Pre-Hospital Emergency Care and Scope of Practice

Pre-Hospital Emergency Care Council

EMT

Paramedic

Advanced Paramedic

Introduction

The **Pre-Hospital Emergency Care Council (PHECC)** is an independent statutory body whose functions include establishing and maintaining the sixth statutory healthcare register in Ireland. This booklet has been compiled to inform clinical and administrative staff in Emergency Departments and other relevant Health Service facilities regarding the training and education – as well as the roles and responsibilities – of pre-hospital emergency care practitioners:

Emergency Medical Technician (EMT)

The **Emergency Medical Technician** can provide basic life support including the use of automated external defibrillators, basic and advanced airway management use of bag-valve-mask, ECG & SpO_2 monitoring, glucometry and basic trauma care which includes splinting and spinal immobilisation. The EMT may administer Aspirin, Entonox, EpiPen, Glucagon, Glucose gel, GTN, Naloxone, Oxygen, Paracetamol, Ibuprofen and Salbutamol.

Paramedic (P)

The **Paramedic** can provide intermediate life support. This includes the skills listed for the EMT and the insertion of nasopharyngeal airway, 12 - lead ECG, peak flow meter, cessation of resuscitation, tourniquet application, manual defibrillation, and spinal injury decision. The Paramedic may administer the medications permitted for an EMT as well as Epinephrine (1:1000), Midazolam, Clopidogrel, Hydrocortisone, Ipratropium Bromide and Ticagrelor. The Paramedic may maintain intravenous infusions once commenced.

Advanced Paramedic (AP)

The **Advanced Paramedic** can provide advanced life support. This includes the skills listed for a Paramedic and endotracheal intubation, intravenous cannulation, intraosseous cannulation, needle thoracocentesis, and needle cricothyrotomy. The Advanced Paramedic may administer the medications permitted for a Paramedic and 23 additional medications for acute emergency medical and traumatic conditions from cardiac arrest to hypovolaemia. See Medication and Skills Matrix for full information.

PHECC Register – the Sixth Statutory Healthcare Register

The titles **Emergency Medical Technician (EMT)**, **Paramedic (P)**, and **Advanced Paramedic (AP)** identify healthcare professionals who are registered with PHECC. Pre-hospital emergency care practitioners are **credentialed** by PHECC and are eligible to join the PHECC Register once they have completed PHECC's Standard of Education & Training at the relevant level and have been awarded the National Qualification in Emergency Medical Technology (NQEMT). Each PHECC registered practitioner is issued with a unique Personal Identification Number (PIN). The registration status of an individual may be checked using this PIN on www.phecc.ie

Register Division (January 2015)	Count
Emergency Medical Technician (EMT)	2405
Paramedic (P)	2148
Advanced Paramedic	400
Total Registered Practitioners	4953

Emergency Medical Technician (EMT)

An Emergency Medical Technician (EMT) is a registered practitioner who has completed PHECC's Standard of Education & Training at EMT level. This is the minimum clinical level that is recommended to provide care and transport of an ill or injured patient.

The duration of education and training is five weeks (159 hours) and is designed to provide the EMT with the knowledge and skills for working primarily in patient transport services and in supporting the pre-hospital response to patients accessing the 112/999 emergency medical services. The EMT may work for the HSE – National Ambulance Service, Dublin Fire Brigade, fire, rescue and auxiliary services, voluntary or private ambulance services.

Successful completion of an EMT course at a PHECC-Recognised Institution entails four weeks theory and one week clinical practice. The National Qualification in Emergency Medical Technology (NQEMT) at EMT level is awarded to successful candidates following a multiple choice question exam (MCQ) and a skills assessment using an objective structured clinical examination (OSCE). EMT is the minimum clinical level required when transporting an acute patient.

Paramedic (P)

A Paramedic (P) is a registered practitioner who has completed PHECC's Standard of Education & Training at Paramedic level. This is the minimum clinical level that is recommended to provide care & transport of an ill or injured patient following a 112/999 incident classed as serious or life threatening.

The Paramedic is principally engaged in responding to patients who access the 112/999 service for emergency medical assistance. The Paramedic may work for the HSE – National Ambulance Service, Dublin Fire Brigade, fire, rescue and auxiliary services, voluntary or private ambulance services.

The education and training for Paramedics consists of 28 weeks theory, supervised clinical practice on emergency ambulance vehicles and healthcare service placements as well as one year Internship. The Paramedic assessment comprises of three components: 1) multiple choice question (MCQ) computer based, 2) short written answer (SWA) written paper exam and 3) OSCE (practical exam). In addition, successful completion of a structured competence assessment during the one year Internship including case study submission, completion of professional development modules and competency assessment is required prior to full registration on the Paramedic division of the PHECC Register. The NQEMT at Paramedic level is awarded to successful candidates.

Advanced Paramedic (AP)

The AP Standard of Education and Training prepares graduates for their role as clinical leaders and expert practitioners in the field of pre-hospital emergency care. Their deployment is a matter for the National Ambulance Service and or the Dublin Fire Brigade and varies from region to region; nonetheless, their role has been designed to and/ or contribute to a reduction in the morbidity and mortality of patients experiencing life-threatening events pre-hospital. One significant advance in this area is the introduction of air ambulance response by APs in 2012.

There is no direct entry to the AP course and candidates are experienced Paramedics principally employed by the HSE – National Ambulance Service and Dublin Fire Brigade. The standard builds substantially on the Paramedic standard and currently requires twenty-three weeks theory; five weeks in-hospital and a further seven weeks on emergency response vehicles with clinical supervision.

AP assessment includes: written papers; multiple choice question (MCQ) computer-based and short written answer (SWA) written paper exam; a skills assessment using OSCE practical exam, a component of continuous assessment by submitting case studies/reviews; and finally, a panel exam; The NQEMT at AP level is awarded to successful candidates.

In addition, successful completion of a structured competence assessment is required during the one-year Internship. This includes case study submissions and completion of a clinical portfolio prior to full registration on to the Advanced Paramedic division of the PHECC Register.

Pre-Hospital Emergency Care Practice

Pre-Hospital emergency care practitioners are not autonomous practitioners and may only provide services on behalf of a **licenced CPG provider**. Each licenced CPG provider must **privilege** its practitioners individually to perform interventions and to administer medications on its behalf. Only current registrants in good standing who meet all criteria can practice under the privilege of the licenced CPG provider.

Medication & Skills Matrix for PHECC registered practitioners

Care management including the administration of medications as per level of training and division on the PHECC register and responder levels.

Pre-Hospital practitioners shall only provide care management including medication administration for which they have received specific training. Practitioners must be privileged by a licenced CPG provider to administer specific medications and perform specific clinical interventions.

Key	
✓	Authorised under PHECC CPGs
URMPIO	Authorised under PHECC CPGs **under registered medical practitioner's instructions only**
APO	Authorised under PHECC CPGs to **assist practitioners only** (when applied to EMT, to assist Paramedic or higher clinical levels)
✓ **SA**	Authorised subject to special authorisation as per CPG
BTEC	Authorised subject to Basic Tactical Emergency Care rules

Version 4

Clinical Level	EMT	P	AP
Medication			
Aspirin PO	✓	✓	✓
Oxygen	✓	✓	✓
Glucose Gel Buccal	✓	✓	✓
GTN SL	✓	✓	✓
Salbutamol Aerosol	✓	✓	✓
Epinephrine (1:1,000) auto injector	✓	✓	✓
Glucagon IM	✓	✓	✓
Ibuprofen PO	✓	✓	✓
Nitrous oxide & Oxygen (Entonox)	✓	✓	✓
Naloxone IN	✓	✓	✓
Paracetamol PO	✓	✓	✓
Salbutamol nebule	✓	✓	✓
Morphine IM	URMPIO	URMPIO	✓SA
Clopidogrel PO		✓	✓
Epinephrine (1: 1,000) IM		✓	✓
Hydrocortisone IM		✓	✓
Ipratropium bromide Nebule		✓	✓
Midazolam IM/Buccal/IN		✓	✓

Clinical Level	EMT	P	AP
Naloxone IM/SC		✓	✓
Ticagrelor		✓	✓
Dextrose 10% IV		✓SA	✓
Hartmann's Solution IV/IO		✓SA	✓
Sodium Chloride 0.9% IV/IO		✓SA	✓
Amiodarone IV/IO			✓
Atropine IV/IO			✓
Benzylpenicillin IM/IV/IO			✓
Cyclizine IV			✓
Diazepam IV/PR			✓
Epinephrine (1:10,000) IV/IO			✓
Fentanyl IN			✓
Furosemide IV/IM			✓
Hydrocortisone IV			✓
Lorazepam PO			✓
Magnesium Sulphate IV			✓
Midazolam IV			✓
Morphine IV/PO			✓
Naloxone IV/IO			✓
Nifedipine PO			✓
Ondansetron IV			✓
Paracetamol PR			✓
Sodium Bicarbonate IV/IO			✓
Syntometrine IM			✓
Tranexamic Acid			✓
Enoxaparin IV/SC			✓SA
Lidocaine IV			✓SA
Tenecteplase IV			✓SA

Clinical Level	EMT	P	AP
Airway & Breathing Management			
FBAO management	✓	✓	✓
Head tilt chin lift	✓	✓	✓
Pocket mask	✓	✓	✓
Recovery position	✓	✓	✓
Non-rebreather mask	✓	✓	✓
OPA	✓	✓	✓
Suctioning	✓	✓	✓
Venturi mask	✓	✓	✓
SpO_2 monitoring	✓	✓	✓
Jaw Thrust	✓	✓	✓
BVM	✓	✓	✓
NPA	BTEC	✓	✓
Nasal cannula	✓	✓	✓
Supraglottic airway adult (uncuffed)	✓	✓	✓
Oxygen humidification	✓	✓	✓
Supraglottic airway adult (cuffed)	✓SA	✓	✓
CPAP / BiPAP		✓	✓
Non-invasive ventilation device		✓	✓
Peak expiratory flow		✓	✓
End Tidal CO_2 monitoring		✓	✓
Supraglottic airway paediatric		✓SA	✓
Endotracheal intubation			✓
Laryngoscopy and Magill forceps			✓
Needle cricothyrotomy			✓
Needle thoracocentesis			✓

Clinical Level	EMT	P	AP
Cardiac			
AED adult & paediatric	✓	✓	✓
CPR adult, child & infant	✓	✓	✓
Recognise death and resuscitation not indicated	✓	✓	✓
Targeted temperature management	✓	✓	✓
CPR newly born	✓	✓	✓
ECG monitoring (lead II)	✓	✓	✓
Mechanical assist CPR device	✓	✓	✓
12 - lead ECG		✓	✓
Cease resuscitation - adult		✓	✓
Manual defibrillation		✓	✓

Clinical Level	EMT	P	AP
Haemorrhage control			
Direct pressure	✓	✓	✓
Nose bleed	✓	✓	✓
Haemostatic agent	✓	✓	✓
Tourniquet use	BTEC	✓	✓
Nasal pack		✓	✓
Pressure points		✓	✓

Clinical Level	EMT	P	AP
Medication administration			
Oral	✓	✓	✓
Buccal route	✓	✓	✓
Per aerosol (inhaler) + spacer	✓	✓	✓
Sublingual	✓	✓	✓
Intramuscular injection	✓	✓	✓
Intranasal	✓	✓	✓
Per nebuliser	✓	✓	✓
Subcutaneous injection	✓	✓	✓
IV & IO Infusion maintenance		✓SA	✓
Infusion calculations			✓
Intraosseous injection/infusion			✓
Intravenous injection/infusion			✓
Per rectum			✓

Clinical Level	EMT	P	AP
Trauma			
Burns care	✓	✓	✓
Cervical spine manual stabilisation	✓	✓	✓
Application of a sling	✓	✓	✓
Soft tissue injury	✓	✓	✓
Cervical collar application	✓	✓	✓
Helmet stabilisation/removal	✓	✓	✓
Splinting device application to upper limb	✓	✓	✓
Move and secure patient to a long board	✓	✓	✓
Rapid extraction	✓	✓	✓
Log roll	✓	✓	✓
Move patient with a carrying sheet	✓	✓	✓
Move patient with an orthopaedic stretcher	✓	✓	✓
Splinting device application to lower limb	✓	✓	✓
Secure and move a patient with an extrication device	APO	✓	✓
Pelvic splinting device	✓	✓	✓
Move and secure patient into a vacuum mattress	✓	✓	✓
Active re-warming	✓	✓	✓
Move and secure a patient to a paediatric board	✓	✓	✓
Traction splint application	APO	✓	✓
Spinal Injury Decision		✓	✓
Taser gun barb removal		✓	✓
Reduction dislocated patella			✓

Clinical Level	EMT	P	AP
Other			
Assist in the normal delivery of a baby	✓	✓	✓
De-escalation and breakaway skills	✓	✓	✓
Glucometry	✓	✓	✓
Broselow tape		✓	✓
Delivery complications		✓	✓
External massage of uterus		✓	✓
Intraosseous cannulation			✓
Intravenous cannulation			✓
Urinary catheterisation			✓

Clinical Level	EMT	P	AP
Patient assessment			
Assess responsiveness	✓	✓	✓
Check breathing	✓	✓	✓
FAST assessment	✓	✓	✓
Capillary refill	✓	✓	✓
AVPU	✓	✓	✓
Breathing & pulse rate	✓	✓	✓
Primary survey	✓	✓	✓
SAMPLE history	✓	✓	✓
Secondary survey	✓	✓	✓
CSM assessment	✓	✓	✓
Rule of Nines	✓	✓	✓
Blood pressure measurement	✓	✓	✓
Assess pupils	✓	✓	✓
Capacity evaluation	✓	✓	✓
Do Not Attempt Resuscitation	✓	✓	✓
Paediatric Assessment Triangle	✓	✓	✓
Pain assessment	✓	✓	✓
Patient Clinical Status	✓	✓	✓
Pre-hospital Early Warning Score	✓	✓	✓
Pulse check (cardiac arrest)	✓	✓	✓
Temperature ^{0}C	✓	✓	✓
Triage sieve	✓	✓	✓
Chest auscultation		✓	✓
GCS		✓	✓
Treat and referral		✓	✓
Triage sort		✓	✓

Practice is specified by clinical practice guidelines (CPGs) published by PHECC. A sample of CPGs are available on the next few pages. For a complete set of current CPGs go to www.phecc.ie

Cardiac Chest Pain - Acute Coronary Syndrome

4.4.10 Version 2, Published 09/11

Cardiac chest pain

Oxygen therapy

Request ALS

Apply 3 lead ECG & SpO_2 monitor

Aspirin, 300 mg PO

Chest Pain

Yes: GTN, 0.4 mg SL
Repeat at 3 to 5 min prn
(max 1.2 mg SL)

No: Monitor vital signs

Oxygen therapy
Maintain SpO_2 between 94% to 98%
(lower range if COPD)

Time critical
commence transport to
definitive care ASAP

Acute Coronary Syndrome

P AP MP

5/6.4.10 Version 6, Published 02/14

Acute Coronary Syndrome

Oxygen therapy

Request ALS

Apply 3 lead ECG & SpO_2 monitor

Aspirin 300 mg PO

Chest Pain — Yes: GTN 0.4 mg SL Repeat prn to max of 1.2 mg SL; No: Acquire & interpret 12 lead ECG

Pain relief effective — Yes: Acquire & interpret 12 lead ECG; No: Go to Pain Mgt. CPG

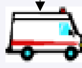
Acquire & interpret 12 lead ECG

STEMI — No: Time critical commence transport to nearest appropriate hospital ASAP; Yes: Time to PPCI Centre < 90 min of STEMI identification on 12 lead ECG

Time to PPCI Centre < 90 min of STEMI identification on 12 lead ECG — Yes: Discuss with PPCI Physician; Ticagrelor 180 mg PO; Transport to Primary PCI facility

No: Clopidogrel, 300 mg, PO (≥ 75 years, 75 mg PO)

Pre-hospital thrombolysis available — No: Time critical commence transport to nearest appropriate hospital ASAP; Yes: Tenecteplase IV Followed by Enoxaparin 30 mg IV (> 75 Yrs: Enoxaparin 0.75 mg/Kg SC)



Time critical commence transport to nearest appropriate hospital ASAP

Transport to Primary PCI facility

STEMI:
ST elevation in two or more contiguous leads (2 mm in leads V2 and V3, or 1 mm in any other leads) or LBBB with clinical symptoms of AMI.

Oxygen therapy
Maintain SpO_2 between 94% to 98% (lower range if COPD)

MP

Indication for Thrombolysis
1. Patient conscious, coherent and understands therapy
2. Patient consent obtained
3. Less than 75 years old
4. MI Symptoms > 20 Min & ≤ 6 hours
5. Confirmed STEMI
6. Time to PPCI centre > 90 minutes of STEMI confirmation on 12 lead ECG
7. No contraindications present

MP

Patients age > 75 years do not give IV Enoxaparin but rather Enoxaparin 0.75mg/kg SC (max 75 mg SC)

Tenecteplase	
< 60 kg	30 mg
60 – 70 kg	35 mg
70 – 80 kg	40 mg
80 – 90 kg	45 mg
> 90 kg	50 mg

Seizure/Convulsion - Adult

4.4.23 Version 2 Published 07/11

Seizure/Convulsion - Adult

5/6.4.23 Version 3, Published 02/14

Seizure / convulsion

Consider other causes of seizures
- Meningitis
- Head injury
- Hypoglycaemia
- Eclampsia
- Fever
- Poisons
- Alcohol/drug withdrawal

Protect from harm

Oxygen therapy

Seizure status

Seizing currently → Request ALS

Post seizure → Consider ALS

IV access

No:
- Midazolam 10 mg buccal Repeat by one prn
- Or
- Midazolam 5 mg IN Repeat by one prn
- Or
- Midazolam 5 mg IM Repeat by one prn
- Or
- Diazepam, 10 mg PR Repeat by one prn

Yes:
- Midazolam 2.5 mg IV/IO Repeat by one prn
- Or
- Diazepam 5 mg IV/IO Repeat by one prn

Check blood glucose

Blood glucose < 4 or > 20 mmol/L

Yes → Go to Glycaemic Emergency CPG

No → Reassess

Maximum two doses of anticonvulsant medication by Practitioner regardless of route

If pre-Eclampsia/ Eclampsia consider
Magnesium Sulphate, 4 g IV (infusion in 100 mL NaCl)

Glycaemic Emergency – Adult

4.4.19 Version 1, Published 05/08

Abnormal blood glucose level

Blood Glucose

< 4 mmol/L

> 20 mmol/L

11 to 20 mmol/L

A or V on AVPU

Yes

No

Consider

Glucose gel, 10 - 20 g buccal

or

Sweetened drink

Glucagon 1 mg IM

Consider ALS

Reassess

Reassess

Allow 5 minutes to elapse following administration of medication

Blood Glucose ≥ 4 mmol/L

Yes

No

Consider ALS

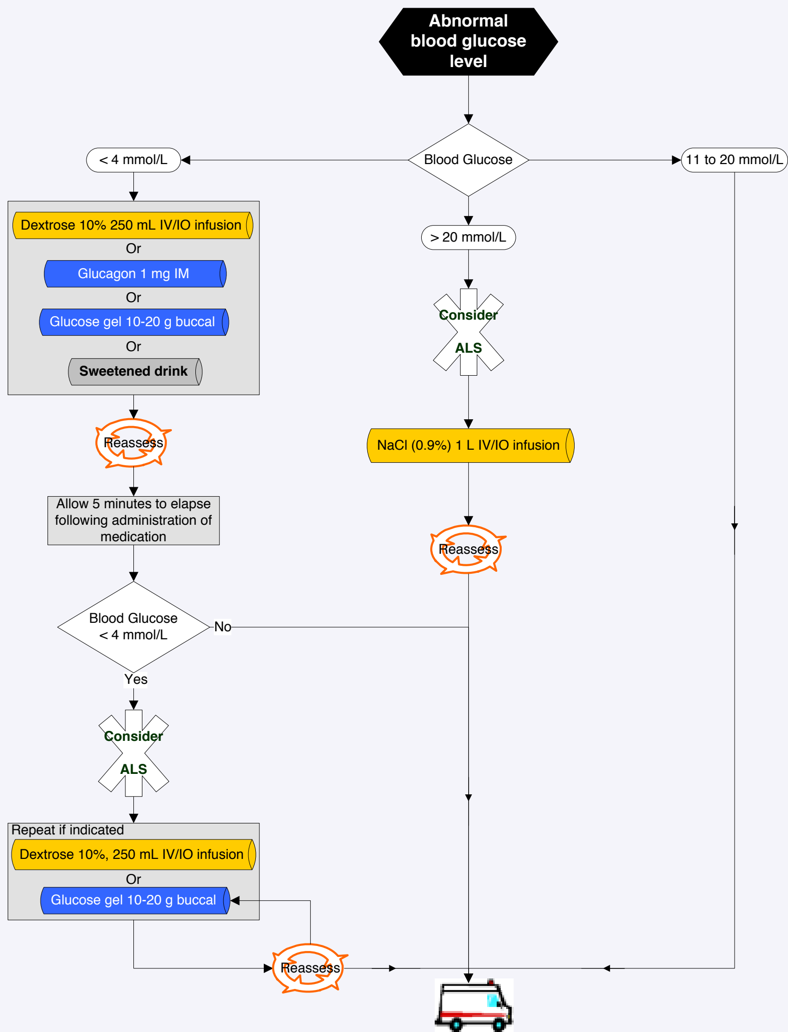
Repeat x 1 prn

Glucose gel 10-20 g buccal

Glycaemic Emergency – Adult

P AP

5/6.4.19 Version 1, Published 05/08



P

Special Authorisation:
Paramedics are authorised to continue the established infusion in the absence of an Advanced Paramedic or Doctor during transportation

Patient Information Standards

Recording interventions and medications administered to patients pre-hospital is an essential clinical responsibility for all pre-hospital emergency care practitioners. This information is recorded on the National Patient Care Report. An audit of this data by the ambulance service will continue to validate the effectiveness of patient care and pre-hospital emergency care education and training.

In all circumstances of patient handover, the top copy of the relevant report is handover, to the receiving practitioner, responder, ED/destination facility or other health care provider. The bottom copy of the report remains the property of the service provider who initiated care to the patient.

The building blocks of the patient reports are information standards which contain all of the definitions of the elements of data recorded by the practitioner/responder about the patient. For example, name, date of birth, response time, assessment details, care and interventions administered. The information standard standardises how the patient data is recorded which facilitates sharing of information and clinical audit.

Completion guides are available for all Reports.

Information Standards

Glossary of terms

Credentialing:
The process through which PHECC recognise qualifications and register practitioners at the appropriate clinical level.

Licencing:
The process through which PHECC approves organisations to implement CPGs.

Licenced CPG Provider:
An organisation that has been approved by PHECC to implement CPGs.

Privileging:
The process through which a Licenced CPG providers authorise PHECC registered practitioners to perform clinical interventions and administer medications according to CPGs on its behalf.

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