent insulin infusion
  - competent and independent intravenous electrolyte management
  - competent and independent IV fluids for endocrine emergencies
- acute infections – Undifferentiated sepsis, septicaemia, urosepsis, neutropenic sepsis, meningitis, febrile convulsion, septic shock, exotic infectious diseases, nosocomial infections, needle stick injury and other body fluid exposure and infections in immunocompromised patients:
  - chemotherapeutics for undifferentiated sepsis
  - management of needle stick injury and other body fluid exposure
  - implementation of infection control procedures, isolation techniques, public health reporting procedures and management of contact persons
  - management of acute infections in immunocompromised patients
  - outline the common sources of sepsis
  - management of the processes and systems involved in obtaining microbiological specimens
  - discuss the role of surgery in the management of sepsis
- toxicologic and toxinological emergencies – drug/alcohol overdose, accidental and deliberate toxic ingestion, terrestrial and marine envenomation, polypharmacy overdose, delayed presentations, dermal absorption of toxins, radiation exposure, deliberate chemical biological or radiological (CBR) incidents:
  - antivenom and antidote administration
  - GI decontamination and/or elimination
  - use of venom detection kit (VDK)
  - use of whole blood clotting time (WBCT) test
  - decontamination and hazard protection procedures for deliberate CBR incidents – for patients, staff members and in an emergency department
- environmental emergencies – hypothermia, hyperthermia, barotrauma, near drowning, electrical injury, smoke/gas inhalation, dehydration, third space losses and high altitude syndromes:
  - re-warming techniques, including intra-venous fluid warming
  - cooling techniques
  - temperature monitoring
  - recognition and initial management of high altitude and diving injuries, including hyperbaric medicine

- ocular emergencies – chemical and thermal trauma, blunt and penetrating trauma, hyphaemia, blowout fracture, UV trauma, snow blindness, acute vision loss, acute chalazion, glaucoma, viral and bacterial infections, foreign bodies and peri-ocular lacerations:
  - assessment/removal of difficult foreign bodies
  - repair of peri-ocular lacerations
  - irrigation techniques for chemical injury
  - slit lamp examination and intra-ocular pressure measurement
- dental and E.N.T. and maxillo-facial emergencies – dental trauma, acute infection, maxillofacial trauma, anterior and posterior epistaxis, aural and nasal foreign bodies and quinsy:
  - tooth preservation and re-insertion techniques
  - infection prevention and management
  - competent and independent management of anterior and posterior epistaxis
  - assessment of complicated foreign bodies and removal where appropriate
  - indirect laryngoscopy
  - difficult airway management
- psychiatric emergencies – acute psychosis, acute delirium, acute presentations of personality disorder, suicide threat or attempt, violent self-harm and severe drug or alcohol intoxication:
  - risk assessment, engagement and acute counselling skills
  - administration of rapid-acting antipsychotics, sedatives and other medication where appropriate
  - competent and appropriate administration of chemical restraint
  - competent and appropriate use of physical restraint where required
  - use of relevant legislation for compulsory admission
  - comprehensive understanding and application of duty of care requirements

#### **4.3.5 Paediatric and neonatal emergencies**

The candidate will demonstrate high-level competence in managing childhood and neonatal emergencies:

- paediatric and neonatal advanced life support
- paediatric calculations – appropriate dosages and equipment size
- competent estimation and administration of fluid requirements for resuscitation and ongoing maintenance
- lumbar puncture, bladder tap and phlebotomy in children
- administration of paediatric procedural sedation with distant guidance
- paediatric pain management techniques
- competent and independent airway management in children and neonates, including:
  - foreign body removal
  - management of stridor, croup and epiglottitis
  - paediatric intubation
- management of SIDS
- high-level intra-venous access techniques – intra-osseous infusion and neonatal umbilical catheterisation
- independent management of acute infections in children, including neonatal infections, sepsis and meningitis

- competent seizure management, including diagnosis of the underlying cause(s)
- management of diabetic ketoacidosis (DKA) in children
- warming techniques in children and neonates
- management of dehydration and third space losses
- recognition of serious gastro-intestinal conditions, including pyloric stenosis and intussusception
- wound management in children
- recognition of uncommon but serious neonatal conditions including prematurity, sepsis, respiratory failure and congenital abnormalities
- care for psychological needs of children and carers in emergency situations.

#### **4.3.6 Treatment complications or failure**

The candidate will discuss the potential complications (including possible treatment failure) of the emergency procedures and definitive therapies listed above, describe the signs and symptoms of these complications and outline appropriate rescue plans:

- post-procedural complications – thromboembolism, vascular insufficiency, infection, wound breakdown, perforation/obstruction, mechanical failure, pneumothorax, spinal headache, renal failure
- complications of therapeutics – allergy/anaphylaxis, toxicity, drug interactions, GI bleeding, dystonic reactions, neuroleptic malignant syndrome, transfusion reactions, over-hydration, over-anticoagulation, under-anticoagulation, metabolic and electrolyte disturbances
- complications of dialysis.

#### **4.3.7 Emergency retrieval and transport**

The candidate will demonstrate advanced knowledge and skills in coordination of emergency retrieval and transportation, including:

- pre-hospital response and management
- principles of aeromedical transport
- ‘packaging’ for safe transport
- monitoring during transport
- managing emergencies during transport
- transportation of the acutely psychotic patient
- thorough knowledge of lines of communication with retrieval services and receiving institutions
- high-level ability to communicate by distance methods with retrieval staff and consulting emergency medicine specialists, including both providing and receiving treatment advice.

## **4.4 Domain 4. Population health**

### **4.4.1 Community health issues**

The candidate will demonstrate the ability to assess trends in emergency presentations and identify underlying community health issues, for example:

- substance abuse
- infectious diseases
- traumatic injuries.

#### **4.4.2 Injury prevention**

The candidate will discuss the principles of injury prevention and demonstrate the ability to implement an injury prevention program.

#### **4.4.3 Infectious disease control**

The candidate will outline epidemiologic characteristics and discuss prevention and control measures for infectious disease outbreaks, including:

- common infectious illnesses in Australia, South-East Asia
- common infections among travellers and immigrants to Australia
- tropical and exotic infections
- sexually transmitted infections
- immunisation and post-exposure prophylaxis
- community epidemics
- nosocomial outbreaks.

#### **4.4.4 Disaster management principles**

The candidate will discuss the principles for disaster prevention, preparedness, response and recovery in rural and remote communities.

### **4.5 Domain 5. Aboriginal and Torres Strait Islander Health**

#### **4.5.1 Barriers to health care services**

The candidate will discuss the barriers to health care and services for Indigenous people in the community, such as:

- access to services
- alienation by culturally inappropriate or even hostile health services
- overt or structural racial discrimination
- health impact of dispossession.

#### **4.5.2 Patterns of acute illness and injury**

The candidate will discuss the patterns of acute illness and injury in indigenous populations, including:

- nutritional patterns and associated metabolic illness
- alcohol and substance use/misuse
- acute gastro-intestinal illness
- renal failure
- traumatic injury patterns
- domestic violence
- sexually transmitted infections.

#### **4.5.3 Health attitudes, beliefs and customs**

The candidate will be aware of local Indigenous attitudes, beliefs and customs relating to acute illness, injury and death, medical treatment, transportation and separation from the family and local community.

#### **4.5.4 Cross-cultural communication skills**

The candidate will demonstrate the ability to communicate with Indigenous community members in a culturally appropriate and medically effective manner during an emergency situation.

### **4.6 Domain 6. Professional, legal and ethical practice**

#### **4.6.1 Legal and ethical practice**

The candidate will demonstrate the ability to establish and maintain appropriate procedures and protocols and provide appropriate staff training to ensure adherence to the legislative and ethical requirements governing the medical profession, including:

- AMA Code of Conduct for Medical Practitioners
- good understanding of the Pharmaceutical Benefits Scheme
- patient confidentiality
- consent in emergency situations
- notification of births and certification of deaths
- advanced directives and limits of resuscitation
- role of the Coroner and coronial reporting/investigations
- mandatory reporting of violent and suspected abuse/injury
- refusal of treatment against medical advice
- role of the Guardianship Board and duty of care.

#### **4.6.2 Team care**

The candidate will demonstrate awareness and sensitivity to the personal, social, emotional and psychological impact of emergency situations on emergency medical personnel, including:

- staff/CI debriefing
- recognition and support of stressed and distressed colleagues.

#### **4.6.3 Self care**

The candidate will recognise the need to establish a peer support network and to utilise this network to debrief in times of personal or professional stress and especially following emergency situations.

#### **4.6.4 Professional education**

The candidate will discuss appropriate strategies and techniques for teaching emergency management skills to students, junior doctors and other medical staff in the emergency department, including:

- bedside teaching and “teaching on the run”
- small group teaching
- assessment and feedback to junior staff.

#### **4.6.5 Emergency department management**

The candidate will demonstrate the ability to manage an emergency department, including:

- trauma / priority team organisation
- multi casualty preparedness/response
- co-ordination with police and other agencies

- risk management / critical decision making / dealing with uncertainty
- documentation and electronic record systems
- quality assurance and audit policies and procedures
- storage and handling of blood products
- organ donation and transplantation protocols
- pharmaceutical dispensing
- staff management skills
- inter-professional co-operation skills
- effective communication with other hospital staff across all departments and levels of seniority
- competence in professional electronic communication modalities
- ability to manage complaints relevant to the emergency department, and to appropriately refer other matters to hospital administration
- occupational health and safety measures
- equal employment opportunity principles and practice
- understanding and application of duty of care principles for emergency department staff and patients
- management of behavioural disturbance in the emergency department.

#### **4.6.6 Evidence-based practice**

The candidate will demonstrate the ability to apply an evidence-based approach to generalist emergency medicine practice, including:

- statistical interpretation
- research methodology
- appraisal of the medical literature
- implementation into clinical practice.

#### **4.6.7 Systems-based practice**

The candidate will demonstrate the ability to apply a systems-based approach to care in a rural or regional hospital setting, including:

- use of clinical decision support resources

### **4.7 Domain 7. Rural and remote context**

#### **4.7.1 Emergency care in non-hospital settings**

The candidate will demonstrate understanding of initial emergency assessment, stabilisation and time-critical emergency care in non-hospital settings, including:

- under poor weather conditions
- in non-sterile environments
- with improvised equipment and supplies
- without electricity, including electric lighting
- independently – as the sole medically trained person on the scene
- remotely – giving instructions over the telephone or radio.

#### **4.7.2 Hospital-in-the-home patients**

The candidate will demonstrate the ability to manage uncomplicated emergency conditions in a 'hospital-in-the-home' environment.

#### 4.7.3 Nature of rural and remote settings

The candidate will demonstrate a good understanding of the characteristics of rural and remote settings and the impact of rural and remote context on emergency medicine practice, including:

- types of emergencies likely to be encountered
- impact of rural and remote attitudes, which may cause delays in presentation for medical treatment until a chronic or minor problem has become an emergency.
- distance
- limited resource availability.

## 5. Teaching and Learning Approaches

The emphasis for Generalist Emergency Medicine training will be on acquiring relevant clinical experience and skills to competently practice emergency medicine. Teaching approaches will include, but are not limited to:

- *Clinical experience based learning* – the majority of teaching and learning should take a case based experiential format. This is the most valuable approach to learning specific clinical skills.
- *Small group tutorials* – these may be face-to-face, via videoconference or using online tele-tutorial technology
- *Simulation laboratory sessions* – these may be needed for those situations that are encountered infrequently in the clinical setting, or those requiring rehearsal of team and inter-professional co-operation.
- *Face to face education meetings* – these may be linked with the RVTS, undertaken by teleconference or video conference, and opportunistically through relevant conferences
- *Distance learning modes* – these are available via the internet, using *Rural and Remote Medical Education Online* (RRMEO) and other sources.

## 6. Supervision and Support

Candidates undertaking Generalist Emergency Medicine training will require specific medical, cultural, professional and personal support and supervision arrangements. This will include at least:

1. *Supervisor* – A local accredited clinical supervisor who works in the same organisation as the candidate and can assist with the clinical aspects of their practice. Candidates are required to establish and maintain a learning plan with their supervisor, which will be jointly reviewed on a regular basis.
2. *Mentor* – A mentor(s), who may be an external person(s) who currently works, or has previously worked, in a similar situation as the candidate. This role could be undertaken by several different people and could include: pastoral care, opportunities to debrief, or act as a sounding board about cultural or personal issues, and the provision of a two-way supportive and listening role.

## 7. Assessment

The assessment of Generalist Emergency Medicine candidates includes:

Formative tasks:

- *Formative GEM supervisor feedback reports* – at 6 months

Summative tasks:

- *Summative GEM supervisor feedback reports* – at 12 months
- *GEM STAMPS* – Structured Assessment using Multiple Patient Scenarios
- *GEM procedural skills logbook*

### 7.1 GEM supervisor feedback reports

The GEM candidate's supervisor will complete feedback reports half way through the training term (i.e. 6 months for a full-time candidate) and again at the completion of the training term (i.e. 12 months for a full-time candidate). The first feedback report will be completed as a formative activity to guide further registrar learning and development. The second feedback report will be a summative exercise used to determine the candidate's competence.

These reports are a collation of the feedback from staff that have supervised or worked alongside the registrar during the period of training. Feedback will be obtained from at least two consultants or colleagues, including the registrar's supervisor. It is the responsibility of the supervisor to obtain this information and send to the College.

### 7.2 GEM StAMPS

The generalist emergency medicine Structured Assessment using Multiple Patient Scenarios (StAMPS) is an OSCE / VIVA-type examination consisting of eight emergency medicine scenarios, each of 10 minutes duration. StAMPS examinations may be delivered via videoconference, or face to face. Registrars remain in one place (at their videoconference facility or room) and the examiners rotate between the registrars. By the end of the examination, registrars have been examined by eight different examiners.

The examiners observe and rate each candidate across six competencies:

1. communication and interpersonal skills
2. diagnostic reasoning skills
3. flexibility in response to new information
4. management of complex problems in the rural and remote context
5. developing an appropriate management plan that incorporates relevant contextual factors
6. overall clinical competence.

### 7.3 GEM procedural skills logbook

Completion of the generalist emergency medicine procedural skills logbook is a summative task required for the candidate to pass their Generalist Emergency Medicine training. The registrar must demonstrate the appropriate number of each of the procedures detailed in the Generalist emergency medicine procedural skills logbook. Each procedure must be performed to the designated level of competence

and must be certified by an appropriate witness – generally a supervisor or senior clinician. The procedure must be signed off by the witness or sufficient information recorded about the location and the witness to allow ACRRM to verify that the procedure was certified. The completed logbook must be submitted to ACRRM.

## 8. Essential Resources

- Access to Rural and Remote Medical Education On Line (RRMEO)  
<http://www.rrmeo.org.au>
- Cameron, P et al. *Textbook of Adult Emergency Medicine*. Edinburgh: Churchill Livingstone.
- Cameron, R et al. *Textbook of Paediatric Emergency Medicine*. Edinburgh: Churchill Livingstone.
- Tintinalli, J et al. *Emergency Medicine: a comprehensive study guide*. New York: McGraw-Hill.
- Bersten A, Soni N, Oh T. *Oh's Intensive Care Manual*. Edinburgh: Butterworth-Heinemann.
- McRae R, Esser M. *Practical fracture treatment*. Edinburgh: Churchill Livingstone.
- Murray L et al. *Toxicology Handbook*. Sydney: Elsevier
- Shand, F. *Drug doses*. Parkville Vic: Collective.
- Australian Medicines Handbook Drug Choice Companion Emergency Care. Adelaide: Australian Medicines Handbook Pty Ltd.

## 9. Evaluation

The Generalist Emergency Medicine training program will be evaluated on an ongoing basis using both qualitative and quantitative methods. In the first 2 years candidate feedback will be critical to ensure the curriculum adequately meets the expectations of the candidate and his/her supervision needs. Therefore regular feedback regarding the curriculum and the post will be undertaken at the 6-month point and at the end of the term. All stakeholders involved in the process will also be asked to provide feedback on the post regarding the content, feasibility, rigor and outcomes in preparing doctors to take on these roles. Stakeholders will include candidates, supervisors, employers, medical educators from the regional training provider, and others who may have been involved such as Rural Workforce Agencies, RVTS, NACCHO, Universities and health service providers. The information gathered will be collated by ACRRM and will feed into a 3-5 yearly review of the curriculum and regular review of the post.

The assessment process will also be evaluated. This will involve anonymous questionnaire surveys incorporating both quantitative and qualitative data from all participants, i.e. candidates, examiners, invigilators and question writers.

# Generalist Emergency Medicine

## Curriculum



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