

Medication Formulary for Emergency Medical Technician

The Medication Formulary is published by the Pre-Hospital Emergency Care Council (PHECC) to enable pre-hospital emergency care practitioners to be competent in the use of medications permitted under Medicinal Products 7th Schedule (SI 177 of 2021).

This is a summary document only and practitioners are advised to consult with official publications to obtain detailed information about the medications used.

The Medication Formulary is recommended by the Medical Advisory Committee (MAC) prior to publication by Council.

The medications herein may be administered provided:

1. The practitioner is in good standing on the PHECC practitioner's Register.
2. The practitioner complies with the Clinical Practice Guidelines (CPGs) published by PHECC.
3. The practitioner is acting on behalf of an organisation (paid or voluntary) that is a PHECC licensed CPG provider.
4. The practitioner is privileged, by the organisation on whose behalf he/she is acting, to administer the medications.
5. The practitioner has received training on, and is competent in, the administration of the medication.
6. The medications are listed on the Medicinal Products 7th Schedule.

The context for administration of the medications listed here is outlined in the CPGs.

Every effort has been made to ensure accuracy of the medication doses herein. The dose specified on the relevant CPG shall be the definitive dose in relation to practitioner administration of medications. The principle of titrating the dose to the desired effect shall be applied. The onus rests on the practitioner to ensure that he/she is using the latest versions of CPGs which are available on the PHECC website www.phecc.ie

Sodium Chloride 0.9% (NaCl) is the IV/IO fluid of choice for pre-hospital emergency care.

Water for injection shall be used when diluting medications, however if not available NaCl (0.9%) may be used if not contraindicated.

All medication doses for patients ≤ 15 years shall be calculated on a weight basis unless an age-related dose is specified for that medication.

The route of administration should be appropriate to the patient's clinical presentation. IO access is authorised for advanced paramedics for life threatening emergencies (or under medical direction).

The dose for paediatric patients may never exceed the adult dose.

Approved Paediatric weight estimations are:

Neonate =	3.5 Kg
Six months =	6 Kg
One to five years =	(age x 2) + 8 Kg
Greater than 5 years =	(age x 3) + 7 Kg

Pregnancy caution:

Medications should be prescribed in pregnancy only if the expected benefit to the mother is thought to be greater than the risk to the foetus, and all medications should be avoided, if possible, during the first trimester.

PHECC practitioners therefore should avoid using medications in early pregnancy unless absolutely essential and where possible medical advice should be sought prior to administration.

Paramedic authorisation for IV infusion continuation

PHECC registered paramedics are authorised to continue an established IV infusion in the absence of an advanced paramedic or doctor during transportation.

Medication Formulary Age Designations

Index of medication formulary (Adult \geq 16 and Paediatric \leq 15 unless otherwise stated)

This version contains 14 medications.

Please visit www.phecc.ie for the latest edition/version

Amendments to the Emergency Medical Technician 2017 Edition:

New Medications introduced:

- Activated Charcoal

Changes to Monographs for June 2023 updates to CPG 2021

CHLORPHENAMINE		
Heading	Add	Delete
Classification	Sedating Antihistamine – H1 receptor antagonist.	Sedating Antihistamine – H2 receptor antagonist.

IBUPROFEN		
Heading	Add	Delete
Contra-indications	suspected or confirmed chicken pox.	
Additional information	Ibuprofen should not be administered to children with a suspected or confirmed chicken pox diagnosis.	

NITROUS OXIDE 50% AND OXYGEN 50% (ENTONOX®)		
Heading	Add	Delete
Contra-indications	Bullous Emphysema/ Middle Ear Procedures/ Following a recent dive/ Recent eye surgery involving bubble gas insertion/ Head injury/ Conditions where air is trapped in the body and expansion would be dangerous/ Maxillo-facial injuries/ Sedation or intoxication.	

Changes and updates for CPG 2021

Changes to Monographs

1. Class and Description headings have merged to one Classification heading in line with BNF drug descriptors
2. Long term side effects have been removed unless essential
3. Pharmacology/Action has been removed unless essential information

EPINEPHRINE (1:1,000) CHANGES TO ADRENALINE (1:1000)		
Heading	Add	Delete
Medication	Adrenaline 1:1000.	Epinephrine 1:1000.
Indications	Stridor, Symptomatic Bradycardia and Cardiogenic Shock.	
Contra-indications	Hypersensitivity to excipients.	
Usual Dosages	< 6 months 10 mcg/kg IM 6 months to < 6 years 150 mcg (0.15 mL IM) ≥ 6 years to < 12 years 300 mcg (0.3 mL IM) ≥ 12 years 300 mcg (0.3 mL) (if child small or prepubertal) or 500 (0.5 mL IM)	All dosing which was previously recommended under the following age categories < 6 months, 6 months to 5 years, 6 to 8 years, > 8 years.

ASPIRIN		
Heading	Add	Delete
Classification	Merge Class and Description to Classification: Antithrombotic – Antiplatelet Drug which reduces clot formation.	Class. Description.
Description		Anti-inflammatory agent and an inhibitor of platelet function. Useful agent in the treatment of various thromboembolic diseases such as acute myocardial infarction.
Pharmacology/ Action		Antithrombotic: Inhibits the formation of thromboxane A2, which stimulates platelet aggregation and artery constriction. This reduces clot/thrombus formation in an MI.
Long term side-effects		Generally mild and infrequent but incidence of gastro-intestinal irritation with slight asymptomatic blood loss, increased bleeding time, bronchospasm and skin reaction in hypersensitive patients.

CHLORPHENAMINE																																			
Heading	Add	Delete																																	
Classification	Sedating antihistamine – H2 receptor antagonists.	Class: Antihistamine. Description: H1 antagonist to counteract the effects of histamine release.																																	
Usual dosages	<p>For IV route, administer over 1 minute. May dilute with Sodium Chloride 0.9% for convenient administration volume of small doses.</p> <table> <thead> <tr> <th>Severity</th> <th>Age</th> <th>Dose and route of administration</th> </tr> </thead> <tbody> <tr> <td>Mild</td> <td>6 to 11 years</td> <td>2 mg PO (EMT / P / AP)</td> </tr> <tr> <td></td> <td>≥ 12 years</td> <td>4 mg PO (EMT / P / AP)</td> </tr> <tr> <td>Moderate</td> <td>1 month – 6 months</td> <td>0.25 mg/kg IM (EMT / P) or 0.25 mg/kg IV (AP)</td> </tr> <tr> <td></td> <td>>6 months - < 6 years</td> <td>2.5 mg IM (EMT / P) or 2.5 mg IV (AP)</td> </tr> <tr> <td></td> <td>6 to < 12 years</td> <td>2 mg PO or 5 mg IM (EMT / P) or 5 mg IV (AP).</td> </tr> <tr> <td></td> <td>≥ 12 years</td> <td>4 mg PO or 10 mg IM (EMT / P) or 10 mg IV (AP)</td> </tr> <tr> <td>Severe</td> <td>1 month - <6 months</td> <td>0.25 mg/kg IM (EMT / P) or 0.25 mg/kg IV (AP)</td> </tr> <tr> <td></td> <td>>6 months - <6 years</td> <td>2.5 mg IM (EMT / P) or 2.5 mg IV (AP)</td> </tr> <tr> <td></td> <td>6 to < 12 years</td> <td>5 mg IM (EMT / P) or 5 mg IV (AP)</td> </tr> <tr> <td></td> <td>≥ 12 years</td> <td>10 mg IM (EMT / P) or 10 mg IV (AP)</td> </tr> </tbody> </table>	Severity	Age	Dose and route of administration	Mild	6 to 11 years	2 mg PO (EMT / P / AP)		≥ 12 years	4 mg PO (EMT / P / AP)	Moderate	1 month – 6 months	0.25 mg/kg IM (EMT / P) or 0.25 mg/kg IV (AP)		>6 months - < 6 years	2.5 mg IM (EMT / P) or 2.5 mg IV (AP)		6 to < 12 years	2 mg PO or 5 mg IM (EMT / P) or 5 mg IV (AP).		≥ 12 years	4 mg PO or 10 mg IM (EMT / P) or 10 mg IV (AP)	Severe	1 month - <6 months	0.25 mg/kg IM (EMT / P) or 0.25 mg/kg IV (AP)		>6 months - <6 years	2.5 mg IM (EMT / P) or 2.5 mg IV (AP)		6 to < 12 years	5 mg IM (EMT / P) or 5 mg IV (AP)		≥ 12 years	10 mg IM (EMT / P) or 10 mg IV (AP)	Removal of all existing paediatric dosing.
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Additional information	Hypersensitivity to excipients.	For IV route, administer over 1 minute. May dilute with Sodium Chloride 0.9% for convenient administration volume of small doses.																																	
Side-effects	Reworded: Causes drowsiness, do not drive or operate machinery.																																		

GLUCAGON		
Heading	Add	Delete
Usual dosages	Paediatric: ≥ 1 month and < 25 kg: 500 mcg IM. ≥ 1 month and ≥ 25 kg: 1 mg IM.	Paediatric: 1 - 8 years - 0.5 mg (500 mcg) IM. 8 years - 1 mg IM.
Side-effects	Common: Nausea Uncommon: Vomiting. Rare: may cause hypotension/ dizziness/ headache.	

GLUCOSE GEL		
Heading	Add	Delete
Classification	Class and Description merged.	Class. Description.
Administration	CPG 4/5/6.12.7: New-born Neonatal Care and Resuscitation.	

GLYCERYL TRINITRATE (GTN)		
Heading	Add	Delete
Classification	Merge Class and description to Classification: Antithrombotic – Antiplatelet Drug which reduces clot formation.	Class. Description.
Presentation		(0.4 mg).
Usual Dosages	Angina or MI: 400 mcg sublingual. (Repeat at 3-5 min intervals, Max: 1200 mcg). EFR: assist administration - 400 mcg sublingual max. Pulmonary oedema: 800 mcg / 2 sprays (repeat x 1 PRN) (P & AP).	0.4 mg. 1.2 mg. 0.4 mg. 0.8 mg.
Pharmacology / Action		Remove complete section.

IBUPROFEN		
Heading	Add	Delete
Classification	Analgesics: Non-Steroidal Anti-Inflammatory Drugs (NSAIDs). Pain and Inflammation in musculoskeletal disorders.	Class: Non-Steroidal Anti-Inflammatory Drugs (NSAIDs). Description: It is an anti-inflammatory analgesic.
Contra-Indications	Body weight < 5 kg.	
Long term side-effects		Remove list of long-term side-effects.

METHOXYFLURANE		
Heading	Add	Delete
Classification	Anaesthetics. General: Volatile anaesthetic agent.	
Contra-Indications	Malignant Hyperthermia.	

NALOXONE		
Heading	Add	Delete
Usual Dosages	400 mcg. 800 mcg.	0.4 mg. 0.8 mg.

NITROUS OXIDE 50% AND OXYGEN 50%		
Heading	Add	Delete
Additional Information	Caution should be issued before using Entonox with patients who have known Chronic Obstructive Pulmonary Disease (COPD) or other conditions where compromised chemoreceptor sensitivity/function may be present. May cause respiratory depression and increases in PaCO ₂ . In cold temperatures warm cylinder and invert at least 3 times to ensure mix of gases. Prolonged or frequent use of ENTNOX may result in megaloblastic marrow changes, myeloneuropathy and sub-acute combined degeneration of the spinal cord.	In cold temperatures warm cylinder and invert to ensure mix of gases.

OXYGEN		
Heading	Add	Delete
Clinical Level		
Classification	Merged Class and Description.	Class. Description.
Pharmacology/Action		Pharmacology/Action Oxygenation of tissue/organs.
Additional Information	Caution with emollients containing paraffin e.g. lip balms & moisturisers – may lead to skin burns.	

PARACETAMOL		
Heading	Add	Delete
Presentation	500 mg of paracetamol in 50 mL solution for infusion.	0.1 mg.
Usual Dosages	15 mg/kg PO. PR (AP). > 1 month < 1 year - 80 mg PR.	20 mg/kg PO. > 1 month < 1 year - 90 mg PR.
Side effects		Long term side-effects.

SALBUTAMOL		
Heading	Add	Delete
Classification	Beta-2 Adrenoceptor agonist selective – short acting.	Class: Sympathetic agonist. Description: Sympathomimetic that is selective for Beta-2 Adrenergic receptors.
Presentation	100 mcg.	0.1 mg.
Usual Dosages	100 mcg metered aerosol spray.	0.1 mg metered aerosol spray.
Pharmacology / Action		Remove text/section Beta-2 agonist/ Bronchodilation/ relaxation of smooth muscle.

Clinical Level:

MEDICATION	ACTIVATED CHARCOAL
Classification	Antidotes and Chelators – Intestinal adsorbents: reduction of absorption of poisons in the GI system / active elimination of poisons.
Presentation	Activated charcoal granules for suspension.
Administration	Oral suspension (PO). (CPG: 6.10.2).
Indications	Emergency treatment of acute oral poisoning or drug overdose.
Contra-Indications	Although activated charcoal is not contraindicated in poisoning by strong acids and alkalis and other corrosive substances, its value as a detoxificant for these substances is limited. Activated Charcoal is poor in binding cyanide, iron salts and some solvents including methanol, ethanol and ethylene glycol.
Usual Dosages	Adult: 50g PO. Reconstitute with water as directed by manufacturer. The reconstituted product should be taken immediately. Repeat as necessary. Paediatric: Not Indicated.
Side effects	Bezoar/ Constipation/ diarrhoea/ GI disorders/ Black stools. Caution: aspiration may lead to airway obstruction.
Additional information	May be mixed with soft drinks or fruit juice for ease of administration & to mask the taste. Substances which may be absorbed by Activated charcoal (but are not limited to) include: Aspirin & salicylates/ Barbiturates/ Benzodiazepines/ Chlormethiazole/ Chloroquine/ Chlorpromazine & related phenothiazines/ Clonidine/ Cocaine and other stimulants/ Digoxin and digitoxin/ Ibuprofen/ Mefenamic acid/ Mianserin/ Nicotine/ Paracetamol/ Paraquat/ Phenelzine and other MAOIs/ Phenytoin/ Propranolol and other Beta Blockers/ Quinine/ Theophylline/ Zidovudine.

Clinical Level:

MEDICATION	ADRENALINE (1:1,000)								
Classification	Sympathetic agonist, Sympathomimetic – Vasoconstrictor. Acts on both alpha & beta receptors and increases both heart rate and contractility. It can cause peripheral vasodilation (beta) or vasoconstriction (alpha).								
Presentation	Pre-filled syringe, ampoule or Auto injector. 1 mg/1 mL (1:1,000).								
Administration	Intramuscular (IM), Intravenous (IV) and Nebulisation (Neb). (CPG: 2/3.10.1 2/3.13.21, 4/5/6.3.2, 4/5/6.10.1, 4/5/6.11.1, 4/5/6.13.9, 5/6.13.20. 4/5/6.13.21, 5/6.14.6)								
Indications	Severe allergic reaction/ anaphylaxis, Stridor, Symptomatic Bradycardia and Cardiogenic shock.								
Contra-Indications	Hypersensitivity to excipients.								
Usual Dosages	<p>Adult: Anaphylaxis 500 mcg IM (0.5 mL of 1: 1,000). EFR assist patient – 0.3 mg (Auto injector). (Repeat every 5 minutes PRN).</p> <p>Adult: Symptomatic Bradycardia / Cardiogenic shock (AP): 10 mcg IV/IO (Repeat PRN). (Dilute 1 mg Adrenaline in 100 mL NaCl and draw up in 1 mL syringe, administer the dose over 1 minute). (Off-license).</p> <p>Anaphylaxis Paediatric:</p> <table border="1"> <tbody> <tr> <td>< 6 months</td> <td>10 mcg/kg IM</td> </tr> <tr> <td>6 months to < 6 years</td> <td>150 mcg (0.15 mL IM)</td> </tr> <tr> <td>≥ 6 years to < 12 years</td> <td>300 mcg (0.3 mL IM)</td> </tr> <tr> <td>≥ 12 years</td> <td>300 mcg (0.3 mL) (if child small or prepubertal) or 500 mcg (0.5 mL IM)</td> </tr> </tbody> </table> <p>EFR assist patient –</p> <p>6 months < 10 years: 0.15 mg (Auto injector) (Repeat every 5 minutes PRN). ≥ 10 years: 0.3 mg (Auto injector) (Repeat every 5 minutes PRN).</p> <p>Stridor (P/ AP):</p> <p>< 1 Year: 2.5 mg NEB. ≥ 1 year: 5 mg NEB (Repeat after 30 minutes PRN).</p> <p>Sepsis (AP): Adrenaline 0.1 mcg/kg IV/IO.</p>	< 6 months	10 mcg/kg IM	6 months to < 6 years	150 mcg (0.15 mL IM)	≥ 6 years to < 12 years	300 mcg (0.3 mL IM)	≥ 12 years	300 mcg (0.3 mL) (if child small or prepubertal) or 500 mcg (0.5 mL IM)
< 6 months	10 mcg/kg IM								
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≥ 6 years to < 12 years	300 mcg (0.3 mL IM)								
≥ 12 years	300 mcg (0.3 mL) (if child small or prepubertal) or 500 mcg (0.5 mL IM)								
Side effects	Palpitations / Tachyarrhythmias / Hypertension / Angina-like symptoms.								

Clinical Level:

MEDICATION	ASPIRIN
Classification	Antithrombotic – Antiplatelet Drug which reduces clot formation.
Presentation	300 mg dispersible tablet. 300 mg Enteric Coated (EC) tablet.
Administration	Orally (PO) - dispersed in water, or to be chewed if not dispersible form. (CPG: 5/6.3.1, 4.3.1, 1/2/3.3.1).
Indications	Cardiac chest pain or suspected myocardial infarction. Management of unstable angina and non ST-segment elevation myocardial infarction (NSTEMI). Management of ST-segment elevation myocardial infarction (STEMI).
Contra-Indications	Active symptomatic gastrointestinal (GI) ulcer/ Bleeding disorder (e.g. haemophilia)/ Known severe adverse reaction/ Patients < 16 years old (risk of Reye's Syndrome).
Usual Dosages	<i>Adult: Anaphylaxis</i> 300 mg Tablet. <i>Paediatric:</i> Contraindicated.
Side effects	Epigastric pain and discomfort/ Bronchospasm/ Gastrointestinal haemorrhage/ Increased bleeding times/ skin reactions in hypersensitive patients.
Additional information	Aspirin 300 mg is indicated for cardiac chest pain, regardless if patient is on an anti-coagulant or is already on Aspirin. If the patient has swallowed Aspirin EC (enteric coated) preparation without chewing, the patient should be regarded as not having taken any Aspirin; administer 300 mg PO.

Clinical Level:

MEDICATION	CHLORPHENAMINE																										
Classification	Sedating Antihistamine – H1 receptor antagonist.																										
Presentation	10 mg in 1 mL ampoule. 4 mg tablet.																										
Administration	Intravenous (IV), Intramuscular (IM) and Orally (PO). (CPG: 4/5/6.10.1, 4/5/6.13.21).																										
Indications	Anaphylaxis or allergic reaction.																										
Contra-Indications	Known severe adverse reaction/ Pre-coma states.																										
Usual Dosages	<p style="text-align: center;">For IV route, administer over 1 minute</p> <p>IV: May dilute with Sodium Chloride 0.9% for convenient administration volume of small doses.</p> <p>Adult:</p> <p>Allergic reaction</p> <p>Mild: 4 mg PO (EMT / P / AP).</p> <p>Moderate: 4 mg PO or 10 mg IM (EMT / P) or 10 mg IV (AP).</p> <p>Severe/Anaphylaxis: 10 mg IM (EMT / P) or 10 mg IV (AP).</p> <p>Paediatric:</p> <table> <thead> <tr> <th>Severity</th> <th>Age</th> <th>Dose and route of administration</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Mild</td> <td>6 to 11 years</td> <td>2 mg PO (EMT/ P/ AP)</td> </tr> <tr> <td>≥ 12 years</td> <td>4 mg PO (EMT/ P/ AP)</td> </tr> <tr> <td rowspan="4">Moderate</td> <td>1 month - 6 months</td> <td>0.25 mg/kg IM (EMT/ P) or 0.25 mg/kg IV (AP)</td> </tr> <tr> <td>> 6 months - < 6 years</td> <td>2.5 mg IM (EMT/ P) or 2.5 mg IV (AP)</td> </tr> <tr> <td>6 to < 12 years</td> <td>2 mg PO or 5 mg IM (EMT/ P) or 5 mg IV (AP).</td> </tr> <tr> <td>≥ 12 years</td> <td>4 mg PO or 10 mg IM (EMT/ P) or 10 mg IV (AP)</td> </tr> <tr> <td rowspan="4">Severe</td> <td>1 month - 6 months</td> <td>0.25 mg/kg IM (EMT/ P) or 0.25 mg/kg IV (AP)</td> </tr> <tr> <td>> 6 months - < 6 years</td> <td>2.5 mg IM (EMT/ P) or 2.5 mg IV (AP)</td> </tr> <tr> <td>6 to < 12 years</td> <td>5 mg IM (EMT/ P) or 5 mg IV (AP)</td> </tr> <tr> <td>≥ 12 years</td> <td>10 mg IM (EMT/ P) or 10 mg IV (AP)</td> </tr> </tbody> </table>	Severity	Age	Dose and route of administration	Mild	6 to 11 years	2 mg PO (EMT/ P/ AP)	≥ 12 years	4 mg PO (EMT/ P/ AP)	Moderate	1 month - 6 months	0.25 mg/kg IM (EMT/ P) or 0.25 mg/kg IV (AP)	> 6 months - < 6 years	2.5 mg IM (EMT/ P) or 2.5 mg IV (AP)	6 to < 12 years	2 mg PO or 5 mg IM (EMT/ P) or 5 mg IV (AP).	≥ 12 years	4 mg PO or 10 mg IM (EMT/ P) or 10 mg IV (AP)	Severe	1 month - 6 months	0.25 mg/kg IM (EMT/ P) or 0.25 mg/kg IV (AP)	> 6 months - < 6 years	2.5 mg IM (EMT/ P) or 2.5 mg IV (AP)	6 to < 12 years	5 mg IM (EMT/ P) or 5 mg IV (AP)	≥ 12 years	10 mg IM (EMT/ P) or 10 mg IV (AP)
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Side effects	Causes drowsiness, do not drive or operate machinery.																										
Additional information	Use with caution in epilepsy/ Prostatic hypertrophy/ Glaucoma/ Hepatic disease/ Bronchitis/ Bronchiectasis/ Thyrotoxicosis/ Raised intra-ocular pressure/ Severe hypertension/ Cardiovascular disease/ Bronchial asthma.																										

Clinical Level:

MEDICATION	GLUCAGON
Classification	Hypoglycaemia: Glycogenolytic Hormones.
Presentation	1 mg vial powder and solution for reconstitution (1 mL).
Administration	Intramuscular (IM). (CPG: 4/5/6.5.3, 4/5/6.13.11).
Indications	Hypoglycaemia in patients unable to take oral glucose or unable to gain IV access, with a blood glucose level < 4 mmol/L.
Contra-Indications	< 1 month/ Phaeochromocytoma/ Known Severe Adverse Reactions
Usual Dosages	Adult: 1 mg IM. Paediatric: ≥ 1 month and < 25kg: 500 mcg IM. ≥ 1 month and ≥ 25kg: 1 mg IM.
Side effects	Common: Nausea. Uncommon: Vomiting. Rare: may cause Hypotension/ Dizziness/ Headache.
Additional information	May be ineffective in patients with low stored glycogen e.g. prior use in previous 24 hours, alcohol dependent patients with liver disease. Store in refrigerator. Stable at room temperature for 18 months, use immediately once reconstituted. Protect from light. Hypoglycaemic paediatric patients who are not diagnosed as diabetic should not be administered Glucagon. (this does not preclude the administration of glucose gel or glucose solution to treat hypoglycaemia).

Clinical Level:

MEDICATION	GLUCOSE GEL						
Classification	Nutrients. Sugars: Antihypoglycaemic.						
Presentation	Glucose gel in a tube or sachet.						
Administration	Buccal administration: Administer gel to the inside of the patient's cheek and gently massage the outside of the cheek. (CPG: 4/5/6.5.3, 4/5/6.12.7 4/5/6.13.11).						
Indications	Hypoglycaemia. Blood glucose < 4 mmol/L.						
Contra-Indications	Known severe adverse reaction.						
Usual Dosages	<p>Adult: 10 – 20 g buccal (Recheck blood glucose and repeat after 15 min if required).</p> <p>Paediatric:</p> <table> <tr> <td>New-born neonate</td> <td>2 - 4 mL if blood glucose ≤ 2.6 mmol/L.</td> </tr> <tr> <td>≤ 8 years</td> <td>5 – 10 g buccal (recheck blood glucose and repeat after 15 mins if required).</td> </tr> <tr> <td>> 8 years</td> <td>10 – 20 g buccal (recheck blood glucose and repeat after 15 mins if required).</td> </tr> </table>	New-born neonate	2 - 4 mL if blood glucose ≤ 2.6 mmol/L.	≤ 8 years	5 – 10 g buccal (recheck blood glucose and repeat after 15 mins if required).	> 8 years	10 – 20 g buccal (recheck blood glucose and repeat after 15 mins if required).
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> 8 years	10 – 20 g buccal (recheck blood glucose and repeat after 15 mins if required).						
Side effects	May cause vomiting in patients under the age of 5 years if administered too quickly.						
Additional information	<p>Glucose gel will maintain glucose levels once raised but should be used secondary to Dextrose to reverse hypoglycaemia.</p> <p>Proceed with caution: Patients with airway compromise. Altered level of consciousness.</p>						

Clinical Level:

MEDICATION	GLYCERYL TRINITRATE (GTN)
Classification	Nitrate. Potent coronary vasodilator/ reduces BP/ Dilation of systemic veins.
Presentation	<i>Aerosol spray:</i> Metered dose of 400 mcg.
Administration	<i>Sublingual:</i> Hold the pump spray vertically with the valve head uppermost. Place as close to the mouth as possible and spray under the tongue. The mouth should be closed immediately after each dose. (CPG: 4/5/6.2.6, 4/5/6.3.1, 1/2/3.3.1).
Indications	Angina/ suspected myocardial infarction (MI). <i>EFR:</i> may assist with administration. <i>EMT:</i> Angina/ suspected myocardial infarction (MI) with systolic BP ≥ 110 mmHg. <i>Advanced Paramedics and Paramedics - Pulmonary oedema</i>
Contra-Indications	SBP < 90 mmHg/ Viagra or other phosphodiesterase type 5 inhibitors (Sildenafil, Tadalafil and Vardenafil) used within previous 24 hours/ Severe mitral stenosis/ Known severe adverse reaction.
Usual Dosages	<i>Adult:</i> <i>Angina or MI:</i> 400 mcg sublingual. (Repeat at 3-5 min intervals, Max: 1200 mcg). <i>EFR:</i> assist administration - 400 mcg sublingual max. <i>Pulmonary oedema:</i> 800 mcg/ 2 sprays (repeat x 1 PRN) (P & AP). <i>Paediatric:</i> Not indicated.
Side effects	Headache/ Transient Hypotension/ Flushing/ Dizziness.
Additional information	Caution with inferior wall MI with right ventricular involvement as this may lead to profound hypotension. If the pump is new or it has not been used for a week or more the first spray should be released into the air.

Clinical Level:



MEDICATION	IBUPROFEN
Classification	Analgesics: Non-Steroidal Anti-Inflammatory Drugs (NSAIDs). Pain and Inflammation in musculoskeletal disorders.
Presentation	Suspension 100 mg in 5 mL and 200 mg in 5 mL. 200 mg, 400 mg tablets.
Administration	Orally (PO). (CPG: 4/5/6.6.2, 4/5/6.13.13).
Indications	Mild to moderate pain.
Contra-Indications	Not suitable for children under 3 months (or body weight < 5kg)/ Patient with history of asthma exacerbated by Aspirin/ Pregnancy/ Peptic ulcer disease/ Known renal failure/ Known severe liver failure/ Known severe heart failure/ Concurrent NSAID use (e.g. Diclofenac, Naproxen)/ Known severe adverse reaction / suspected or confirmed chicken pox.
Usual Dosages	Adult: 400 mg PO (Mild pain). 600 mg PO (Moderate pain). Paediatric: 10 mg/kg PO to a maximum of 400 mg.
Side effects	Skin rashes/ Gastrointestinal intolerance and bleeding.
Additional information	If Ibuprofen administered in previous 6 hours, adjust the dose downward by the amount given by other sources resulting in a maximum of 10 mg/kg or 400 mg for paediatrics. Caution with significant burns or poor perfusion due to risk of kidney failure. Caution if on oral anticoagulant (e.g. Warfarin, Rivaroxaban, Apixaban, Edoxaban) due to increased bleeding risk. Ibuprofen may be combined with Paracetamol for synergic effect. Ibuprofen should not be administered to children with a suspected or confirmed chicken pox diagnosis.

Clinical Level:

MEDICATION	METHOXYFLURANE
Classification	Anaesthetics. General: Volatile anaesthetic agent.
Presentation	3 mL vial with a tear off tamper-evident seal which is administered via carbon inhalation vapouriser.
Administration	Inhaled (INH) through an activated Carbon Chamber (self-administered). (CPG: 4/5/6.6.2, 4/5/6.13.13).
Indications	Adult: Moderate to severe pain. Paediatric: Moderate to severe pain.
Contra-Indications	< 5 years old Altered LOC due to head injury, drugs or alcohol/ Cardiovascular instability/ Respiratory depression/ Renal Failure or Impairment/ Known Severe Adverse Reactions/ Malignant Hyperthermia.
Usual Dosages	Adult: 3 mL (INH) (repeat x 1 only PRN). Paediatric: 3 mL (INH) (repeat x 1 only PRN).
Side effects	Amnesia/ Anxiety/ Depression/ Dizziness/ Dysarthria/ Dysgeusia/ Euphoria/ Headache/ Sensory neuropathy/ Somnolence/ Hypotension/ Coughing/ Dry mouth/ Nausea/ Feeling drunk/ Sweating. Uncommon: Tingling or numbness to hands and feet/ Tiredness/ Mouth discomfort.
Additional information	Patients with pain due to acute coronary syndrome (ACS) or migraine may not be suitable for Methoxyflurane. Methoxyflurane crosses the placenta. Consider the risk of central nervous system (CNS) and respiratory depression in an already compromised foetus. Methoxyflurane has a mildly pungent odour. If used in a confined space request the patient to inhale and exhale through the inhaler tube while ensuring that the activated Carbon Chamber is attached.

Clinical Level:

MEDICATION	NALOXONE
Classification	Opioid toxicity: Opioid receptor antagonist. The management and reversal of opiate overdose.
Presentation	Ampoules 400 mcg/mL (0.4 mg in 1 mL) / Minijet syringe.
Administration	IV / IO / IM / SC / IN. (CPG: 6.10.2, 4/5/6.12.7, 4/5/6.13.7 4/5/6.14.6).
Indications	Inadequate respiration and/or ALoC following known or suspected narcotic overdose.
Contra-Indications	Known severe adverse reaction.
Usual Dosages	<p>Adult:</p> <p>400 mcg IV/IO (AP) (repeat after 3 min PRN to a Max dose of 2 mg). 400 mcg IM/SC (P) (repeat after 3 min PRN to a Max dose of 2 mg). 800 mcg IN (EMT) (repeat x 1 after 3 min PRN).</p> <p>Paediatric:</p> <p>10 mcg/kg IV/IO (AP). 10 mcg/kg IM/SC (P). 20 mcg/kg IN (EMT). (Repeat dose PRN to maintain opioid reversal to Max 0.1 mg/kg or 2 mg).</p>
Side effects	Acute reversal of narcotic effect ranging from nausea and vomiting to agitation and seizures.
Additional information	<p>Use with caution in pregnancy. Administer with caution to patients who have taken large dose of narcotics or are physically dependent. Rapid reversal will precipitate acute withdrawal syndrome. Prepare to deal with aggressive patients.</p>

Clinical Level:



MEDICATION	NITROUS OXIDE 50% AND OXYGEN 50% (ENTONOX®)
Classification	Analgesics – Volatile Liquid Anaesthetics - Potent analgesic gas contains a mixture of both Nitrous Oxide and Oxygen.
Presentation	Cylinder, coloured blue with white and blue triangles on cylinder shoulders. ED cylinder: White cylinder. <i>Medical gas:</i> 50% Nitrous Oxide & 50% Oxygen. Brand name: Entonox®.
Administration	Self-administered. Inhalation by demand valve with face-mask or mouthpiece. (CPG: 4/5/6.6.2, 4/5/6.12.3, 4/5/6.12.4, 4/5/6.13.13).
Indications	Moderate to severe pain.
Contra-Indications	Altered level of consciousness/ Chest Injury/ Pneumothorax/ Shock / Recent scuba dive/ Decompression sickness/ Intestinal obstruction/ Inhalation Injury/ Carbon monoxide (CO) poisoning/ Known severe adverse reaction/ Bullous Emphysema/ Middle Ear Procedures/ Following a recent dive/ Recent eye surgery involving bubble gas insertion/ Head injury/ Conditions where air is trapped in the body and expansion would be dangerous/ Maxillo-facial injuries/ Sedation or intoxication.
Usual Dosages	<i>Adult and Paediatric:</i> Self-administered until pain tolerable.
Side effects	Disinhibition/ Decreased level of consciousness/ Light headedness.
Additional information	Caution should be issued before using Entonox with patients who have known Chronic Obstructive Pulmonary Disease (COPD) or other conditions where compromised chemoreceptor sensitivity/function may be present. May cause respiratory depression and increases in PaCO ₂ . Do not use if patient unable to understand instructions. In cold temperatures warm cylinder and invert at least 3 times to ensure mix of gases. Advanced paramedics may use discretion with minor chest injuries. Has an addictive property. Caution when using Entonox® for greater than one hour for sickle cell crisis. Prolonged or frequent use of ENTINOX may result in megaloblastic marrow changes, myeloneuropathy and sub-acute combined degeneration of the spinal cord.

Clinical Level: CFRA EFR EMT P AP

MEDICATION	OXYGEN
Classification	Gas.
Presentation	<p><i>Medical gas:</i> D, E or F cylinders, coloured black with white shoulders. (Please note: By 2025, all cylinders will be completely white with OXYGEN in black). <i>CD cylinder:</i> White cylinder.</p>
Administration	<p><i>Inhalation via:</i> High concentration reservoir (non-rebreather) mask/ Simple face mask/ Venturi mask/ Tracheostomy mask/ Nasal cannulae/ CPAP device/ Bag Valve Mask. <i>(CPG: Oxygen is used extensively throughout the CPGs).</i></p>
Indications	<p>Absent / Inadequate ventilation following an acute medical or traumatic event. SpO₂ < 94% adults and < 96% paediatrics. SpO₂ < 92% for patients with acute exacerbation of COPD. SpO₂ < 90% for patients with acute onset of Pulmonary Oedema.</p>
Contra-Indications	Bleomycin lung injury.
Usual Dosages	<p>Adult: Cardiac and respiratory arrest or sickle cell crisis; 100%. Life threats identified during primary survey; 100% until a reliable SpO₂ measurement obtained then titrate O₂ to achieve SpO₂ of 94% - 98%. For patients with acute exacerbation of COPD, administer O₂ titrate to achieve SpO₂ 92% or as specified on COPD Oxygen Alert Card. All other acute medical and trauma titrate O₂ to achieve SpO₂ 94% - 98%.</p> <p>Paediatric: Cardiac and respiratory arrest or sickle cell crisis; 100%. Life threats identified during primary survey; 100% until a reliable SpO₂ measurement obtained then titrate O₂ to achieve SpO₂ of 96% - 98%. Neonatal resuscitation (< 4 weeks) consider supplemental O₂ (\leq 30%). All other acute medical and trauma titrate O₂ to achieve SpO₂ of 96% - 98%.</p>
Side effects	Prolonged use of O ₂ with chronic COPD patients may lead to reduction in ventilation stimulus.
Additional information	<p>Caution with emollients containing paraffin e.g. lip balms & moisturisers – may lead to skin burns. A written record must be made of what oxygen therapy is given to every patient. Documentation recording oximetry measurements should state whether the patient is breathing air or a specified dose of supplemental Oxygen.</p> <p>Consider humidifier if oxygen therapy for paediatric patients is > 30 minutes duration. Caution with paraquat poisoning, administer Oxygen if SpO₂ < 92%.</p> <p>Avoid naked flames, powerful oxidising agent.</p>

Clinical Level:

MEDICATION	PARACETAMOL
Classification	Analgesic – Non-opioid.
Presentation	Rectal suppository 1 g, 500 mg, 250 mg, 180 mg, 125 mg, 80 mg. Suspension 120 mg in 5 mL or 250 mg in 5 mL. 500 mg tablet. Plastic vial, 1 g of Paracetamol in 100 mL solution for infusion, 500mg of paracetamol in 50 mL solution for infusion.
Administration	Per Rectum (PR). Orally (PO). IV infusion. (CPG: 4/5/6.6.2, 4/5/6.11.1, 4/5/6.13.13, 4/5/6.13.19, 5/6.13.20, 5/6.15.2).
Indications	Adult: Pyrexia/ Temperature > 38.3°C/ Mild or moderate pain. Paediatric: Pyrexia/ Temperature > 38.5°C/ Mild or moderate pain.
Contra-Indications	< 1 month old/ Known severe adverse reaction/ Chronic liver disease.
Usual Dosages	Adult: 1 g PO (EMT, P/AP). 1 g IV infusion (AP), if estimated weight < 50 kg, 15 mg/kg (administered slowly over 15 minutes). Palliative Care (P/AP): 1 g PO (Repeat after 4 – 6 hours x 1 PRN). Paediatric: PO (EMT, P/AP) PR (P/AP) IV Infusion (AP) (\geq 1 year Max 1 g) 15 mg/Kg PO > 1 month < 1 year - 80 mg PR < 1 year – 7.5 mg/kg IV slowly 1-3 years - 180 mg PR \geq 1 year – 15 mg/kg IV slowly 4-8 years - 360 mg
Side effects	If Paracetamol IV is administered too fast it may result in hypotension.
Additional information	Paracetamol is contained in Paracetamol suspension and other over the counter drugs. Consult with parent / guardian in relation to medication administration prior to arrival on scene. For PR use be aware of the modesty of the patient, should be administered in the presence of a 2nd person. If Paracetamol administered in the previous 4 hours, adjust the dose downward by the amount given by other sources resulting in a maximum of 15 mg/Kg. Caution with IV Paracetamol in the absence of a buretrol.

Clinical Level:

MEDICATION	SALBUTAMOL
Classification	Beta-2 Adrenoceptor agonist selective – short acting.
Presentation	Nebule 2.5 mg in 2.5 mL. Nebule 5 mg in 2.5 mL. Aerosol inhaler: Metered dose 100mcg per actuation (Puff).
Administration	Nebule Inhalation via aerosol inhaler. (CPG: 4/5/6.2.4, 2/3.2.5, 4/5/6.2.5, 4/5/6.8.9, 2/3.10.1, 4/5/6.10.1, 2/3.13.8, 4/5/6.13.8, 2/3.13.21, 4/5/6.13.21, 6.17.7).
Indications	Bronchospasm/ Exacerbation of COPD/ Respiratory distress following submersion incident.
Contra-Indications	Known severe adverse reaction.
Usual Dosages	Adult: 5 mg NEB or 100 mcg metered aerosol spray (Repeat aerosol x 11). Repeat NEB at 5 minute intervals PRN EFR assist patient with Asthma/ Anaphylaxis. – 100 mcg metered aerosol spray (Repeat aerosol x 11 PRN). Paediatric: < 5 yrs - 2.5 mg NEB or 100 mcg metered aerosol spray (Repeat aerosol x 5). ≥ 5 yrs - 5 mg NEB or 100 mcg metered aerosol spray (Repeat aerosol x 11). (Repeat NEB at 5 minute intervals PRN). EFR: assist patient with Asthma/ Anaphylaxis – < 5 yrs - 100 mcg / 1 actuation metered aerosol spray (Repeat aerosol x 5 PRN). ≥ 5 yrs - 100mcg / 1 actuation metered aerosol spray (Repeat aerosol x 11 PRN).
Side effects	Tachycardia/ Tremors/ Tachyarrhythmias/ High doses may cause Hypokalaemia.
Additional information	It is more efficient to use a volumiser in conjunction with an aerosol inhaler when administering Salbutamol. If an oxygen driven nebuliser is used to administer Salbutamol for a patient with acute exacerbation of COPD it should be limited to 6 minutes maximum.

New Medications and Skills for 2021

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Activated Charcoal PO*					✓	✓	✓
Adrenaline nebulised						✓	✓
Dexamethasone PO						✓	✓
Lidocaine IO							✓
Ketamine IM*							✓
Uterine massage					✓	✓	✓
Tourniquet application					✓	✓	✓
Pressure points					✓	✓	✓
Ketone measurement*					✓	✓	✓
Tracheostomy management					✓	✓	✓
Malpresentations in labour						✓	✓
Shoulder Dystocia management						✓	✓
Posterior ECG in ACS						✓	✓
Intubation of Stoma							✓
Nasogastric Tube insertion*							✓
Procedural Sedation*							✓
Richmond Agitation-Sedation Scale (RASS)*							✓

New Medications and Skills for June 2023 update for CPG 2021

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Trauma Triage Tool					✓	✓	✓
Non-conveyance						✓	✓

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

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

Paramedic authorisation for IV continuation

Practitioners should note that PHECC registered paramedics are authorised to continue an established IV infusion in the absence of an advanced paramedic or doctor during transportation.

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

✓	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
*	Non-core specified element or action
✓ *	Non-core specified element or action for identified clinical level

MEDICATIONS

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Aspirin PO	✓	✓	✓	✓	✓	✓	✓
Oxygen INH		✓		✓	✓	✓	✓
Glucose gel buccal				✓	✓	✓	✓
Glyceryl Trinitrate SL				✓ SA	✓	✓	✓
Adrenaline (1:1000) autoinjector				✓ SA	✓	✓	✓
Salbutamol MDI				✓ SA	✓	✓	✓
Activated Charcoal PO*					✓	✓	✓
Adrenaline (1:1000) IM					✓	✓	✓
Chlorphenamine PO/IM					✓	✓	✓
Glucagon IM					✓	✓	✓
Ibuprofen PO					✓	✓	✓
Methoxyflurane INH					✓	✓	✓
Naloxone IN					✓	✓	✓
Nitrous Oxide and Oxygen INH					✓	✓	✓
Paracetamol PO					✓	✓	✓
Salbutamol nebulised					✓	✓	✓
Adrenaline nebulised						✓	✓
Clopidogrel PO						✓	✓
Cyclizine IM						✓	✓
Dexamethasone PO						✓	✓
Glucose 5% IV						✓ SA	✓
Glucose 10% IV						✓ SA	✓
Hydrocortisone IM						✓	✓
Ipratropium Bromide nebulised						✓	✓
Midazolam buccal/IM/IN						✓	✓
Naloxone IM/SC						✓	✓
Ondansetron IM						✓	✓
Oxytocin IM						✓	✓
Paracetamol PR						✓	✓

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Ticagrelor PO						✓	✓
Sodium Chloride 0.9% IV/IO						✓ SA	✓
Adenosine IV							✓
Adrenaline (1:10,000) IV/IO							✓
Adrenaline (1:100,000) IV/IO							✓
Amiodarone IV/IO							✓
Atropine IV/IO							✓
Ceftriaxone IV/IO/IM							✓
Chlorphenamine IV							✓
Cyclizine IV							✓
Diazepam IV/PR							✓
Fentanyl IN/IM/IV							✓
Furosemide IV							✓
Glycopyrronium Bromide SC*							✓
Haloperidol PO/SC*							✓
Hydrocortisone IV							✓
Hyoscine Butylbromide SC*							✓
Ketamine IV/IM*							✓
Lidocaine IV/IO							✓
Lorazepam PO							✓
Magnesium Sulphate IV							✓
Midazolam IV							✓
Morphine IV/PO/IM							✓
Naloxone IV/IO							✓
Ondansetron IV							✓
Paracetamol IV/PR							✓
Sodium Bicarbonate IV/IO							✓
Tranexamic Acid IV							✓

AIRWAY & BREATHING MANAGEMENT

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
FBAO management	✓	✓	✓	✓	✓	✓	✓
Head tilt chin lift	✓	✓	✓	✓	✓	✓	✓
Pocket mask	✓	✓	✓	✓	✓	✓	✓
Recovery position	✓	✓	✓	✓	✓	✓	✓
Non-rebreather mask		✓		✓	✓	✓	✓
Oropharyngeal airway		✓		✓	✓	✓	✓
Oral suctioning		✓		✓	✓	✓	✓
Venturi mask		✓		✓	✓	✓	✓
Bag Valve Mask		✓		✓	✓	✓	✓
Jaw thrust		✓		✓	✓	✓	✓
Nasal cannula		✓		✓	✓	✓	✓
Supraglottic airway adult (uncuffed)		✓			✓	✓	✓
Oxygen humidification				✓	✓	✓	✓
Nasopharyngeal airway				BTEC	BTEC	✓	✓
Supraglottic airway adult (cuffed)					✓ SA	✓	✓
Tracheostomy management					✓	✓	✓
Continuous Positive Airway Pressure						✓	✓
Non-Invasive ventilation device						✓	✓
Supraglottic airway paediatric						✓	✓
Endotracheal intubation							✓
Intubation of stoma							✓
Laryngoscopy / Magill forceps							✓
Needle cricothyrotomy							✓
Needle thoracocentesis							✓

CARDIAC

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
AED adult & paediatric	✓	✓	✓	✓	✓	✓	✓
CPR adult, child & infant	✓	✓	✓	✓	✓	✓	✓
Recognise death and resuscitation not indicated	✓	✓	✓	✓	✓	✓	✓
Neonate resuscitation					✓	✓	✓
ECG monitoring					✓	✓	✓
CPR mechanical assist device*					✓	✓	✓
Cease resuscitation - adult					✓ SA	✓	✓
12 lead ECG						✓	✓
Manual defibrillation						✓ *	✓
Right sided ECG in ACS						✓	✓
Posterior ECG in ACS						✓	✓

HAEMORRHAGE CONTROL

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Direct pressure			✓	✓	✓	✓	✓
Nose bleed			✓	✓	✓	✓	✓
Haemostatic agent				BTEC*	✓ *	✓	✓
Tourniquet application				BTEC	✓	✓	✓
Pressure points					✓	✓	✓
Wound closure clips					BTEC	✓ *	✓ *
Nasal pack						✓	✓

MEDICATION ADMINISTRATION

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Oral	✓	✓	✓	✓	✓	✓	✓
Buccal				✓	✓	✓	✓
Metered dose inhaler				✓ SA	✓	✓	✓
Sublingual				✓ SA	✓	✓	✓
Intramuscular injection					✓	✓	✓
Intranasal					✓	✓	✓
Nebuliser					✓	✓	✓
Subcutaneous injection					✓	✓	✓
Infusion maintenance						✓	✓
Per rectum						✓	✓
Infusion calculations							✓
Intraosseous injection/infusion							✓
Intravenous injection/infusion							✓

TRAUMA

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Burns care			✓	✓	✓	✓	✓
Application of a sling			✓	✓	✓	✓	✓
Soft tissue injury			✓	✓	✓	✓	✓
Hot packs for active rewarming (hypothermia)			✓	✓	✓	✓	✓
Active Spinal Motion Restriction				✓	✓	✓	✓
Cervical collar application				✓	✓	✓	✓
Helmet stabilisation/removal				✓	✓	✓	✓
Splinting device application to upper limb				✓	✓	✓	✓
Splinting device application to lower limb				✓	✓	✓	✓
Log roll				APO	✓	✓	✓
Move patient with a carrying sheet				APO	✓	✓	✓
Extrication using a long board				✓ SA	✓	✓	✓
Rapid Extraction				✓ SA	✓	✓	✓
Secure and move a patient with an extrication device				✓ SA	✓	✓	✓
Move a patient with a split device (Orthopaedic stretcher)				✓ SA	✓	✓	✓
Passive Spinal Motion Restriction						✓	✓
Pelvic Splinting device				BTEC	✓	✓	✓
Move and secure patient into a vacuum mattress				BTEC	✓	✓	✓
Move and secure a patient to a paediatric board					✓	✓	✓
Traction splint application					APO	✓	✓
Lateral dislocation of patella – reduction						✓	✓
Taser gun barb removal						✓	✓

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

PATIENT ASSESSMENT

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Assess responsiveness	✓	✓	✓	✓	✓	✓	✓
Check breathing	✓	✓	✓	✓	✓	✓	✓
FAST assessment	✓	✓	✓	✓	✓	✓	✓
Capillary refill			✓	✓	✓	✓	✓
AVPU			✓	✓	✓	✓	✓
Pulse check			✓	✓	✓	✓	✓
Breathing / pulse rate	✓ SA		✓	✓	✓	✓	✓
Primary survey			✓	✓	✓	✓	✓
SAMPLE history			✓	✓	✓	✓	✓
Secondary survey			✓	✓	✓	✓	✓
CSM assessment			✓	✓	✓	✓	✓
Rule of Nines			✓	✓	✓	✓	✓
Assess pupils			✓	✓	✓	✓	✓
Blood pressure			✓ SA	✓	✓	✓	✓
Pulse oximetry			✓	✓	✓	✓	✓
Capacity evaluation			✓	✓	✓	✓	✓
Chest auscultation			✓	✓	✓	✓	✓
Glucometry			✓	✓	✓	✓	✓
Ketone measurement*			✓	✓	✓	✓	✓
Paediatric Assessment Triangle			✓	✓	✓	✓	✓
Pain assessment			✓	✓	✓	✓	✓
Patient Clinical Status			✓	✓	✓	✓	✓
Temperature			✓	✓	✓	✓	✓
Triage sieve			✓	✓	✓	✓	✓
Trauma Triage Tool			✓	✓	✓	✓	✓
Capnography			✓	✓	✓	✓	✓
Glasgow Coma Scale (GCS)			✓	✓	✓	✓	✓
Peak expiratory flow			✓	✓	✓	✓	✓
Pre-hospital Early Warning Score			✓	✓	✓	✓	✓
Treat and referral			✓	✓	✓	✓	✓
Triage sort			✓	✓	✓	✓	✓
Richmond Agitation-Sedation Scale (RASS) *			✓	✓	✓	✓	✓

OTHER

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Use of Red Card	✓	✓	✓	✓	✓	✓	✓
Assist normal delivery of a baby				APO	✓	✓	✓
De-escalation and breakaway skills					✓	✓	✓
ASHICE radio report					✓	✓	✓
IMIST-AMBO handover					✓	✓	✓
Uterine massage					✓	✓	✓
Broselow tape						✓	✓
Malpresentations in labour						✓	✓
Non-conveyance						✓	✓
Shoulder Dystocia management						✓	✓
Umbilical cord complications						✓	✓
Verification of Death						✓	✓
Intraosseous cannulation							✓
Intravenous cannulation							✓
Nasogastric tube insertion*							✓
Procedural Sedation*							✓
Urinary catheterisation*							✓

CRITICAL INCIDENT STRESS MANAGEMENT (CISM)

Your Psychological Well-Being

It is extremely important for your psychological well-being that you do not expect to save every critically ill or injured patient that you treat. For a patient who is not in hospital, whether they survive a cardiac arrest or multiple traumas depends on a number of factors including any other medical condition the patient has. Your aim should be to perform your interventions well and to administer the appropriate medications within your scope of practice. However, sometimes you may encounter a situation which is highly stressful for you, giving rise to Critical Incident Stress (CIS). A critical incident is an incident or event which may overwhelm or threaten to overwhelm our normal coping responses. As a result of this we can experience CIS.

When can I be adversely affected by a critical incident? Listed below are some common ways in which people react to incidents like this:

- Feeling of distress or sadness
- Strong feeling of anger
- Feeling of disillusionment
- Feeling of guilt
- Feeling of apprehension/anxiety/fear of:
 - Losing control/breaking down or
 - Something similar happening again
 - Not having done all I think I could have done
- Avoidance of the scene of incident/trauma
- Bad dreams, nightmares or startling easily
- Distressing memories or 'flashbacks' of the incident
- Feeling 'on edge', irritable, angry, under threat/pressure
- Feeling emotionally fragile or emotionally numb
- Feeling cut off from your family or close friends – "I can't talk to them" or "I don't want to upset them"
- Feeling of needing to control everything

Some Do's and Don'ts

- **DO express your emotions:**
 - Talk about what happened
 - Talk about how you feel and how the event has impacted you
 - Be kind to yourself and to others.
- **DO** talk about what has happened as often as you need
- **DO** find opportunities to review the experience **DO** discuss what happened with colleagues **DO** ask friends and colleagues for support
- **DO** listen sympathetically if a colleague wants to talk
- **DO** advise colleagues about receiving appropriate help
- **DO** keep to daily routines
- **DO** drive more carefully
- **DO** be more careful around the home
- **DON'T** use alcohol, nicotine or drugs to hide your feelings **DON'T** simply stay away from work – seek help and support **DON'T** allow anger and irritability to mask your feelings **DON'T** bottle up feelings
- **DON'T** be afraid to ask for help
- **DON'T** think your feelings are a sign of weakness

When things get tough, pro-actively minding yourself is crucial. Control the things you can control. Get more sleep than you think you need. Eat fresh, healthy foods at regular times and avoid snacks. Get outdoor exercise at least three times a week. Have a meaningful conversation with someone you like at least once a day. Resolve what makes you sad or angry or otherwise let it go. Be kind.

Everyone may have these feelings. Experience has shown that they may vary in intensity according to circumstance. Nature heals through allowing these feelings to come out. This will not lead to loss of control but stopping these feelings may lead to other and possibly more complicated problems.

When to find help?

1. If you feel you cannot cope with your reactions or feelings.
2. If your stress reactions do not lessen in the two or three weeks following the event.
3. If you continue to have nightmares and poor sleep.
4. If you have no-one with whom to share your feelings when you want to do so.
5. If your relationships seem to be suffering badly, or sexual problems develop.
6. If you become clumsy or accident prone.
7. If, in order to cope after the event, you smoke, drink or take more medication, or other drugs.
8. If your work performance suffers.
9. If you are tired all the time.
10. If things get on top of you and you feel like giving up.
11. If you take it out on your family.
12. If your health deteriorates.

Experiencing signs of excessive stress?

If the range of physical, emotional and behavioural signs and symptoms already mentioned do not reduce over time (for example after two weeks), it is important that you seek support and help.

Where to find help?

Your own licensed CPGs provider will have a CISM support network or system.

We recommend that you contact them for help and advice (i.e. your peer support worker/coordinator/staff support officer).

- For a self-help guide, please go to www.cismnetworkireland.ie
- The NAS CISM and CISM Network published a booklet called 'Critical Incident Stress Management for Emergency Personnel'.
- It can be purchased by emailing: info@cismnetworkireland.ie
- Consult your own GP or see a health professional who specialises in traumatic stress.
- In partnership with NAS CISM Committee, PHECC developed an eLearning CISM Stress Awareness Training (SAT) module. It can be accessed by the following personnel:
 - PHECC registered practitioners at all levels
 - National Ambulance Service-linked community first responders
 - NAS non-PHECC registered personnel
- Under the direction of CISM Network, bespoke CISM SAT modules are developed by Network member organisations.

Practitioner Level Updates

Several broad changes have been applied in the 2021 version:

- Care Principles have been updated.
- The classification of CPGs has changed to up to seventeen categories, developed to group common themes and categories together.
- The term 'Registered' has been removed from references to registered healthcare professionals, for example Registered Medical Practitioner will now appear as Medical Practitioner.
- The transport patient symbol, along with other symbols, has been modernised throughout the CPGs.
- The description of dose of medications less than one milligram is now described in micrograms, for example GTN 0.4 mg SL is now GTN 400 mcg SL.
- The description of sodium chloride (0.9%) infusion has been standardised to NaCl (0.9%).
- Epinephrine is now known as Adrenaline throughout the CPGs.
- The Medical Support symbol now states 'Consider Medical Support or 'Contact Medical Support'. Where 'Contact Medical Support' appears this should be regarded as mandatory.
- References to published source literature no longer appear on CPGs but are available from PHECC on request.
- The age descriptor has been removed from the title of paediatric CPGs.

New EMT CPGs in 2021 Edition (Updated June 2023)

To support upskilling of the 2021 CPGs new CPGs are identified below.

New CPGs	The new skills and medications incorporated into the CPGs are
CPG 4/5/6.8.11 Major Trauma Centre Triage Decision Tool	This CPG outlines the approach to triage and appropriate destination decision-making for trauma.

Deleted EMT CPGs in 2021 Edition

CPGs deleted	
CPG 4.5.1 Pre-Hospital Emergency Childbirth	This CPG has been deleted and replaced with CPG 4/5/6.12.2 Pre-Hospital Emergency Childbirth which integrates EMT, Paramedic and Advanced Paramedic levels.
CPG 4/5/6.5.3 PV Haemorrhage in Pregnancy	This CPG has been deleted and replaced with CPG 4/5/6.12.1 – Pregnancy related emergencies.
CPG 4.5.2 Basic Life Support – Neonate (< 4 week)	This CPG has been deleted and replaced with CPG 4/5/6.12.8 Neonatal Resuscitation (\leq 6 weeks) which integrates EMT, Paramedic and Advanced Paramedic levels.

Updated EMT CPGs in the 2021 version

To support upskilling of the 2021 CPGs, the changes are outlined below.

CPGs	The principal differences are
CPG 4/5/6.2.3 Abnormal Work of Breathing – Adult	The CPG is retitled 'Abnormal Work of Breathing – Adult' (previously Inadequate Ventilations – Adult)
CPG 4/5/6.2.4 Exacerbation of COPD	<p>Deleted</p> <p>Sequence step 'Measure Peak Expiratory Flow'</p> <p>Decision process 'PEF < 50% predicted'</p> <p>Added</p> <p>Decision process 'Deteriorates / unstable' replaces decision process 'PEF < 50% predicted'</p> <p>Decision process 'Adequate ventilation' replaces decision process 'Adequate respirations'</p> <p>Consider treatment 'consider CPAP for profound refractory hypoxia' is introduced for Paramedic and AP level</p> <p>Instruction box 'If no improvement Salbutamol may be repeated at 5 min intervals'</p> <p>Medication Update</p> <p>Salbutamol may be repeated at 5 min intervals</p>
CPG 4/5/6.2.5 Asthma - Adult	<p>Added</p> <p>Instruction box 'If no improvement Salbutamol aerosol 100mcg may be repeated up to 11 times as required <u>via MDI</u>' replaces 'If no improvement Salbutamol aerosol 0.1 mg may be repeated up to 11 times as required'</p>

CPGs	The principal differences are
CPG 4.3.1 Acute Coronary Syndrome	<p>Added</p> <p>Parallel process 'Contact Ambulance Control/ Operations Centre for direction' replaces 'Contact NAS control for direction'</p>
4/5/6.4.2 Epistaxis	<p>Deleted</p> <p>Equipment list 'Proprietary nasal pack'</p>
CPG 4/5/6.5.2 Decompression Illness	<p>Added</p> <p>Transport patient 'Transport is completed at an altitude of < 1000 ft. above incident site or aircraft pressurised equivalent to sea level' replaces 'Transport is completed at an altitude of < 300 meters above incident site or aircraft pressurised equivalent to sea level'</p>
CPG 4/5/6.5.3 Glycaemic Emergency – Adult	<p>Added</p> <p>Consider treatment option 'Consider Ketone measurement' is a non-core element for EMT, Paramedic and AP level</p> <p>Instruction box 'Consider Glucagon IM if not already given'</p>
CPG 4/5/6.5.4 Sickle Cell Crisis - Adult	<p>Added</p> <p>Instruction box 'Administer 15L of oxygen via a non-rebreather facemask' replaces '100% O₂'</p>
CPG 4.6.1 Altered Level of Consciousness - Adult	<p>Added</p> <p>'Possible differential diagnosis' box replaces 'Differential diagnosis' box</p>
CPG 4/5/6.6.2 Pain Management – Adult	<p>Deleted</p> <p>Instruction box 'Following Fentanyl IN the next dose may be either Fentanyl IV or Morphine IV but not both'</p> <p>Added</p> <p>Instruction box 'Repeat Fentanyl IN once only at not < 10 min after initial dose prn'</p> <p>Instruction box 'Repeat Ketamine PRN at not < 10 min' replaces 'Repeat Ketamine once only at not < 10 minutes prn'</p> <p>Instruction box 'Poly-opiate administration should be avoided where possible – where multiple opiates are being administered the highest standards of continued patient monitoring must be adhered to'</p> <p>Cyclical process box for 'IO Access & Analgesia'</p> <p>Special instructions box 'Do not administer Amiodarone and Lidocaine to the same patient'</p>

CPGs	The principal differences are
CPG 4/5/6.7.2 Behavioral Emergency	<p>Deleted</p> <p>'or if the implementation of the decision requires the act of a third party' from the Instruction box describing the circumstances where a person lacks the capacity to make a decision</p> <p>Added</p> <p>Decision process 'Aggressive/violent and/or risk to self or others and uncooperative with practitioner' is reorganised</p> <p>Mandatory sequence step 'Hand over to MP/ Garda care' replaces 'Hand over to RMP/ Garda care'</p> <p>Sequence step 'ETCO₂' added to 'Monitor BP SpO₂ and ECG'</p> <p>Sequence step 'Mental Health Illness'</p> <p>Instruction box 'If potential to harm self or others ensure minimum two people accompany patient in saloon of ambulance at all times' replaces 'Consider need for two or more people accompanying the patient during transportation'</p>
CPG 4/5/6.8.3 External Haemorrhage – Adult	<p>Deleted</p> <p>Paramedic skill flag from mandatory sequence step 'Apply tourniquet if limb injury'</p> <p>Paramedic skill flag from sequence step 'Depress proximal pressure point'</p> <p>Paramedic skill flag from sequence step 'Apply tourniquet'</p> <p>'apply a tourniquet and/or' from EMT-BTEC Special Authorisation box</p> <p>Added</p> <p>Mandatory sequence step 'Apply and mark tourniquet if limb injury' replaces 'Apply tourniquet if limb injury' and is introduced as an EMT level skill</p> <p>Consider treatment option 'Consider wound closure clips for temporary closure if serious haemorrhage' is a non-core element for Paramedic and AP level</p> <p>Consider treatment option 'consider applying a dressing impregnated with haemostatic agent' is a Paramedic level skill</p> <p>Consider treatment option 'consider applying a dressing impregnated with haemostatic agent' is a non-core element for EMT level</p>

CPGs	The principal differences are
CPG 4/5/6.8.6 Limb Injury – Adult	<p>The CPG treatment pathway is reorganised</p> <p>Deleted</p> <p>Instruction box 'Contraindications for application of traction splint'</p> <p>Decision process 'Injury type'</p> <p>Decision process '> 20 min to facility'</p> <p>Added</p> <p>Parallel process 'Consider hypovolaemia and shock'</p> <p>Decision process 'Fracture'</p> <p>Decision process 'Femur fracture' replaces clinical finding 'Fractured femur'</p> <p>Decision process 'Rest, Cooling, Compression & Elevation' replaces decision process Rest – Ice – Compression – Elevation'</p> <p>Sequence step 'For open fracture - Remove gross contamination'</p>
CPG 4/5/6.8.9 Submersion / Immersion Incident	<p>The CPG is retitled 'Submersion/ Immersion Incident' (previously Submersion Incident)</p> <p>The CPG entry point is updated to 'Submersion / immersion in liquid'</p> <p>The CPG treatment pathway is reorganised</p> <p>Instruction box outlining the indications of spinal injury is revised to 'History of: Diving into shallow water – Injury following: water slide, water skiing, kite-surfing, boat incident – Alcohol/ drugs intoxication'</p> <p>Deleted</p> <p>Decision process 'Adequate ventilations'</p> <p>Added</p> <p>Decision process 'Responsive'</p> <p>Decision process 'Spontaneous Breathing'</p> <p>Mandatory sequence step 'Open airway - Five rescue breaths'</p> <p>Decision process 'Spontaneous Breathing'</p> <p>Mandatory sequence step 'Continue ventilations'</p> <p>Sequence step 'Advanced airway with cuffed devices only (monitor for leaks)' for Paramedic and AP level</p> <p>Consider treatment option 'Consider nasogastric tube' is a non-core element for AP level</p> <p>Sequence step 'Auscultate lungs'</p> <p>Decision process 'Crepitations'</p> <p>Decision process 'Hypotensive'</p> <p>Decision process Hypothermic' replaces 'Patient is hypothermic'</p>

CPGs	The principal differences are
CPG 4/5.10.2 Poisons – Adult	<p>Added</p> <p>Additional CPG entry point 'Solid substance ingested and GCS 15'</p> <p>Decision process 'Activated charcoal indicated'</p> <p>Instruction box 'Substances that are adsorbed by Activated charcoal are available in the PHECC field guide'.</p> <p>Medication Update</p> <p>'Naloxone 0.8 - 2 mg IN (Repeat x one prn to max 2mg)' replaces 'Naloxone 0.8 mg IN (Repeat x one prn)'</p> <p>New Medications</p> <p>Consider treatment option 'Activated charcoal 50 g PO' is a non-core element for Paramedic and EMT level</p>

CPGs	The principal differences are
CPG 4/5/6.11.1 Sepsis - Adult	<p>The CPG entry point is updated to 'Patient generally unwell with suspected infection < 36°C or > 38.3°C'</p> <p>The CPG treatment pathway is significantly reorganised</p> <p><i>Deleted</i></p> <p>Sequence step 'Signs of Systemic Inflammatory Response Syndrome (SIRS)'</p> <p>Sequence step 'Could this be a severe infection?'</p> <p>Instruction box 'Risk stratifier'</p> <p>Instruction box 'If history of penicillin allergy assess the severity of the reaction and if not life-threatening, i.e. rash, proceed with Ceftriaxone'</p> <p>Instruction box 'If meningitis suspected ensure appropriate PPE is worn; Mask and goggles'</p> <p>Instruction box 'Indication for antibiotic'</p> <p>Instruction box 'Signs of shock/ poor perfusion'</p> <p>Consider treatment 'If Sys BP < 100 mmHg consider aliquots NaCl 0.9% 250 mL IV/IO</p> <p><i>Added</i></p> <p>Sequence step 'HR, RR, ECG, SpO₂ & BP monitoring' replaces 'ECG, SpO₂ & BP monitoring'</p> <p>Mandatory sequence step 'Abnormal physiology? Source of Infection?'</p> <p>Decision process 'At risk'</p> <p>Instruction box 'Evidence of at risk criteria (any 1 of 3) 1. Any 1 Clinical sign of acute organ dysfunction - 2. At risk of neutropenia (bone marrow failure, autoimmune disorder, treatment including but not limited to chemo/ radiotherapy). Note: these patients may present without fever - 3. ≥ SIRS criteria PLUS ≥ 1 co-morbidity'</p> <p>Sequence step 'Give 3 if clinically indicated'</p> <p>Instruction box 'Signs of Systemic Inflammatory Response Syndrome (SIRS)'</p> <p>Instruction box 'Give 3 1. O₂ titrate to sats > 94% (88 – 92% for chronic lung conditions e.g. COPD) 2. IV fluids, patients with hypotension max 30 mL/kg 3. IV antimicrobials' replaces 'Give three - O₂ titrate to sats > 94% - IV fluids – IV antimicrobials'</p> <p>Decision process 'Signs of hypoperfusion' replaces 'Signs of poor perfusion'</p> <p>Sequence step 'Monitor clinical condition; re-evaluate for possible sepsis if clinically indicated'</p> <p>Instruction box 'High Consequence Infectious Disease (HCID) ensure appropriate PPE is worn; Long sleeve gown, Facemask, Eye protection'</p> <p>Special instruction box 'Pre alert ED if sepsis" replaces 'Pre alert ED if severe sepsis'</p>

CPGs	The principal differences are
CPG 4/5/6.12.2 Pre-Hospital Emergency Childbirth	<p>EMT level is added to this CPG</p> <p>The CPG treatment pathway is significantly reorganised</p> <p>The CPG entry point is updated to 'In labour'</p> <p>Deleted</p> <p>Instruction box 'If no progress with labour consider transporting patient'</p> <p>Sequence step 'Take SAMPLE history'</p> <p>Decision process 'Patient in labour'</p> <p>Mandatory sequence step 'Request Ambulance Control to contact GP/midwife/medical team as required by local policy to come to scene or meet en route'</p> <p>Mandatory sequence step 'Cover newborn in polythene wrap/bag up to neck without drying first'</p> <p>Added</p> <p>Decision process 'Birth imminent' replaces 'Birth imminent or travel time too long'</p> <p>'Consider ALS' replaces 'Request ALS'</p> <p>Sequence step 'Request second crew'</p> <p>Instruction box 'Consider Additional crew for each baby expected'</p> <p>Decision process 'Malpresentation' replaces 'Breech birth'</p> <p>Decision process 'Risk factors'</p> <p>Sequence step 'Initiate rapid transport – Pre-alert labour ward – Optimise resuscitation of mother'</p> <p>Mandatory sequence step 'Aim: birth in hospital'</p> <p>Sequence step 'Mother to adopt position of comfort and prepare environment & equipment for birth' replaces 'Position mother and prepare equipment for birth'</p> <p>Sequence step 'Monitor vital signs' replaces 'Monitor vital signs and BP'</p> <p>Decision process 'Pre-hospital delivery'</p> <p>Mandatory sequence step 'Warm, dry, stimulate baby. Check ABCs' replaces 'Dry baby and check ABCs'</p> <p>Mandatory sequence step 'Check for second baby'</p> <p>Sequence step 'Skin to skin contact' replaces 'Wrap baby and present to mother (Skin to skin preference)'</p> <p>Sequence step 'Encourage breastfeeding (no contraindications)'</p> <p>Instruction box 'Risk factors for complicated delivery – Prematurity – Multiple births – PV bleeding – Pre-eclampsia indicators – Trauma – Possible abruption – Hx anticoagulant use or bleeding disorder – Hx Female Genital Mutilation – Meconium in liquor – Placenta previa/ low placenta – Cervical cerclage (stitch in) – Diabetes'</p>

CPGs	The principal differences are
	<p>Instruction box 'Wait at least one minute post birth. Clamp cord at 10, 15 & 20 cm from baby – Cut cord between 15 and 20 cm clamps' replaces 'Wait at least one minute post birth then clamp cord at 10, 15 & 20 cm from baby – Cut cord between 15 and 20 cm clamps'</p> <p>Transport 'To Obstetric Unit'</p> <p>Medication updates</p> <p>Consider treatment 'Consider analgesia' replaces 'Consider Nitrous Oxide & Oxygen'</p>
<p>CPG 4/5/6.12.5</p> <p>Umbilical Cord Complications</p>	<p>Deleted</p> <p>Mandatory sequence step 'Request Ambulance Control to contact GP/midwife/medical team as required by local policy to come to scene or meet en route'</p> <p>Sequence step 'Attempt to slip the cord over the baby's head'</p> <p>Sequence step 'Ease the cord from around the neck as shoulders are delivered'</p> <p>Consider treatment 'Nifedipine 20 mg PO'</p> <p>Added</p> <p>Instruction box 'Use a hands off approach unless there are complications. Avoid touching cord. Avoid manipulation, traction and stimulation until baby is fully delivered'</p> <p>Instruction box 'Pre-alert hospital at earlier opportunity. Emergency caesarean section may be required for cord prolapse' replaces 'For prolapsed cord pre-alert hospital as emergency caesarean section will be required'</p> <p>Sequence step 'Avoid excessing manipulation and traction on the cord'</p> <p>Sequence step 'Apply additional clamps to cord on either side of the rupture' replaces 'Apply additional clamps to cord'</p> <p>Mandatory sequence step 'Mother to adopt head down in left lateral position (hips higher than head)' replaces 'Mother to adopt head down left lateral position'</p> <p>Sequence step 'Hold presenting part off the cord using fingers, rotate fingers as required' replaces 'Hold presenting part off the cord using fingers' and is a Paramedic and AP level skill</p> <p>Sequence step 'Minimal handling of cord and cover with sterile pad' replaces 'Maintain cord temperature and moisture'</p> <p>Consider treatment option 'If prolonged transport time (> 15 min) consider inserting an indwelling catheter into the bladder and run 500 mL of NaCl into the bladder and clamp catheter' replaces 'Consider inserting an indwelling catheter into the bladder and run 500 mL of NaCl into the bladder and clamp catheter' is a non-core element for AP level</p> <p>Mandatory sequence step 'Rapid transfer to Obstetrics Unit'</p> <p>Transport 'To Obstetric Unit'</p>

CPGs	The principal differences are
CPG 4/5/6.12.6 Post Pregnancy Care (Including miscarriage and abortion)	<p>The CPG is retitled 'Post Pregnancy Care (Including miscarriage and abortion)' (previously Postpartum Haemorrhage)</p> <p>The CPG entry point is updated to '\leq 6 weeks Post-partum'</p> <p>The CPG treatment pathway is significantly reorganised</p> <p>Deleted</p> <ul style="list-style-type: none"> Instruction box 'Estimate blood loss' Instruction box 'Check/ask mother re multiple births prior to administration of Oxytocin' Sequence step 'Apply absorbent pad to perineum area' Sequence step 'Elevate lower limbs' Consider treatment 'Consider inserting a urinary catheter' <p>Added</p> <ul style="list-style-type: none"> Special instruction box 'If possibility of on-going pregnancy go to pregnancy CPG' Clinical finding 'PV Bleeding' Consider treatment 'Consider retained parts of conception as cause' Decision process 'Signs of shock' replaces 'Mother is haemodynamically unstable' Sequence step 'Uterine massage' replaces mandatory sequence step 'External massage of the uterus' and is introduced as an EMT level skill Consider treatment 'Consider breast feeding (If no contraindications)' Decision process 'Signs of sepsis' Transport 'To Obstetric Unit' Clinical finding 'Sepsis' Instruction box 'Additional sepsis symptoms – Low back pain – PV bleed – PV discharge' Clinical finding 'Delivery \geq 20 weeks with; Headache, Visual disturbance, Dyspnoea, Oedema or seizure' Sequence step 'Measure BP' Decision process 'Eclamptic seizure or pre-eclampsia suspected (BP $> 140/90 \times 2$)' 'Request ALS' Instruction box 'Suspect pre-eclampsia if above symptoms present and 2 elevated BP readings 15 min apart' Transport 'To General ED' Clinical finding 'Altered Mood' Consider 'Mental Health CPG' Sequence step 'Assess home environment & supports (report at handover)' Medication Updates Oxygen therapy is deleted

CPGs	The principal differences are
CPG 4/5/6.13.1 Primary Survey Medical – Paediatric	<p>Added</p> <p>Special instruction box 'Report findings as per Children First Act 2015 to ED staff and Tusla in a confidential manner' replaces 'Report findings as per Children First guidelines to ED staff and line manager in a confidential manner'</p>
CPG 4/5/6.13.2 Primary Survey Trauma – Paediatric	<p>Added</p> <p>Special instruction box 'Report findings as per Children First Act 2015 to ED staff and Tusla in a confidential manner' replaces 'Report findings as per Children First guidelines to ED staff and line manager in a confidential manner'</p> <p>Sequence step 'Jaw thrust' replaces sequence step 'Jaw thrust (Head tilt/chin lift)'</p>
CPG 4/5/6.13.4 Secondary Survey – Paediatric	<p>Added</p> <p>Special instruction box 'Report findings as per Children First Act 2015 to ED staff and Tusla in a confidential manner' replaces 'Report findings as per Children First guidelines to ED staff and line manager in a confidential manner'</p>
CPG 4/5.13.5 Foreign Body Airway Obstruction – Paediatric	<p>The CPG treatment pathway is reorganised with the introduction of a cyclical process</p> <p>Deleted</p> <p>Sequence step '1 to 5 back blows followed by 1 to thrusts as indicated'</p> <p>Instruction box 'After each cycle of CPR open mouth and look for object. If visible attempt once to remove it'</p> <p>Added</p> <p>Cyclical process '1 to 5 back blows' - '1 to 5 thrusts (child - abdominal thrusts – infant – chest thrusts) - 'If patient becomes unresponsive'</p> <p>Decision process 'Effective'</p> <p>Sequence step 'Open mouth and look for object – If visible make one attempt to remove it' replaces sequence step 'Open mouth and look for object – If visible one attempt to remove it'</p>
CPG 4/5/6.13.7 Abnormal Work of Breathing – Paediatric	<p>The CPG is retitled Abnormal Work of Breathing – Paediatric (previously Inadequate Ventilations – Paediatric)</p>

CPGs	The principal differences are
CPG 4/5/6.13.9 Stridor – Paediatric	<p>Added</p> <p>Consider treatment option 'Consider humidified O₂ – as high a concentration as tolerated' is a non-core element for EMT, paramedic and AP level and replaces sequence step 'Humidified O₂ – as high a concentration as tolerated'.</p> <p>Mandatory sequence step 'Do not insert anything into the mouth (other than PO medications for croup)' replaces 'Do not insert anything into the mouth'</p> <p>Instruction box 'Signs of Croup may include; Hypoxia/ cyanosis – Marked respiratory distress – Stridor – Irritability or lethargy – Marked increased respiratory rate – If persistent treat as severe croup – If symptoms are intermittent treat as moderate croup'</p> <p>Instruction box 'Maximum Dexamethasone administered within the past 72 hours not to exceed 600 mcg/kg'</p> <p>Medication Updates</p> <p>Oxygen therapy and sequence step 'Humidified O₂ – as high a concentration as tolerated' have been uncoupled</p>
CPG 4/5/6.13.11 Glycaemic Emergency – Paediatric	<p>Added</p> <p>Consider treatment option 'Consider Ketone measurement' is a non-core element for EMT, Paramedic and AP level</p> <p>Medication Updates</p> <p>Glucagon age specific doses IM are revised</p>
CPG 4/5/6.13.13 Pain Management – Paediatric	<p>Added</p> <p>Instruction box 'Following Fentanyl IN the next dose may be either Fentanyl IN or Morphine IV' replaces 'Following Fentanyl IN the next dose may be either Fentanyl IV or Morphine IV but not both'.</p> <p>Instruction box 'Morphine PO for ≥ 1 year olds only – Repeat Morphine at not < 2 min intervals prn to Max of 100 mcg/kg IV.' replaces 'Morphine PO for ≥ 1 year olds only – Repeat Morphine at not < 2 min intervals prn to Max of 0.1 mg/kg IV'</p> <p>Instruction box 'Repeat Ketamine PRN at not < 10 minutes.' replaces 'Repeat Ketamine once only at < 10 minutes prn.'</p> <p>Instruction box 'Poly-opiate administration should be avoided where possible – where multiple opiates are administered continuous patient monitoring is essential'</p> <p>Medication Updates</p> <p>Paracetamol PO dose is revised to 15 mg/kg</p>

CPGs	The principal differences are
CPG 4/5/6.13.14 Burns – Paediatric	<p>Added</p> <p>Instruction box 'Should cool for another 20 minutes during packaging and transfer – Caution with hypothermia' replaces Instruction box 'Should cool for another 10 minutes during packaging and transfer – Caution with hypothermia'</p>
CPG 4/5/6.13.16 External Haemorrhage – Paediatric	<p>Deleted</p> <p>Paramedic skill flag from mandatory sequence step 'Apply tourniquet if limb injury'</p> <p>Paramedic skill flag from sequence step 'Depress proximal pressure point'</p> <p>Paramedic skill flag from sequence step 'Apply tourniquet'</p> <p>'apply a tourniquet and/or' from EMT-BTEC Special Authorisation box</p> <p>Added</p> <p>Mandatory sequence step 'Apply and mark tourniquet if limb injury' replaces 'Apply tourniquet if limb injury' and is introduced as an EMT level skill</p> <p>Consider treatment option 'Consider wound closure clips for temporary closure if serious haemorrhage' is a non-core element for Paramedic and AP level</p> <p>Consider treatment option 'consider applying a dressing impregnated with haemostatic agent' is a Paramedic level skill</p> <p>Consider treatment option 'consider applying a dressing impregnated with haemostatic agent' is a non-core element for EMT level</p>
4/5/6.13.19 Pyrexia – Paediatric	<p>Medication Updates</p> <p>Paracetamol PO dose is revised to 15 mg/kg</p>
CPG 4/5/6.13.20 Sepsis – Paediatric	<p>The CPG is retitled Sepsis – Paediatric (previously Septic Shock – Paediatric)</p> <p>EMT level is added to this CPG</p> <p>The CPG treatment pathway is significantly reorganised</p> <p>The CPG entry point is updated to 'Patient generally unwell with suspected infection Temperature < 36°C or > 38.5°C'</p> <p>Deleted</p> <p>Sequence step 'Signs of Systemic Inflammatory Response Syndrome (SIRS)'</p> <p>Sequence step 'Could this be a severe infection?'</p> <p>Instruction box 'Normal ranges (ICTS)'</p> <p>Instruction box 'Give three'</p> <p>Instruction box 'If history of penicillin allergy assess the severity of the reaction and if not life-threatening, i.e. rash, proceed with Ceftriaxone'</p> <p>Instruction box 'If meningitis suspected ensure appropriate PPE is worn; Mask and goggles'</p> <p>Instruction box 'Signs of inadequate perfusion'</p>

CPGs	The principal differences are
CPG 4/5/6.13.20 Sepsis – Paediatric (contd.)	<p>Added</p> <p>Sequence step 'SpO₂, BP, RR, ETCO₂ & ECG monitoring' replaces 'ECG, SpO₂ & BP monitoring'</p> <p>Mandatory sequence step 'Abnormal physiology? Source of infection considered'</p> <p>Decision process 'Sepsis Red or Amber Flag +/- risk factors'</p> <p>Decision process 'Evidence of inadequate perfusion'</p> <p>Instruction box 'Titrate SpO₂ ≥ 94%'</p> <p>Instruction box 'Sepsis Red Flag (≥ 1 item) – Altered mental status (P or U on AVPU) – Inappropriate tachycardia – Prolonged central capillary refill – Non-blanching rash – Hypotension – Clinical deterioration'</p> <p>Instruction box 'Sepsis Amber Flag (≥ 1 item) – Inappropriate tachypnoea – Altered functional status – Practitioner concern – Parental concern – Vital signs deterioration – Risk factor(s) +/- Immunocompromised – Age ≤3 months – Chronic disease – Recent surgery – Break in skin (including chicken pox) – Indwelling line/device – Signs of infection in wound – Incomplete vaccination record'</p> <p>Sequence step 'Monitor clinical condition; re-evaluate for possible sepsis if clinically indicated'</p> <p>Decision process 'Clinical status improving'</p> <p>Decision process 'Consider 2nd fluid bolus'</p> <p>Instruction box 'High Consequence Infectious Disease (HCID) ensure appropriate PPE is worn; Long sleeve gown, Facemask, Eye protection'</p> <p>Special instruction box 'If infection advise Triage nurse' replaces 'If SIRS + infection advise Triage nurse'</p> <p>Medication Update</p> <p>Paracetamol PO dose is revised to 15 mg/kg</p>
CPG 4/5/6.13.21 Allergic Reaction/ Anaphylaxis - Paediatric	<p>Medication Updates</p> <p>Chlorphenamine age specific doses IM are revised</p> <p>Adrenaline (1:1000) age specific doses IM are revised</p>
CPG 4.13.26 Post-Resuscitation Care – Paediatric	<p>Deleted</p> <p>Instruction box 'Titrate O₂ to 96% - 98%'</p> <p>Added</p> <p>Sequence step 'Avoid warming' replaces sequence step 'Prevent warming'</p>
CPG 4/5/6.14.2 VF or pVT – Adult	<p>Added</p> <p>Mandatory sequence step 'Defibrillate' replaces 'Defibrillate (escalating energy)'</p> <p>Consider treatment option 'Consider mechanical CPR assist' replaces consider treatment 'Consider mechanical CPR assist' and is a non-core element for EMT, Paramedic and AP level</p>

CPGs	The principal differences are
CPG 4.14.3 Asystole – Adult	<p>Added</p> <p>Consider treatment option 'Consider mechanical CPR assist' replaces consider treatment 'Consider mechanical CPR assist' and is a non-core element for EMT</p>
CPG 4/5/6.14.5 Pulseless Electrical Activity – Adult	<p>Added</p> <p>Consider treatment option 'Consider mechanical CPR assist' replaces consider treatment 'Consider mechanical CPR assist' and is a non-core element for EMT, Paramedic and AP level</p>
CPG 4.14.6 Post-Resuscitation Care - Adult	<p>Medication Update</p> <p>Consider treatment 'If Opioid OD suspected consider Naloxone dose and route specific to clinical level'</p>
CPG 4.15.1 End of Life - DNAR	The CPG is retitled 'End of Life – DNAR' (previously End of Life – DNR)
CPG 4/5/6.16.3 Triage Sieve	<p>Deleted</p> <p>Decision process 'Can casualty walk'</p> <p>Decision process 'Is casualty breathing'</p> <p>Mandatory sequence step 'Open airway one attempt'</p> <p>Decision process 'Breathing now'</p> <p>Added</p> <p>Decision process 'Catastrophic haemorrhage'</p> <p>Mandatory sequence step 'Apply and mark a tourniquet'</p> <p>Consider treatment option 'consider applying a dressing impregnated with haemostatic agent' is a non-core element for EMT level</p> <p>Decision process 'Is the casualty injured'</p> <p>Destination 'Survivor Reception Centre'</p> <p>Decision process 'Can the patient walk'</p> <p>Decision process 'Airway (open) & Breathing'</p> <p>Decision process 'Respond to Voice (AVPU)'</p> <p>Mandatory sequence step 'Recovery position'</p>

New EMT CPGs in 2021 Edition (Updated June 2023)

To support upskilling of the 2023 updates to 2021 CPGs, new CPGs are identified below.

New CPGs	The new skills and medications incorporated into the CPGs are:
CPG 4/5/6.8.11 Trauma Triage Tool	This CPG outlines the approach to triage and appropriate destination decision-making for trauma.

Updated AP CPGs in 2021 Edition (Updated June 2023)

To support upskilling of the 2023 updates to 2021 CPGs, CPG changes are identified below.

CPGS	The principal differences are:
CPG 4.1.6 Secondary Survey Trauma - Adult	Deleted Markers for multi-system trauma information and decision process boxes Revised Trauma Score information box Added 'Major trauma positive during primary survey' decision tree box 'Consider prompt transport' mandatory sequence step box
CPG 4/5/6.5.3 Glycaemic Emergency	Deleted Information box '
CPG 4/5/6.10.1 Allergic Reaction/ Anaphylaxis	Added Information box 'Autoinjectors should not be used by healthcare professionals unless only source available'
CPG 4/5/6.11.1 Sepsis - Adult	Added Indications for antibiotics box
CPG 4/5/6.12.7 New-born neonatal care and resuscitation	Deleted 'Every 2-3 sec' from first PPV sequence step box Added PPV rate: 40-60 breaths per minute instruction box
CPG 4/5/6.13.9 Stridor - Paediatric	Deleted Dexamethasone IM Signs of Croup information box Added From Severe croup box, Epiglottitis Yes/No option added Signs of croup information box divided into mild, moderate and severe Medication updates Dexamethasone IM route deleted

CPGS	The principal differences are:
CPG 4/5/6.13.11 Glycaemic Emergency - Paediatric	Deleted Information box ' Advice re non-diabetic Added In a non-diabetic hypoglycaemic patient glucagon is unlikely to be effective'
CPG 4/5/6.13.13 Pain Management - Paediatric	Medication Update Paracetamol via PR route is now added to the paramedic scope of practice
CPG 4/5/6.13.19 Pyrexia - Paediatric	Medication Update Paracetamol via PR route is now added to the paramedic scope of practice
CPG 4/5/6.13.20 Sepsis - Paediatric	Medication Update Paracetamol via PR route is now added to the paramedic scope of practice



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