Version History

Version	Date	Details
1	July 2014	This standard supersedes the previous AP (RCS008-V2) and introduces course approval criteria previously set out in Council Rules (RUL006-V4). Content of standard unchanged.

Contents

Role and Professional Responsibilities of an Advanced Paramedic

An advanced paramedic (AP) is a highly skilled and experienced emergency care practitioner who is trained to and maintains a high standard of professional competence. An AP acts as the clinical lead at incidents and is an expert practitioner in the field of pre-hospital emergency care. APs are the recommended response to patients defined as Clinical Status Category "Life threatening" "Serious not life threatening" and "Non serious or life threatening" for appropriate conditions (Ref: *PHECC's EMS Priority Dispatch Standard*). An Advanced Paramedic may be required to transport inter-facility patients who are defined as Acuity Levels "Mobile Intensive Care" (Ref: *PHECC's Inter Facility Patient Transfer Standar*d).

The role of the AP includes not only managing patients in the complex and unpredictable pre-hospital environment but also will include the treatment and referral of patients who access the health service through the 999/112 system who do not require immediate hospital assessment. Compared to the next lower level on the PHECC register (paramedic), an AP possesses a substantially higher skill set in patient assessment, care and management. Leadership, mentorship and management and professional development are regarded as a key component of this grade.

As with all registered practitioners, an AP focuses on the delivery of immediate, often live-saving patient care in diverse settings primarily outside of the traditional hospital environment. AP deployment in the HSE is a matter for the National Ambulance Service and varies from region to region; nonetheless their role has been designed to contribute to a reduction in the morbidity and mortality of patients experiencing life threatening or serious events.

Successful completion of the AP standard and assessment leads to the Pre-Hospital Emergency Care Council (PHECC) award of the National Qualification in Emergency Medical Technology (NQEMT) at the level of competence of AP. This award is required for registration with PHECC at the AP division. This requirement ensures that the AP has fulfilled the educational and training requirements as prescribed by PHECC, thereby, possessing the knowledge, skills and attitudes in-line with the expectations of the public and the profession.

An AP is required to maintain their name on the PHECC Register and is also required to maintain a high standard of training by actively participating in continuous professional competence programmes.

Learning Outcomes for the AP Standard

The education and training standard is the expected competency of the student upon completion of a recognised course. A graduate at the end of a recognised AP course will be able to:

1. Provide the appropriate standard of patient care for pre-hospital emergency care services and inter facility transfers.
2. Adopt a professional approach to their practice
3. Demonstrate a commitment to professional development and continuous renewal.

A number of key domains arise from the course outcomes and are listed below. Note that these domains can cross over into more than one course outcome.

Learning Outcome 1
Provide the appropriate standard of patient care for pre-hospital emergency care services and inter-facility transfers including:

1. Recognition and assessment of common, serious and life-threatening conditions.
2. Selection of an appropriate patient management plan, application of appropriate interventions as required, and the correct monitoring of the patient according to PHECC clinical practice guidelines and scope of practice.

Learning Outcome 2
Adopt a professional approach to their practice by:

1. Providing clinical leadership in a pre-hospital environment
2. Retaining a professional manner and method in the performance of their duties
3. Basing their professional practice on a solid foundation of both basic and clinical sciences.
4. Utilising best practice as prescribed by pre-hospital standard operational procedures/ standards of operation and CPGs.

Learning Outcome 3
Demonstrate a commitment to continuous professional competence by:

1. Developing their skills as a reflective practitioner

The learning objectives in the AP standard refer to the management of adults and paediatrics unless stated otherwise. The learning outcomes build substantially on those covered in the Paramedic standard; subsequently, students and teaching faculty are advised to refer to it as required. The standard of care management for patients with general medical emergencies and trauma is outlined in PHECC clinical practice guidelines (CPGs) and includes medication administration where indicated. The CPGs may be accessed from the website of the PHECC www.phecc.ie.

Framework for the Advanced Paramedic Standard

Framework for the advanced paramedic standard		
Learning Outcome (L)	**Educational Domain (D)**	**Module(s)**
Provide the appropriate standard of patient care for pre-hospital emergency care services and inter facility transfers (L1)	Recognition and assessment of common, serious and life-threatening conditions (L1D1)	1. Primary survey, immediate care and transport prioritisation 2. Secondary survey 3. Clinical examination of the respiratory, CVS, neurological systems and abdomen 4. History taking, differential diagnosis and clinical impression 5. Clinical decision making
	Selection of an appropriate patient management plan, application of appropriate interventions as required, and the correct monitoring of the patient according to PHECC clinical practice guidelines and scope of practice (L1D2)	1. Airway and ventilatory support 2. Persistent foreign body obstruction 3. Inadequate respiration, apnoea and other respiratory emergencies 4. Advanced cardiac response 5. Abnormal cardiac conditions 6. Neurological disorders 7. Sepsis 8. Pain management 9. Diabetic emergencies 10. Allergies and anaphylaxis 11. Poisoning/overdose emergencies 12. Behavioural & mental health emergencies 13. Environmental emergencies 14. Special patient groups 15. Pregnancy and pre-delivery and post-delivery emergencies 16. Childbirth and neonatal resuscitation 17. Gynaecological emergencies 18. Paediatrics 19. Paediatric medical 20. Paediatric trauma 21. Shock 22. Soft tissue, musculoskeletal injuries including crush injuries 23. Head, brain and spinal injuries 24. Burn injuries

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Framework for the advanced paramedic standard		
Learning Outcome (L)	**Educational Domain (D)**	**Module(s)**
Adopt a professional approach to their practice (L2)	Providing clinical leadership in the pre-hospital environment (L2D1)	1. Health safety and welfare 2. Lead and participate in work teams 3. Change management
	Retaining a professional manner and method in the performance of their duties (L2D2)	1. Governance, ethics and professional practice 2. Medico-legal issues concerning the AP 3. Patient safety and quality assurance
	Basing their professional practice on a solid foundation of both basic and clinical sciences (L2D3)	1. Clinical anatomy and physiology 2. Overview of the mechanisms and kinematics of trauma 3. Pharmacology and therapeutics 4. Medication administration 5. Infection prevention and control
	Utilising best practice as prescribed pre-hospital standard operational procedures/standards of operation and CPGs (L2D4)	1. Major Emergency 2. Treat and referral
Demonstrate a commitment to continuous professional competence (L3)	Developing their skills as a reflective practitioner (L3D1)	1. Experiential learning and reflective practice

Learning Outcome 1 – Domain 1

Provide the appropriate standard of patient care for pre-hospital emergency care services and inter facility transfers	Recognition and assessment of common, serious and life-threatening conditions

Primary Survey, Immediate Care and Transport Prioritisation

At the completion of this module the student will be able to describe and demonstrate the appropriate procedures for performing a primary survey, providing immediate care and the factors that determine transport prioritisation.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The types of immediately life-threatening problem which can be found during the primary survey and how to treat them for both medical and surgical/trauma patients
2. The differences between a primary survey for a medical and a trauma patient
3. Time/ transport criticality
4. The appropriateness of the receiving destination facility
5. How advanced care and transport requirements of the patient may be prioritised based on the results of the primary survey
6. The appropriateness of on scene care management versus rapid transport to definitive care
7. The reasons for reconsideration concerning the mechanism of injury

Attitudinal Objectives

1. Advocate and practice the process of completing a primary survey on all patients
2. Value the contribution of on scene care and medication management to mortality/ morbidity and comfort

Skills Objectives

1. Carry out a primary survey on a medical and a trauma patient
2. Continuous assessment, analysis and prioritising the patient's immediate and definitive needs based on the findings of the primary survey

Secondary Survey

At the completion of this module the student will be able to competently perform a secondary survey.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. How advanced care and transport requirements of the patient may be prioritised or revised based on the results of the secondary survey
2. How the finding of the secondary survey contribute to establishing presenting problems and forming a clinical impression
3. The differences between the physical exam for the trauma and the medical patient
4. Rapid physical exam

Attitudinal Objectives

1. Advocate and practice the process of completing a secondary survey on all patients; time permitting
2. Appreciate the limitation of the pre-hospital physical examination
3. Value the importance of continuous assessment

Skills Objectives

1. Carry out a secondary survey on a medical and a trauma patient
2. Carry out a rapid physical exam
3. Continuously assess, analyse and prioritise the patient's immediate and definitive needs based on the findings of the secondary survey

Clinical Examination

At the completion of this module the student will be able to take a relevant history and perform a relevant clinical examination of the respiratory, CVS, neurological systems and abdomen.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The purposes of obtaining a detailed medical history
2. The techniques of general and focussed clinical examination advanced paramedic level examination techniques of the respiratory, CVS, Neurological systems and Abdomen
3. The implications of typical abnormal findings in each of these systems

Attitudinal Objectives

1. Deal sensitively and respectfully with examination of patients recognising the need to maintain patient dignity wherever possible

Skills Objectives

1. Apply the principles of a global assessment
2. Focus the clinical examination based upon the presentation and history, as well as the clinical impression
3. Perform a structured assessment of the respiratory system using the techniques of inspection, auscultation, palpation and percussion of the patient generally, the chest and the neck
4. Examine the CVS using palpation of pulses, capillary refill, exam for oedema, examination of the JVP, taking a BP, auscultation of the heart and skin condition/appearance
5. Examine the neurological system checking FAST, limb sensation and power, Plantar response and basic cranial nerve functions including those relating to raised intracranial pressure
6. Examine the abdomen for tenderness, guarding and rigidity (noting scars and acites)
7. Auscultate for bowel sounds
8. Examine the abdomen for presence of an abdominal aortic aneurysm, gravid uterus and urinary retention

History Taking, Differential Diagnosis and Clinical Impression

At the completion of this module, the student will be able to demonstrate taking a relevant history and forming a clinical impression of a pre-hospital patient's condition.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The purposes of obtaining a detailed medical history
2. The techniques of history taking
3. The importance of open ended questions and the role of closed questions
4. How the skills of communication are employed to facilitate, clarify empathise and interpret a patient's medical history and other elated elements such as socioeconomic background, occupation, family status
5. The difference between the past medical and presenting medical history and outline how they often interrelate
6. How a medical history can be gathered concurrently with patient assessment
7. The concepts of differential diagnosis and clinical impression

Attitudinal Objectives

1. Advocate and practice the process of complete history taking on all patients
2. Value the requirements for confidentiality when obtaining a medical history

Skills Objectives

1. Obtain a detailed history of the patient's presenting complaint
2. Obtain the patients past medical history
3. How to form a clinical impression and working diagnosis

Clinical Decision Making

At the completion of this module, the student will be able to apply clinical decision making skills to their diagnosis and on-going management of a patient.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The relevant PHECC clinical practice guidelines (CPGs)
2. The benefits of using a clinical problem solving model
3. The factors that may influence clinical judgement
4. Forming a clinical impression
5. The factors influencing pre-hospital emergency care compared to other medical settings
6. The strengths and weaknesses of CPGs in decision making
7. Preparation of strategies for effective clinical decision making under pressure
8. The fundamental elements of critical thinking
9. The importance of post intervention reassessment
10. How effective assessment is critical to clinical decision making
11. How advanced paramedic's attitudes affect assessment and decision making
12. How uncooperative patients affect assessment and decision making
13. The principles and different strategies of medical direction/ advice
14. Variables to consider when determining a patient's capacity to make informed decisions

Attitudinal objectives

1. Uphold clinical decisions made based on best practice and anticipate incidents when exceptions may arise
2. Advocate and practice the process of complete patient assessment on all patients
3. Apply strategies to prevent patient labelling and tunnel vision

Skills Objectives

1. Develop and implement appropriate patient care plans for given scenarios including evaluation
2. Practice effective clinical decision making during clinical practice
3. Apply strategies to reduce scene distractions

Learning Outcome 1 – Domain 2

Provide the appropriate standard of patient care for pre-hospital emergency care services and inter facility transfers	Selection of an appropriate patient management plan, application of appropriate interventions as required, and the correct monitoring of the patient according to PHECC clinical practice guidelines and scope of practice

Airway and Ventilatory Support

At the completion of this module, the student will be able to establish and maintain a patent airway and be able to oxygenate and ventilate a patient in accordance with the appropriate CPG(s) and scope of practice of an AP.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The measurement of % oxyheamoglobin saturation and end tidal CO_2 in the blood after intubation
2. The pre-hospital emergency assessment findings and evaluation of respiratory function (oxygenation and ventilation)
3. Laryngospasm
4. Tracheostomies, stoma and the tracheostomy tube
5. The management of an occluded stoma or tracheostomy tube with mucous
6. The risk of infection to pre-hospital emergency care practitioners associated with ventilation
7. Rigid and soft suction catheters and the conditions when each should be used
8. The purpose of upper airway suctioning and describe the procedure
9. The purpose and procedure for tracheobronchial suctioning in the intubated patient
10. The concept of the airway management ladder
11. The indications, contraindications, benefits, limitations, complications, equipment and procedure of endotrachael intubation and supraglottic airway
12. Gastric distension and the factors that precipitate its occurrence
13. The methods to confirm correct placement of an endotrachael tube
14. The methods for securing an endotrachael tube
15. The indications, contraindications, procedure and complications for extubation
16. The special considerations in airway management and ventilation for patients with facial injuries
17. The indications for performing a needle cricothyrotomy
18. The equipment required when performing a needle cricothyrotomy
19. Identify the minute volume required for a ventilated patient on a transport ventilator

Attitudinal Objectives

1. Advocate for the patient who requires airway and ventilatory support
2. Use advanced airway skills appropriately

Skills Objectives

1. Insert and secure an ETT and a supraglottic airway
2. Use end-tidal CO_2 detection - Colour metric & capnography
3. Manage an occluded stoma or tracheostomy tube with mucous
4. Perform ETT tracheobronchial suctioning in the intubated patient
5. Remove an advanced airway
6. Perform needle cricothyrotomy
7. Coach and advise a paramedic in ventilating an intubated patient
8. Manage a transport ventilator to ensure adequate minute volume for a ventilated patient during transport

Foreign Body Airway Obstruction

At the completion of this module, the student will be able to manage a patient with complete or partial airway obstruction, including the use of advanced airway access techniques.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The causes of upper airways obstruction
2. Indicators of complete airway obstruction
3. The implications of partial airway obstruction with good and poor air exchange
4. The pre-hospital emergency care assessment findings and care management of the patient with partial airway obstruction and complete airway obstruction
5. The visual landmarks for direct laryngoscopy
6. Laryngoscopy to remove a foreign body airway obstruction

Attitudinal Objectives

1. Demonstrate a caring attitude towards relatives or bystanders who witness a patient with airway obstruction.

Skills Objectives

1. Perform a rapid pre-hospital emergency assessment and care management of the patient with partial airway obstruction and complete airway obstruction
2. Perform laryngoscopy
3. Retrieve foreign bodies from the upper airway using a laryngoscope with a Magill's forceps or suction
4. Perform endotracheal intubation where removal of foreign body obstruction is not possible with forceps
5. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Inadequate Respiration, Apnoea and Other Respiratory Emergencies

At the completion of this module, the student will be able to manage the treatment of pre-hospital patients with acute respiratory emergencies.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The aetiology and pathophysiology of each of the following conditions
    a. Chronic obstructive airway disease
    b. Asthma
    c. Bronchitis
    d. Pneumonia
    e. Pulmonary embolism
    f. Pulmonary oedema
    g. Simple and Tension pneumothoraces
    h. Respiratory arrest
    i. Inhalation injury
    j. Haemothoraces
2. Inadequate respiratory depth and rate associated with narcotic overdose, allergic reactions, Stroke and traumatic brain injury
3. The pre-hospital emergency assessment findings and care management of the patient with the conditions listed above
4. The differences between hypoxia and hypoxemia
5. The time/ transport critical features of respiratory conditions
6. The indication, equipment and procedure for needle thoracocentesis
7. The importance of continuous positive airway pressure (CPAP) therapy

Attitudinal Objectives

1. Appreciate the sense of urgency for assessment and care management in the patient with inadequate respiration
2. Advocate for the patient who requires airway and ventilatory support
3. Demonstrate an appropriate caring attitude towards a patient who has a respiratory emergency

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above
2. Demonstrate CPAP

Advanced Cardiac Response

This module builds on the skills first learnt in Cardiac First Response and incorporates the use of advanced intervention and management techniques in accordance with appropriate CPG(s) and scope of practice of an AP.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The principles behind the latest International Liaison Committee on Resuscitation (ILCOR) guidelines
2. The prime importance of correctly performed chest compressions during CPR
3. The prime importance of quick and safe defibrillation for ventricular fibrillation (VF)/pulseless VT arrest
4. Methodologies to maximise effective CPR between deliveries of DC shocks
5. The rationale for the use of AP medications in cardiac emergencies and their relative importance in cardiac arrest compared to CPR and DC shocks
6. Understand the aetiology and treatment rationale for non-shockable arrests
7. Outline the circumstances when a registered paramedic or advanced paramedic can decide not to commence resuscitation and when to discontinue resuscitation efforts including traumatic cardiac arrests
8. The benefits of impedance threshold device use during cardiac arrest
9. Post resuscitation care
10. The benefits of induced hypothermia post VF cardiac arrest
11. The significance of hypothermia in cardiac arrest
12. The significance of pregnancy and cardiac arrest
13. Patient presentations where ECG rhythm analysis is indicated
14. How to identify and correct the various causes of artefact on a 12 lead ECG
15. The characteristics, description and significance of the ECG waves, complexes, interval and segments
16. The electrophysiological and haemodynamic events occurring throughout the entire cardiac cycle with the various ECG waves, segments and intervals
17. The aetiology and pathophysiology of each of the following conditions:
    1. Ventricular fibrillation and pulseless ventricular tachycardia
    2. Pulseless electrical activity
    3. Asystole
    4. Symptomatic bradycardia and tachycardia
    5. Supraventricular tachycardia
    6. Atrial fibrillation/flutter
    7. 1st 2nd and 3rd degree AV block

18. The pre-hospital emergency assessment findings and care management of the patient with the conditions listed above
19. The features of an automated implantable defibrillator and any special considerations when caring for a patient with one
20. The ECG characteristics of an implantable pacemaker system and recognise a malfunctioning internal pacemaker
21. The benefits of early advanced cardiac life support to patients pre-hospital

Attitudinal Objectives

1. Appreciate the sense of urgency for assessment and care management in the patient with apparent cardiac arrest
2. Advocate for the patient who has arrested

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above
2. Decide which actions are appropriate when treating such patients with- no Responder/Practitioner, 1 or 2 Responder/Practitioners present
3. Demonstrate breaking bad news to relatives or friends following a decision not to resuscitate or to cease resuscitation
4. Use semi-automatic and manual defibrillators for adults and paediatric patients
5. Perform 12 lead ECG and interpret a wide range of arrhythmias, including:
    a. Normal sinus rhythm
    b. Ventricular fibrillation
    c. Sinus arrhythmias
    d. Idioventricular rhythm
    e. Atrial flutter and atrial fibrillation
    f. Premature atrial contractions
    g. Premature ventricular contractions
    h. Junctional rhythm
    i. Supraventricular tachycardia (SVT) including SVT with aberrant conduction
    j. First degree AV-nodal block
    k. Second degree Mobitz I (Wenkebach) block
    l. Second degree Mobitz II block
    m. Third degree block
    n. Ventricular tachycardia
    o. Torsades-de-Pointes
    p. Junctional escape beats and rhythms
    q. Ventricular escape beats and rhythms
    r. Right bundle branch block
    s. Left bundle branch block
    t. Asystole

Abnormal Cardiovascular Conditions

At the completion of this module, the student will be able to manage a pre-hospital patient with cardiovascular abnormalities including myocardial infarct and stroke in accordance with appropriate CPG(s) and scope of practice of an AP.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The incidence, morbidity and mortality of cardiovascular disease (CVD) in Ireland
2. Prevention strategies that may reduce the morbidity and mortality of CVD
3. The risk factor profile of CVD
4. The zones of ischaemia, injury and infarct and differentiate between a transmural and subendocardial infarct
5. The cardiac surfaces or areas represented by the ECG leads
6. The aetiology of:
    a. Atherosclerosis
    b. Arteriosclerosis
    c. Thrombosis
    d. Ischaemia
7. The aetiology and pathophysiology of each of the following conditions:
    a. Acute Coronary Syndromes- STEMI, NSTEMI, Unstable angina
    b. Left ventricular failure
    c. Right ventricular failure
    d. Pericarditis
    e. Cardiogenic shock
    f. Categories of stroke
    g. Transient ischemic attack
8. The pre-hospital emergency assessment findings and care management of the patient with the conditions listed above
9. The rationale for stroke thrombolysis
10. The differential diagnosis of chest pain
11. The time/transport critical features of cardiac conditions
12. The rationale and evidence base for pre-hospital administration of thrombolytic agents versus rapid transport to PCI
13. Differentiate between the patient that will be transported to a primary PCI facility verses a patient who will receive pre-hospital thrombolytic therapy
14. The selection of a patient eligible for thrombolytic therapy
15. The “timeline window of opportunity” as it pertains to reperfusion of a myocardial injury or stroke

16. The role of aspirin, oxygen, nitrates, analgesia, thrombolytic agents and any other relevant PHECC CPG treatments in treating myocardial infarction
17. The administration of thrombolytics, and their contra-indications and side effects
18. The recommendations of the DoHC (2006) T*ask Force Report on Sudden Cardiac Death* as it relates to timely reperfusion (R 5.37 and 5.38, p. 108-111)
19. The changes to each monitoring lead that occurs as a result of the following conditions:
    a. ST elevation myocardial infarction
    b. Non-ST elevation myocardial infarction
    c. Ischaemia/angina
    d. Right bundle branch block
    e. Left bundle branch block
20. The term cardiac tamponade and the differing mechanisms by which it occurs
21. The characteristics of clinical feature of patients in hypertensive crisis
22. The pathophysiology of vascular disorders
23. Define the terms aneurysm, claudication and phlebitis
24. The signs and symptoms that develop following peripheral artery occlusion
25. The signs and symptoms of dissecting thoracic or abdominal aneurysm
26. A treatment plan for the patient with vascular disorders

Attitudinal Objectives

1. Appreciate the sense of urgency for assessment and care management in the patient with cardiac compromise
2. Collaborate with all members of the pre-hospital emergency care team to maximise the benefits to patients with cardiac compromise
3. Appreciate the sense of urgency required to protect the reperfusion opportunity in the patient suspected of a myocardial infarct

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above (in knowledge objective 7)
2. Demonstrate the care management of a patient with cardiac tamponade
3. Demonstrate the care management of a patient with a hypertensive emergency
4. Demonstrate the care management of a patient with a peripheral artery occlusion
5. Demonstrate the care management of a patient with a dissecting thoracic or abdominal aneurysm

Neurological Disorders

At the completion of this module, the student will be able to recognise and manage a pre-hospital patient suffering from a neurological emergency.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The relevant PHECC CPGs
2. The aetiology and pathophysiology of each of the following conditions:
    a. Intracranial haemorrhage
    b. Meningitis/ meningococcal septicaemia (see also the module on Sepsis)
    c. Multiple sclerosis
    d. Parkinson's disease
    e. Muscular dystrophy
    f. Seizure disorders/ convulsions
    g. Headache
    h. Intra cerebral mass
    i. Vertigo
    j. Bell's Palsy
    k. The aetiology of seizures/convulsions to include:
        (a) Epilepsy
        (b) Hypoxia
        (c) Febrile convulsions
        (d) Intracerebral insult/head injury
        (e) Hypoglycaemia
        (f) Hypothermia
        (g) Drug related
        (h) Eclampsia
        (i) Meningitis
3. The pre-hospital emergency assessment findings and care management of the patient with the conditions listed above
4. The major types of seizures
5. The phases of a generalised seizure
6. The time/ transport critical features of neurological disorders

Attitudinal Objectives

1. Maintain the dignity of a patient with a neurological condition
2. Convey empathy to patients whose ability to communicate is limited by their condition
3. Empathise with the patient who regains consciousness among strangers

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Sepsis

At the completion of this module, the student will be able to recognise and initiate emergency treatment of a pre-hospital patient suffering from sepsis including suspected meningitis.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The systemic inflammatory response syndrome (SIRS) – definition, recognition and causes
2. The progression of SIRS to sepsis, severe sepsis and finally septic shock
3. Common causes of sepsis
4. Common causes of septic shock (urosepsis and pneumonia)
5. The key causes and presentations of septicaemia and meningitis, including meningococcal disease
6. The difference between septicaemia and meningitis
7. The time/ transport critical features of septicaemia and meningitis
8. The protective measures for exposure prone procedures for patients with confirmed meningococcal disease and outline public health guidelines for follow up

Attitudinal Objectives

1. Demonstrate an understanding of the high mortality associated with septic shock and promote early recognition, treatment and transport urgency of patients with sepsis
2. Empathise with the relatives or bystanders who witness a patient with septicaemia or meningitis understanding the acuteness of the condition

Skills Objectives

1. Consider septicaemia and meningitis in all appropriate patients
2. Recognise rapid deterioration a critical history finding in meningococcal disease
3. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Pain Management

At the completion of this module, the student will be able to assess and manage the pain relief of a pre-hospital patient using a prescribed list of medications.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The physiology of pain
2. The various types of pain
3. The reasons for care management of pain pre-hospital
4. The therapeutic goals of pain relief
5. The non medicinal options for pain relief
6. The benefits and limitations of the interview pneumonic (PQRST) provocation, quality, region/referral/recurrence/relief, severity and time and the analogue scale 0-10
7. The difference between the descriptors:
    a. Stabbing/sharp
    b. Crushing
    c. Acute
    d. Chronic
    e. Pulsating
    f. Burning
    g. Dull
    h. Cramps
    i. Pleuretic
    j. Colicky
    k. Peritoneal
    l. Neuropathic
8. The time/ transport critical features of pain
9. Pain management for patients with chronic pain
10. The medical, pharmacological, physiological and legal aspects of pain management using the agents within the relevant PHECC CPGs
11. The assessment and care management of the patient with significant nausea and vomiting with or without pain

Attitudinal Objectives

1. Respect the feelings that patient with pain, acute or chronic may be experiencing and support empathetically

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Diabetic Emergencies

At the completion of this module, the student will be able to assess and manage the care of a pre-hospital patient with a diabetic emergency.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The aetiology and pathophysiology of insulin dependent and non-insulin dependent diabetes mellitus including ketone formation
2. The normal range of blood glucose levels and the significance of variations to these
3. The difference between the types of diabetes mellitus
4. The complications of diabetes mellitus
5. The clinical features of hypoglycaemia
6. The body's physiological reaction to hypoglycaemia including gluconeogenesis
7. The cause and clinical features of different types of hyperglycaemia- diabetic ketoacidosis, hyperosmolar non-ketoacidosis and uncomplicated hyperglycaemia
8. The pre-hospital emergency care management of diabetic emergencies
9. The time/ transport critical features of diabetic emergencies

Attitudinal Objectives

1. Demonstrate an appropriate caring attitude with the patient who regains consciousness among strangers

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Allergies and Anaphylaxis

At the completion of this module, the student will be able to recognise and manage a pre-hospital patient suffering from an allergic reaction, including anaphylaxis.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Skills

1. The inflammatory response including causes and cardinal signs
2. The benefits and harmful effects of acute inflammation
3. The 4 types of allergic response
4. The risk factors most predisposing to anaphylaxis
5. The pathophysiology of allergy and anaphylaxis including the formation of antibodies
6. The common antigens most frequently associated with anaphylaxis
7. The difference between manifestations of an allergic reaction from anaphylaxis
8. The abnormal findings in assessment with the clinical significance in the patient with anaphylaxis
9. The aetiology and pathophysiology of anaphylactic shock
10. The pre-hospital emergency assessment findings and care management of the patient with allergic reaction or anaphylaxis
11. The time/ transport critical features of anaphylaxis

Attitudinal Objectives

1. Appreciate the concern of the patient himself/ herself or of the relatives or bystanders who witness a patient with anaphylaxis.

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Poisoning/Overdose Emergencies

At the completion of this module, the student will be able to recognise, assess and manage the care of a pre-hospital patient suffering from poisoning or overdose.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Toxidromes and list the main categories
2. The time/ transport critical features of poisoning/ overdose emergencies
3. The term antidote
4. The antidotes available to the AP
5. The role of the National Poisons Information Centre and Toxbase (The primary clinical toxicology database of the National Poisons Information Service)
6. The assessment findings associated with toxidrome categories
7. The treatment and pharmacological interventions available to the AP in the management of poisoning
8. The term overdose
9. The most common poisonings by overdose
10. The signs and symptoms related to the most common poisonings by overdose
11. The pre-hospital emergency assessment findings and care management of the patient with poisoning and overdose (including potential poisoning)
12. The time/ transport critical features of poisoning and overdose
13. Drug abuse in Ireland
14. The most commonly abused drugs (both by chemical name and street names
15. The pathophysiology of commonly used drugs
16. The signs and symptoms related to the most commonly abused drugs
17. The pathophysiological principles and the assessment findings to formulate a clinical impression and implement a care management plan for the patient with the most common poisonings and overdose

Attitudinal Objectives

1. Demonstrate an appropriate professional and caring attitude towards the patient, relatives or bystanders who witness a patient with poisoning or overdose.
2. Act in a non – judgemental and professional manner when managing self-poisoning and harm cases

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Behavioural & Mental Health Emergencies

At the completion of this module, the student will be able to assess and manage the care of a pre-hospital patient with acute, severe behavioural problems in accordance with the appropriate CPG(s) and scope of practice for an AP.

The student will be able to demonstrate effective and appropriate communication strategies, both towards the patient and with other colleagues, when dealing with patients with behavioural and mental health emergencies.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The time/ transport critical features of behavioural/mental health emergencies
2. Behavioural emergencies
3. Mental health emergencies
4. The medical legal considerations for management of behavioural/ mental health emergency
5. The pathophysiology of behavioural/mental health disorders
6. The techniques for physical assessment in a patient with behavioural/mental health disorder
7. The special consideration around capacity evaluation for the patient with behavioural/mental health disorder
8. The pre-hospital emergency assessment findings and care management of the patient with a behavioural/mental health disorder

Attitudinal Objectives

1. Demonstrate an appropriate professional and caring attitude towards relatives or bystanders who witness a patient with a behavioural/mental health emergency.
2. Appreciate that a behavioural disorder may have a complex aetiology

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Environmental Emergencies

At the completion of this module, the student will be able to assess and administer care to a pre-hospital patient with adverse environmental exposure.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The time/ transport critical features of environmental emergencies
2. The aetiology and pathophysiology of heat/cold emergencies
3. The role of fluid therapy in the treatment of a heat/cold emergencies
4. The pre-hospital emergency assessment findings and care management of the patient with heat/cold emergencies
5. The time/ transport critical features of heat/cold emergencies
6. The assessment findings of a patient with inoculation injury including bites, stings and needle stick injuries
7. The pre-hospital emergency assessment findings and care management of the patient with a bite or sting
8. The pre-hospital emergency assessment findings and care management of the patient in a submersion incident
9. The pre-hospital emergency assessment findings and care management of the patient with a decompression illness

Attitudinal Objectives

1. Demonstrate an appropriate caring attitude towards the patient or their relatives or bystanders who witness a patient with an environmental emergency understanding the *acuteness of the condition*

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above
2. Demonstrate the pre-hospital emergency assessment findings and care management of the patient with heat/cold emergencies
3. Demonstrate the pre-hospital emergency assessment findings and care management of the patient with a bite or sting
4. Demonstrate the pre-hospital emergency assessment findings and care management of the patient in a submersion incident
5. Demonstrate the pre-hospital emergency assessment findings and care management of the patient with a decompression illness

Special Patient Groups

At the completion of this module, the student will be able approach the care and management of pre-hospital patients with special needs in an appropriate, caring and professional manner.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Brief overview of
    a. Minority ethnic and cultural groups
    b. Gay, lesbian and transgender
    c. Impaired vision, speech and hearing
    d. Patients with terminal illnesses
    e. Mobility and movement disorders
    f. Psychiatric illness patients
    g. Learning Disabilities including Down's Syndrome
    h. Chronic neurological illnesses (multiple sclerosis, spina bifida, myaesthenia gravis)
    i. Chronic Fatigue
2. Elderly patients, in particular the polypathology and polypharmacy implications of assessment and treatment of this group
3. The common causes of acute and chronic confusion in the elderly and the key differences in the history, presentation and management of the two groups
4. Issues around incidences of Elder abuse
5. Issues around incidences of domestic violence
6. Abuse of any special patient group and the role of patient advocacy

Attitudinal Objectives

1. Be able to effectively communicate with the patient who may have communication, sensory, mobility or learning difficulties and make appropriate remediation and/or allowances for these impairments.

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of a patient within any of the above groups

Pregnancy and Pre-Delivery and Post-Delivery Emergencies

At the completion of this module, the student will be able to assess and mange the care to a pregnant woman during pregnancy and for pre-delivery and post-delivery emergency care in an out-of-hospital setting in accordance with appropriate CPG(s) and policy/protocols.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The normal anatomical and physiological changes during pregnancy and limits beyond which they become pathological
2. The changes in and resulting from pre-existing disease, including asthma, diabetes, heart disease and hypertension
3. The significance of trauma during pregnancy including seat belt injury and domestic violence
4. The significance of cardiac arrest during pregnancy
5. The pre-hospital emergency care assessment findings of a pregnant woman and relate these to the gestational period
6. The position of the fundus and gestational age
7. The indications for an inspection of the vulva, taking account of consent and cultural issues
8. The pre-hospital emergency care assessment findings and care management of the patient with the following emergencies:
    a. antepartum haemorrhage
    b. ectopic pregnancy
    c. pre-eclampsia
    d. eclampsia
    e. post-partum haemorrhage
9. The time/ transport critical features of pregnancy related conditions
10. The impact of illicit drug use during pregnancy

Attitudinal Objectives

1. Appreciate the importance of maintaining a patient's modesty and privacy while being able to examine physically and interview as appropriate
2. Acknowledge that previous history of intrauterine death or miscarriage can affect the patient significantly

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Childbirth and Neonatal Resuscitation

At the completion of this module, the student will be able to assess manage the care of a pregnant woman during labour and delivery and also be able to perform neonatal resuscitation in an out-of-hospital setting, in accordance with appropriate CPG(s) and policy/protocols.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The stages of labour and describe the mechanisms responsible for parturition
2. The physiology of the umbilical cord and maternal/ baby circulation after birth
3. The pre-hospital emergency care assessment findings of a pregnant woman when birth is imminent and during a delivery
4. The pre-hospital emergency assessment findings and care management of the following
    a. Umbilical cord complications;
    b. Prolapsed cord
    c. Cord rupture
    d. Short cord
    e. Cord around the baby's neck
    f. The types of breech presentation
5. The pre-hospital emergency assessment findings and care management of the following deliveries:
    a. multiple deliveries
    b. breech presentation
    c. limb presentations
6. The consequences of the presence of meconium amniotic fluid or during delivery
7. The causes of haemorrhage during pregnancy and postpartum
8. Normal and pathological levels of blood loss during childbirth
9. The pre-hospital emergency assessment findings and care management of perineal tears and post partum haemorrhage
10. The significance of a premature baby
11. The importance of post delivery temperature control for the newly born
12. The time/ transport critical features of childbirth and neonatal care
13. Neonatal and maternal resuscitation

Attitudinal Objectives

1. Appreciate the importance of maintaining a patient's modesty and privacy during assessment and management of a delivery

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Gynaecological Emergencies

At the completion of this module , the student will be able to assess manage the care of a woman suffering from a gynaecological emergency in an out-of-hospital setting, in accordance with appropriate CPG(s) and policy/protocols.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Toxic shock syndrome
2. Threatened miscarriage
3. Ectopic Pregnancy
4. The time/ transport critical features of these conditions

Attitudinal Objectives

1. Demonstrate a caring professional attitude towards the relatives or bystanders who witness a patient with any of these conditions.

Skills Objectives

1. Consider pregnancy, threatened miscarriage and toxic shock in all appropriate patients (i.e. any woman of child bearing age)
2. Take a focussed clinical history
3. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Paediatrics

At the completion of this module, the student will be able to perform a relevant paediatric assessment and be aware of the special circumstances surrounding their approach to an acutely unwell child.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Developmental milestones and identify the key growth and developmental characteristics for infants (<1 year) toddlers (< 2years) and pre-school children
2. The signs of a seriously ill or deteriorating child
3. The advanced paramedic's role in the reduction of infant and childhood morbidity and mortality from acute illness and injury
4. The importance of obtaining the patient's weight for effective care
5. Normal age group related vital signs
6. The care management for sudden infant death syndrome (SIDS) infants
7. The assessment and care management of suspected abuse/neglect infant or child and the special considerations

Attitudinal Objectives

1. Appreciate the emotional dependence of the infant/child on their parent/guardian
2. Interact with the infant/ child that conveys an understanding of their developmental stage

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above
2. Use parent/caregiver interviewing techniques and emotional support for infant and child death situations
3. Use parent/caregiver interviewing techniques for suspected infant and child abuse/neglect situations
4. Make accurate and detailed records in cases of suspected non-accidental injury and neglect

Paediatric Medical

At the completion of this module, the student will be able to identify common paediatric emergencies and as a result be able to assess and manage the care of a paediatric patient in accordance with CPG(s). A particular focus will be on paediatric airway management.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge objectives

1. The aetiology and pathophysiology of each of the following conditions:
   Respiratory problems:
   a. Inadequate respirations
   b. Stridor
   c. Upper airway obstruction
   d. Foreign body/croup/epiglottitis
   e. Lower airway obstruction
   f. Asthma
   g. Bronchiolitis
   h. Tension pneumothorax
   i. Respiratory arrest

   Cardiac problems:
   j. Cardiac arrhythmias
   k. Asystole/ pulseless electrical activity
   l. Ventricular fibrillation and pulseless VT
   m. Bradycardia

   Other:
   n. Hypovolaemic shock
   o. Seizure disorders/ convulsions (febrile and afebrile)
   p. Hypoglycaemia/hyperglycaemia
   q. Anaphylaxis
   r. Pain
   s. Meningococcal sepsis
2. The pre-hospital emergency assessment findings and care management of the conditions listed above
3. The indications, contraindications, benefits, limitations, complications, equipment and procedure of paediatric supraglottic airway placement
4. The indications, contraindications, benefits, limitations, complications, equipment and procedure of paediatric endotrachael intubation
5. The indications, contraindications, benefits, limitations, complications, equipment and procedure for inserting a paediatric nasogastric tube
6. The methods to confirm correct placement of an endotrachael tube

7. The methods for securing a paediatric endotrachael tube
8. The indications, contraindications, procedure and complications for paediatric extubation
9. The time/transport critical features of infant/children with illness

Attitudinal Objectives

1. Understand common response of families with acute illness of an infant or child

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above
2. Perform laryngoscopy and foreign body airway removal, and endotracheal intubation where this is unsuccessful
3. Perform the care management options for airway and ventilatory support[1] (basic airway adjuncts, Supraglottic airway and ETT and naso-gastric tube)
4. Extubate or remove an airway device

[1] Devices and equipment to be used in paediatric airway and ventilatory support is outlined in full in PHECC CPGs

Paediatric Trauma

At the completion of this module, the student will be able to identify common paediatric trauma emergencies and be able to assess and manage the care of a paediatric patient in an out-of-hospital setting in accordance with CPG(s).

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The common causes and characteristics of paediatric burns
2. The mechanisms of injury which commonly involve children
3. The pathophysiology of trauma in infants and children
4. The specific physiological responses to trauma in children
5. The care management of the paediatric trauma patient compared with the adult emphasising the needs of the injured child
6. The time/ transport critical features of infant/ children with traumatic injury

Attitudinal Objectives

1. Appreciate the reactions and response of families with acute injury of an infant or child

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Shock

At the completion of this module, the student will be able to describe the relevant pathophysiology of shock and as a result be able to assess and manage the care of a pre-hospital patient with hypovolaemic, distributive, neurogenic, obstructive and cardiogenic shock.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The definition of shock
2. Types of shock; hypovolaemic (including haemorrhage) , distributive (anaphylaxis, sepsis and burns), cardiogenic, neurogenic and obstructive (cardiac tamponade and tension pneumothorax)
3. The rationale for low volume and high volume resuscitation depending on the type of shock
4. The stages and clinical features of the grades of hypovolaemic shock
5. The pathophysiology of haemorrhage and shock
6. The body's physiological response to changes in perfusion
7. The identification and control of haemorrhage
8. The difference between compensated and uncompensated haemorrhagic shock
9. The pre-hospital emergency care assessment findings and care management of the patient with haemorrhage and shock
10. The time/ transport critical features of haemorrhage and hypovolaemic shock
11. The differences between crystalloid and colloid fluid
12. The role of medical direction in fluid replacement therapy
13. The routes of administration of fluid therapy
14. The difference in selecting a cannula and a site for vascular access in the trauma patient
15. The role of AED and ECG in trauma

Attitudinal Objectives

1. Appreciate the importance of a thorough patient assessment
2. Defend why basic life support takes priority over wound closure

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Soft Tissue and Musculoskeletal Injuries including Crush Injuries

At the completion of this module, the student will be able to list the major types of soft tissue and musculoskeletal injuries and be able to assess and manage the care of a pre-hospital patient with soft tissue and musculoskeletal injury.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The assessment and management of wound infection
2. The pathophysiology of wound healing including;
    a. Haemostasis
    b. Inflammation phase
    c. Epithelialisation
    d. Neovascularisation
    e. Collagen synthesis
    f. Skin tension lines in the body
3. The time/ transport critical features of soft tissue, musculoskeletal and crush injuries
4. The pathophysiology of the following injuries

- Thoracic (to include specific blunt and penetrating trauma)
    - Chest wall injuries
    - Rib fractures
    - Flail segment
    - Sternal Fracture
- Lung injury
    a. Simple pneumothorax
    b. Tension pneumothorax (chest decompression)
    c. Open pneumothorax
    d. Haemothorax
    e. Pulmonary contusion
    f. Traumatic asphyxia
- Myocardial injury
    a. Cardiac tamponade (pericardiocentesis)
    b. Myocardial contusion
    c. Myocardial rupture
- Vascular injury
    a. Aorta
    b. Vena cava
    c. Pulmonary vessels
- Visceral injury including
    a. Oesophagus

    b. Trachea
    c. Bronchus
    d. Diaphragm
- Pelvic injury
    a. Basin effect
- Crush syndrome
    a. Renal failure
    b. Rhabdomyolysis
- Compartment syndrome
- Abdominal injury
        a. Open injury
        b. Closed injury
        c. Solid and hollow organ injuries

5. The pathophysiology of soft tissue injuries including;
        a. Contusion
        b. Haematoma
        c. Abrasions
        d. Lacerations
        e. Major arterial lacerations
        f. Avulsions
        g. Impaled objects
        h. Amputations
        i. Incisions
        j. Blast injuries
        k. Penetrations/punctures (blunt and penetrating)
6. The pathophysiology of Barotrauma
7. The pre-hospital emergency care assessment findings and care management of the patient with the trauma injuries above according to the mechanisms involved

Attitudinal Objectives

1. Articulate the importance of a thorough patient assessment, with soft tissue, and musculoskeletal injuries including crush injuries.
2. Demonstrate a caring attitude towards the relatives or bystanders who witness a patient with a soft tissue and musculoskeletal injuries understanding the acuteness of the condition

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above

Head, Brain and Spinal Injuries

At the completion of this module, the student will be able to assess and manage the care of a pre-hospital patient with a head, brain or suspected spinal injury. In particular, the student will be able to demonstrate the specific procedures for safe extrication, protection and transport of a patient with a head, brain and / or suspected spinal injury.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The differential diagnosis when alcohol and illicit drugs are suspected
2. The pathophysiology of the following traumatic injuries
    - Head / Brain Injuries
        - Raised ICP (relationship of O_2 & CO_2)
        - Hypoxic/ischaemic injury
        - GCS and the classification into mild, moderate and severe head injury
    - Brain haemorrhage
        - Extra dural
        - Sub dural
        - Intra cerebral
        - Sub arachnoid
    - Facial - Including the specific consequences
        - Eye
        - Ear
        - Nose
        - Throat
        - Mouth
        - Affects on the airway
    - Spinal- Spinal cord syndromes
        - Traumatic
        - Non traumatic
            a. Low back pain
            b. Herniated intervertebral disc
            c. Spinal cord tumours
3. Differentiate between primary and secondary brain injury
4. The pre-hospital emergency care assessment findings and care management of the patient with the trauma injuries above according to the mechanisms involved
5. The principles underlying the PHECC CPG spinal immobilisation decision tree
6. The time/ transport critical features of traumatic injuries

Attitudinal Objectives

1. Respond appropriately to the feelings that the patient or family may be experiencing at the scene and during transport of a traumatic injury

Skills Objectives

1. Perform the pre-hospital emergency assessment and care management of the patient with all the conditions listed above
2. Practical application of the PHECC CPG spinal immobilisation decision tree to the trauma patient

Burn Injuries

At the completion of this module, the student will be able to assess and manage the care of a pre-hospital patient with a thermal injury.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The pathophysiology of local and systemic responses to burns
    a. Inhalation
    b. Electrical (Based on an understanding of electrical conduction)
    c. Thermal
    d. Chemical
    e. Radiation
    f. Cold burns
2. The assessment and care management of burns

Attitudinal Objectives

1. Appreciate the importance of a thorough patient assessment, with the realisation that burns are often associated with other significant injuries

Skills Objectives

1. Perform the pre-hospital emergency care assessment and care management of the patient with burn injury

Learning Outcome 2 –Domain 1

Adopt a professional approach to their practice	Providing clinical leadership in the pre-hospital environment

Health, Safety and Welfare

At the completion of this module, the student will be able to perform their duties in line with legislative requirements and demonstrate leadership in relation to local procedures/ policies in health, safety and welfare in the workplace.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Describe the function of an organisation's Safety Statement
2. State the difference between hazard, risk and controls
3. Describe how a hazard, risk and control assessment is carried out
4. Explain the concept of the risk control hierarchy
5. Describe the benefits of an occupational health and safety programme in the workplace
6. Explain the term "Contributory negligence"
7. Explain the difference between a near miss and an incident
8. Describe the benefits of incident and near miss reporting
9. Outline the risk reduction approaches related to Advanced Paramedic practice

Attitudinal Objectives

1. Help develop and promote a safety workplace culture
2. Openly report risks and errors

Skills Objectives

1. Conduct a basic hazard, risk and control assessment of a workplace
2. Analyse relevant workplace data in order to identify, assess and control risks
3. Analyse relevant workplace data in order to evaluate the effectiveness of a health and safety programme

Lead and Participate in Work Teams

At the completion of this module, the student will be able to take on the role of team leader and work effectively as a team member.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. How motivation affects productivity
2. Intrinsic and extrinsic motivation and its application in the workplace
3. The roles and responsibilities of a team leader
4. The differences between assessment and evaluation
5. The methods and application of Planning, Organising and Controlling
6. The three elements of a contract
7. How a contract can be terminated
8. Industrial relations procedures and how they protect both employer and employee.
9. How productivity can be evaluated in the health sector.

Attitudinal Objectives

1. Empower team members
2. Use appropriate interpersonal skills when dealing with resistance, conflict and difficult situations
3. Commit as a team player

Skills Objectives

1. Draw a concept map
2. Write a learning objective that can be measured
3. Produce monitoring, assessment and evaluation tools
4. Draw a process chart and demonstrate the advantages of applying it to problem definition and resolution
5. Show key abilities as a team member
6. Delegate responsibility with commensurate accountability
7. Defuse a conflict based interaction
8. Conduct an investigative interview
9. Document/ Report a problem

Change Management

At the completion of this module, the student will be able to utilise a framework for initiating and managing change in their professional role.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The advantages and disadvantages of the SWOT Analysis
2. Each of the areas investigated in a PESTEL Analysis
3. The application of a Force Field Analysis
4. Emotion within a contextual setting of change
5. How attitudes and motivation can support or inhibit the change process
6. The attributes of relationship management within the context of change

Attitudinal Objectives

1. Motivate and use a rational approach toward the change process
2. Use a level of interpersonal skills that encourages open communication and rationality toward the change process
3. Perform objectivity when analysing an intended change

Skills Objectives

1. Construct a SWOT Analysis of change in an organisational context
2. Conduct a PESTEL Analysis
3. Construct a Force Field Analysis to identify the pressure of opposing forces acting on a change process
4. Deliver a short presentation to a peer group which clarify the important factors of change
5. Produce an objective evaluative model for a contextualised change affecting the student's organisation

Learning Outcome 2 – Domain 2

Adopt a professional approach to their practice	Retaining a professional manner and method in the performance of their duties

Governance, Ethics and Professional Practice

At the completion of this module, the student will be able to adopt a professional approach to their practice and be aware of their duties as an AP, both with regard to governance and registration.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Explain the professional duties of being a registered pre-hospital emergency care practitioner
2. Critically analyse the PHECC Code of professional conduct and ethics
3. Explain the principles underlying Pre-Hospital Emergency Care Council's Fitness to Practice
4. Discuss the APs role in team work with other registered practitioners and other non ambulance personnel
5. Outline the concepts of good governance
6. List the four principles of healthcare ethics
7. Explain the difference between an ethical and a moral decision
8. Explain the principles of ethical clinical practice
9. Describe how the PHECC CPGs define an AP's scope of practice

Attitudinal Objectives

1. Explain why it is inappropriate to judge the patient based on a cultural, gender, age or socioeconomic model and to vary the standard of care rendered as a result of that judgement
2. Value a commitment to the ethical principles of healthcare
3. Accept and uphold the professional responsibilities of an Advanced Paramedic in accordance with the standards of the PHECC Register
4. Limit practice to that within the AP responsibilities outlined by the PHECC CPGs

Skills Objectives

1. Apply the principles of good personal governance to practice
2. Work in a patient-centred way applying the principles of ethical clinical practice
3. Apply the principles contained with the PHECC codes and standards
4. Work effectively with other healthcare and emergency professionals

Medico-Legal Issues Concerning the AP

At the completion of this module, the student will be able to outline the legal responsibilities of an Advanced Paramedic in accordance with best practice standards and current legislation.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Outline the pertinent sections of current relevant legislation, highlighting their impact on AP professional practice
2. Explain the rationale for appropriately reporting and recording patient information
3. Describe the legal aspects of a Patient Care Report (PCR) including ownership, access and control of PCRs
4. Explain the "tort of negligence"
5. Discuss the concept of "Duty of Care"
6. The process of detention of mental health patients (*include reference to Mental Health Act 2005)*
7. The potential conflict between professional standards and the law
8. Define abandonment, negligence and battery and their implications for the Advanced Paramedic
9. Define informed and implied consent and discuss the methods of obtaining consent
10. Discuss the legal and ethical issues concerning obtaining the consent of minors
11. Discuss the legal responsibilities of the Advanced Paramedic in cases of patient refusal of treatment and or transport
12. Explain the importance, necessity and legality of patient confidentiality
13. Discuss the grounds for sharing patients' health information with other health professionals
14. Discuss disclosure of patients' health records for purposes of litigation

Attitudinal Objectives

1. Accept and uphold the legal responsibilities of an Advanced Paramedic in accordance with current legislation

Skills Objectives

1. Prepare a statement from a simulated case in a manner that meets legislative requirements
2. Manage the paperwork relating to compulsory detention under the MHA

Patient Safety and Quality Assurance

At the completion of this module, the student will be able to examine their practice and their practice environment in terms of improving the quality of clinical care.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Situations associated with an increased risk of error
2. Individual factors that predispose to errors
3. The harm caused by healthcare errors and systems failures
4. Adverse event investigation as a system improvement
5. The clinical audit cycle
6. The differences between clinical audit and research
7. Formulating and clarifying a research topic
8. Critically apprise relevant research literature
9. The process and layout of writing up the research findings

Attitudinal Objectives

1. Advocate for adverse events investigations
2. Communicate openly when things go wrong
3. Contribute toward augmenting the body of knowledge to promote evidence based practice
4. Promote and promulgate professional requirements for a scientific approach to underpin professional practice
5. Encourage other professionals to endorse and participate in clinical audit
6. Practice strategies to reduce errors

Skills Objectives

1. Carry out a systematic enquiry into an adverse event (e.g. root cause analysis
2. Conduct a literature review and produce a critique of findings
3. Design a research question
4. Write the objectives for a small scale research project
5. Conduct a small scale research project
6. Produce a report on the findings of the research project
7. Construct a small scale clinical audit proces
8. Measure a clinical outcome within the pre-hospital setting
9. Contribute towards the National PHECC clinical audit process

References:

1. Department of Health and Children, Building a Culture of Patient safety, 2007 (Available from http://www.dohc.ie/publications/building_culture_patient_safety.html; accessed October 2010).
2. World Health Organisation, Patient safety curriculum Guide for Medical schools, 2009 (Available from http://www.who.int/patientsafety/education/en/; accessed October 2010).

Learning Outcome 2 – Domain 3

Adopt a professional approach to their practice	Basing their professional practice on a solid foundation of both basic and clinical sciences

Clinical Anatomy and Physiology

At the completion of this module the student will be able to outline the structure and function of the body.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

Homeostasis and Body Chemistry

1. The term homeostasis
2. The following terms pH, acid, alkali and buffer
3. The term electrolyte and state why they are important body constituents
4. The concept of molar concentration and explain the difference between the terms isotonic, hypotonic and hypertonic
5. Why different body fluids have varying pH values
6. Why buffers are important in the maintenance of body pH
7. The differences between the terms acidosis and alkalosis
8. The basic chemical nature of sugars, proteins, lipids, nucleotides and enzymes
9. The comparisons and contrasts between the processes of osmosis and diffusion
10. How molecules move within and between body compartments
11. The terms intra- and extracellular fluid
12. Why homeostatic control of intra- and extracellular fluids is vital to body function

Cells, Tissues and Organisation of the Body

13. The processes involved in the transport of substances across cell membranes
14. State which and also outline how different types of tissues can regenerate
15. The comparison and contrasts between the structure and function of exocrine and endocrine glands

The Respiratory System

16. The muscles of respiration
17. The physiology of respiration
18. The main mechanisms (nervous and chemical) which control and regulate respiration
19. What effect physiological variables have on respiration

20. The normal partial pressures of the gases present within air and the consequences of altered partial pressures on respiration
21. What effect altered carbon dioxide levels and in particular the hypoxic drive has on respiration
22. How respiration can affect the pH of certain body fluids
23. The function of smooth muscle in the pulmonary system
24. The positive pressures of O_2 and CO_2 during external and internal respiration

The Cardiovascular System

25. The 4 properties of cardiac cells
26. The role of sodium and potassium in cardiac muscle contraction
27. The 5 phases of the cardiac potential
28. The electrical conducting system of the heart
29. Relate the electrical activity of the cardiac conduction system to the cardiac cycle
30. The physiological and anatomical basis for the heart sounds
31. The mechanisms that regulate pulse and blood pressure and the factors which cause variations in blood pressure and pulse
32. The main control mechanisms for the regulation of blood pressure
33. The effect that circulating catecholamines have on the heart
34. The relationship between different types of blood vessels
35. The effects of and the process and underlying mechanisms for vasodilatation and vasoconstriction of blood vessels
36. The main arterial circulation
37. The mechanism for venous blood flow
38. The typical venous pathways in the hand and arm
39. The circulation of blood the pelvis and lower limbs
40. The mechanisms by which the exchange of gases occurs between blood and tissues within the systemic circulation
41. The mechanism by which exchange of nutrients, waste and water occurs between the blood and tissues

The Musculoskeletal System

42. The methods for classifying bone
43. The characteristics of the 3 major joint types and relate them to their function
44. Compare and contrast between the structure and function of muscles, ligaments and tendons
45. The importance of the growth plate to bone development
46. The neuromuscular junction

The Digestive System

47. The process of digestion from food entering the body to the elimination of waste
48. The process of peristalsis
49. The main physiological functions of the liver, pancreas and gallbladder

The Blood

50. The structure, function and formation of erythrocytes, leucocytes and thrombocytes
51. The constituent parts of plasma and describe the major functions of each

52. Review the relationship between intra- and extracellular fluid and the effect of this relationship on homeostasis
53. The regulation of coagulation
54. How the clotting process controls blood loss, in particular focusing on the role of platelets
55. Blood types in relation to transfusion

The Skin

56. The structure of the skin layers: dermis, epidermis, superficial fascia, deep fascia
57. The function of skin
58. How blood vessels in the skin respond to heat, cold and to the stress response
59. The difference between primary and secondary healing

The Nervous System

60. The physiology of nerve impulse transmission including the role of neurotransmitters
61. The differences between the functions of sensory and motor nerves
62. The areas innervated by the cervical nerves
63. The major functions of the 12 cranial nerves
64. Compare and contrast between the structural and neurochemical constituents of the 2 divisions of the autonomic nervous system
65. How pain is perceived and outline the rationale for referred pain
66. The composition of CSF
67. The structure and function of the meninges
68. The location and function of the hypothalamus
69. Conduction, convection, radiation and evaporation in relation in temperature control

The Urinary System

70. The structure of a nephron
71. The role of the urinary system in maintaining fluid and electrolyte balance
72. The process involved in the formation of urine
73. The process of storage and passage of urine
74. The role of the kidney in control of blood pressure

The Female Reproductive System and Labour

75. The position of the main structures of the external female genitalia
76. The position, structure and function of the vagina, uterus and fallopian tubes
77. The development and functions of the placenta
78. The location, structure and function of the umbilical cord
79. The physiological changes that occur in the body during pregnancy
80. The foetal circulation and the changes that occur to it at birth

The Endocrine System

81. The major endocrine glands of the body and identify the hormones associated with each
82. The actions of aldosterone on the renin-angiotensin-aldosterone system in maintaining water and electrolyte balance
83. The functions of adrenaline and noradrenaline and their action on the sympathetic nervous system
84. Normal control of blood sugar
85. The pathophysiology of diabetes mellitus

Overview of the Mechanisms and Kinematics of Trauma

At the completion of this module, the student will be able to outline the key forces involved in producing trauma during moving vehicle accidents.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Energy and force as they relate to trauma
2. The laws of motion
3. The terms; mechanism of injury, “down and under”, “up and over” velocity, acceleration, deceleration, kinetic energy and gravity
4. The pathophysiology of the head, spine, thorax and abdomen that occur from the result of the above forces
5. How trauma injuries may be predicted based on the mechanism of injury
6. Outline the injury patters of penetrating and blunt trauma
7. The principles of kinetic energy transfer in relation to the three impacts of a road traffic collision

Attitudinal Objectives
No attitudinal objectives

Skills Objectives
No skills objectives

Pharmacology and Therapeutics

At the completion of this module, the student will be able to safely and effectively use established best practice guidelines/protocols in their approach to utilising medication as part of their clinical role as Advanced Paramedics.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

1. Outline the legal framework and system of best practice that empowers Advanced Paramedics to administer medications
2. Demonstrate best practice utilising the relevant Pharmacology PHECC CPG for Advanced Paramedic Grade
3. Describe and demonstrate the documentation of medication administration on the Patient Care Report
4. Locate and interpret information about the properties of medications from sources such as the British National Formulary (BNF), the Monthly Index of Medical Specialities (MIMS) and the PHECC Formulary
5. Explain the rationale for near miss incident or medication error reporting

Pharmacokinetics and Pharmacodynamics

1. Define the term pharmacology
2. Define the terms pharmacokinetics and pharmacodynamics
3. Explain the process of drug absorption
4. Outline the process of drug distribution and elimination
5. Describe how cardiovascular function affects medication distribution
6. Outline the characteristics of paediatric, elderly and pregnant patients that influence medication distribution, metabolism and excretion
7. Describe alpha, beta and nicotinic receptors, their function and how certain drugs affect them
8. Explain the factors that may influence drug absorption, distribution and elimination
9. Explain the term drug action and factors that may potentiate or diminish a drug's action
10. Define the term drug half-life and the consequences of drug half-life on drug administration and monitoring
11. Define the terms: precaution, side effects, indications, contraindications and adverse reactions.
12. Explain the term anaphylactic reaction and the importance of its prevention and recognition in relation to drug administration and post- administration patient monitoring
13. Outline the units of measurement of medications
14. Differentiate between trade and generic medication names

Therapeutics (Coronary artery disease, diabetes, asthma, COPD, trauma)

1. Demonstrate the relationships between key acute and chronic illnesses and the treatment strategies used to manage them
2. Explain the relationships between serious injuries and the treatment strategies used to manage them
3. List the key pathophysiologic and clinical characteristics of CAD, diabetes, asthma, COPD and major trauma
4. Outline the key treatment strategies used in each
5. Describe the principal characteristics of the key pharmacologic agents used in each of these problems
6. Explain the potential for interaction between AP interventions and standard therapies used for these problems

Medication Protocols

1. Explain the rationale for the administration of medication
2. List the medication which the Advanced Paramedic may administer to a patient from PHECC CPGs
3. List and demonstrate the pre-administration checks to follow when administering medication
4. Explain the importance of establishing if the patient has any medication allergies or is taking complementary therapies e.g. homeopathy
5. Explain the dangers associated with inappropriate administration of medication
6. List the class, action, dose, route of administration, indications, contra-indications and side effects of the approved medications for use by Advanced Paramedics[2]
7. Outline the formulas used as a basis for performing medication calculations
8. Calculate the correct dosage of all approved medications for adults, infant and children
9. Calculate the correct intravenous infusion rates of all approved infusions[3] for adults, infant and children
10. Demonstrate the administration of all approved medication for Advanced Paramedic use
11. Describe and demonstrate the assessment and documentation of the patient's response to medication
12. Outline the principles and special considerations when administering medication under a medical practitioner’s direction

[2] Approved medication are outlined in full in PHECC CPGs

[3] Approved infusions are outlined in full in PHECC CPGs

Medication Administration

At the completion of this module, the student will be able to safely administer the appropriate medication for Advanced Paramedic grade and correctly monitor medicated patients in accordance with established policy.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Demonstrate knowledge of PHECC approved Controlled Drug use protocol
2. List the procedure to be followed in the event of a medication error
3. List the preferred sites for an intravenous cannula and intraosseous needle insertion
4. List the indications, equipment required, procedure and general principles of inserting an intravenous cannula
5. List the indications, equipment required, procedure and general principles of intravenous medication injection and infusion
6. List the indications, equipment required, procedure and general principles of intraosseous needle placement, injection and infusion
7. The indications, equipment required, procedure and general principles of administering medication by the following routes:
    a. oral
    b. intra-nasal
    c. sublingual and buccal
    d. inhalation
    e. intramuscular
    f. subcutaneous
    g. intravenous
    h. intraosseous
    i. rectal
    j. transdermal
8. List the common complications of an intramuscular and intraosseous injection and outline basic remedial action
9. Describe the assessment findings and documentation of the patient response to all medication administered
10. List the indications, equipment required, procedure and general principles of obtaining a blood sample
11. Outline the special considerations for intravenous access in the trauma patient
12. Outline the special considerations for intravenous access and intramuscular injection in the paediatric patient
13. Outline the special considerations for injections for the paediatric patient

Attitudinal Objectives

1. Accept responsibility for potential drug errors (near miss)and report same
2. Accept responsibility for the secure handling and recording of Morphine and any other medication that may lead to misuse
3. Act responsibly and with care relating to each of the above AP procedures

Skills Objectives

1. Apply safe practice relating to each of the above AP procedures
2. Safely handle, secure and store all PHECC approved medication carried including additional precautions with Morphine
3. Administer all PHECC approved medication for advanced paramedic use; by oral, buccal, intra-nasal, sublingual, inhalation, rectal, intravenous, intraosseous, intramuscular, subcutaneous and transdermal routes as appropriate
4. Assess and document the patients' responses to medication administered

Infection Prevention and Control

At the completion of this module, the student will be able to demonstrate the principles of infection prevention and control whilst carrying out their professional duties in accordance with established policy.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. Explain why infection prevention and control is relevant to patient safety
2. Explain the devastating effects of inadequate infection control

Attitudinal Objectives

1. Adopt standard infection control precautions as fundamental to patient care
2. Be aware of the issues at stake and actively encourage others to comply with standard infection control precautions

Skills Objectives

1. Perform an assessment of a patient suspected of or identified as having an infectious disease
2. Effectively and safely manage a patient according to standard precautions
3. Apply safe practice relating to all Advanced Paramedic procedures

Learning Outcome 2 – Domain 4

Adopt a professional approach to their practice	*Utilising best practice as prescribed by pre-hospital standard operational procedures/ standards of operation and CPGs.*

Major Emergency

At the completion of this module, the student will be able to perform their duties effectively in conjunction with other relevant emergency services during a Major Emergency.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge objectives

1. Apply the protocol and procedure in the relevant PHECC CPG during a Major Emergency
2. Apply the protocol and procedures in the "Framework for Major Emergency Management" document during a Major Emergency

Attitudinal Objectives

1. Explain the concept of the most (help) for the most (patients)
2. Demonstrate a calm, professional and controlled manner during a major emergency situation
3. Liaise in a professional manner with other professionals in a post-incident debrief
4. Liaise in a professional manner with legal and other agencies post-incident

Skills Objectives

1. Apply the MIMMS concepts dynamically in a Major Incident situation

Treat and Refer

At the completion of this module, the student will be able to assess and make a sound clinical decision about patients who can be safely and reliably referred to another healthcare professional or self-care with advice without transport to an emergency department being initiated.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge objectives

1. Discuss the treat and referral procedures for patients as per PHECC CPGs
2. Discuss the clinical pathway decision algorithm
3. List the principles of PHECC's treat and referral policy
4. List the clinical pathway decisions available to Practitioners
5. List the generic patient exclusion criteria prohibiting access to the treat and referral clinical pathways
6. List the elements of the written aftercare instructions for referred patients
7. List the components of the Healthcare Professionals feedback form that require completion by the pre-hospital emergency care Practitioner

Attitudinal Objectives

1. Identify the value added for the low acuity patient following the introduction of treat & referral clinical pathways

Skills Objectives

1. Following an assessment of a simulated patient, identify an appropriate treat and referral clinical pathway
2. Discuss the written after care instructions with a simulated patient following a decision to implement a treat & referral clinical pathway and determine their understanding of the instructions
3. Complete a Healthcare Professionals feedback form for a simulated patient following a decision to implement a treat & referral clinical pathway

Learning Outcome 3

Demonstrate a commitment to continuous professional competence	Developing their skills as a reflective practitioner

Experiential Learning and Reflective Practice

At the completion of this module, the student will begin to utilise the skills of reflective practice in the further development of their professional career.

Objectives

A student will be able to demonstrate adequate working knowledge and comprehension of:

Knowledge Objectives

1. The importance of reflective practice in pre-hospital emergency care
2. The term experiential learning
3. How experiential learning is accomplished
4. Each of the four elements of Kolb's Experiential Learning Cycle
5. Honey and Mumford's Learning Styles to Kolb's Experiential Learning Cycle
6. The terms reflection-in-action and reflection-on-action as per Schön's postulation
7. The adult learning preferences and motivational influences that maximise learning outcomes
8. Knowles' five assumptions for adult learning
9. How individual differences in learning styles affect the learning process
10. The terms andragogical and pedagogical
11. Reflective practice can improve the quality of care delivered
12. Reflective practice informs personal and professional development processes

Attitudinal Objectives

1. Commit and motivate toward experiential learning and reflective practice
2. Demonstrate enthusiasm when conducting reflective practice
3. Seek regular feedback on how the student responds to the diverse needs of patients, peers and other interested parties
4. Show a willingness to learn from what happens in practice
5. Being open enough to share elements of practice with other people
6. Value the potential for clinical practice to emerge from within, as well as outside the profession
7. Value the conditions necessary for reflection to occur
8. Develop a belief that it is possible to change as a practitioner as a result of learning
9. Develop a belief that there is no end point in learning about clinical and professional practice

10. Refrain from being defensive about what other people notice about one's practice
11. Be courageous enough to act on reflection
12. Work out schemes to personally action what has been learned
13. Be honest in describing clinical practice to others

Skills Objectives

1. Construct a concept map (mind map) within the students' area of learning and identify knowledge gaps that need to be addressed
2. Write a reflective practice document
3. Demonstrate application of experiential learning applying Kolb's Experiential Learning Cycle
4. Use reflection to illustrate personal and professional strengths and weaknesses
5. Work reflectively as part of a Pre-Hospital Emergency care team
6. Reflect routinely on everyday practice in both a clinical and professional development context
7. Describe in detail clinical practice problems
8. Describe the consequences of not applying reflective practice as part of professional development
9. Articulate what happens in clinical and professional practice and evaluate it

Approval Criteria for the Course: Advanced Paramedic

Council set the requirements for submitting an application as well as maintaining status as a PHECC recognised institution in Council Rules. The detailed course approval criteria are described in subsections below. The information supplied by the Applicant institution against each of the criteria must satisfy Council that arrangements are in place to provide a high quality course ensuring the validity of the PHECC award in National Qualification in Emergency Medical Technology (NQEMT) – Advanced Paramedic (AP).

Note the criteria will be revised in 2015 in line with the Teaching Faculty Framework 2014/5.

1. Recognised institutions at advanced paramedic (AP) level must have an association/affiliation with an Irish tertiary medical or nursing school. Evidence of the association/affiliation such as a copy of the memorandum of understanding between the two institutions will be sought. Details of that association/affiliation will be made explicit and a joint working committee which includes representation from both institutions will operate and manage delivery of the paramedic course.

The following rules (I-IV) were approved by Council 14th November 2013

I. Before granting approval to **a higher level institute and their healthcare partner**, PHECC shall satisfy itself both in regard to the educational institution and healthcare partner and its associated bodies in which education is to be carried out-
   a) that adequate quantity and quality of clinical practice experience is available;
   b) that the educational facilities for the students undertaking the education programme are adequate;
   c) that the number of teaching staff and lecturers and their qualifications are adequate;
   d) the adequacy and suitability of any assessments carried out by the higher level institute or healthcare partner for the purpose of establishing knowledge attainment or competency in clinical pre-hospital emergency care skills of practitioners.

II. In addition to the application forms the following supplementary information must be provided by the applicant higher level institute for approval:
   a) Proposed faculty for the higher education programme
   b) A proposed Paramedic curriculum based on the current Paramedic Education and Training Standard that must, inter alia, specify the structure, process and outcome of, methods of assessment, examination, teaching strategies and appeals systems
   c) A proposal for quality assurance activities and outcomes aimed at ensuring continuing support for and development of the curriculum and for the development of learning environments approved for clinical placements/internship sites.

III. Before an educational institution or its healthcare partner is granted approval, it may be visited and reviewed by representatives of PHECC.

IV. The Head of the Department/School of Medicine in the higher education institute and the Director of the HSE NAS and the analogous responsible person in the hospital or other healthcare setting shall supply to PHECC such details, as may be required by PHECC, of any person undertaking the education and training programme leading to award of the NQEMT paramedic.

2. **Entry criteria**:
    a) Successful completion of the CFR Advanced course is a co-requisite of the AP course.
    b) At entry level individuals must be educated to the leaving certificate standard (or equivalent). A leaving certificate from the established or vocational programme with a pass in at least six subjects is required. The leaving certificate applied programme is not acceptable. Equivalency, allows for entry by students with European and other International qualifications.
    c) Entry arrangements for mature students are in accordance with the entry criteria and particulars of the affiliated higher level institute of education.
    d) New entrants must be registered paramedics in Ireland or in their home member state for a period of 2 years (may include one year as a postgraduate paramedic intern).
3. **Duration:** The AP standard is no less than 23 weeks theoretical instruction (15 weeks combined workshop and self-directed learning and 8 weeks taught instruction) and no less than 12 weeks undergraduate internship and one year postgraduate internship. For full information see PHECC's bulletin: *Minimum duration and essential requirements of PHECC practitioner level courses leading to registration (BLN006)*.
4. **Ratio:** The ratio must not exceed 6/8 students per instructor in a syndicate (or practical skill sessions).
5. **Assessment:** Course participants will take the National Qualification in Emergency Medical Technology (NQEMT) –Advanced paramedic exams. The institution must submit an assessment schedule for approval.
6. **Student attendance:** The requirements for students' attendance, continuing progression and successful completion or successful/unsuccessful criteria for each phase of training (as appropriate) will be explicit and available in writing to students prior to course commencement. Details of how a student will compensate for any period of interruption/absence during each phase of the recognised course will be explicit and available in writing. Evidence of this is not currently sought on application but must be made available for inspection by PHECC on request.
7. **Faculty requirements for AP courses:** The minimum faculty requirement (core faculty) for an institution delivering an AP course is 4 full time tutors including 1 facilitator and a medical advisor. The standards for assistant tutors/tutors and facilitators are set out in *PHECC's Teaching Faculty Framework (STN00X)*. Furthermore:
    a) A tutor must act as the course director responsible for the administration and management of an AP course.
    b) Trained mentors and clinical supervisors must be available in numbers appropriate to the paramedic class size.

8. **A medical advisor** is required whose responsibilities are but should not be limited to:
    a) Oversight of the medical education content of the paramedic course ensuring that the curriculum conforms to PHECC education and training standards and CPGs.
    b) Active participation in the evaluation of courses including annual self-assessment and reporting requirements.
    c) Input in recruitment of faculty members.
    d) Attendance on PHECC's Medical Advisory Committee or other working groups on request.
9. **Clinical placement/Internship** is a period of AP training the purpose of which is to facilitate and empower students to observe and acquire actual patient care experience. During this period students will integrate the theory and clinical skills learned during the theoretical instruction with the reality of patient care (incorporating the 24-hour cycle). **Undergraduate internship** is a period of training that applies to student APs who are known as undergraduate interns (UIs) during this period. The purpose of the undergraduate internship is to facilitate and empower interns to observe and acquire actual patient care experience. It provides interns with opportunities to be an observer and gradually provide clinical care under direct supervision and receive feedback on their clinical practice. **Postgraduate internship** is the final period of training that applies to APs who are known as postgraduate interns (PIs) during this period. The purpose of the one-year postgraduate internship is to facilitate a period of adaptation where the PIs will consolidate clinical knowledge and competence as pre-hospital emergency care practitioners. During the period the PI will participate in continuous competence assessment that will determine his/her suitability to have their name entered for full registration on the PHECC Register.
10. **Types of clinical placement/internship sites** may include emergency, non-emergency ambulance services and other healthcare providers as appropriate. Ambulance services must be approved/licenced service providers. Acute hospital services include: emergency department, maternity services, coronary and intensive care units, theatre, etc. Consideration will also be given to fire and rescue services, primary care facilities, sporting and other events as appropriate.
11. **Range of patient clinical status and acuity levels:** The ambulance sites selected must demonstrate exposure to the range of patient clinical status and acuity levels as per the *EMS Priority Dispatch (STN001)* and the *Inter Facility Patient Transfer Standard (STN002)* respectively.

12. **Approval of internship sites**. Council considers approval of clinical placement/internship sites on a site-by-site basis. Council welcomes variation and options for sites as rotation of student APs through multiple sites maximises opportunities for learning.
13. The recognised institution may at any time after initial application submit a list of any additional clinical placement/internship sites subject to the same conditions as above for approval.
14. PHECC maintains a record of all clinical placement/internship sites approved on initial application and any subsequent successful applications. The list of sites is frequently required under a targeted information request from PHECC.
15. **Mentoring**[4] of AP students is paramount. Every AP student must be provided with a named Mentor at the commencement of their course. Mentors who may be tutors or registered practitioners must have completed mentorship training to enable them to assist, support and guide others.
16. **Standards of clinical supervision**: The course director will have ultimate responsibility for ensuring that student APs are receiving adequate clinical supervision. **Undergraduate AP internship:** Every AP intern will have his/her name entered onto the AP undergraduate intern division of the PHECC register. The period of undergraduate internship in pre-hospital emergency care settings, for example in a rapid response vehicles or ambulances will be divided into three periods of:
    i) **direct supervision**- provided by faculty on the AP course (an AP Tutor or a Medical Practitioner) who provide direct clinical supervision of the care provided in response to an incident.
    ii) **indirect supervision**- mobile phone or person support provided by faculty before and during every incident and case discussion occurring after each incident.
    iii) **remote supervision**- mobile phone or person support provided by faculty before and during every incident and one case discussion occurring at the end of a shift as a minimum.

    Postgraduate AP internship: Every AP intern will have his/her name entered onto the AP postgraduate intern division of the PHECC register. The clinical supervision requirement during postgraduate internship is the support and oversight from the recognised institution's tutors. An advanced paramedic postgraduate intern can provide clinical care in keeping with his scope of practice (AP CPGs) and in accordance with the approval status of the CPG

[4] **Mentoring** is defined by PHECC as the formal passing on or transfer of knowledge, skills and expertise through appropriate goals, objectives and activities from mentor to mentee.

organisation for which he is working or volunteering. Consequently, the postgraduate advanced paramedic intern can provide clinical care and supervision while working alongside other paramedic and advanced paramedic undergraduate and postgraduate interns as well as EMTs.

17. **Learning experience in clinical placements:** In some instances AP students may be required to remain longer in clinical practice to ensure learning outcomes/competencies are achieved. The one year period of internship can be extended for an individual who requires remediation and additional support during this period. This determination is made by the course director on review of the available evidence (learning portfolio and other assessment methodologies). Such an extension is subject to an application to the Registrar who can issue an extension to the intern licence.
18. **Ongoing monitoring and quality review** of approved sites must be undertaken by a responsible person in the recognised institution. The monitoring should include an evaluation of the sites for adequacy of skill/learning opportunities and clinical supervision. This evaluation must be reported on in the Recognised Institution Self-Assessment Report (RISAR) submitted to PHECC annually as part of the Quality Review Framework.
19. **The Learning Portfolio** is a tool to support paramedic students and PHECC registrants/practitioners commit to and engage in lifelong learning after the NQEMT has been awarded and PHECC registration achieved. Gathering evidence of patient experiences during early clinical placement/internship is a critical factor of the learning process and AP students must be guided by faculty members to attain this. Every student must start using their learning portfolio early in the course and its design should include a reflective diary or learning log. The learning portfolio, which may include a log book (used to record and verify attendance at sites), must be maintained by the student with guidance from tutors and clinical supervisors/mentors during training. Council accepts there will be variation in the types or formats of learning portfolios available, however the following principles must be adhered to by the Institution when designing one suitable for use by students:
    a) The design used is either hardcopy or electronic and is user friendly and student centred.
    b) The portfolio should record the knowledge applied to clinical cases and the rationale for actions including reference to the appropriate CPG.
    c) The learning outcomes to be achieved (site specific) should be incorporated.
    d) The portfolio should allow for positive feedback and areas for improvement from tutors and clinical supervisors.

e) Requirements of patient privacy and confidentiality are fully complied with.
f) The learning portfolios will be available for inspection by PHECC.
g) The portfolio remains the property of the individual student.

20. **Design of the AP course and teaching methods:** The applicant institution must design the course to:
    a) Balance theory and practice to achieve the learning outcomes (course and domain specific) and competencies specified in the standard.
    b) Utilise a range of teaching/learning strategies providing a balance between presentations, small group interactions, demonstrations, practical and self- directed learning. Electronic learning and blended learning approaches are welcomed.
    c) Promote a commitment to self-directed and lifelong learning and be dynamic to reflect ongoing changes in pre-hospital emergency care delivery such as revisions in PHECC clinical practice guidelines (CPGs).
    d) Prepare students to understand and meet the registration requirements including the Code of Professional Conduct and Ethics (POL005) of the Pre-Hospital Emergency Care Council
    e) Promote a commitment to ongoing registration requirements such as *continuous professional competency (CPC)*.
21. **Course Information:** The Applicant must provide course information set out in the current application form. Such information includes but is not limited to:
    a) Copy of recognition of prior learning procedures for AP candidates to support the institution's RPL policy.
    b) Tutors and other faculty members including mentors and clinical supervisors.
    c) Sample lesson plans, timetable and materials to be used.
    d) Couse aims and methodology of theoretical and clinical instruction.
    e) Assessment and awards procedure.
    f) Library and ICT facilities including access to internet enabled PCs and access to online journals for students and tutors.
22. **Course Information- Internship:** The Applicant institution must apply for approval for every clinical placement/internship site proposed for use by student APs. To make a successful application Council requires specific information for every site. The Applicant must provide course information set out in the current application form. Such information includes but is not limited to:

a) Evidence of compliance with the requirements of the National Vetting Bureau (Children and Vulnerable Persons) Act 2012 (applies to institution's tutors, mentors, supervisory staff and students as applicable).
b) Evidence of formal agreements (letters, MOU and MOAs) in place between the responsible persons at both the institution and the sites. The agreements must name the responsible persons and the terms and conditions agreed to secure high-quality learning experiences for students.
c) A comprehensive set of learning outcomes, appropriate and specific to the learning environment (site) and facilitate applying clinical judgement. The practice of ticking boxes on a list of technical tasks should be avoided.
d) A document outlining evidence of anticipated (prospective) and actual (retrospective) exposure to categories of patients and role specification of the student paramedic in the proposed non-ambulance site and evidence of anticipated (prospective) and actual (retrospective) exposure to categories of patients and role specification of the student paramedic in the proposed ambulance site/s as per the EMS Priority Dispatch (STN001) and Inter Facility Patient Transfer Standard (STN002) respectively.
e) A document detailing adequate numbers of clinical supervisors for every site. The role of the clinical supervisor is to assist with the creation of suitable learning environments with opportunities for student paramedics to observe clinical practice. Acceptable professional qualifications of clinical supervisors are: registered practitioners, assistant tutors, tutors, registered nurses/midwives and registered medical practitioners appropriate to the site.
f) A document showing evidence of numbers of mentors available for paramedic students during their course.
g) A copy of quality assurance procedures to support the institution's policy. The procedure must specifically address how the quality of learning experiences for students/ interns during clinical placements is monitored, by whom and how deficits will be addressed.
h) A sample learning portfolio including a methodology for reflection.

Notification of Successful Postgraduate Internship

During the year of internship, faculty members in the recognised institution will carry out an evaluation of every postgraduate intern (AP). The successful AP must demonstrate

knowledge, attitude and skills to practice safely and effectively, fulfilling his/her professional responsibility (code of conduct) within his/her scope of practice. The responsible person must notify PHECC the names of successful AP postgraduate interns when ready for accession to the full registration division on the Register.