

# SAUDI POSTGRADUATE DIPLOMA IN EMERGENCY MEDICINE



الهيئة السعودية للتخصصات الصحية  
Saudi Commission for Health Specialties

## PROGRAM CURRICULUM





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## PROGRAM CURRICULUM

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# 1. General Information

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The Saudi Commission for Health Specialties (SCFHS) has identified an opportunity to develop post-graduate diplomas that will facilitate an alternative health career path for doctors not engaged in formal specialist training – the Saudi Postgraduate Diploma (SPD). The goal of these diplomas is to fulfill a need for young Saudi doctors to upgrade their level of expertise in a particular specialty to that of Registrar. Graduates of the SPD will be entitled to a Registrar post after they successfully complete both the diploma and two years of experience in the specialty area.

The vision is that these diplomas will leverage advances in technology to deliver standardized, blended learning programs that will enable trainees to achieve the requisite expertise while maintaining their current clinical workload.

The diplomas are two years in duration and will include a well-defined curriculum with clear learning outcomes, expected clinical and knowledge-based competencies, as well as a number of elearning modules that must be completed. They will be aimed at general practitioners (GPs) employed in various hospitals in the Kingdom and continued employment within a hospital facility for the duration of the diploma is required. Each GP/trainee will be supervised and guided through the diploma, which will include a blend of self-directed learning as well as supervised learning and evaluation.

At the end of the diploma trainees will sit a formal examination administered by the SCFHS. In addition, there are a number of supervised competency-based evaluations required throughout the two years. Upon successful completion of the diploma the trainee will be awarded the SPD in Emergency Medicine.

This program has been developed in partnership with the SCFHS, healthcare professionals and educators with expertise in Emergency Medicine.

The following team, which includes the SCFHS Scientific Committee, contributed to the development of the curriculum:

- **Dr Gareth Quin – Consultant in Emergency Medicine**
- **Dr. Mohammad Aslultan – ER Consultant**
- **Dr. Abdurahman Alqahtani - ER Consultant**
- **Dr. Abdulrahman Aldabib - ER Consultant**

Note that this Curriculum Document does not specify general course/program management and delivery policies and procedures as it is assumed they will be adapted from the SCFHS guidelines or the Academic Healthcare Facility. These include policies such as Admissions, Trainee Registration, Deferrals, Plagiarism, Late/Missing Submissions, Exam-boards, Releasing Results, Issuing of Awards etc.

## 2. Introduction

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*Emergency Medicine is a field of practice based on the knowledge and skills required for the prevention, diagnosis and management of acute and urgent aspects of illness and injury affecting patients of all age groups with a full spectrum of undifferentiated physical and behavioural disorders. (International Federation for Emergency Medicine 1991).*

The aim of this curriculum is to identify the competencies considered essential for a non-specialist doctor working in Emergency Medicine settings within the Kingdom.

The Emergency Medicine diploma will provide participants with a broad range of knowledge, skills and behaviours to meet the demands of basic emergency medicine practice in contemporary health care facilities. Graduates will be eligible for employment at the Registrar level.

The Emergency Medicine Diploma requires participants to undergo a total of 24 months supervised training in an SCFHS approved emergency training facility, including two 4-week rotations in ICU and one 4-week rotation in CCU.

### 2.1 Scope of Practice

Graduates of the SPD in Emergency Medicine will be eligible to work at Registrar level in EM. It is anticipated that trainees will have direct access to EM consultants during the two years, however after graduating they may work independently in a secondary hospital - with remote access to specialist consultants as needed.

Registrars are not fully trained specialists and are not expected to work completely independently. While, on a day to day basis, much of their practice may not be directly supervised, they work under the overall supervision of a specialist.

The competent registrar is expected to:

- Carry out the initial assessment of any patient presenting to the ED, including history taking, examination and investigation
- Commence initial management
- Know when to seek a more senior opinion
- Formulate an appropriate diagnosis or differential diagnosis
- Generate and implement an appropriate plan for treatment and patient disposition
- Safely carry out core Emergency Medicine procedures
- Provide supervision and guidance to more junior doctors
- Function in the multidisciplinary Emergency Medicine team
- Maintain overall Emergency Department and patient safety at times when there may not be an EM specialist on-site.

## 2.2 Target Audience

General practitioners and other physicians who have at least one year's experience working in an Emergency Department in Saudi Arabia.

The diploma will be run in four or five facilities initially, with approximately four to five trainees in each.

## 3. Rationale for the Course

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The SCFHS is introducing a new career path for medical graduates that will deliver doctors with the knowledge, skills and attitudes to work at Registrar level. The rationale for this new development is that there is a need to address the professional development needs of doctors that are staffing Emergency Departments, but who are not pursuing formal specialist training. This course provides the academic structure that, when combined with a defined period of clinical experience, will bring doctors along the new career path.

## 4. Aims and Objectives

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The principal objectives of the diploma are to:

- Take trainees through the Emergency Medicine curriculum in a systematic and structured fashion so that graduates will have an approach to managing critical emergencies and common/core emergencies
- Deliver the competencies that will allow graduates to practice effectively at Registrar level in Emergency Medicine
- Ensure trainee competence in key Emergency Medicine procedural skills
- Use a blended learning approach to complement work place Emergency Medicine experience
- Foster an appreciation of self-directed learning that will carry over into graduates' continuing professional development.

### 4.1 Competencies of Emergency Practitioners

The SPD in Emergency Medicine should produce Acute Care physicians with the following basic competencies:

#### 1. Medical Expert

As Medical Experts, Emergency Practitioners integrate all of the CanMEDS roles, applying medical knowledge, clinical skills and professional attitudes in their provision of patient-centred care. Medical Expert is the central physician role in the CanMEDS framework.

2. **Communicator**  
As Communicators, Emergency Practitioners effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during and after the medical encounter.
3. **Collaborator**  
As Collaborators, Emergency Practitioners effectively work within a health care team to achieve optimal patient care.
4. **Manager**  
As Managers, Emergency Practitioners are integral participants in health care organisations, organising sustainable practices, making decisions about allocating resources, and contributing the effectiveness of the health care system.
5. **Health Advocate**  
As Health Advocates, Emergency Practitioners responsibly use their expertise and influence to advance the health and well-being of individual patients, communities and populations.
6. **Scholar**  
As Scholars, Emergency Practitioners demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.
7. **Professional**  
As Professionals, Emergency Practitioners are committed to the health and well-being of individuals and society through ethical practice, professional-led regulation and high personal standards of behaviour.

In addition to the CanMEDS, graduates of this diploma should also be able to:

1. Provide the recognition, resuscitation, stabilization, evaluation and care of the full range of patients who present acutely to the emergency room.
2. Apply critical thinking to determine the priorities for evaluation and treatment of multiple patients with different complaints and needs.
3. Manage resource utilization effectively.

## 5. Entry Criteria

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The following entry criteria are required to successfully enrol in this diploma:

- A Medical Degree, e.g., MBBS, MD
- A valid Saudi Commission License
- One-year experience in Emergency Medicine
- Approval from employer and compliance with entry criteria, including settlement of tuition fees
- Access to certain facilities and consultant related specialties



Following acceptance onto the diploma trainees will be expected to complete the following courses prior to commencing the diploma:

- Ethics
- Communication Skills
- Patient Safety
- Infection Control

## 6. Program Structure

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The Saudi Postgraduate in Diploma Emergency Medicine is delivered over a two-year period during which time trainees will be working in Emergency Medicine, with a four-week attachment to the Coronary Care Unit and an eight-week attachment in Intensive Care Medicine.

The diploma comprises a number of modules which are outlined below. Each module has a set of learning outcomes and topics to be covered. Some modules also have linked practical procedures and data interpretation skills. Each module is described in detail in Section 12.

Given its scope, the 'Resuscitation and Critical Care' module is completed across the two years of the diploma, although many of the related competencies are optimally addressed during the ICU attachment. Similarly, the 'Cardiovascular Emergencies' module is best timed during the CCU attachment.

The remaining modules are mapped to a particular time in the two year calendar. This serves to provide structure to trainees as they address each module, although it is acknowledged that maintaining a strict timeframe for the modules is not always possible.

In addition to the breadth of learning that working under supervision in a busy Emergency Department brings, a variety of specific learning methods are used in each module. These include e-learning modules which will direct trainees to key topics related to the particular module and discovery based games where trainees 'learn by doing'. Learning will also be driven by the trainee completing a specified number of workplace assessments for each module. These assessments include Directly Observed Procedural Skills (DOPS), Mini Clinical Evaluation Exercises (Mini CEX) and Structured Case reports with a reflective element.

To complement work place learning, the diploma provides a number of taught hands-on classes relating to airway management, practical procedures and emergency ultrasound. Trainees are also required to be certified in a number of internationally recognized life support courses.

As trainees work their way through each module, the online learning platform will allow them to keep track of their progress and view any outstanding modular requirements.

A module is deemed complete when all requirements have been satisfactorily submitted on the learning management platform and ratified by a supervisor.

The diploma is awarded when all modules have been satisfactorily completed and the trainee has passed their final examination.

The Saudi Postgraduate Diploma in Emergency Medicine consists of the following modules:

1. Introduction to Emergency Medicine (1 week)
2. Resuscitation and Critical Care (covered over the 2 years)
3. Cardinal presentations (8 weeks)
4. Respiratory emergencies (4 weeks)
5. Cardiovascular system (4 weeks)
6. Gastrointestinal emergencies (4 weeks)
7. Neurology (4 weeks)
8. Metabolic & endocrine emergencies (4 weeks)
9. Toxicology (4 weeks)
10. Nephrology & Urology (4 weeks)
11. Obstetrics & Gynaecology (4 weeks)
12. Infectious Diseases (4 weeks)
13. Haematology & Oncology (3 weeks)
14. Orthopaedics (6 weeks)
15. Trauma by System (8 weeks)
16. Paediatrics (11 weeks)
17. Special senses (4 weeks)
18. Psychiatry emergencies (2 weeks)
19. Environmental emergencies (3 weeks)
20. Rotation in ICU (8 weeks)
21. Rotation in CCU (4 weeks)

## 6.1 Indicative Allocation of Hours Per Module

Most modules have been scheduled for four weeks, with a few exceptions as shown above.

Trainees will be expected to undertake independent study in each of the areas listed, in parallel to their workplace learning. Each trainee will be assigned a supervisor, who will help guide and support them, monitoring their movement through the modules as well as their completion of the various evaluation activities. On the whole, progress through the modules will be driven by the trainees themselves.

In addition to their normal working hours, trainees will be expected to spend a minimum of four hours per week on self-directed learning resources (elearning modules, reading & research), 1-2 hours a week on case reports or preparing for other practical evaluations and 1-2 hours every two weeks attending a tutorial/small group session with their supervisor.

The work per module is broken down as follows:

Module	Teaching and Learning Approach										Assessment		
	Workplace Experience	eLearning & Reading	Game Scenario	Case Report w/ Reflection	Discussion Forum	Crash Course	Simulation Sessions	DOPS	Mini-CEX	Log Self-Study & Research			
Introduction – EM approach	✓	✓	-	-	✓	AM, PP, ACLS, ATLS, PALS	-	-	-	-			
Resuscitation and critical care	✓	✓	-	-	✓	-	✓	4	4	✓			
Cardinal presentations	✓	✓	✓ x 10	-	✓	PP	-	-	14	✓			
Respiratory emergencies	✓	✓	-	3	✓	ACLS	-	2	-	✓			
Cardiovascular emergencies	✓	✓	-	3	✓	-	-	-	-	✓			
Gastrointestinal emergencies	✓	✓	-	3	✓	PP	-	-	-	✓			
Neurology	✓	✓	-	3	✓	-	-	-	-	✓			
Endocrine & Metabolic emergencies	✓	✓	-	3	✓	-	-	-	-	✓			
Toxicology	✓	✓	-	3	✓	-	-	-	-	✓			
Nephrology & Urology	✓	✓	-	3	✓	-	-	-	-	✓			
Gynaecology and Obstetrics	✓	✓	-	3	✓	-	-	-	-	✓			
Infectious disease	✓	✓	-	3	✓	-	-	2	-	✓			
Haematology & Oncology	✓	✓	-	3	✓	-	-	-	-	✓			
Orthopaedics	✓	✓	-	3	✓	PP	-	8	-	✓			
Trauma by system	✓	✓	-	3	✓	ATLS	-	-	-	✓			
Paediatrics, incl. Paediatric Trauma	✓	✓	-	6	✓	NRP	-	-	-	✓			
Special Senses	✓	✓	-	3	✓	-	-	7	-	✓			
Psychiatry	✓	✓	-	3	✓	-	-	-	-	✓			
Environmental emergencies	✓	✓	-	-	✓	-	-	-	-	✓			



## 7. Teaching and Learning Strategy

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The teaching and learning strategies identified for this diploma take into account that trainees will be adult learners with different learning styles. They will also be working full-time in an Emergency Department and progress through the modules will be largely self-directed.

Instructional material will summarize key required knowledge of each topic and will reference additional sources of information for further reading by trainees (such as guidelines, standards, videos). A range of methodologies are employed in the delivery of this diploma.

Trainees will also be required to obtain direct observational and clinical feedback through the use of standard evaluations such as the DOPs and Mini-CEX evaluation forms/rubrics. These forms/rubrics will be available on the online learning platform.

Examples of teaching and learning modalities included in this diploma are:

- Self-directed independent work, including elearning modules, interactive discovery-based games and assigned reading
- Hands on practical skills training days (crash courses)
- Simulation training days (1 per year)
- Work-based skills demonstrations/instruction tied to specific competencies (on the job training)
- Access to consultants in Emergency Medicine
- Direct contact with supervisor via fortnightly tutorials and/or small group discussions
- Supervised practice & evaluation throughout the diploma
- Discussion Forums - opportunity to interact with other trainees on the same diploma in the same or other hospitals. Discussion Forums will be moderated by supervisors.

### 7.1 Theoretical eLearning Content

eLearning and/or reference content will be provided for some modules, directing trainees to key topics. Theoretical content will also be provided through discovery-based games, where the focus is for the trainee to learn and access content based on making decisions and judgements around particular scenarios.

Trainees will be expected to study the provided content and undertake the discovery-based games themselves, in a self-directed manner.

### 7.2 Tutorials & Group Discussions

Supervisor-led sessions will be held every two weeks to discuss the topics being covered, address trainee questions and share trainee and supervisor experiences/examples. Ideally the group of trainees undertaking the course will be convened in each facility.

### 7.3 Supervised Practice

Trainees will be assigned a supervisor to observe, evaluate and provide feedback on their clinical skills and procedures, as well as conduct periodic case-based discussions. Successful supervised practice sessions must be recorded and verified.

### 7.4 Hands-on Practical Skills Courses

The following practical skills courses will be scheduled for trainees over the two years:

1. Airway management (AM) – 1 day
2. Practical procedures (PP) – 1 day
  - a. Fracture and dislocation reduction and splinting
  - b. Vascular access
  - c. Wound care
  - d. Chest tube insertion
  - e. Lumbar puncture
3. Level 1 ultrasound (US) – 1 day

In addition to the above courses, trainees will be required to have recent certification (completed no more than two years prior to diploma completion) in the following life support courses:

1. Advanced Cardiac Life Support (ACLS)
2. Advanced Trauma Life Support (ATLS)
3. Paediatric Advanced Life Support (PALS)
4. Neonatal Resuscitation Program (NRP)

### 7.5 Simulations

Initially, one simulation day per year will be provided focusing on the initial assessment and resuscitation of the seriously ill or injured patient. Simulations will focus on clinical assessment and management as well as team management and communication.

## 8. Assessment Strategy

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The assessment strategy will include both continuous and summative assessment. Each module and its associated competencies will be assessed during the diploma, followed by a formal exam, administered by the SCFHS, at the end of the two years.

### 8.1 Continuous Assessment & Evaluation

Continuous Assessment & Evaluation will measure both knowledge attainment and achievement of clinical competency through a variety of different methods

Tool	What is assessed	Methodology	Requirement
Mini-CEX	History taking, patient examination, diagnosis and management.	Short clinical encounters observed by a supervisor.  Supervisors must complete the online evaluation form for each observed encounter.	1 Mini-CEX for each of the 14 described Cardinal Presentations.  1 Mini-CEX for each of the 4 resuscitation scenarios: Seriously ill adult, seriously ill child, seriously injured patient, cardio-respiratory arrest.
Directly Observed Procedural Skills (DOPS)	Ability to safely and appropriately carry out specific procedures.	DOPS evaluation form to be completed online by a supervisor for each procedure observed.	For each procedure outlined in the schedule, one DOPS indicating satisfactory performance of the skill must be submitted.  The minimum list of procedures requiring a DOPS is called out below.
Structured case report	Clinical approach across a wide variety of conditions, with an emphasis on learning points	A structured written report of no more than 1200 words about a particular clinical case which includes trainee reflection on particular learning points or lessons from the case followed by one to one discussion with the supervisor.	Requirements vary across the modules, but typically three case reports per module.
End of Module Quiz	Knowledge of topic area	Online quiz administered at the end of elearning modules (or group of modules)	Must achieve a minimum of 80% to pass.

Note: the ePortfolio has not been listed as a separate item above as it represents the collection of all activities completed via the online learning platform.

These assessment methods are linked to the curriculum and are based on the assumption that each trainee is working in an Emergency Department while he/she is undertaking this diploma. These types of assessment generally require trainees to apply what they have learned in the specific context of the unit in which they are working.

The performance of the trainee is assessed by a designated clinical supervisor. The supervisor must certify/sign off all practical trainee activities by completing the appropriate evaluation and providing feedback to the trainee on the online learning platform. The trainee should also receive verbal feedback on their performance throughout the diploma.

Performance assessment provides valuable insight into trainee learning and provides trainees with comprehensive information on improving their skills and the opportunity for trainee's self-assessment and motivation is increased. Performance assessment can be directly linked to both program and module learning outcomes.

### 8.1.1 Summary of Directly Observed Procedural Skills (DOPS) Evaluations Required

The following table summarises the list of procedures that require a DOPS evaluation during the two years.

Module	Directly Observed Procedural Skills (DOPS)
Resuscitation and Critical Care	Rapid sequence intubation Central venous cannulation Procedural sedation – adult Procedural sedation - child
Respiratory	Insertion of chest drain – open technique Arterial blood gas sampling
Infectious diseases	Incision and drainage – paronychia Incision and drainage – skin abscess
Othopaedics	Digital nerve block Reduction of dislocation – shoulder Reduction of fracture/dislocation – ankle Reduction of fracture – Colles' fracture Wound management – suture of wound Knee aspiration Examination of large joint – shoulder Examination of large joint – knee
Special senses	Removal of foreign body – nose Removal of foreign body – ear Management of auricular haematoma Anterior nasal packing/tamponade Management of septal haematoma Removal of corneal foreign body Eye irrigation and decontamination



### 8.1.2 Summary of Workplace Assessments Required

The following table summarises the various evaluations required during the two years. Evidence of these evaluations must be recorded on the online learning platform.

Module	Mini-CEX	DOPS	Case report
Resuscitation and Critical Care	4	4	0
Cardinal presentations	14	0	0
Respiratory	0	2	3
Cardiovascular	0	0	3
Gastrointestinal	0	0	3
Neurology	0	0	3
Endocrine & Metabolic	0	0	3
Poisoning	0	0	3
Nephology & Urology	0	0	3
Gynaecology & obstetrics	0	0	3
Infectious diseases	0	2	3
Haematology & oncology	0	0	3
Orthopaedics	0	8	3
Trauma by system	0	0	3
Paediatrics	0	0	6
Special senses	0	7	3
Psychiatry	0	0	3
Environmental	0	0	0
<b>Total</b>	<b>18</b>	<b>23</b>	<b>48</b>

## 8.2 Periodic Evaluation with Supervisor

Supervisors are required to complete a Summary Evaluation Report for their trainees on a regular basis. This report should include the below and should be discussed in person with the trainee.

- Review of Mini-CEX, DOPS & Cases completed during the period
- Review of elearning modules completed
- Review of feedback provided and attainment of 'learning/skills mastery'
- Highlighting areas of concern or areas of priority for the trainee in the next period

Tool	What is assessed	Methodology	Requirement
Summary Report	Overall competence in the clinical setting as well a review of the required program activities.	Report to be completed online by supervisor.	To be completed by a supervisor every month for first six months and every 3 months thereafter.

### 8.3 Summative Assessment

The SCFHS will administer an unseen examination at the end of the two years, which will consist of a written exam in the form of MCQs and also a number of OSCEs to demonstrate clinical expertise.

Tool	What is assessed	Methodology
MCQ Examination	Knowledge of key topic areas.	Formal supervised written exam administered by the SCFHS (100 – 150 questions).
OSCE	Clinical skill performance and competence.	Will consist of a Practical Objective Structured Clinical Examination (OSCE) of 5-15 minutes each, in the form of 5 – 8 Stations.

#### OSCE Examination

An OSCE usually comprises a circuit of short (the usual is 5–15 minutes) stations, in which each trainee is examined on a one-to-one basis with one or two impartial examiner(s) and either real or simulated patients. Each station has a different examiner. Trainees rotate through the stations, completing all the stations on their circuit. In this way, all trainees take the same stations.

An OSCE is designed to be *objective* – all trainees are assessed using exactly the same stations with the same marking scheme. The OSCE is carefully structured to include parts from all elements of the curriculum as well as a wide range of skills.

It is designed to apply clinical and theoretical knowledge. Where theoretical knowledge is required, for example answering questions from the examiner at the end of the station, the questions are standardized and the candidate is only asked questions that are on the mark sheet.

### 8.4 Grading Scheme

Although all assessment activity is not part of the final grade, these activities are still mandatory and must be completed in order to successfully complete the program.

Assessment Activity	Requirement	% of Final Grade
Mini-CEX	Mandatory. 1 Mini-CEX for each of the 14 described Cardinal Presentations. 1 Mini-CEX for each of the 4 resuscitation scenarios: Seriously ill adult, seriously ill child, seriously injured patient, cardio-respiratory arrest.	N/A
Direct Observation of Procedural Skills (DOPS)	Mandatory. For each procedure outlined in the schedule, one DOPS indicating satisfactory performance of the skill must be submitted.	N/A
Case-based Discussion	Mandatory. Requirements vary across the modules, but typically three case reports per module.	N/A
End of Module Quiz	Mandatory. Must pass (80%) every one of the elearning modules in the program.	N/A
Periodic Evaluation by Supervisor	Mandatory. To be completed by a supervisor every month for first six months and every 3 months thereafter.	N/A
Final Exam	Pass/Fail scenario – passing grade 60%	60%
OSCE	Pass/Fail scenario – passing grade determined for each OSCE based on minimal performance level (MPL)	MPL

Trainees must pass each of the elements above independently and no single element can be skipped or failed. The final award will be based on achieving a total minimum grade of 60% (combination of Final Exam and OSCE).

## 8.5 Award

On successful completion of all elements of the diploma, including continuous assessment and summative assessment, trainees will receive the SPD in Emergency Medicine from the SCHFS in recognition of their achievement.

Following successful completion of the program, graduates will be required to :

- register as an affiliate member in the SPD program, one-year post graduation, with the year spent in the same core specialty department.
- trainees will be entitled to the Registrar title when they have completed an additional two-years of experience in an Emergency Department.

## 9. Program Management

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The diploma will have a Program Director who will coordinate with each healthcare facility and Supervisors in which there are trainees.

All day-to-day program management will follow existing SCFHS procedures, policies and guidelines.

## 10. Resources

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**Facilities:** Library, Skills laboratory/Simulation Lab, Lecture room (for Crash Courses)

**Equipment:** Simulator Mannequins.

## 11. Quality Assurance

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Quality assurance is an essential part of best practice. In terms of healthcare delivery an effective program demonstrates a mark of quality and quality assurance. All quality assurance activities prescribed by the SCFHS policies and procedures should be adhered to in the delivery of this diploma.

## 12. Program Modules

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### 12.1 Introduction to Emergency Medicine

#### *Brief Description*

- This module has two principal objectives. The first is to introduce trainees to the Saudi Postgraduate Diploma in Emergency Medicine, orientate them to the relevant structure and content, explain how the course is delivered and what will be required of them during the course of the diploma.
- The second objective is to focus on Emergency Medicine as a specialty and explore the broad high-level themes that underpin its successful practice.

#### *Topics*

- What makes Emergency Medicine different?
- Initial assessment and prioritisation – the Emergency Medicine approach
- Approach to diagnostic decision making
- Approach to admission-discharge decisions

### *Teaching and Learning Approach*

- eLearning
- Discussion forum

### *Assessment Methods*

No assessment.

### *Indicative Self-Directed Resources*

The following two resources will be referenced throughout the diploma:

1. Rosen's Emergency Medicine: Concepts and Clinical Practice
2. Tintinalli's Emergency Medicine: A Comprehensive Study Guide

## 12.2 Resuscitation and critical care

### *Brief Description*

This module relates to the assessment and management of the sickest and most unstable patients presenting to the Emergency Department. Such patients have a variety of underlying diagnoses but the principles of resuscitation are similar from case to case, focusing on the identification and treatment of problems relating to airway, breathing, circulation and disability. On completion of this module, trainees will be familiar with the principles of resuscitation across all presentations and patient ages and the initial steps in the provision of critical care for these patients. They will understand and be able to demonstrate competency in primary and secondary assessment, time critical treatments and other interventions and in the key skills underpinning the initial assessment and management of the seriously ill or injured adult or child.

### *Learning Outcomes*

Following this module, the trainee should be able to:

1. Carry out an initial assessment (primary survey) of any patient presenting to the ED with serious illness or injury
2. Recognise immediate life threats
3. Initiate timely and appropriate resuscitation
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Competently perform key procedures relating to care of the seriously ill or injured patient
7. Decide on appropriate patient disposition, including the need for patient transfer
8. Manage any patient with cardio-respiratory arrest

### *Topics*

Topics included in this module are:

- Initial assessment and management of adults and children with:
  - Acute breathing problem (Airway and Breathing)
  - Acute circulatory problem - shock (Circulation)
  - Altered level of consciousness (including seizure) (Disability)
  - Multi-system trauma including severe burns
  - Cardio-respiratory arrest

- Emergency airway care
- Difficult airway and ventilation
- Ventilatory support
- Procedural sedation – adult
- Procedural sedation – child
- Causes of shock
  - Hypovolaemic
  - Cardiogenic
  - Distributive
  - Obstructive
- Fluid resuscitation and use of blood products
- Haemodynamic monitoring
- Haemodynamic support
- Massive transfusion protocol
- Pain management

### *Specific Skills / Competencies*

- Airway management skills
- Rapid sequence intubation and ventilation
- Failed intubation management
- Central venous cannulation

### *Teaching and Learning Approach*

- Workplace experience
- eLearning
- Practical procedures skills course
- Simulation
- Mini CEX
- Discussion forum

### *Assessment Methods*

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Completion of the requisite Simulation training sessions
- Completion of the requisite Practical procedures skills course
- Completion of one Directly Observed Procedural Skills (DOPS) evaluation form indicating satisfactory competence for each of the following skills/procedures:
  - Rapid sequence intubation
  - Central venous cannulation
  - Procedural sedation – adult
  - Procedural sedation – child

- One Mini CEX for each of the following:
  - Resuscitation of a seriously ill adult patient
  - Resuscitation of a seriously ill child
  - Resuscitation of seriously injured adult or child
  - Management of a patient in cardio-respiratory arrest
- Satisfactory completion of ACLS course a maximum of 2 years prior to completion of the diploma
- Satisfactory completion of ATLS course a maximum of 2 years prior to completion of the diploma
- Satisfactory completion of PALS course a maximum of 2 years prior to completion of the diploma

### *Indicative Self-Directed Resources*

*To be added as each module is developed.*

## 12.3 Cardinal presentations

### *Brief Description*

Despite the almost limitless breadth of possible presentations to the Emergency Department, certain key presentations occur commonly and consistently. These cases may have a variety of underlying diagnoses, but share a common presentation. Mastering an approach to these cardinal presentations is key to effective Emergency Medicine practice. On completion of this module, trainees will be able to demonstrate competency in the initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition of the presentations listed below.

### *Learning Outcomes*

Following this module, the trainee should be able to:

1. Assess a patient with each of the presentations listed below
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Recognise and avoid pitfalls
8. Recognise and act on red flags
9. Decide on appropriate patient disposition

### *Topics*

Topics included in this module are:

- The patient presenting with:
  - Chest pain
  - Difficulty in breathing
  - Headache

- Abdominal pain
- Vomiting
- Altered level of consciousness
- Fever/suspected sepsis
- Syncope
- Seizure
- Weakness/suspected stroke
- Dizziness
- Gastrointestinal bleeding
- Back pain
- Vaginal bleeding

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Mini CEX
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Completion of one Mini CEX for each of the presentations listed above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.4 Respiratory emergencies**

### **Brief Description**

On completion of this module, trainees will be familiar with the principal emergency conditions relating to the respiratory system. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### **Learning Outcomes**

Following this module, the trainee should be able to:

1. Assess a patient with a respiratory emergency
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Understand the approach to diagnosis (e.g. risk stratification for suspected pulmonary embolism)



5. Identify appropriate investigations
6. Competently interpret the relevant investigations
7. Initiate appropriate initial treatment
8. Competently perform key procedures
9. Decide on appropriate patient disposition, including use of scoring systems (e.g. CURB 65 for pneumonia)

### **Topics**

Topics included in this module are:

- Asthma
- COPD
- Pneumonia
- Pneumothorax
- Pleural effusion
- Pneumomediastinum

### **Specific Skills / Competencies**

- Arterial blood gas sampling
- Insertion of a chest drain – open technique
- Interpretation of arterial and venous blood gas result including recognition of respiratory failure
- Chest x-ray interpretation for respiratory emergencies

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Practical procedures skills course
- Case studies with reflection
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Completion of one Directly Observed Procedures (DOPs) evaluation form indicating satisfactory competence for each of the following skills/procedures:
  - Chest drain insertion – open
  - Arterial blood gas sampling
- Structured case report with reflective element for any three of the topics outlined above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## 12.5 Cardiovascular system

### *Brief Description*

On completion of this module, trainees will be familiar with the principal cardiovascular emergencies. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### *Learning Outcomes*

Following this module, the trainee should be able to:

1. Assess a patient with a cardiovascular emergency
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

### *Topics*

Topics included in this module are:

- Acute coronary syndrome
- Acute pulmonary oedema
- Arrhythmias/palpitations
- Aortic dissection and aneurysm
- Pericarditis and myocarditis
- Hypertensive emergencies
- Pulmonary embolism and DVT

### *Specific Skills / Competencies*

- DC cardioversion
- External pacing
- ECG interpretation

### *Teaching and Learning Approach*

- Workplace experience
- eLearning
- ACLS course
- Case studies
- Discussion forums

## Assessment Methods

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Satisfactory completion of ACLS course a maximum of 2 years prior to completion of the diploma
- Structured case report with reflective element for acute coronary syndrome and any two other topics outlined above

## Indicative Self-Directed Resources

To be added as each module is developed.

## 12.6 Gastrointestinal emergencies

### Brief Description

On completion of this module, trainees will be familiar with the principal emergency conditions relating to the gastrointestinal system. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### Learning Outcomes

Following this module, the trainee should be able to:

1. Assess a patient presenting with an apparent gastrointestinal emergency or symptoms relating to the gastrointestinal system
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Decide on appropriate patient disposition

### Topics

Topics included in this module are:

- Abdominal pain
  - Acute appendicitis
  - Bowel obstruction
  - Bowel ischaemia
  - Diverticulitis
  - Acute peritonitis
  - Biliary colic and cholecystitis
  - Pancreatitis

- Cholangitis
- Peptic ulcer disease
- Bowel volvulus and strangulation
- Renal colic
- Abdominal aortic aneurysm
- Ectopic pregnancy
- Gastroenteritis
- Constipation
- Haematemesis/melaena
- Jaundice
- Oesophageal perforation
- Oesophageal foreign body

### **Specific Skills / Competencies**

- Interpretation of abdominal x-ray

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for any three of the topics outlined above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.7 Neurology**

### **Brief Description**

On completion of this module, trainees will be familiar with the principal neurological emergencies. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### **Learning Outcomes**

Following this module, the trainee should be able to:

1. Assess a patient with a neurological emergency
2. Recognise immediate life threats

3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

### **Topics**

Topics included in this module are:

- Stroke & transient ischemic attacks
- Altered level of consciousness/Confusion/acute delirium
- Syncope
- Headache
- Dizziness/vertigo/ataxia
- Seizure
- Weakness and paralysis not due to stroke – demyelination, myelitis, neuritis, spinal cord lesions
- CNS infection

### **Specific Skills / Competencies**

- Lumbar puncture

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Practical procedures skills course
- Case studies with reflection
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for any three of the topics outlined above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## 12.8 Metabolic & Endocrine emergencies

### *Brief Description*

On completion of this module, trainees will be familiar with the principal metabolic and endocrine emergencies. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### *Learning Outcomes*

Following this module, the trainee should be able to:

1. Assess a patient with a metabolic or endocrine emergency
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition, including use of scoring systems

### *Topics*

Topics included in this module are:

- Abnormal blood glucose
  - Diabetic ketoacidosis
  - Hyperosmolar Hyperglycemic Nonketotic Syndrome
  - Hypoglycaemia
- Electrolyte disturbance – Potassium, sodium, calcium
- Thyroid emergencies
  - Thyroid storm
  - Myxoedema coma
- Adrenal emergencies
  - Addisonian crisis
- Rhabdomyolysis
- Acid base disorder

### *Specific Skills / Competencies*

- Interpretation of blood gas result – acid-base disturbance
- Calculation of the anion gap

### *Teaching and Learning Approach*

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

## Assessment Methods

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for any three of the topics outlined above

## Indicative Self-Directed Resources

To be added as each module is developed.

## 12.9 Toxicology

### Brief Description

On completion of this module, trainees will know how to manage a patient presenting with poisoning, deliberate or accidental. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### Learning Outcomes

Following this module, the trainee should be able to:

1. Assess a patient with poisoning
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Decide on appropriate patient disposition

### Topics

Topics included in this module are:

- Common poisons – including, but not confined to:
  - Paracetamol
  - Salicylate
  - Tricyclic antidepressants
  - Selective Serotonin Reuptake Inhibitors (SSRI)
  - Sedative/hypnotic drugs
  - Alcohol and related substances
  - Acid/alkali ingestion
  - Carbon monoxide poisoning
  - Cardiovascular medications
  - Organophosphate

- Recognition of patterns of presentation in poisoning - toxidromes
- Alcohol and substance abuse
- Risk assessment
- Antidotes
- Decontamination
- Smoke inhalation

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for any three of the topics outlined above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.10 Nephrology & Urology**

### **Brief Description**

On completion of this module, trainees will be familiar with the principal emergency conditions relating to the urinary tract. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### **Learning Outcomes**

Following this module, the trainee should be able to:

1. Assess a patient presenting with an emergency condition relating to the urinary tract
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition, including use of scoring systems



## Topics

Topics included in this module are:

- Urinary retention
- Renal stone disease
- Frank haematuria
- Testicular pain/torsion
- Dysuria and urinary tract infection
- Acute renal failure
- Dialysis related emergencies

## Specific Skills / Competencies

- Interpretation of urinalysis
- Interpretation of urine microscopy

## Teaching and Learning Approach

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

## Assessment Methods

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules (automatic)
- Structured case report with reflective element for any three of the topics outlined above

## Indicative Self-Directed Resources

*To be added as each module is developed.*

## 12.11 Obstetrics & Gynaecology

### Brief Description

On completion of this module, trainees will be familiar with the principal emergency conditions relating to gynaecology and pregnancy. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### Learning Outcomes

Following this module, the trainee should be able to:

1. Assess a patient with a gynaecological or pregnancy related emergency
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses

4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

### **Topics**

Topics included in this module are:

- Early pregnancy bleeding and pain (< 20 weeks)
- Pregnancy bleeding and pain (> 20 weeks)
- Hyperemesis gravidarum
- Ectopic pregnancy
- Pre-eclampsia/eclampsia
- Normal delivery
- Shoulder dystocia
- Post partum haemorrhage
- Vaginal bleeding
- Ovarian pathology and other causes of pelvic pain

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for any three of the topics outlined above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.12 Infectious diseases**

### **Brief Description**

On completion of this module, trainees will be familiar with the principal infectious disease conditions presenting to the Emergency Department. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

## ***Learning Outcomes***

Following this module, the trainee should be able to:

1. Assess a patient with an actual or potential infectious disease
2. Demonstrate knowledge of appropriate infection control measures
3. Recognise immediate life threats
4. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
5. Identify appropriate investigations
6. Competently interpret the relevant investigations
7. Initiate appropriate initial treatment
8. Competently perform key procedures
9. Decide on appropriate patient disposition

## ***Topics***

Topics included in this module are:

- Common infectious diseases including, but not confined to:
  - Respiratory tract infection
  - Gastrointestinal tract infection
  - Urinary tract infection
  - Viral infection
- Skin and soft tissue infection
- Life threatening rashes
- The patient with fever
- Sepsis syndromes
- Sexually transmitted diseases
- Needlestick injury

## ***Specific Skills / Competencies***

- Incision and drainage of abscess
- Incision and drainage of paronychia

## ***Teaching and Learning Approach***

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

## ***Assessment Methods***

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Completion of one Directly Observed Procedures (DOPs) evaluation form indicating satisfactory competence for each of the following skills/procedures:
  - Incision and drainage of abscess
  - Incision and drainage of paronychia
- Structured case report with reflective element for any three of the topics outlined above

### *Indicative Self-Directed Resources*

*To be added as each module is developed.*

## 12.13 Haematology & Oncology

### *Brief Description*

On completion of this module, trainees will be familiar with the principal haematology and oncology emergencies. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### *Learning Outcomes*

Following this module, the trainee should be able to:

1. Assess a patient with a haematology or oncology emergency
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

### *Topics*

Topics included in this module are:

- Bruising and spontaneous bleeding, including DIC
- Blood and blood components
- Anaemia not due to bleeding
- Oncology and immunosuppression-related emergencies

### *Teaching and Learning Approach*

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

## Assessment Methods

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for any three of the topics outlined above

## Indicative Self-Directed Resources

To be added as each module is developed.

## 12.14 Orthopaedics

### 12.14.1 Musculoskeletal trauma

#### Brief Description

On completion of this module, trainees will be familiar with musculoskeletal trauma. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

#### Learning Outcomes

Following this module, the trainee should be able to:

1. Assess a patient with musculoskeletal trauma
2. Recognise immediate life or limb threats
3. Formulate a plan to establish the diagnosis
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

#### Topics

Topics included in this module are:

- Upper and lower limb injury
  - Fracture
  - Soft tissue injury – skin, muscle, ligament, cartilage
  - Joint injury and dislocation
  - Crush injury
  - Compartment syndrome
  - Hand infections
- Wounds
- Penetrating limb injury
- Burns
  - Thermal
  - Chemical

## ***Specific Skills / Competencies***

- Principles of pain relief
- Digital nerve block
- Application of back slab/cast – upper extremity
- Application of back slab/cast – lower extremity
- Reduction of dislocation – shoulder
- Reduction of dislocation – elbow
- Reduction of dislocation – metacarpophalangeal joint
- Reduction of dislocation – interphalangeal joint
- Reduction of dislocation – hip/prosthesis
- Reduction of dislocation – patella
- Reduction of fracture/dislocation – ankle
- Reduction of fracture – Colles' fracture
- Reduction of fracture – supracondylar with vascular compromise
- Reduction of fracture – phalanges
- Immobilization techniques – broad arm sling
- Immobilization techniques – collar and cuff
- Immobilization techniques – application of Thomas splint
- Wound management – wound exploration
- Wound management – suture of wound
- Wound management – tissue adhesive/adhesive strips/staples
- Wound management – removal of foreign body
- Large joint examination - shoulder
- Large joint examination – knee
- Interpretation of limb x-rays in trauma, fracture recognition

## ***Teaching and Learning Approach***

- Workplace experience
- eLearning
- Practical procedures skills course
- Discussion forum

## ***Assessment Methods***

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Satisfactory completion of the relevant Practical Procedures Skills course
- Completion of one Directly Observed Procedures (DOPs) evaluation form indicating satisfactory competence for each of the following skills/procedures:
  - Digital nerve block
  - Reduction of dislocation – shoulder
  - Reduction of fracture/dislocation – ankle
  - Reduction of fracture – Colles' fracture

- Wound management – suture of wound
- Large joint examination – shoulder
- Large joint examination – knee

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.14.2 Musculoskeletal (non trauma)**

### **Brief Description**

On completion of this module, trainees will be familiar with the principal non-traumatic musculoskeletal conditions that present to the Emergency Department. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### **Learning Outcomes**

Following this module, the trainee should be able to:

1. Assess a patient presenting with a non-traumatic musculoskeletal problem
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

### **Topics**

Topics included in this module are:

- Acute back pain
- Acute neck pain
- Non traumatic joint swelling
- Non-traumatic limb pain and swelling, shoulder pain

### **Specific Skills / Competencies**

- Knee aspiration

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

## Assessment Methods

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Completion of one Directly Observed Procedures (DOPs) evaluation form indicating satisfactory competence for the following procedure:
  - Knee aspiration
- Structured case report with reflective element for any three of the topics outlined above

## Indicative Self-Directed Resources

To be added as each module is developed.

## 12.15 Trauma by system

### Brief Description

On completion of this module, trainees will be familiar with the management of patients presenting with trauma to the head, spine or trunk. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

The management of multisystem trauma is taught in the Resuscitation and Critical Care module. This module deals with injury that may not be immediately life threatening, occurring either in a multiple trauma patient or as an isolated injury.

### Learning Outcomes

Following this module, the trainee should be able to:

1. Assess a patient with non-extremity trauma
2. Recognise potential life threats
3. Formulate a plan to establish the diagnosis
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

### Topics

Topics included in this module are:

- Head injury
- Neck injury
  - Blunt
  - Penetrating



- Chest injury
  - Blunt
  - Penetrating
- Abdominal injury
  - Blunt
  - Penetrating
- Pelvic injury
- Spine & spinal cord injury

### ***Specific Skills / Competencies***

- Immobilization techniques – spinal immobilization and log rolling
- Immobilization techniques – pelvic stabilization
- CT brain in trauma
- Chest x-ray in trauma
- Spinal x-rays in trauma
- Pelvic x-rays in trauma

### ***Teaching and Learning Approach***

- Workplace experience
- eLearning
- ATLS course
- Case studies with reflection
- Discussion forum

### ***Assessment Methods***

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Satisfactory completion of ATLS course within a maximum of 2 years of prior to diploma completion
- Structured case report with reflective element for a patient with:
  - Mild to moderate head injury
  - Non life threatening chest injury
  - Spinal injury

### ***Indicative Self-Directed Resources***

*To be added as each module is developed.*

## 12.16 Paediatrics

### 12.16.1 Paediatrics

#### *Brief Description*

On completion of this module, trainees will be familiar with the principal paediatric emergencies. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

#### *Learning Outcomes*

Following this module, the trainee should be able to:

1. Assess children of all ages presenting to the Emergency Department
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition, including use of scoring systems

#### *Topics*

Topics included in this module are:

- General approach to paediatric patient
- Paediatric resuscitation
- Febrile child
- Child with breathing difficulty
  - SOB/apnoea/stridor/airway obstruction/cough/anaphylaxis
  - Gastrointestinal emergencies
  - Urinary tract infection
  - Rashes in children
  - Limping child
  - Neonatal resuscitation

#### *Specific Skills / Competencies*

- Paediatric vascular access
- Interpretation of paediatric chest x-ray

#### *Teaching and Learning Approach*

- Workplace experience
- eLearning
- Neonatal Resuscitation Program (NRP) course
- Case studies with reflection
- Discussion forum

## Assessment Methods

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Satisfactory completion of the Neonatal Resuscitation Program (NRP) course
- Structured case report with reflective element for any three of the topics outlined above

## Indicative Self-Directed Resources

*To be added as each module is developed.*

### 12.16.2 Paediatric trauma

#### Brief Description

On completion of this module, trainees will be familiar with injury in children. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

The initial assessment and management of the seriously injured child is taught in the Resuscitation and Critical Care module. This module deals with non-life threatening injury.

#### Learning Outcomes

Following this module, the trainee should be able to:

1. Assess an injured child
2. Recognise potential life or limb threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

#### Topics

Topics included in this module are:

- Upper and lower limb injury
  - Fracture
    - Salter Harris classification
  - Soft tissue injury
  - Joint injury and dislocation
  - Wounds
  - Burns
  - Head injury
  - Non accidental injury – physical, sexual, neglect

### **Specific Skills / Competencies**

- Interpretation of trauma x-rays in the skeletally immature patient

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Practical procedures skills course
- Case studies with reflection
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for each of the following in a child:
  - Head injury
  - Limb fracture
  - Burns

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.17 Special senses**

### **Brief Description**

This module deals with emergencies related to eyes, ears, face, mouth and throat and, as such, spans the areas of Ear, Nose and Throat (ENT), Ophthalmology and Maxillofacial Surgery. On completion of this module, trainees will be familiar with the principal emergency conditions relating to the head and neck. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### **Learning Outcomes**

Following this module, the trainee should be able to:

1. Assess a patient with an emergency condition relating to the head and neck
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

## **Topics**

Topics included in this module are:

- ENT related:
  - Painful ear
  - Sore throat
  - Sore mouth
  - Epistaxis
  - FB in throat or nose
  - Trauma to the ear
- Ophthalmology related:
  - Red eye
  - Visual loss
  - Acute ocular pain
  - Ocular trauma
    - Corneal foreign body
    - Corneal abrasion
    - Globe injury
    - Ocular burns
  - Wounds to eyelids/lacrimal apparatus
- Maxillofacial related:
  - Facial trauma
  - Facial swelling
  - Dental emergencies

## **Specific Skills / Competencies**

- ENT
  - Removal of foreign body - ear
  - Removal of foreign body – nose
  - Management of auricular haematoma
  - Anterior nasal packing/tamponade
- Ophthalmology
  - Removal of corneal foreign body
  - Maxillofacial
  - Interpretation of facial bone and mandibular x-rays

## **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

## **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Completion of one Directly Observed Procedures (DOPs) evaluation form indicating satisfactory competence for each of the following skills/procedures:
  - Removal of foreign body - ear
  - Removal of foreign body – nose
  - Management of auricular haematoma
  - Anterior nasal packing/tamponade
  - Removal of corneal foreign body
- Structured case report with reflective element for any three of the topics outlined above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.18 Psychiatric emergencies**

### **Brief Description**

On completion of this module, trainees will be familiar with the principal psychiatric emergencies. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### **Learning Outcomes**

Following this module, the trainee should be able to:

1. Assess a patient with a psychiatric emergency
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations where applicable
5. Initiate appropriate initial treatment
6. Decide on appropriate patient disposition

### **Topics**

Topics included in this module are:

- Aggressive/disturbed behaviour
  - Psychiatric
  - Delirium
  - Acute intoxication
- Mood disorder – depression, bipolar disorder
- Thought disorder – psychosis
- Suicidal ideation
- Anxiety
- Drug and alcohol related
  - Intoxication & withdrawal
- Psychiatric liaison

- Mental Health legislation
- Restraint – verbal, physical, chemical

### **Teaching and Learning Approach**

- Workplace experience
- eLearning
- Case studies with reflection
- Discussion forum

### **Assessment Methods**

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules
- Structured case report with reflective element for any three of the topics outlined above

### **Indicative Self-Directed Resources**

*To be added as each module is developed.*

## **12.19 Environmental emergencies**

### **Brief Description**

On completion of this module, trainees will be familiar with the principal environmental emergencies. They will understand and be able to demonstrate competency in initial assessment (including history taking and examination), investigation and diagnosis, initial treatment, patient disposition and in the key skills underpinning diagnosis and treatment.

### **Learning Outcomes**

Following this module, the trainee should be able to:

1. Assess a patient with one of the emergencies outlined below
2. Recognise immediate life threats
3. Formulate a plan to establish the diagnosis including consideration of differential diagnoses
4. Identify appropriate investigations
5. Competently interpret the relevant investigations
6. Initiate appropriate initial treatment
7. Competently perform key procedures
8. Decide on appropriate patient disposition

### **Topics**

Topics included in this module are:

- Electrical injury
- Hypothermia
- Hyperthermia

- Drowning
- Common envenomation

### *Teaching and Learning Approach*

- Workplace experience
- eLearning
- Discussion forum

### *Assessment Methods*

To determine that the trainee has reached the standards of knowledge, skill and competence identified in the learning outcomes, trainees are required to complete the following continuous assessment activities for this module:

- Log evidence of self-study and research undertaken
- Evidence of completion of eLearning modules (automatic)

### *Indicative Self-Directed Resources*

*To be added as each module is developed.*

## **Appendix I – Evaluation Forms**

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Evaluation Forms will be captured via the online learning platform and will be consistent with the same evaluation forms used on other programs (DOPS, CBC & Mini-CEX).







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