CLINICAL PRACTICE GUIDELINES

EMT

EMERGENCY MEDICAL TECHNICIAN

- incorporating BTEC

2021 Edition

Pre-Hospital Emergency Care Council

PHECC Clinical Practice Guidelines

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2nd Floor, Beech House, Millennium Park, Osberstown, Naas, Co Kildare, W91 TK7N, Ireland.

Phone: +353 (0)45 882042

Email: info@phecc.ie

Web: www.phecc.ie

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Pre-Hospital Emergency Care Council

Table of Contents

CLINICAL PRACTICE GUIDELINES

FOREWORD

This Handbook comprises the 2021 Edition Clinical Practice Guidelines (CPGs). These guidelines outline patient assessments and pre-hospital management for responders at:

RESPONDER LEVEL

- Cardiac First Responder
- First Aid Responder
- Emergency First Responder

REGISTERED PRACTITIONER

- Emergency Medical Technician
- Paramedic
- Advanced Paramedic

I am delighted that there are now 357 CPGs in total to guide integrated care across the six pre-hospital emergency care clinical levels. These CPGs ensure that responders and practitioners are practicing to best international standards and support PHECC's vision that people in Ireland receive excellent pre-hospital emergency care.

I would like to acknowledge the hard work and commitment the members of the Medical Advisory Committee have shown during the development of this publication, guided by Dr David Menzies (Chair). A special word of thanks goes to Dr Brian Power who retired in 2020 and has made an enormous contribution to the advancement of pre-hospital emergency care in Ireland. I want to acknowledge the PHECC Executive, for their continued support in researching and compiling these CPGs and paving the way for the future development of the pre-hospital emergency care continuum.

I recognise the contribution made by many responders and practitioners, whose feedback has assisted PHECC in the continual improvement and development of CPGs and welcome these guidelines as an important contribution to best practice in pre-hospital emergency care.

Jacqueline Burke

Dr Jacqueline Burke, Chairperson
Pre-Hospital Emergency Care Council

ACCEPTED ABBREVIATIONS

Advanced Paramedic ..... AP
Advanced Life Support ..... ALS
Airway, Breathing & Circulation ..... ABC
All Terrain Vehicle ..... ATV
Altered Level of Consciousness ..... ALoC
Automated External Defibrillator ..... AED
Bag Valve Mask ..... BVM
Basic Life Support ..... BLS
Blood Glucose ..... BG
Blood Pressure ..... BP
Basic Tactical Emergency Care ..... BTEC
Capillary Refill Time ..... CRT
Carbon Dioxide ..... CO_2
Cardiopulmonary Resuscitation ..... CPR
Cervical Spine ..... C-spine
Chronic Obstructive Pulmonary Disease ..... COPD
Clinical Practice Guideline ..... CPG
Continuous Positive Airway Pressure ..... CPAP
Degree ..... °
Degrees Celsius ..... °C
Dextrose (Glucose) 10% in water ..... $D_{10}W$
Dextrose (Glucose) 5% in water ..... D_5W
Do Not Resuscitate ..... DNR
Drop (gutta) ..... gtt
Electrocardiogram ..... ECG
Emergency Department ..... ED
Emergency Medical Technician ..... EMT
Endotracheal Tube ..... ETT

ACCEPTED ABBREVIATIONS

Foreign Body Airway Obstruction ..... FBAO
Fracture ..... #
General Practitioner..... GP
Glasgow Coma Scale ..... GCS
Gram..... g
Intramuscular ..... IM
Intranasal ..... IN
Intraosseous ..... IO
Intravenous..... IV
Joules ..... J
Kilogram ..... kg
Laryngeal Mask Airway ..... LMA
Mean Arterial Pressure ..... MAP
Medical Practitioner..... MP
Microgram ..... mcg
Milligram..... mg
Millilitre..... mL
Millimole..... mmol
Minute ..... min
Modified Early Warning Score..... MEWS
Motor Vehicle Collision ..... MVC
Myocardial Infarction ..... MI
Milliequivalent ..... mEq
Millimetres of mercury ..... mmHg
Nasopharyngeal airway ..... NPA
Nebulised ..... NEB
Negative decadic logarithm of the H+ ion concentration ..... pH

ACCEPTED ABBREVIATIONS

Orally (per os) ..... PO
Oropharyngeal airway..... OPA
Oxygen ..... O_2
Paramedic..... P
Peak Expiratory Flow Rate..... PEFR
Per rectum ..... PR
Per vagina ..... PV
Percutaneous Coronary Intervention ..... PCI
Personal Protective Equipment ..... PPE
Psychiatric Nurse ..... PN
Pulseless Electrical Activity ..... PEA
Pulseless Ventricular Tachycardia ..... pVT
Respiration rate ..... RR
Return of Spontaneous Circulation..... ROSC
Revised Trauma Score ..... RTS
Saturation of arterial Oxygen ..... SpO_2
Spinal Motion Restriction ..... SMR
ST Elevation Myocardial Infarction ..... STEMI
Subcutaneous..... SC
Sublingual..... SL
Supraventricular Tachycardia..... SVT
Systolic Blood Pressure ..... SBP
Therefore ..... ∴
Total body surface area ..... TBSA
Ventricular Fibrillation..... VF
Ventricular Tachycardia ..... VT
When necessary (pro re nata) ..... prn

ACKNOWLEDGEMENTS

The process of developing CPGs has been long and detailed. The quality of the finished product is due to the painstaking work of many people, who through their expertise and review of the literature, ensured a world-class publication.

PROJECT LEADS

Mr Ricky Ellis, Programme Manager, PHECC

Mr Raymond Carney, Programme Manager, PHECC

MEDICAL ADVISORY COMMITTEE

Dr David Menzies (Chair), Consultant in Emergency Medicine, Member of Council

Mr David Irwin (Vice Chair), Advanced Paramedic, Nominated by Chair

Professor Gerard Bury, Director, UCD Centre for Emergency Medical Science

Mr Ian Brennan, Advanced Paramedic, Operational Resource Manager, HSE NAS

Mr Hillery Collins, Paramedic, Vice Chairperson of Council

Dr Niamh Collins, Consultant in Emergency Medicine, Connolly Hospital, Blanchardstown

Mr Eoghan Connolly, Advanced Paramedic, representative from the Irish College of Paramedics

Dr Lisa Cunningham Guthrie, Registrar in Emergency Medicine, Nominated by Chair

Mr Mark Dixon, Advanced Paramedic, Paramedic Programme Lead,
Graduate Entry Medical School, University of Limerick

Mr David Hennelly, Advanced Paramedic, Clinical Development Manager, HSE NAS

Mr Macartan Hughes, Chief Ambulance Officer – Education and Competency Assurance, HSE NAS

Dr Shane Knox, Assistant Chief Ambulance Officer - Education Manager, HSE NASC

Dr Stanley Koe, Consultant Paediatrician, CHI at Tallaght & Connolly Hospitals

Dr Mick Molloy, Consultant in Emergency Medicine, Wexford General Hospital

Mr Shane Mooney, Education and Competency Assurance Officer, HSE NAS

Dr Peter O'Connor, Medical Director, Dublin Fire Brigade

Professor Cathal O'Donnell, Clinical Director, HSE NAS

Mr Martin O'Reilly, District Officer, EMS Support, Dublin Fire Brigade

Dr Jason van der Velde, Clinical Lead, MEDICO Cork, Member of Council

Dr Philip Darcy, Consultant in Emergency Medicine, Connolly Hospital, Blanchardstown

ACKNOWLEDGEMENTS

EXTERNAL CONTRIBUTORS

PHECC would like to thank and acknowledge all of the experts who contributed to the creation of these Clinical Practice Guidelines.

SPECIAL THANKS

An extra special thanks to all the PHECC team who were involved in this project, especially Margaret Bracken, Aisling Ryan and Ashling Weldon for their painstaking recording of details and organisational skills.

MEDICATION FORMULARY REVIEW

Ms Regina Lee, MPSI

EXTERNAL CLINICAL REVIEW

Responder

Niamh O'Leary
Michelle O Toole

Emergency Medical Technician

Gareth Elbell
Gavin Hoey

Paramedic

Eithne Scully

Andy O Toole

Advanced Paramedic

Terry Dore
Pete Thorpe

EXTERNAL QUALITY REVIEW

Dr Jack Collins

INTRODUCTION

Welcome to the 2021 edition of the PHECC Clinical Practice Guidelines. This edition has been a long time in development and reflects the significant effort and contribution to the new CPGs by so many people.

As ever, a robust development and review process has been applied to the new and revised CPGs, including a detailed and comprehensive quality assurance process.

Pre-Hospital Care in Ireland has evolved significantly since the first editions of the CPGs. The suite of care the CPGs now enable is progressive and transformative across all levels of responder and practitioner.

The impact of Covid-19 has influenced these CPGs, both in posing challenges in continuing the regular Medical Advisory Committee meetings and discussions while also giving rise to a specific suite of vaccination CPGs that enable PHECC practitioners to support the national Covid-19 vaccination programme.

For the first time, we have CPGs that enable practitioners to not convey patients to hospital as a matter of default. The non-conveyance CPGs are a step towards more alternative care pathways for our patients, in recognition that the traditional hospital-centric model for emergency care is not always appropriate or feasible. This suite of non-conveyance CPGs will be a key area for expansion and development in the next term of the Medical Advisory Committee.

Further developments include the designation of certain CPGs and elements of other CPGs as 'non-core'. This non-core element replaces the previous process of 'exemptions' accommodated for certain CPGs and recognises that not all Licensed CPG Providers need to implement every single CPG.

I would like to express my sincere thanks to all who contributed to this edition of the CPGs including the members of the Medical Advisory Committee, those who submitted queries for consideration, speciality groups and clinical programmes who provided expert external advice and feedback.

In particular, I would like to thank Dr Brian Power who retired from PHECC in 2020. Brian created the first edition of the PHECC CPGs and has managed the process of CPG development since then, including the majority of the development work for this suite of CPGs. Brian's contribution to the advancement of pre-hospital emergency care in Ireland has been significant and is the framework that supports responders and practitioners still. Since Brian's retirement, Ricky Ellis kindly and ably stepped into the gap, continuing to support MAC in the finalisation of the CPGs before handing over to Ray Carney, PHECC's new Clinical Programme Manager. Thank you both.

Finally, thanks to you, the responders and practitioners who implement these CPGs. I believe these CPGs will enable you to continue to provide expert compassionate pre-hospital care to patients every day of the year. PHECC greatly values your work and also your feedback.

Dr David Menzies, Chair Medical Advisory Committee

Clinical Practice Guidelines (CPGs) and the practitioner

CPGs are guidelines for best practice and are not intended as a substitute for good clinical judgment. Unusual patient presentations make it impossible to develop a CPG to match every possible clinical situation. The practitioner decides if a CPG should be applied based on patient assessment and the clinical impression. The practitioner must work in the best interest of the patient within the scope of practice for his/her clinical level on the PHECC Register. Consultation with fellow practitioners and or medical practitioners in challenging clinical situations is strongly advised.

The CPGs herein may be implemented provided:

1. The practitioner is in good standing on the PHECC practitioner's Register – Credentialed.
2. The practitioner is acting on behalf of a Licensed CPG Provider (paid or voluntary) – Licensed.
3. The practitioner is privileged by the Licensed CPG Provider on whose behalf he/she is acting to implement the specific CPG – Privileged.
4. The practitioner has received training on, and is competent in, the skills and medications specified in the CPG being utilised.

The medication 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

Definitions

Adult	A patient of 16 years or greater, unless specified on the CPG
Child	A patient between 1 and less than or equal to (≤) 15 years old, unless specified on the CPG
Infant	A patient between 4 weeks and less than 1 year old, unless specified on the CPG
Neonate	A patient less than 4 weeks old, unless specified on the CPG
Paediatric patient	Any child, infant or neonate

CPGs and the pre-hospital emergency care team

The aim of pre-hospital emergency care is to provide a comprehensive and coordinated approach to patient care management, thus providing each patient with the most appropriate care in the most efficient time frame.

In Ireland today, the provision of emergency care comes from a range of disciplines and includes responders (Cardiac First Responders, First Aid Responders and Emergency First Responders) and practitioners (Emergency Medical Technicians, Paramedics, Advanced Paramedics, Nurses and Doctors) from the statutory, private, auxiliary and voluntary services.

CPGs set a consistent standard of clinical practice within the field of pre-hospital emergency care. By reinforcing the role of the practitioner, in the continuum of patient care, the chain of survival and the golden hour are supported in medical and traumatic emergencies respectively.

CPGs guide the practitioner in assessment, treatment and disposition of patients who present with an acute illness or injury.

CPGs presume no intervention has been applied, nor medication administered, prior to the arrival of the practitioner. In the event of another practitioner or responder initiating care during an acute episode, the practitioner must be cognisant of interventions applied and medication doses already administered and act accordingly.

In this care continuum, the duty of care is shared among all responders/practitioners of whom each is accountable for his/her own actions. The most qualified responder/practitioner on the scene shall take the role of clinical lead. Explicit handover between responders/practitioners is essential and will eliminate confusion regarding the responsibility for care.

When a practitioner of higher clinical level on scene deems it appropriate to take clinical lead, he/she should calmly state: "My name is xx, I am an AP/P/EMT, I am assuming clinical lead."

If the practitioner of higher clinical level on scene wishes to hand over clinical lead to another practitioner (who may be of equal or lower clinical level), he/she states to the practitioner: "My name is xx, I am an AP/P/EMT, you are now clinical lead."

The practitioner acknowledges immediately and accepts clinical lead. "I am now clinical lead"

A clinical lead exchange should be recorded on the PCR in the 'continuity of care' section. There should never be any doubt as to who the clinical lead is on scene.

In the absence of a more qualified practitioner, the practitioner providing care during transport shall be designated the clinical lead as soon as practical.

Classification of CPGs

The Taxonomy for Pre-Hospital Emergency Care CPGs has changed to a new method for configuring PHECC CPGs. There are now seventeen categories developed to group common themes and categories together.

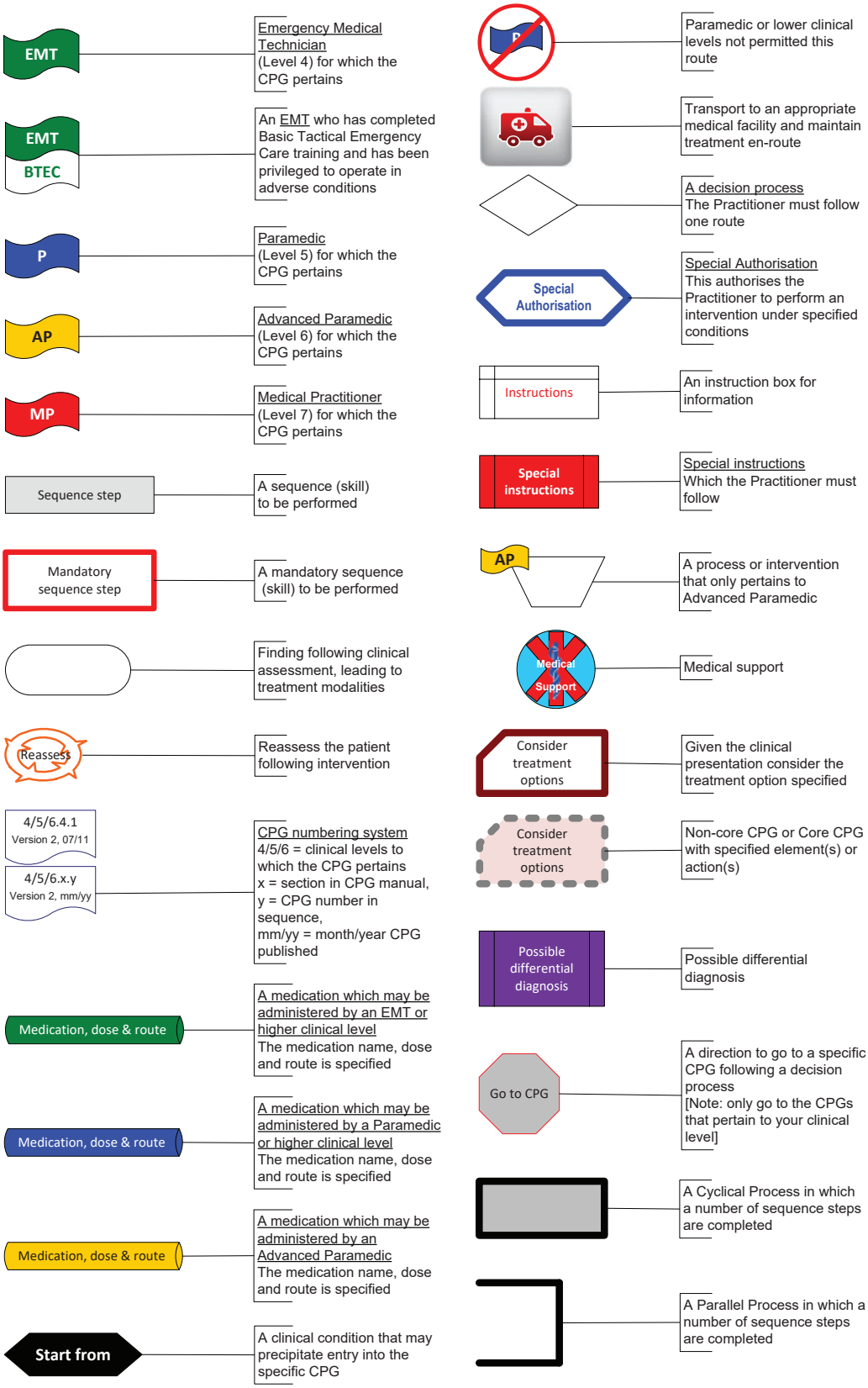
Basic Life Support – ILCOR 2020

Basic life support CPGs contained within this publication are in accordance with International Liaison Committee on Resuscitation (ILCOR) guidelines 2020.

INDEX - EMT - BTEC CPGs

EMERGENCY MEDICAL TECHNICIAN

CODES EXPLANATION



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Principles of general care (Practitioners)

Care principles are goals of care that apply to all patients. Scene safety, standard precautions, patient assessment, primary and secondary surveys and the recording of interventions and medications on the Patient Care Report (PCR) or the Ambulatory Care Report (ACR), are consistent principles throughout the guidelines and reflect the practice of practitioners. Care principles are the foundations for risk management and the avoidance of error.

PHECC Care Principles

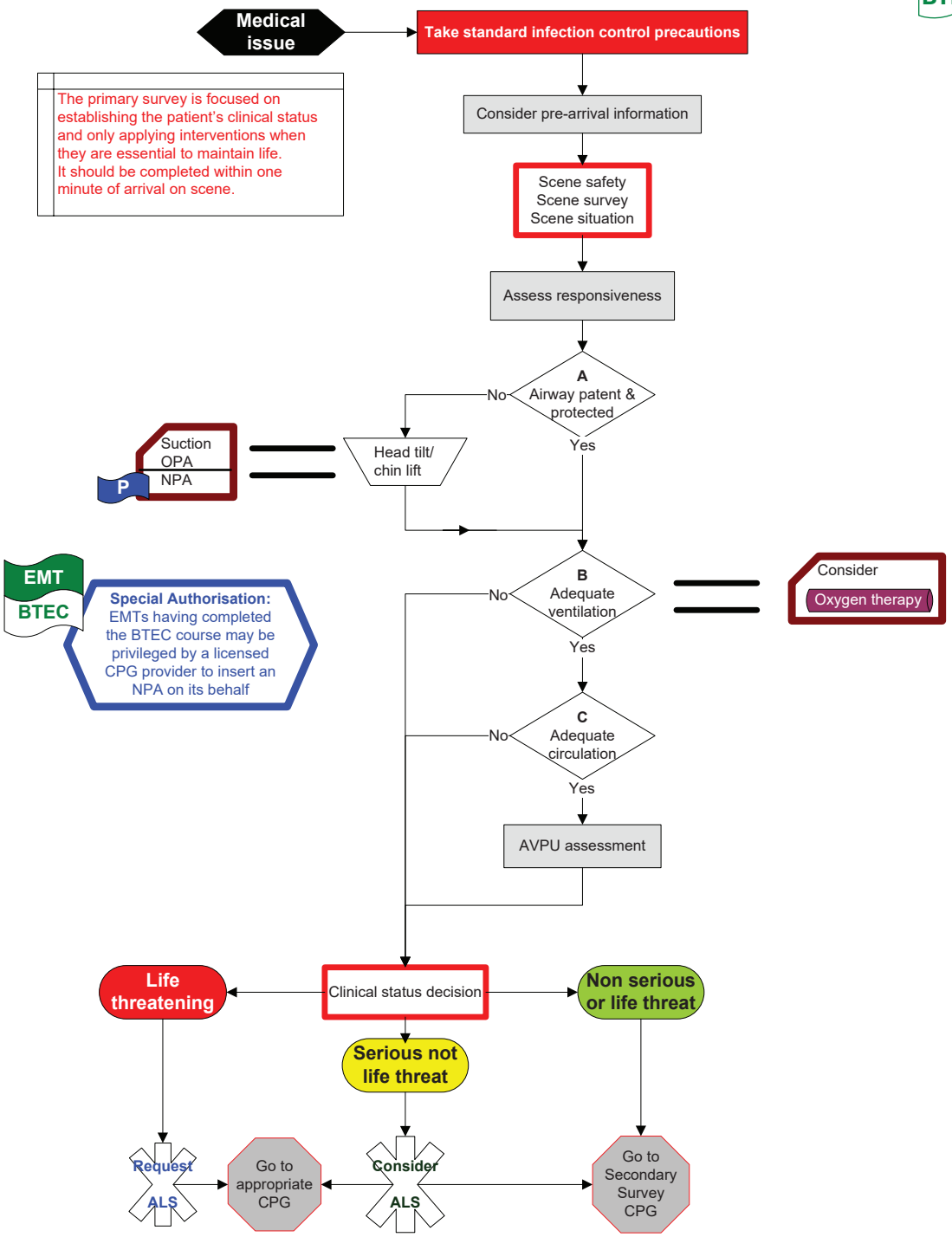
1. Ensure the safety of yourself, other emergency service personnel, your patients and the public.
   1.1. Ensure correct PPE is utilised in all situations and is compliant with latest guidance on standard, contact, droplet and airborne PPE. Place facemasks on patients when required. Handwashing and hand hygiene should be performed before and after all patient interactions. Utilise PPE checklists for correct donning and doffing procedures.
2. A person has capacity in respect to clinical decisions affecting themselves unless the contrary is shown (Assisted Decision-Making (Capacity) Act 2015).
3. Seek consent prior to initiating interventions and/or administering medications.
4. Identify and manage life-threatening conditions.
5. Ensure adequate ventilation and oxygenation.
6. Optimise tissue perfusion.
7. Make a working diagnosis, after considering differential diagnoses.
8. Provide appropriate pain relief within the scope of practice. Pain management:
   8.1. should not delay the diagnosis of conditions or injuries,
   8.2. should be implemented for all relevant patients,
   8.3. should commence within ten minutes on scene,
   8.4. goal is to reduce pain to a tolerable level,
   8.5. to take cognisance of immediate and short-term pain management requirements by administering appropriate combinations of analgesia.
9. Identify and manage other conditions.
10. Place the patient in the appropriate posture according to the presenting condition.
11. Ensure maintenance of normal body temperature (unless a CPG indicates otherwise).
12. Provide reassurance at all times.
13. Monitor and record patient's vital observations.

14. Maintain responsibility for patient care until handover to an appropriate practitioner.
15. Arrange transport to an appropriate medical facility, if clinically required, and in an appropriate time frame.
16. Complete a patient care record following an interaction with a patient.
17. Identify the clinical lead on scene; this shall be the most qualified practitioner on scene. In the absence of a more qualified practitioner, the practitioner providing care during transport shall be designated clinical lead as soon as practical.
18. Ambulances, medical rooms and equipment should be decontaminated as appropriate following an interaction with a patient.

Primary Survey Medical - Adult

4/5/6.1.2
Version 5, 12/2020

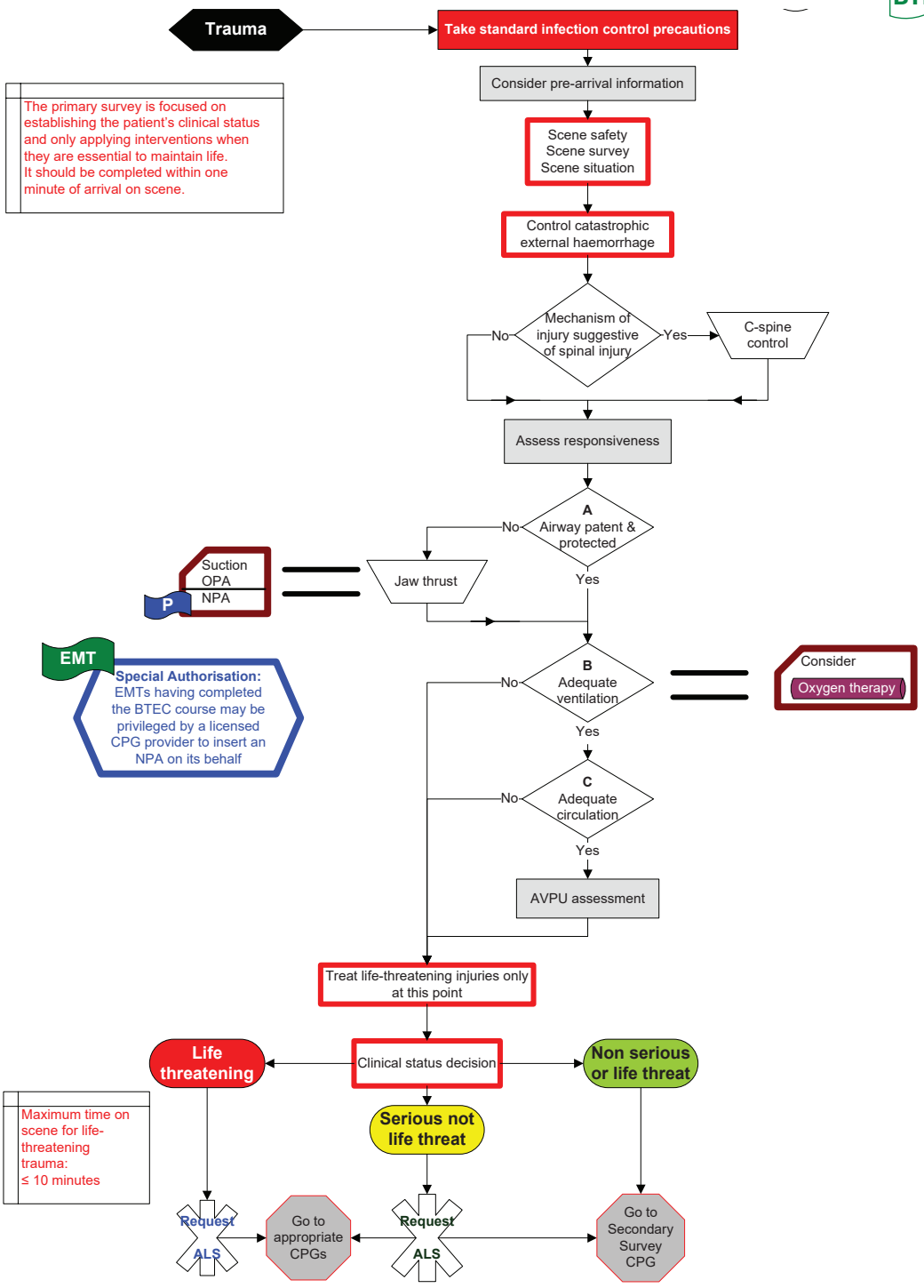
EMT P
BTEC AP



Primary Survey Trauma – Adult

4/5/6.1.3
Version 5, 03/2021

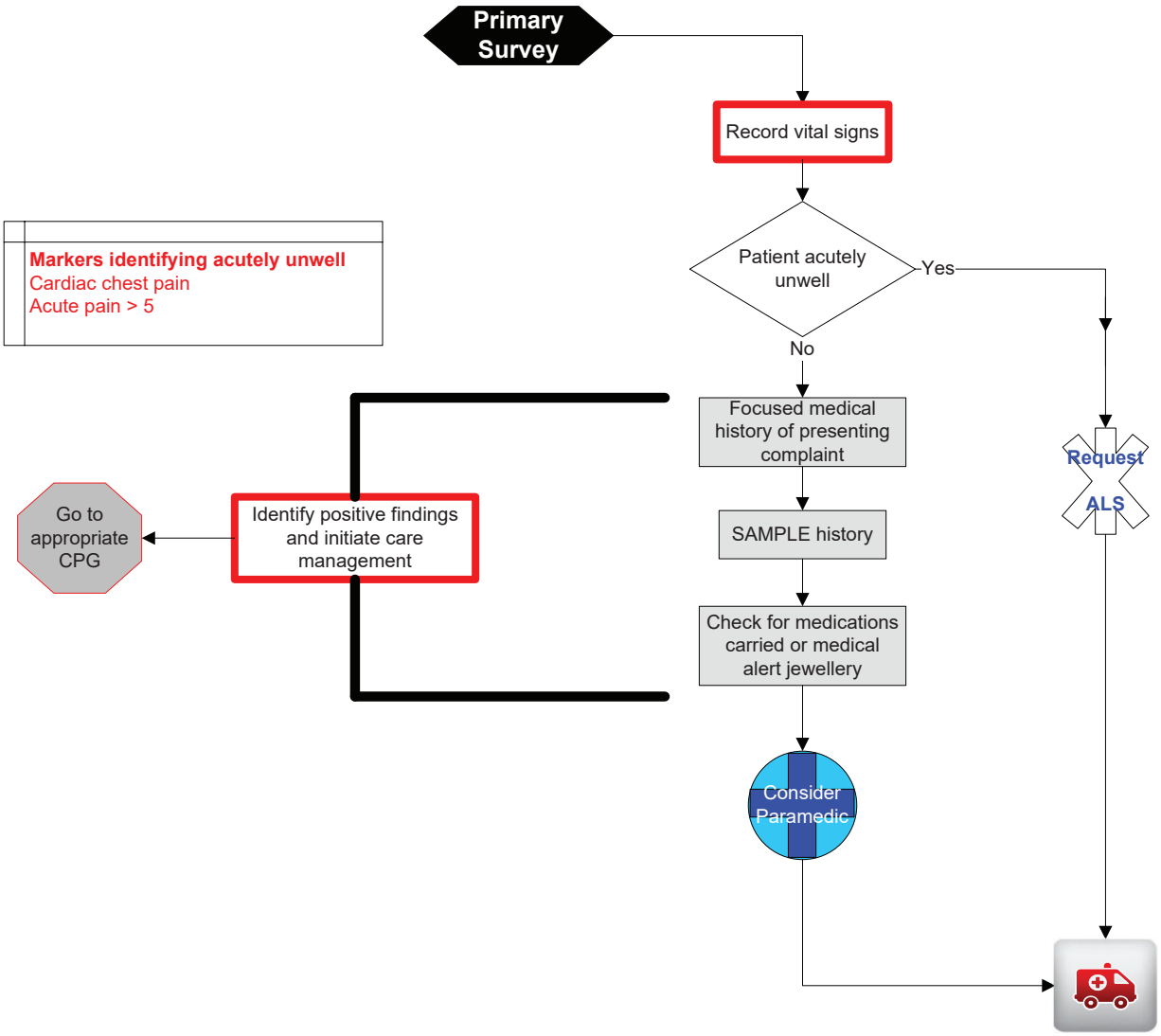
EMT P BTEC AP



Secondary Survey Medical – Adult

4.1.5
Version 3, 02/2021

EMT

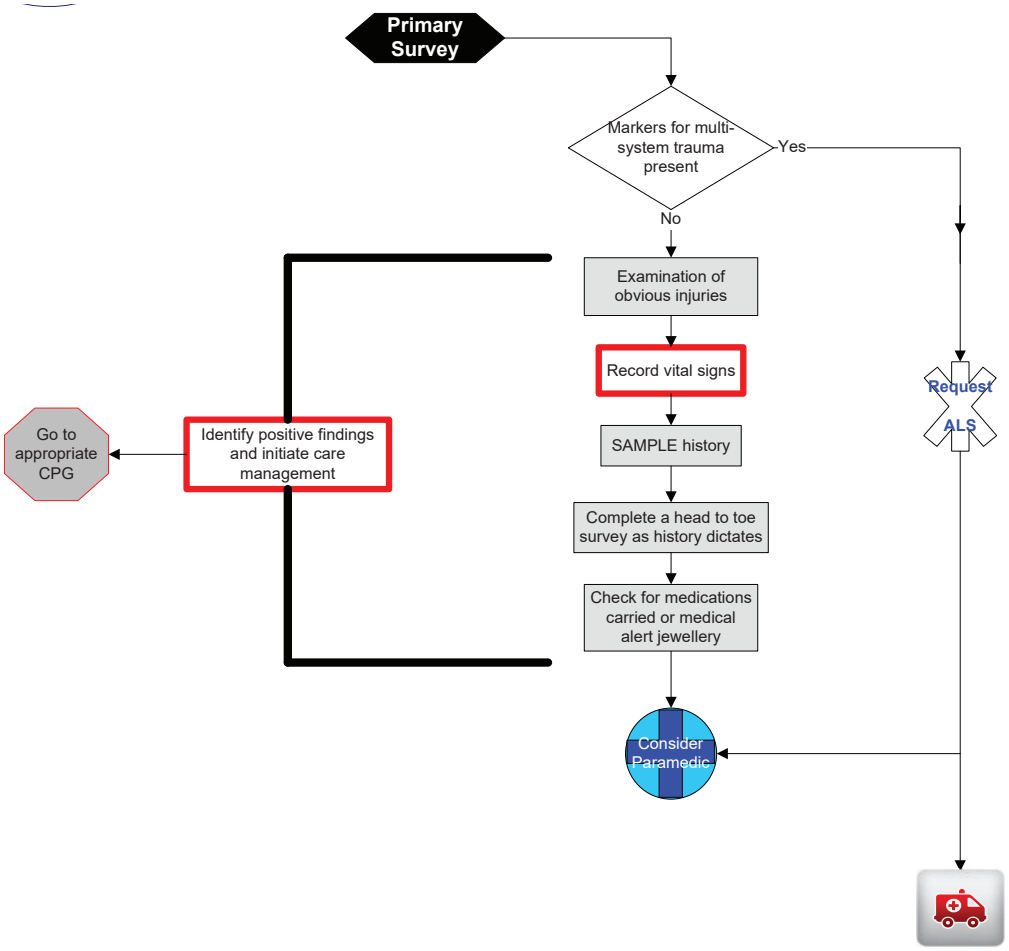


Reference: Sanders, M. 2001, Paramedic Textbook 2nd Edition, Mosby
Gleadle, J. 2003, History and Examination at a glance, Blackwell Science
Rees, JE, 2003, Early Warning Scores, World Anaesthesia Issue 17, Article 10

Secondary Survey Trauma – Adult

4.1.6
Version 2, 02/2021

EMT

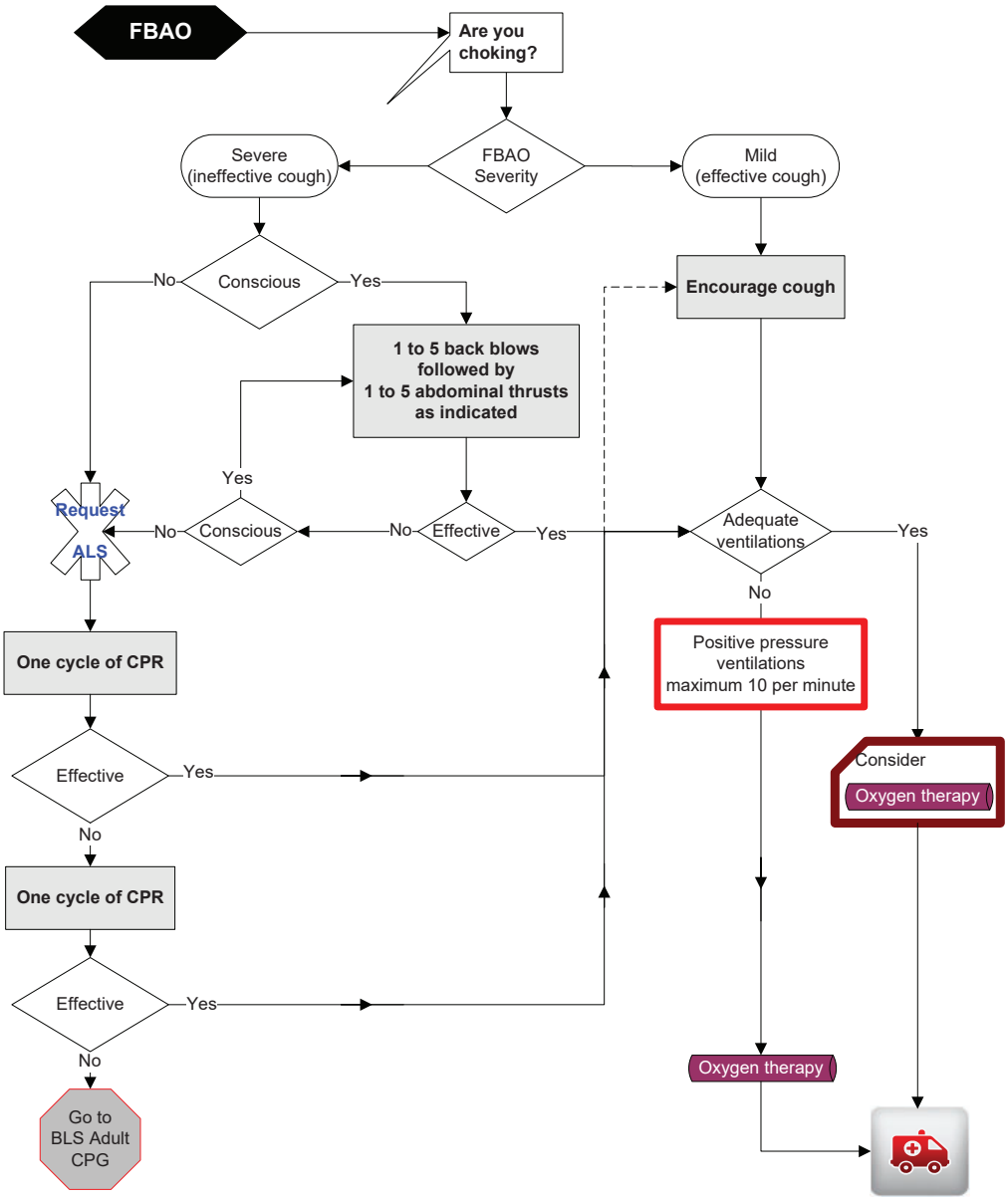


Markers for multi-system trauma Systolic BP < 90 Respiratory rate < 10 or > 29 Heart rate > 120 AVPU = V, P or U on scale Mechanism of Injury

Foreign Body Airway Obstruction – Adult

4/5.2.1
Version 3, 12/2020

EMT P



After each cycle of CPR open mouth and look for object.
If visible, make one attempt to remove.

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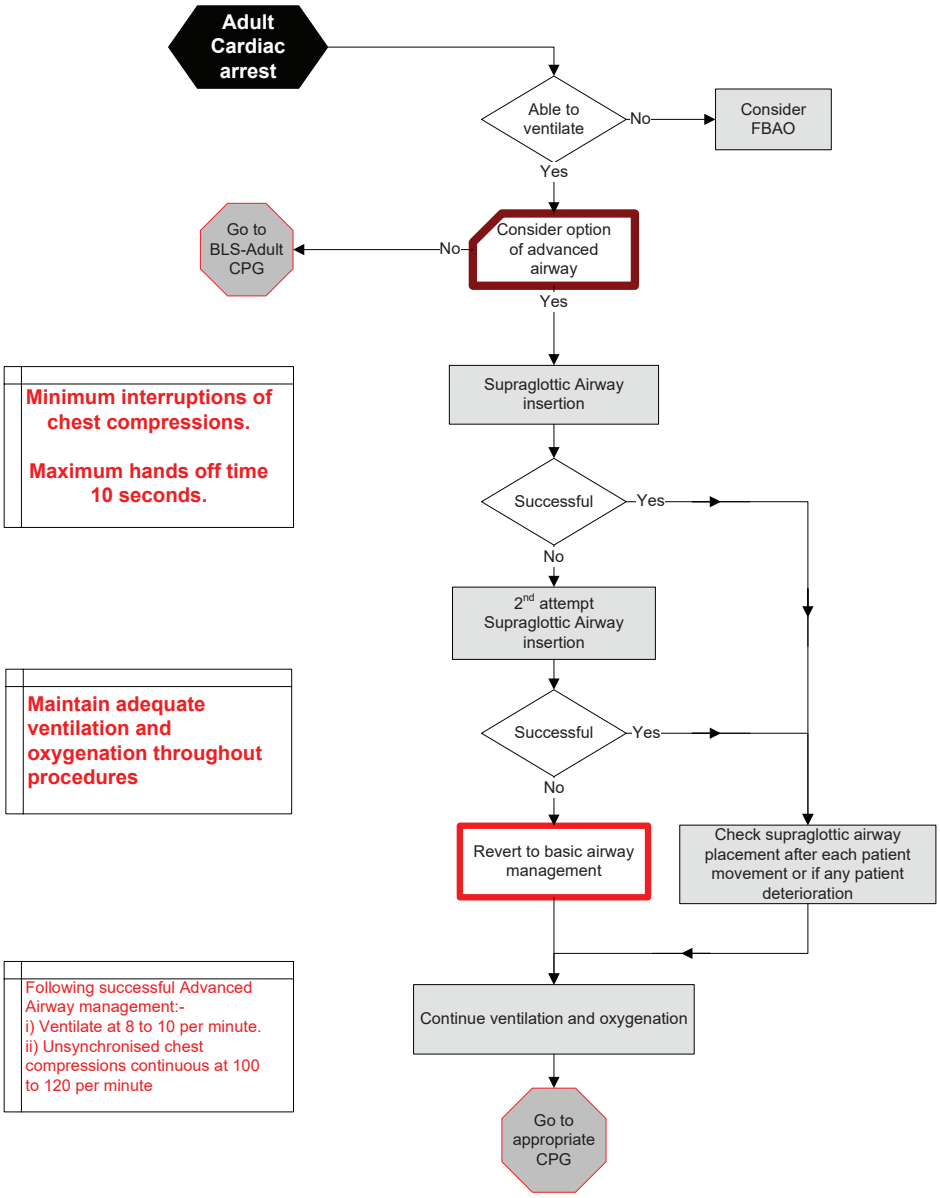
Advanced Airway Management – Adult

4.2.2
Version 5, 12/2020

EMT

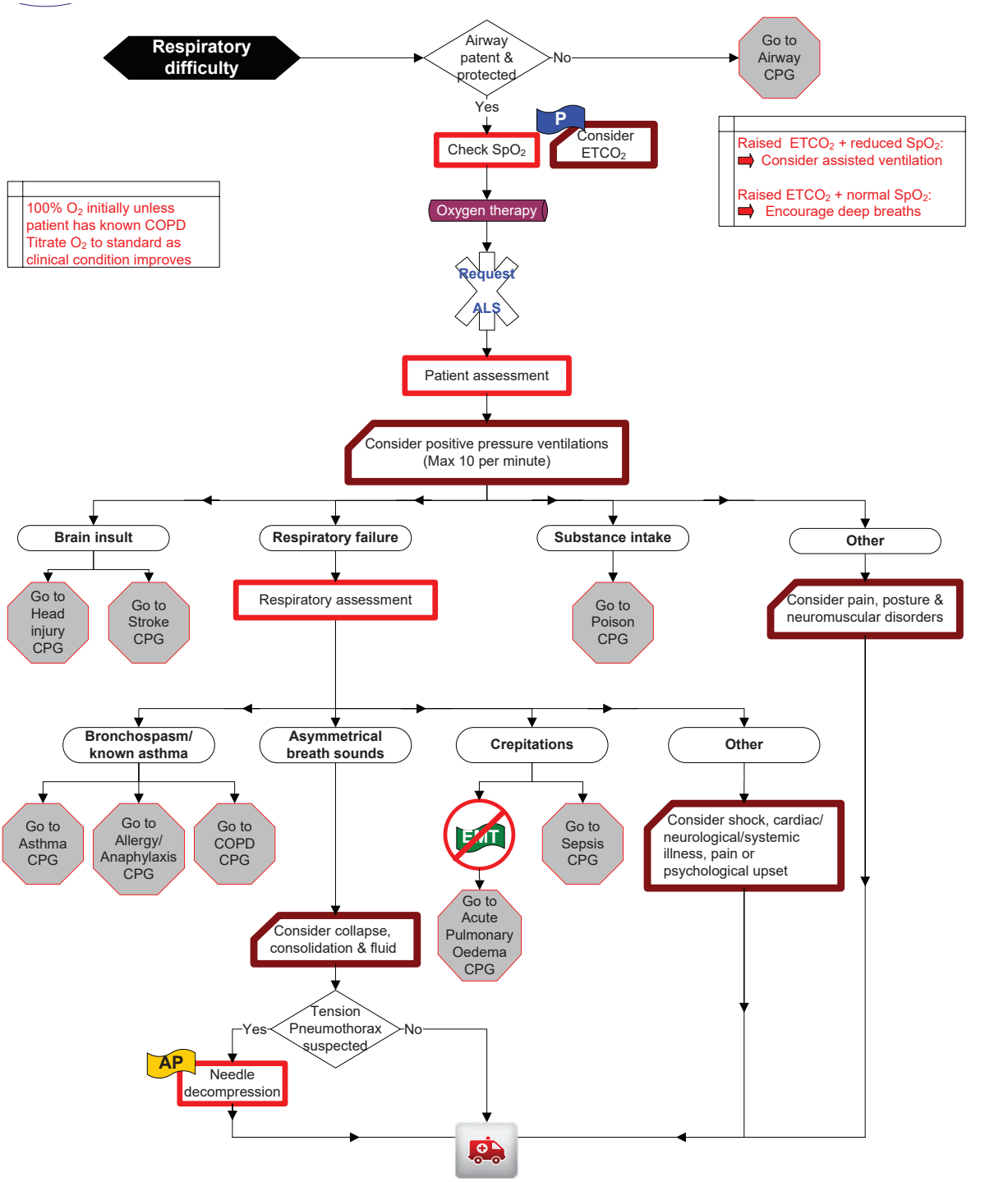


EMT **Special Authorisation:**
EMTs may use cuffed supraglottic airways subject to maintaining competence and Medical Director authorisation

Abnormal Work of Breathing – Adult

4/5/6.2.3
Version 3, 03/2021

EMT P AP



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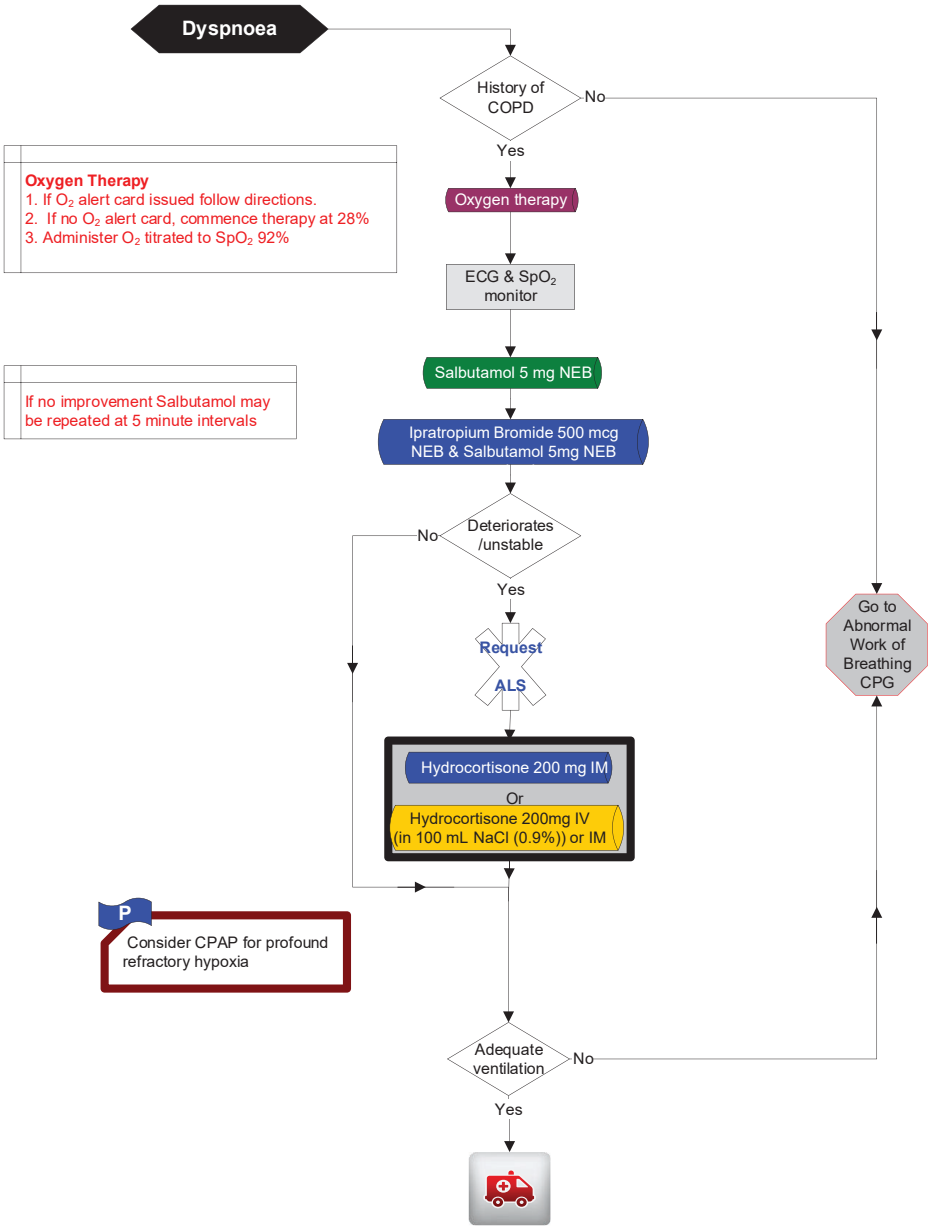
Exacerbation of COPD

4/5/6.2.4
Version 3, 03/2021

EMT P AP

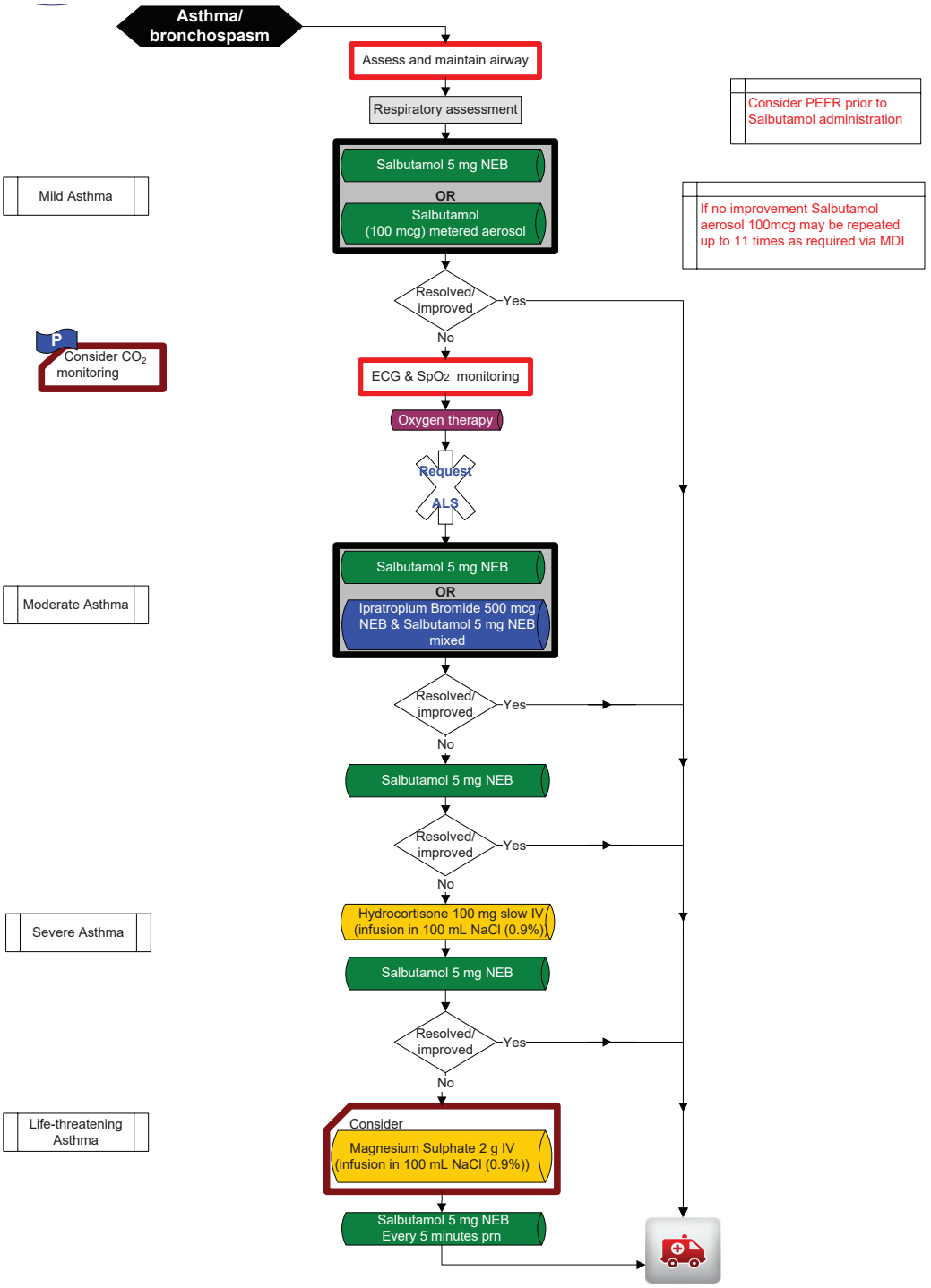


An exacerbation of COPD is defined as;
An event in the natural course of the disease characterised by a change in the patient's baseline dyspnoea, cough and/or sputum beyond day-to-day variability sufficient to warrant a change in management. (European Respiratory Society)

Asthma – Adult

4/5/6.2.5
Version 5, 03/2021

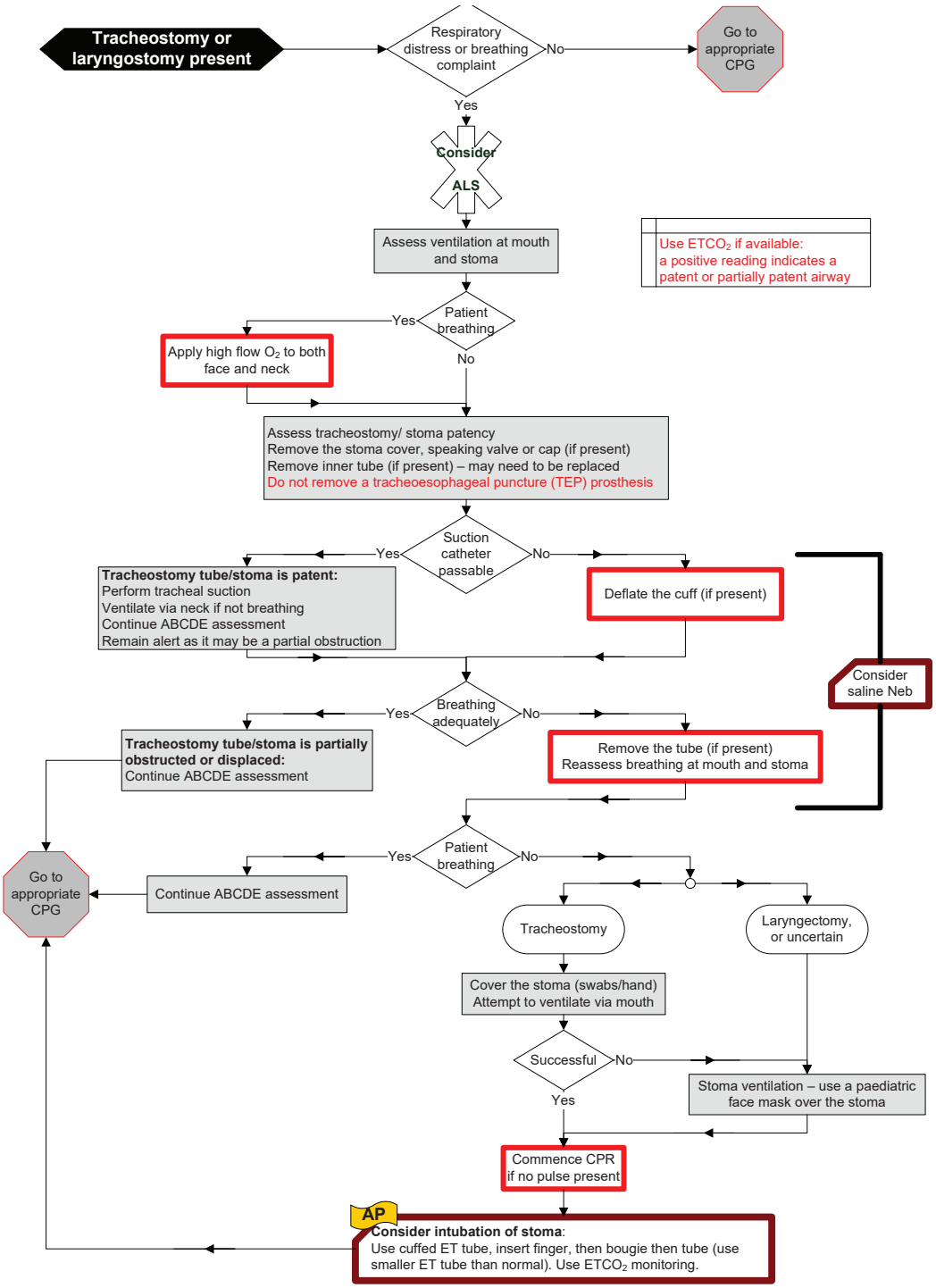
EMT P AP



Emergency Tracheostomy Management

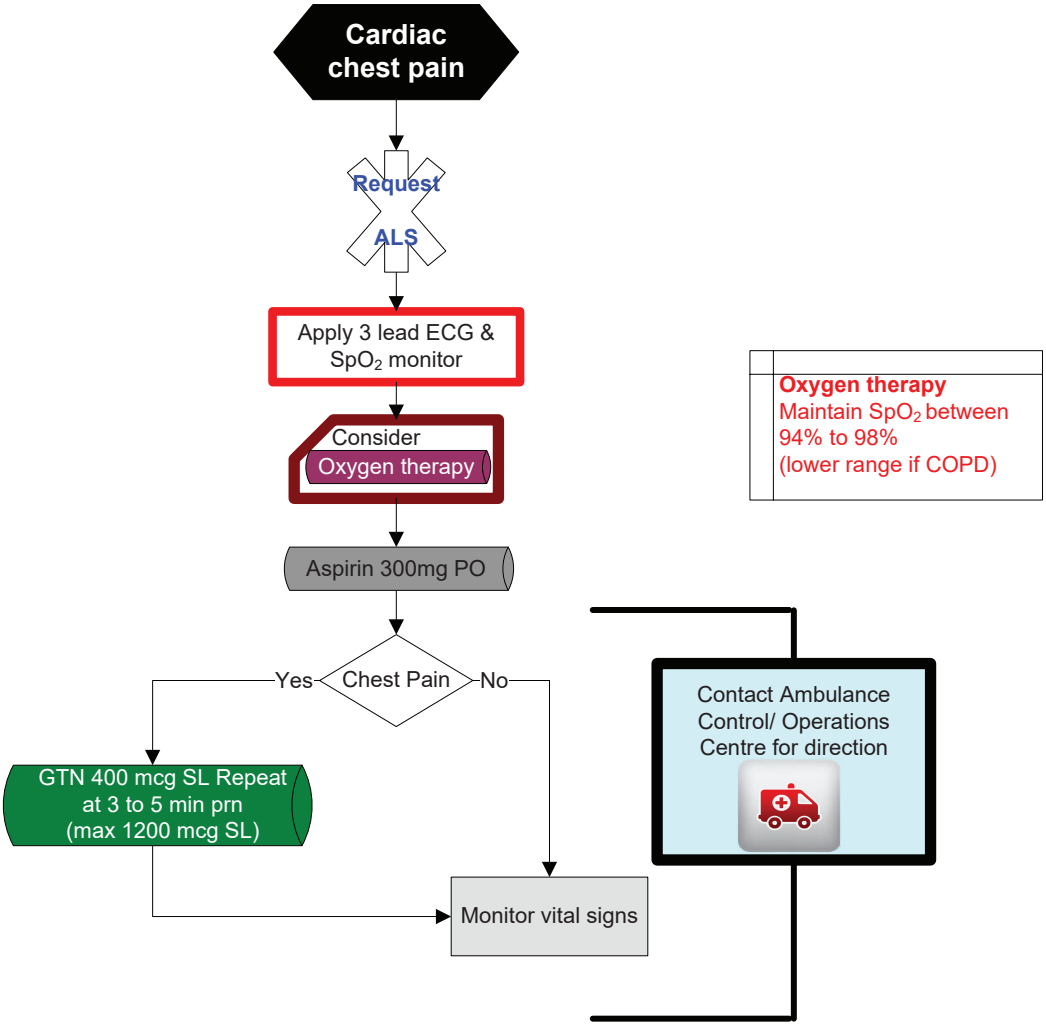
4/5/6.2.7
Version 2, 03/2021

EMT P AP



Acute Coronary Syndrome

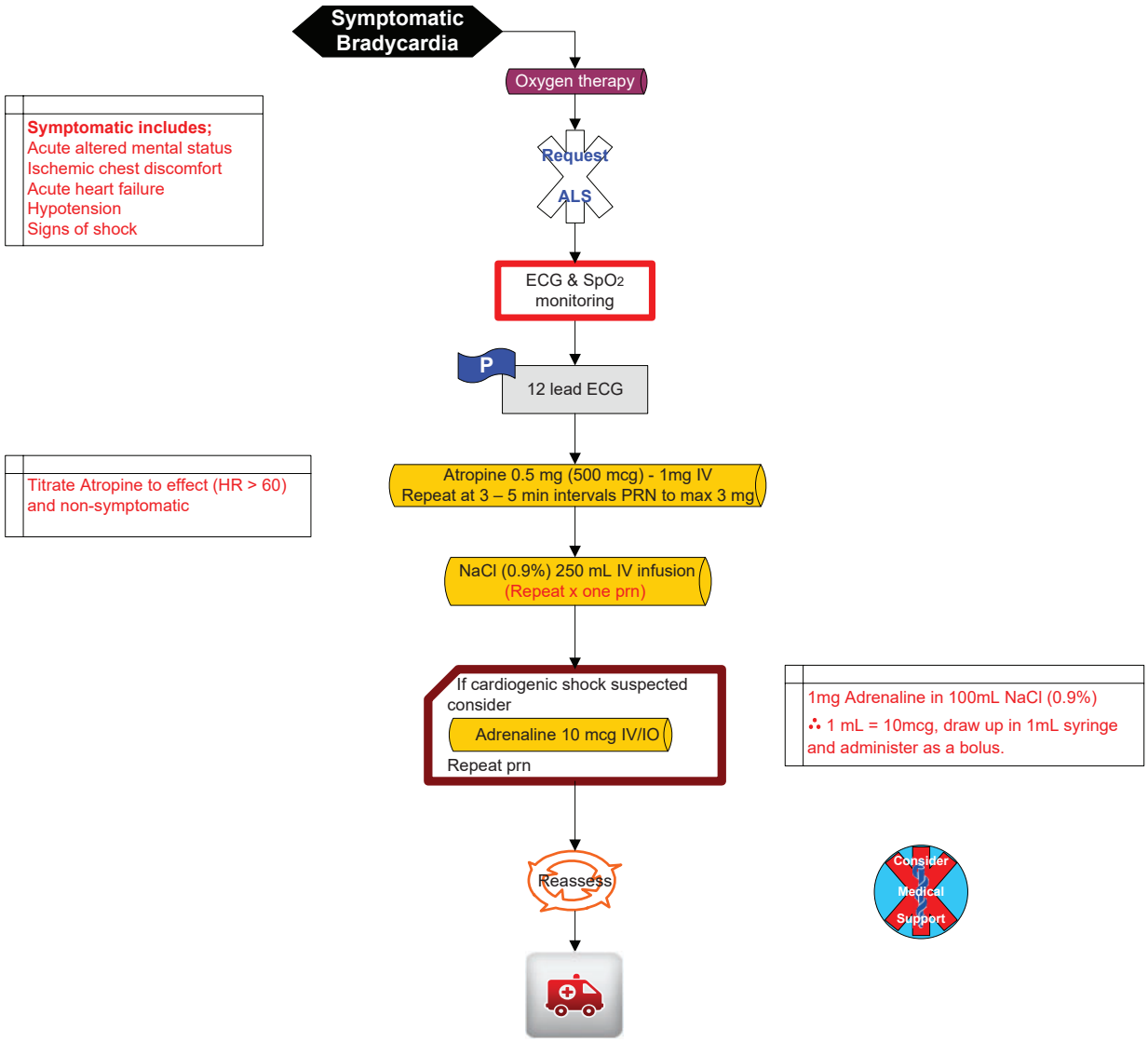
4.3.1
Version 4, 12/2020
EMT



Symptomatic Bradycardia – Adult

4/5/6.3.2
Version 4, 01/2021

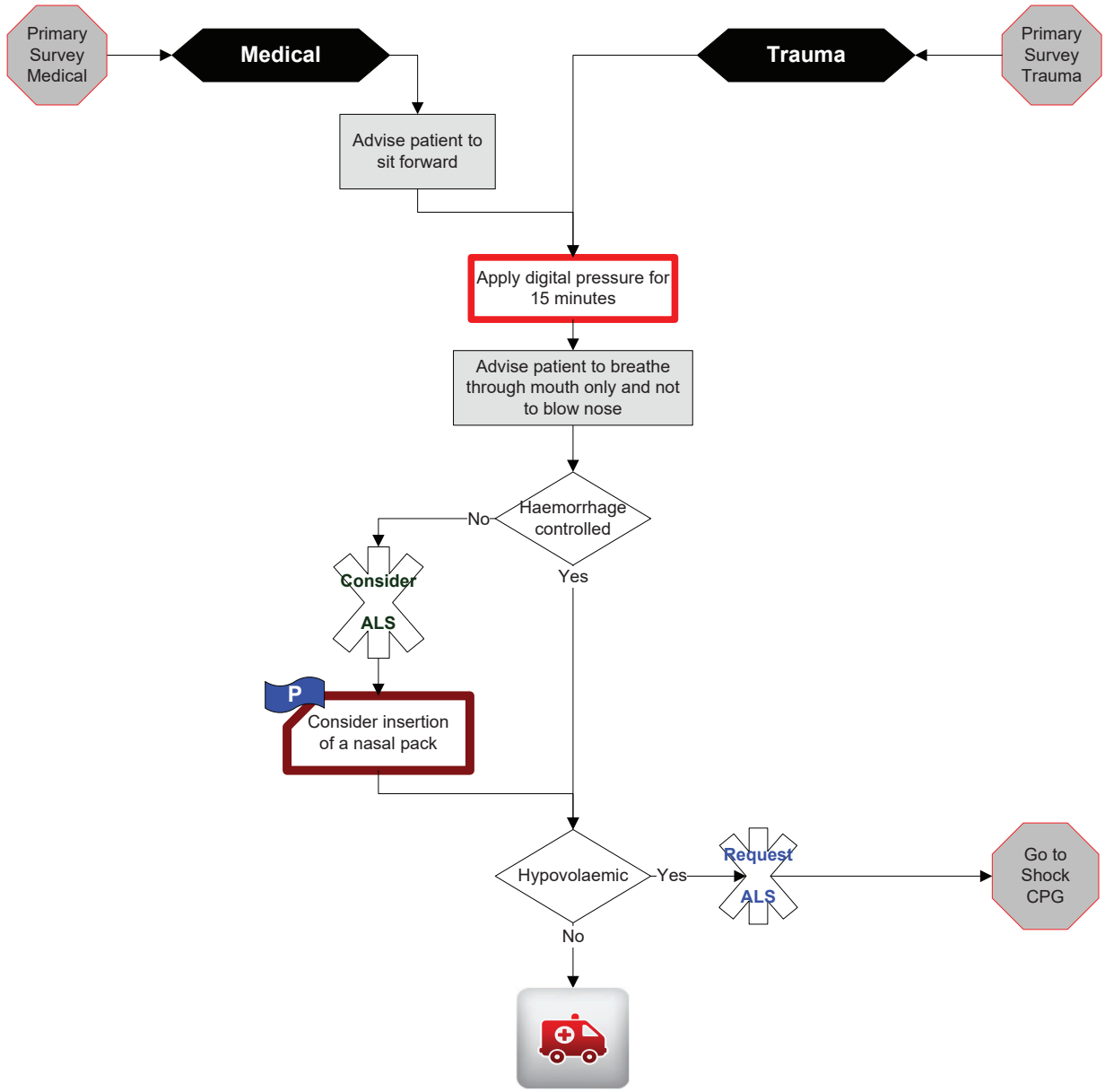
EMT P AP



Epistaxis

4/5/6.4.2
Version 5, 03/2021

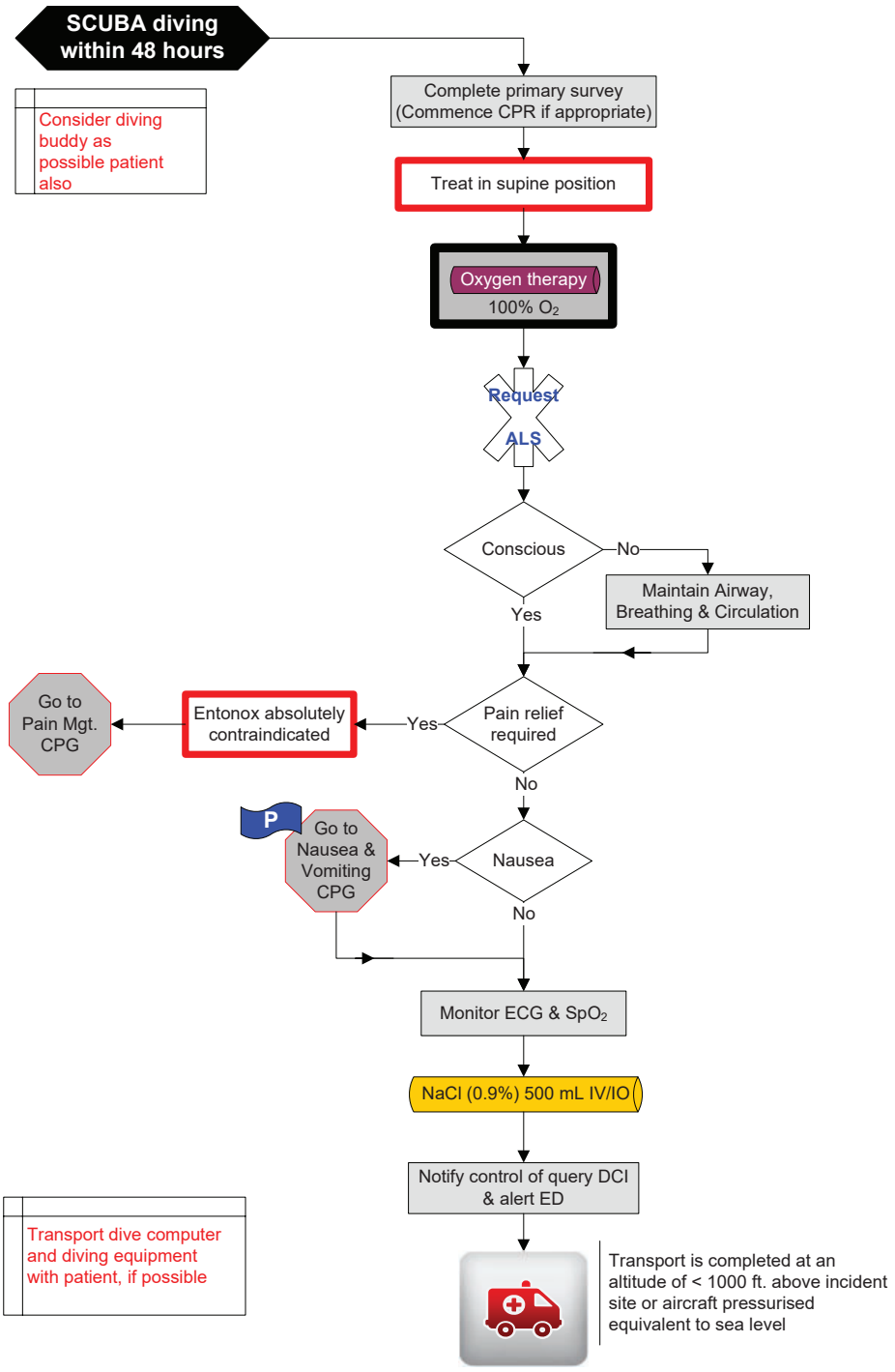
EMT P AP



Decompression Illness (DCI)

4/5/6.5.2
Version 3, 12/2020

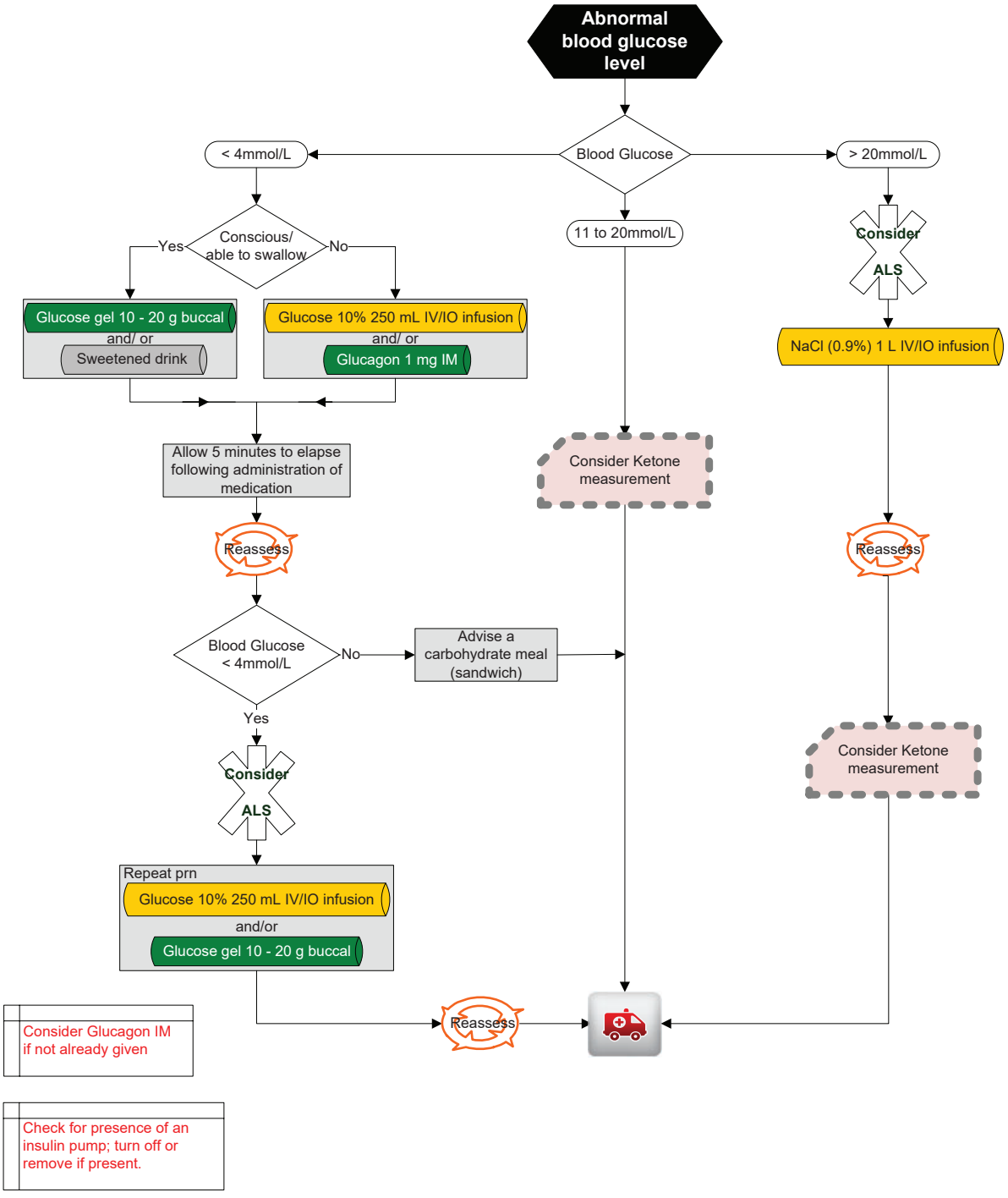
EMT P AP



Glycaemic Emergency – Adult

4/5/6.5.3
Version 4, 03/202

EMT P AP



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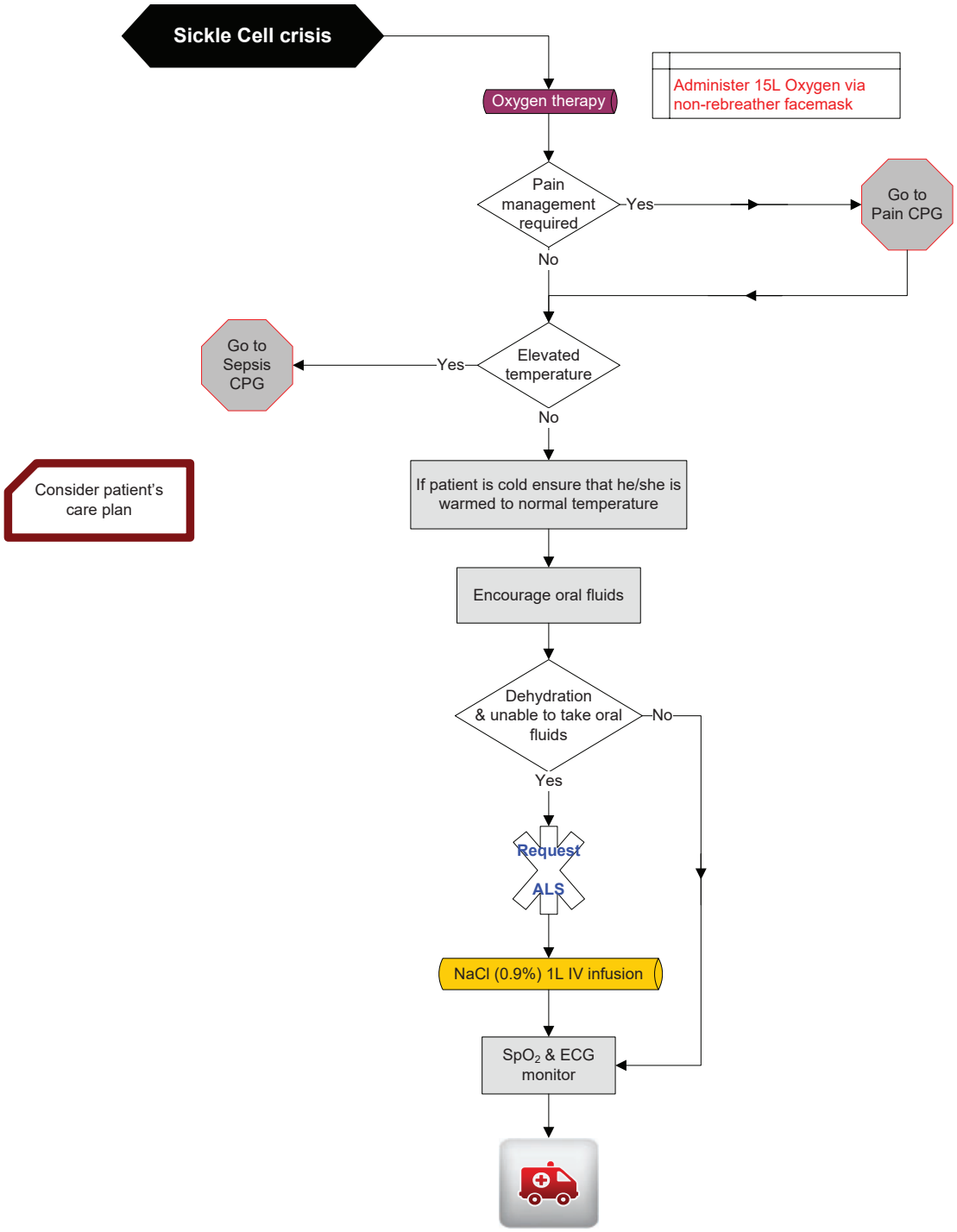
Sickle Cell Crisis - Adult

4/5/6.5.4
Version 2, 12/2020

EMT P AP



Altered Level of Consciousness – Adult

4.6.1
Version 2, 12/2020
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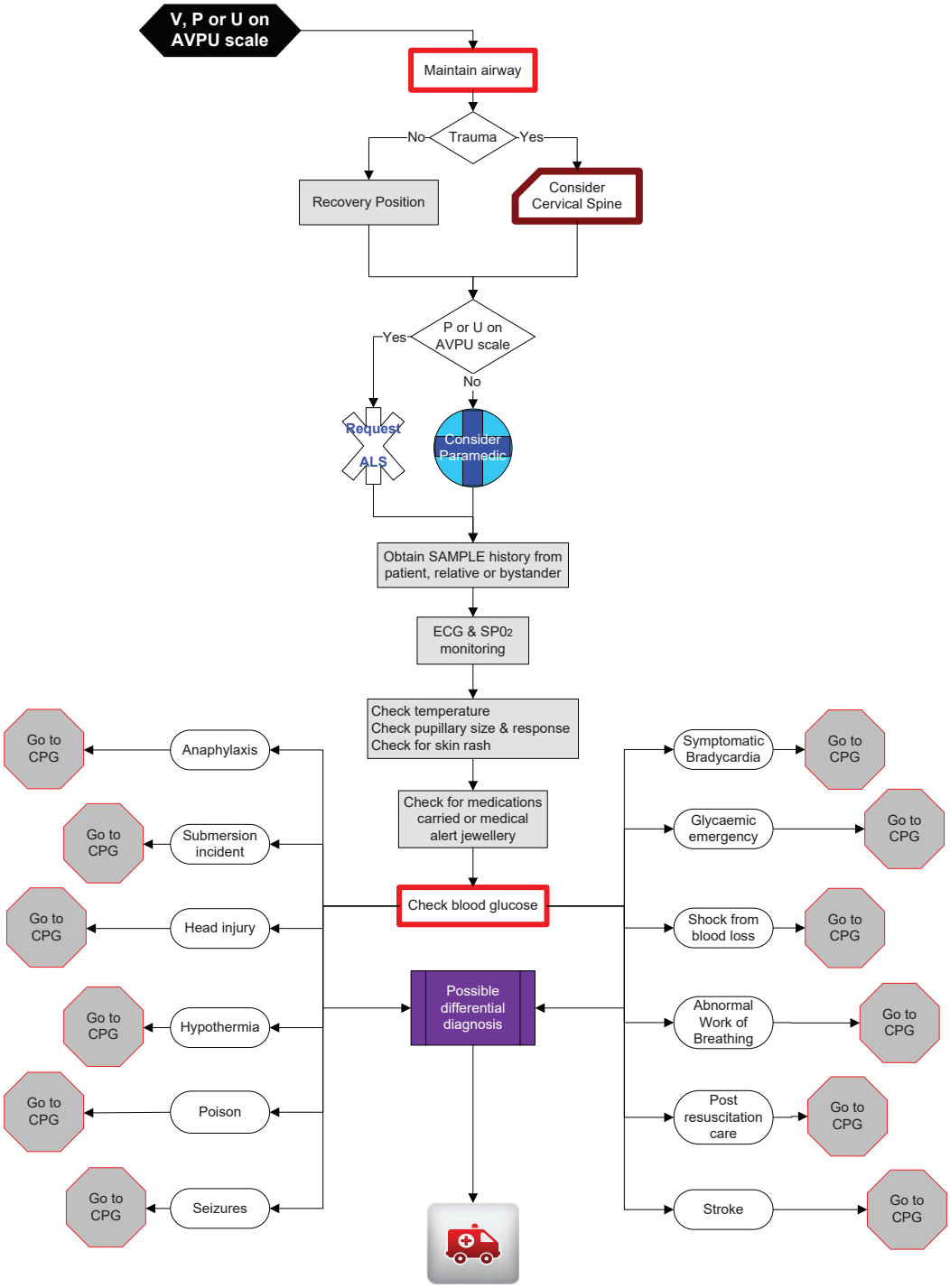
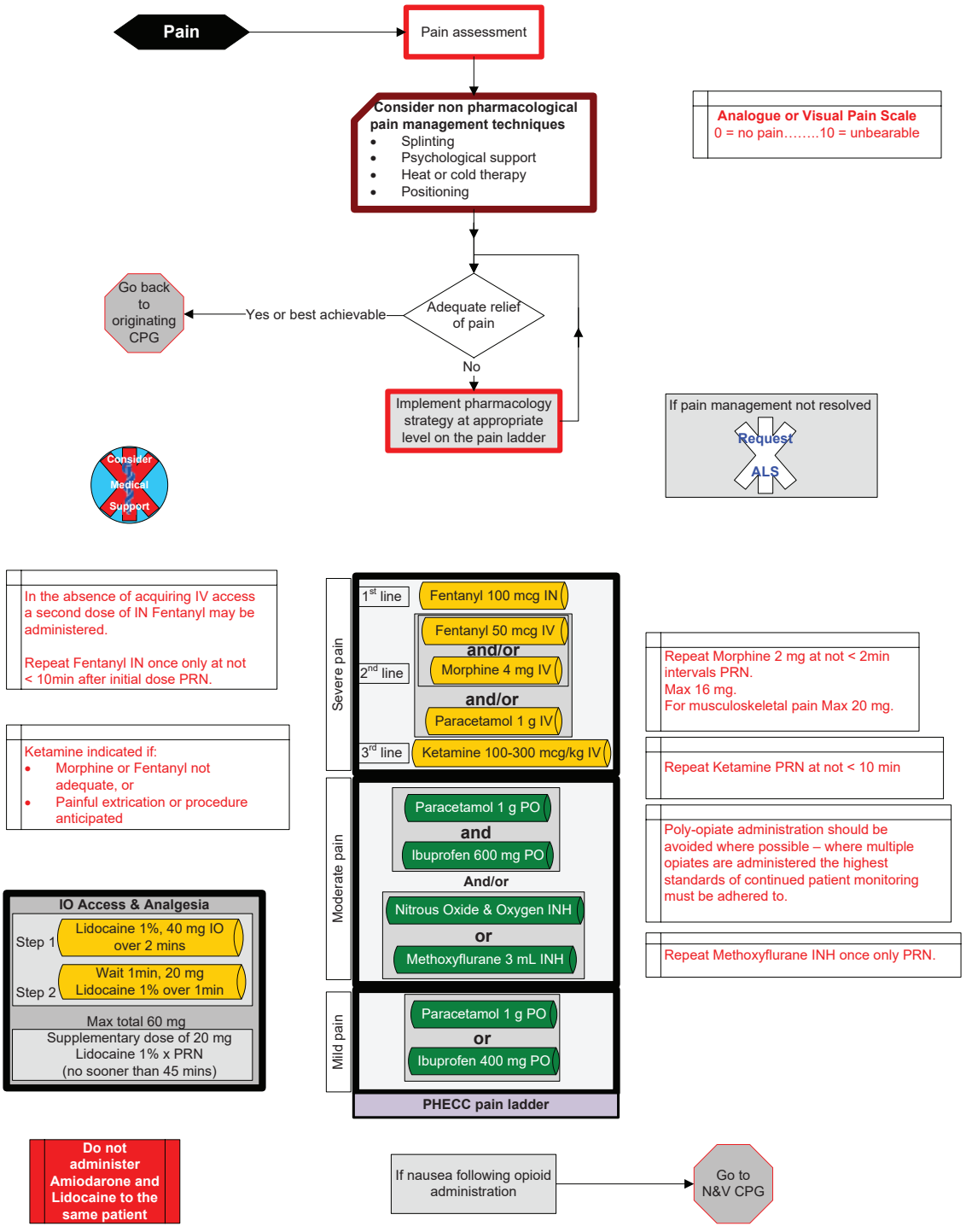


Pain Management – Adult

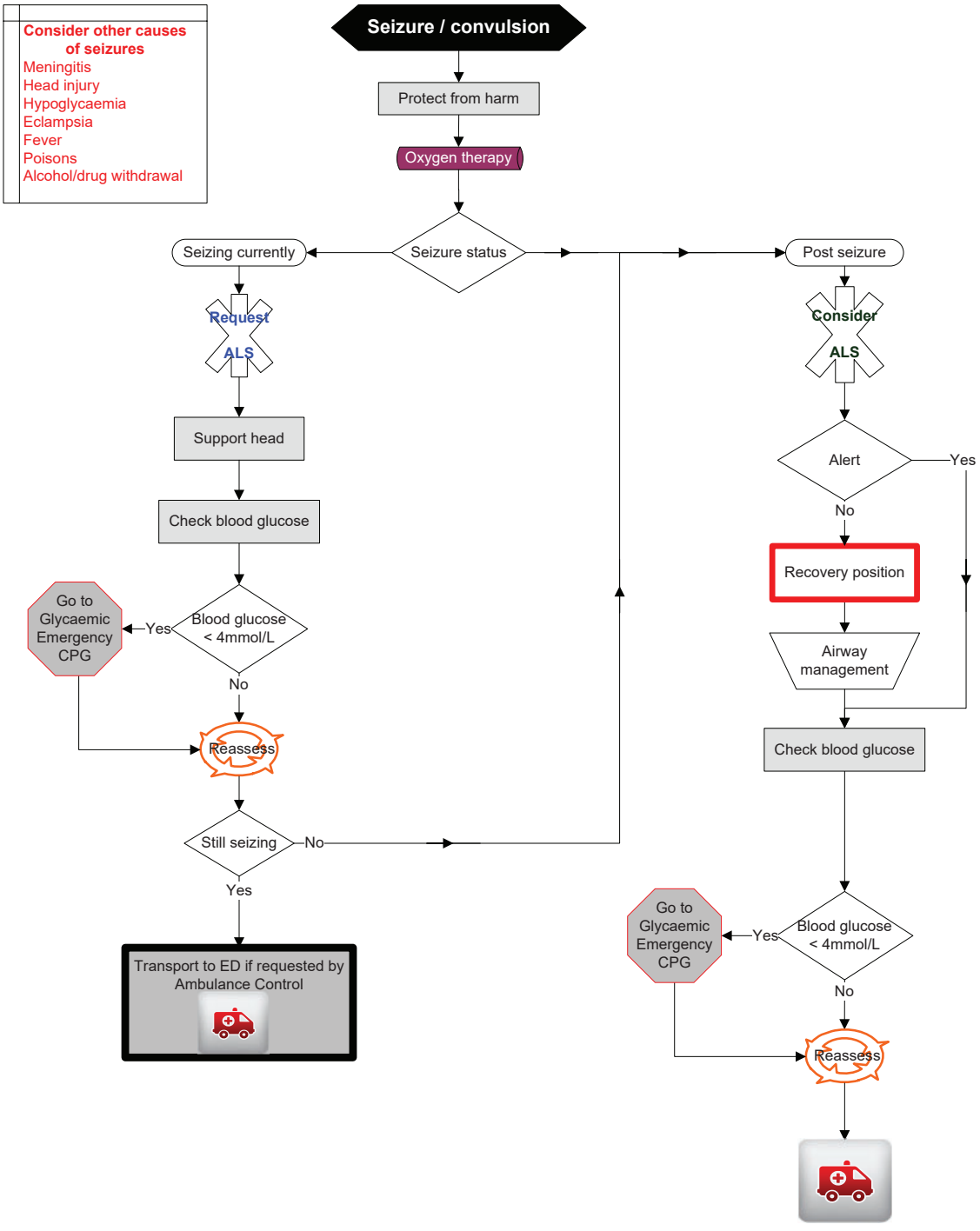
4/5/6.6.2
Version 6, 04/2021

EMT P AP



Seizure/Convulsion – Adult

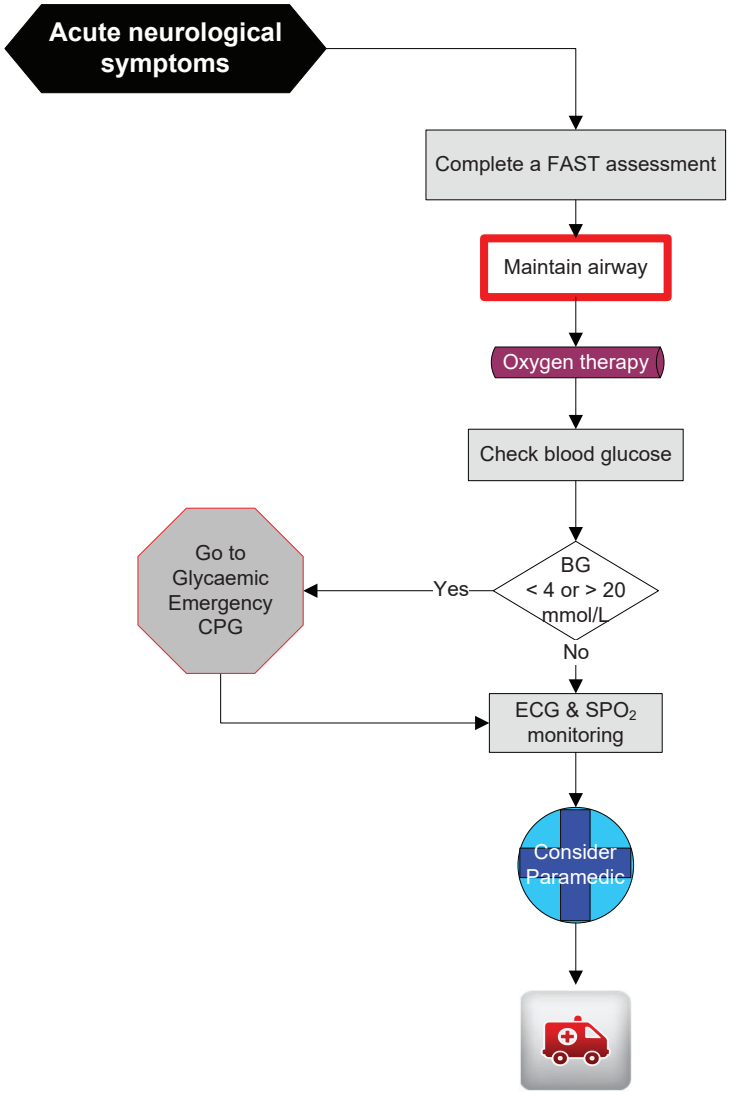
4.6.3
Version 3, 01/2021
EMT



Stroke

4.6.4
Version 3, 01/2021

EMT



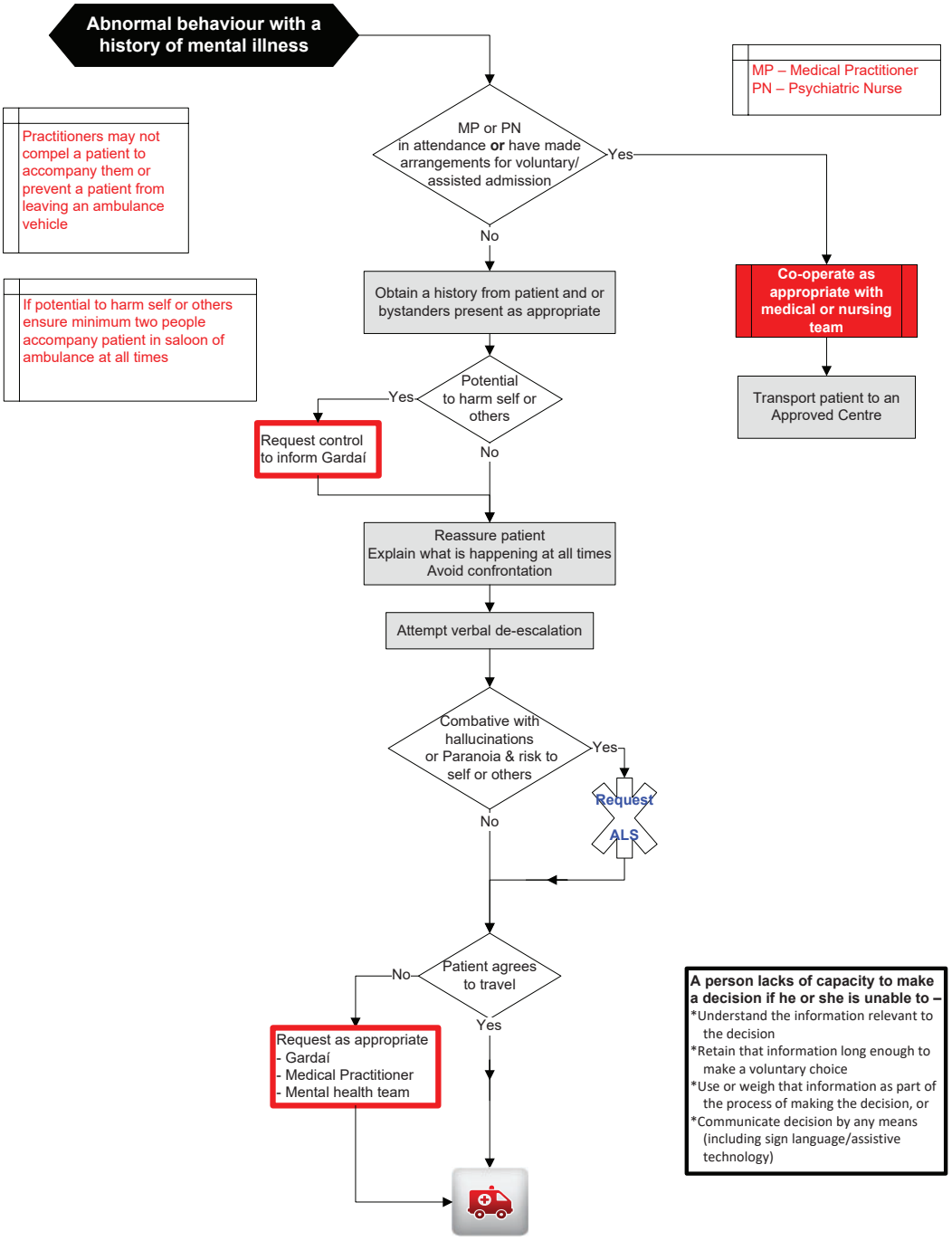
F – facial weakness Can the patient smile? Has their mouth or eye drooped? Which side? **A – arm weakness** Can the patient raise both arms and maintain for 5 seconds? **S – speech problems** Can the patient speak clearly and understand what you say? **T – time of onset**

SECTION 7 - Behavioural and Mental Health Emergencies

Mental Health Emergency

4/5.7.1
Version 3, 03/2021

EMT P



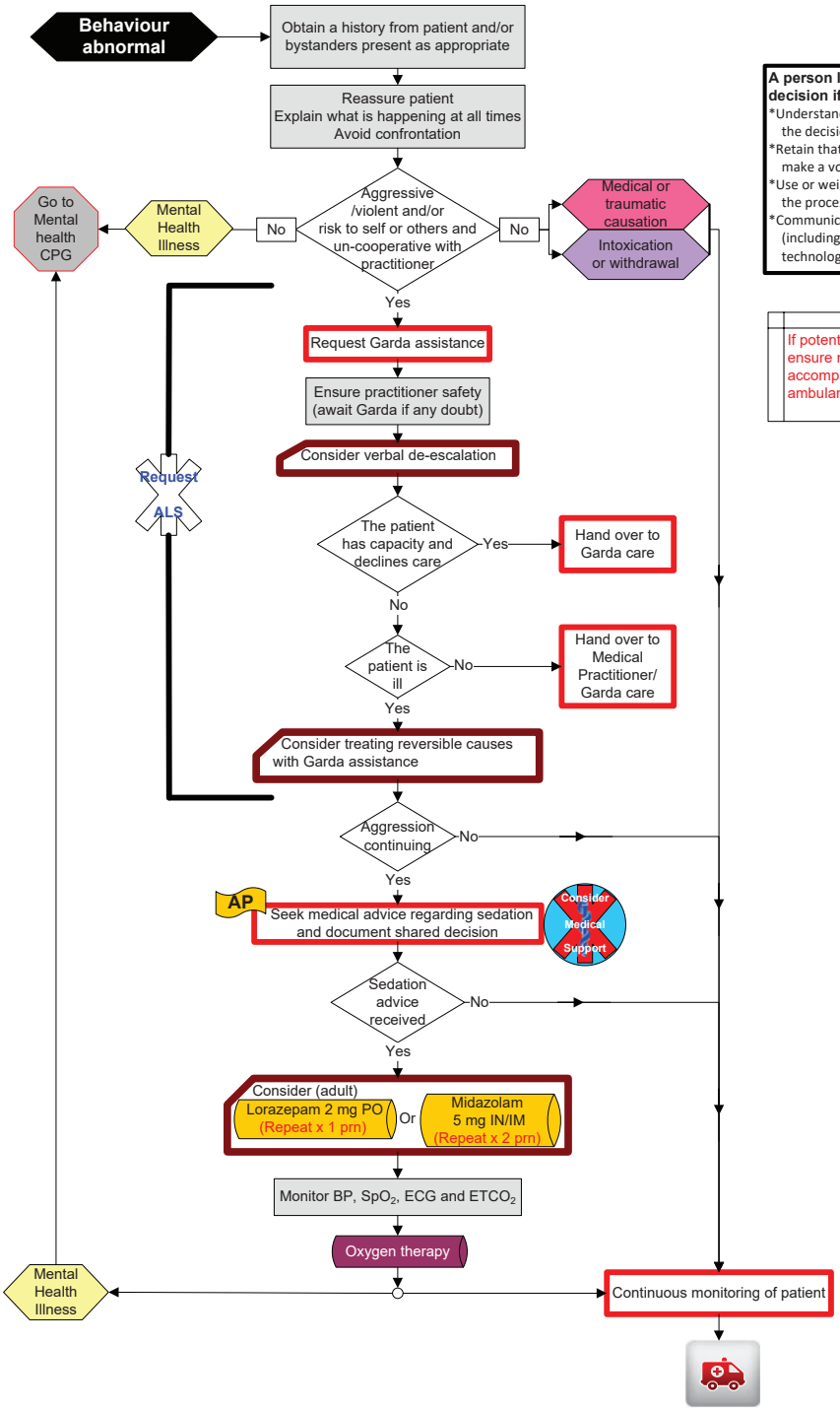
Pre-Hospital Emergency Care Council

Behavioural and Mental Health Emergencies

Behavioural Emergency

4/5/6.7.2
Version 3, 03/2021

EMT P AP

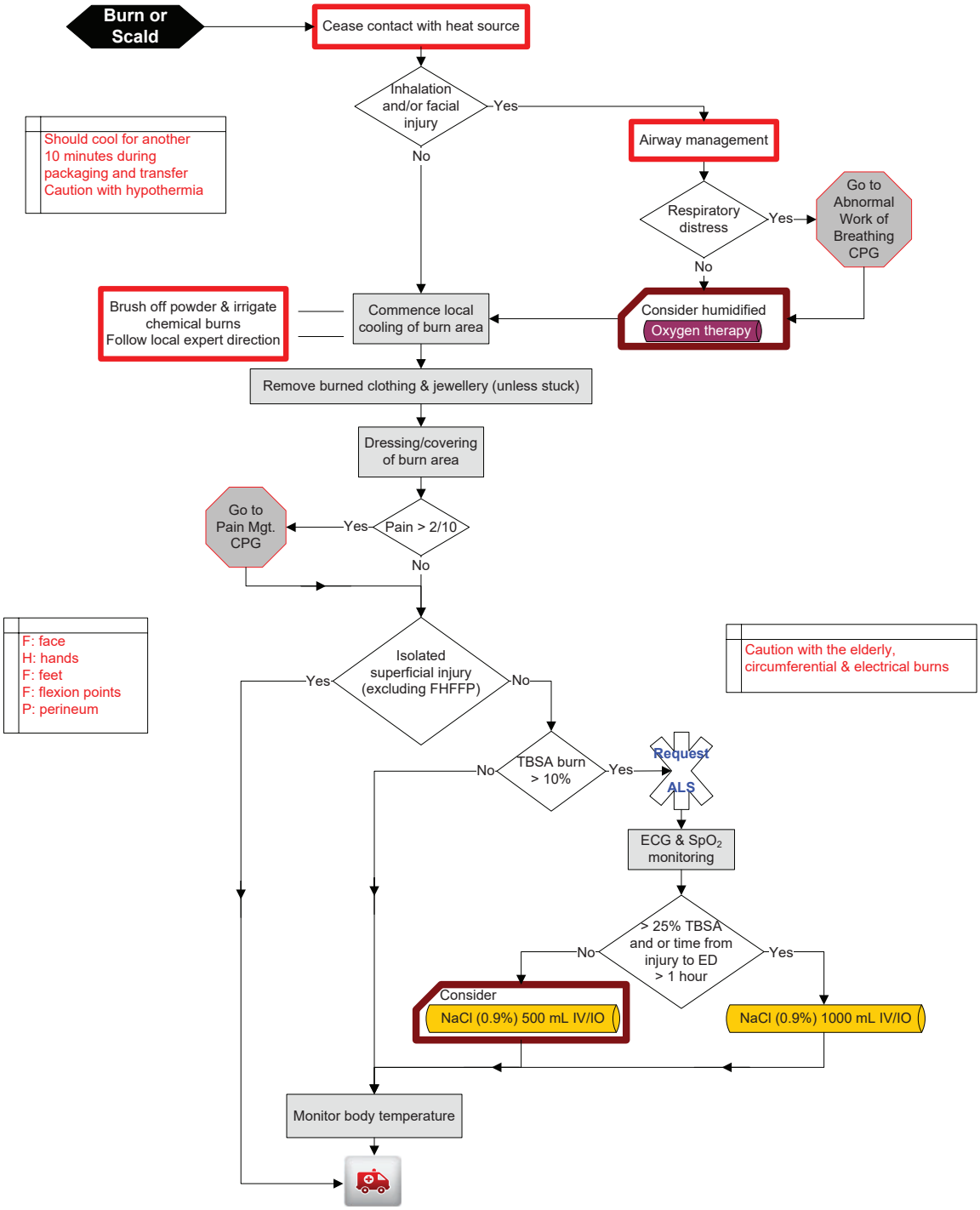


Pre-Hospital Emergency Care Council

Burns – Adult

4/5/6.8.1
Version 3, 01/2021

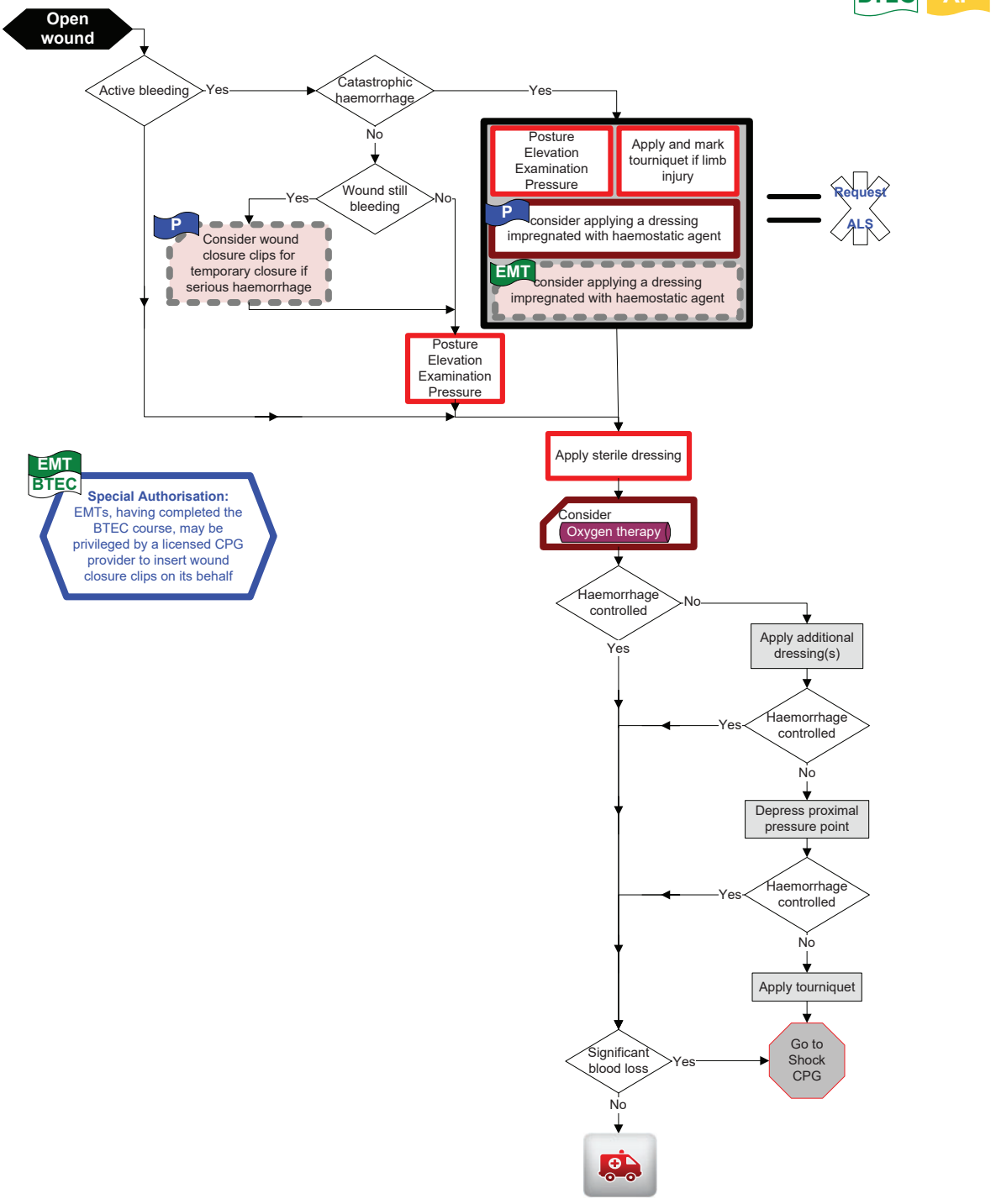
EMT P AP



External Haemorrhage – Adult

4/5/6.8.3
Version 5, 02/2021

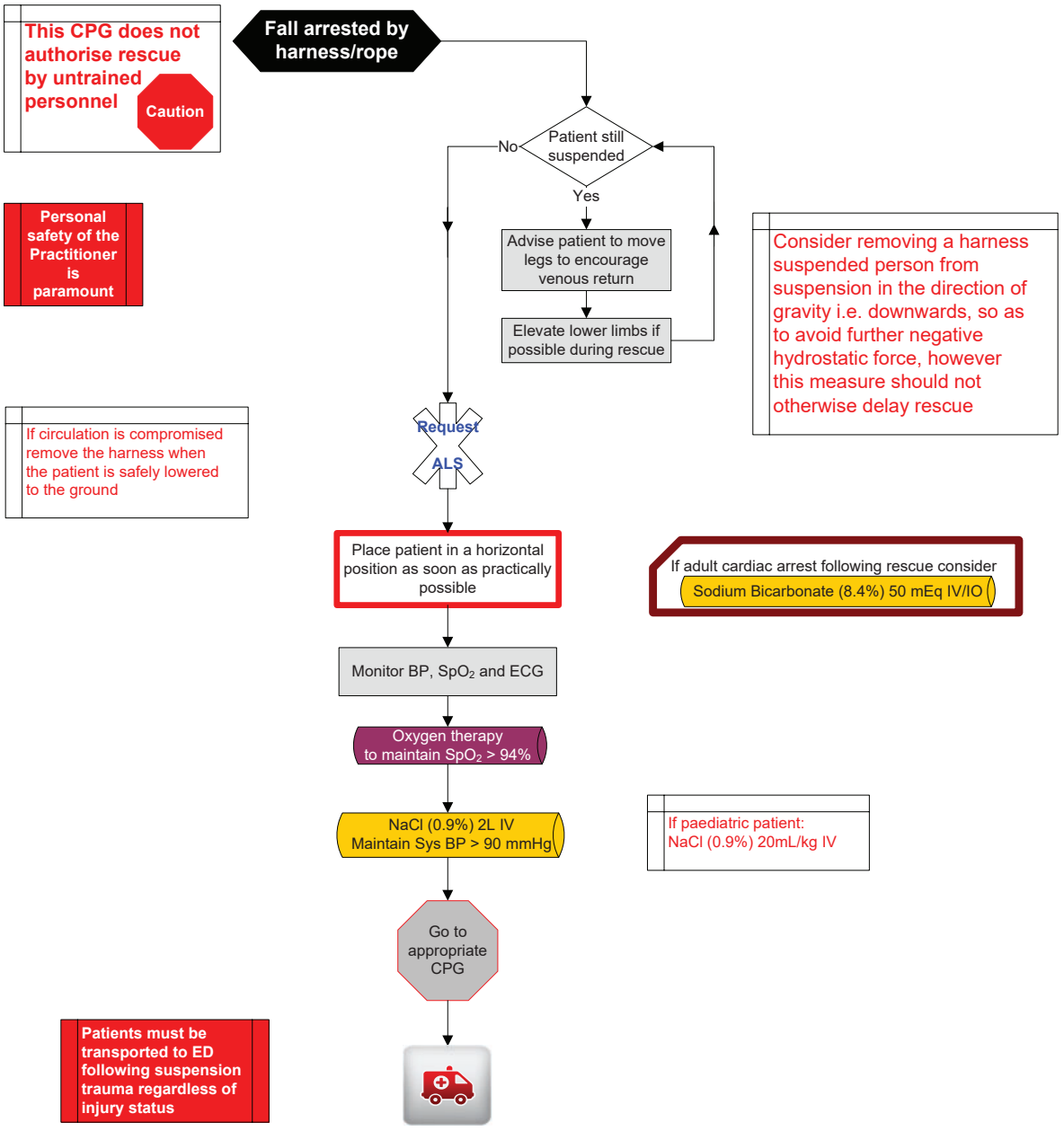
EMT P BTEC AP



Harness Induced Suspension Trauma

4/5/6.8.4
Version 4, 01/2021

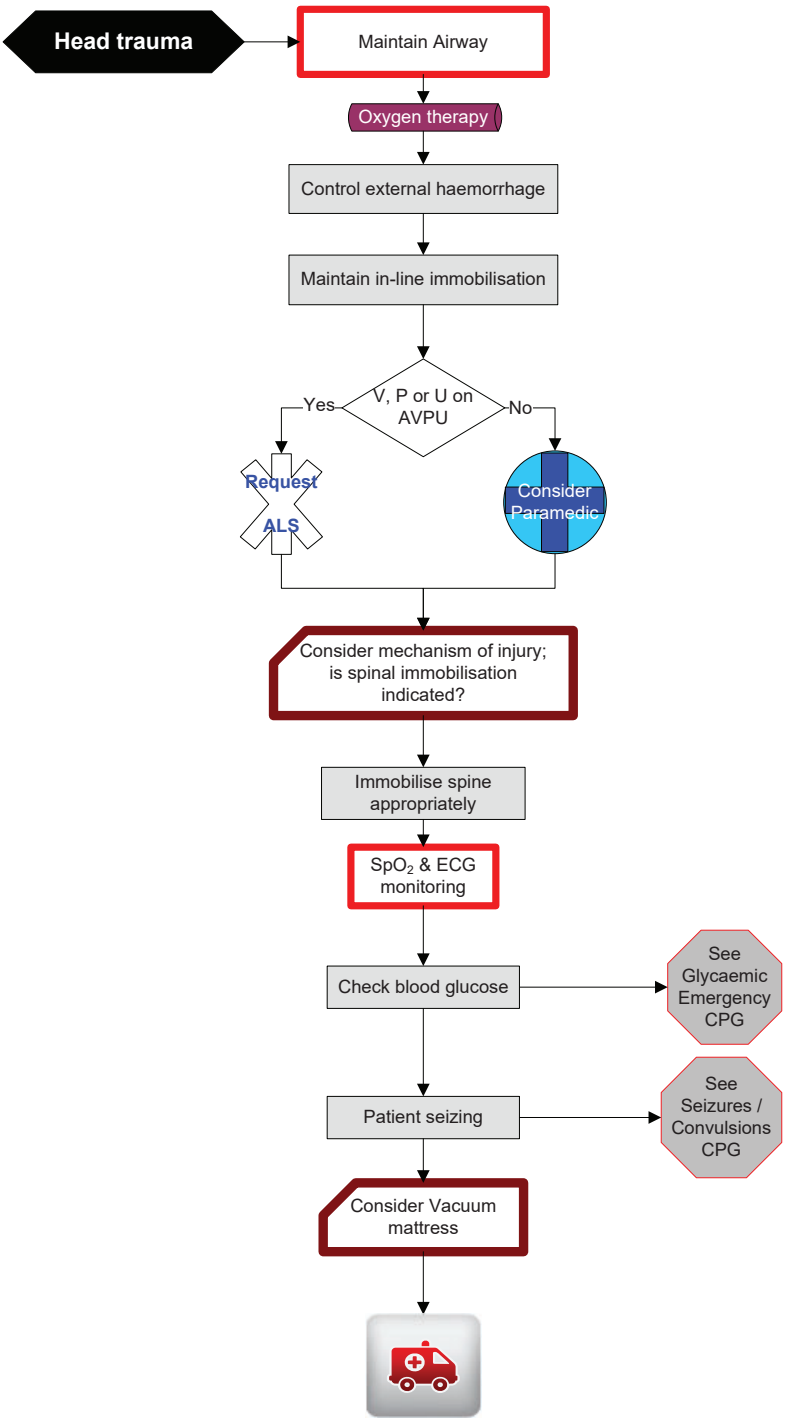
EMT P AP



Head Injury – Adult

4.8.5
Version 3, 12/2020

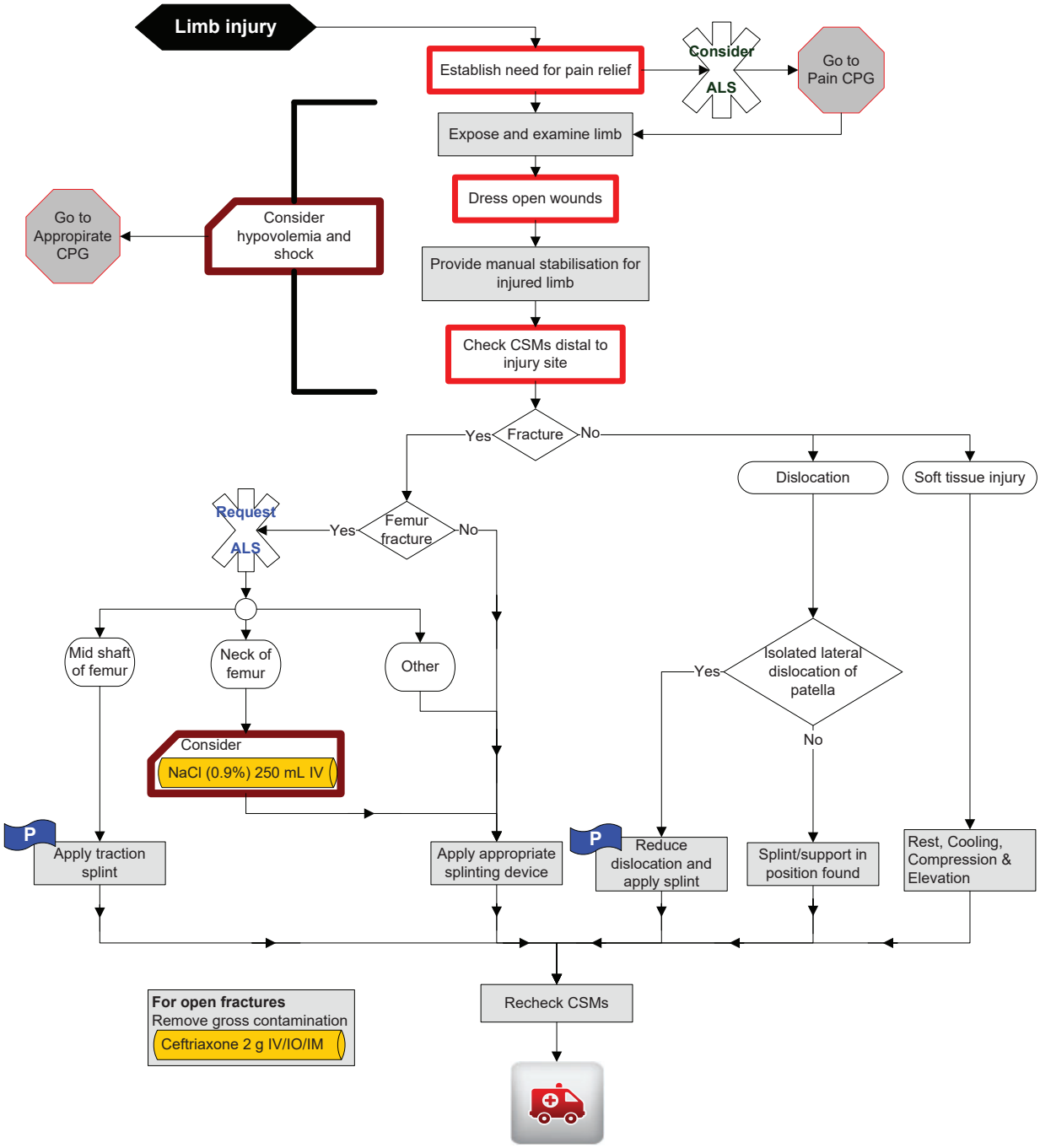
EMT



Limb Injury – Adult

4/5/6.8.6
Version 6, 03/2021

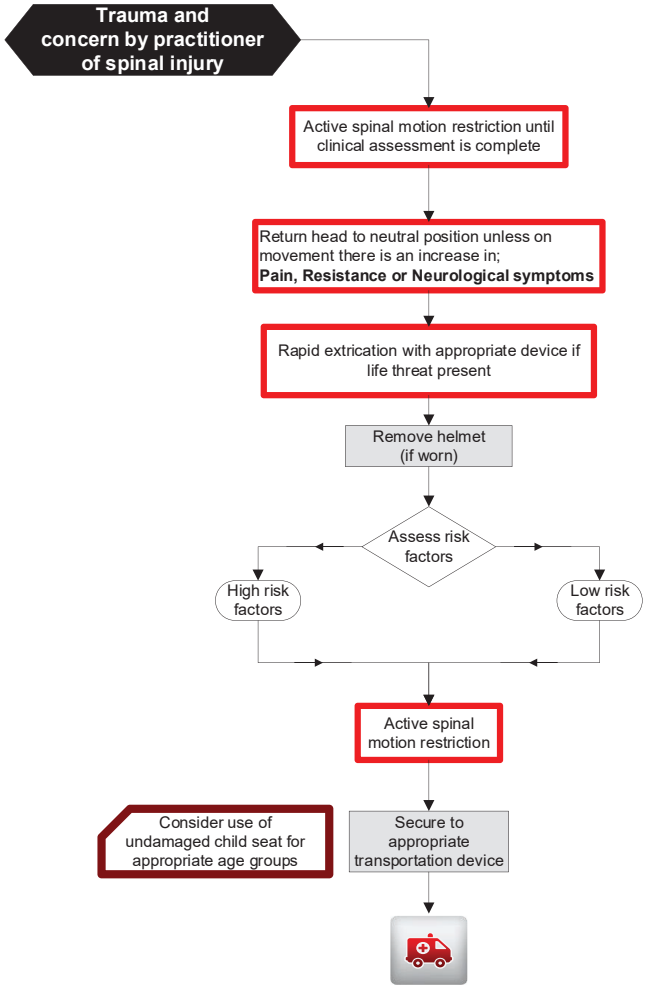
EMT P AP



Spinal Injury Management

4.8.8
Version 4, 12/2020

EMT



High risk factors:- any of the following;
- dangerous mechanism of injury
- fall from a height of greater than 1 metre or 5 steps
- axial load to the head or base of the spine

– for example;
diving, high-speed motor vehicle collision, rollover motor accident, ejection from a motor vehicle, accident involving motorised recreational vehicle, bicycle collision, horse riding accident, pedestrian v vehicle.

- impaired awareness (alcohol/ drug intoxication, confused /uncooperative or ALoC)
- age 65 years or older
- age 2 years or younger incapable of verbal communication

Spinal injury rule in considerations;
- any significant distracting injuries
- impaired awareness (alcohol/ drug intoxication, confused /uncooperative or ALoC)
- Immediate onset of spinal/ midline back pain
- hand or foot weakness (motor issue)
- altered or absent sensation in the hands or feet (sensory issue)
- priapism
- history of past spinal problems, including previous spinal surgery or conditions that predispose to instability of the spine.
- Unable to actively rotate their neck 45 degrees to the left and right.

PHECC Spinal Injury Management Standard
Active spinal motion restriction;
using inline techniques with or without spinal injury management devices to reduce spinal column motion.

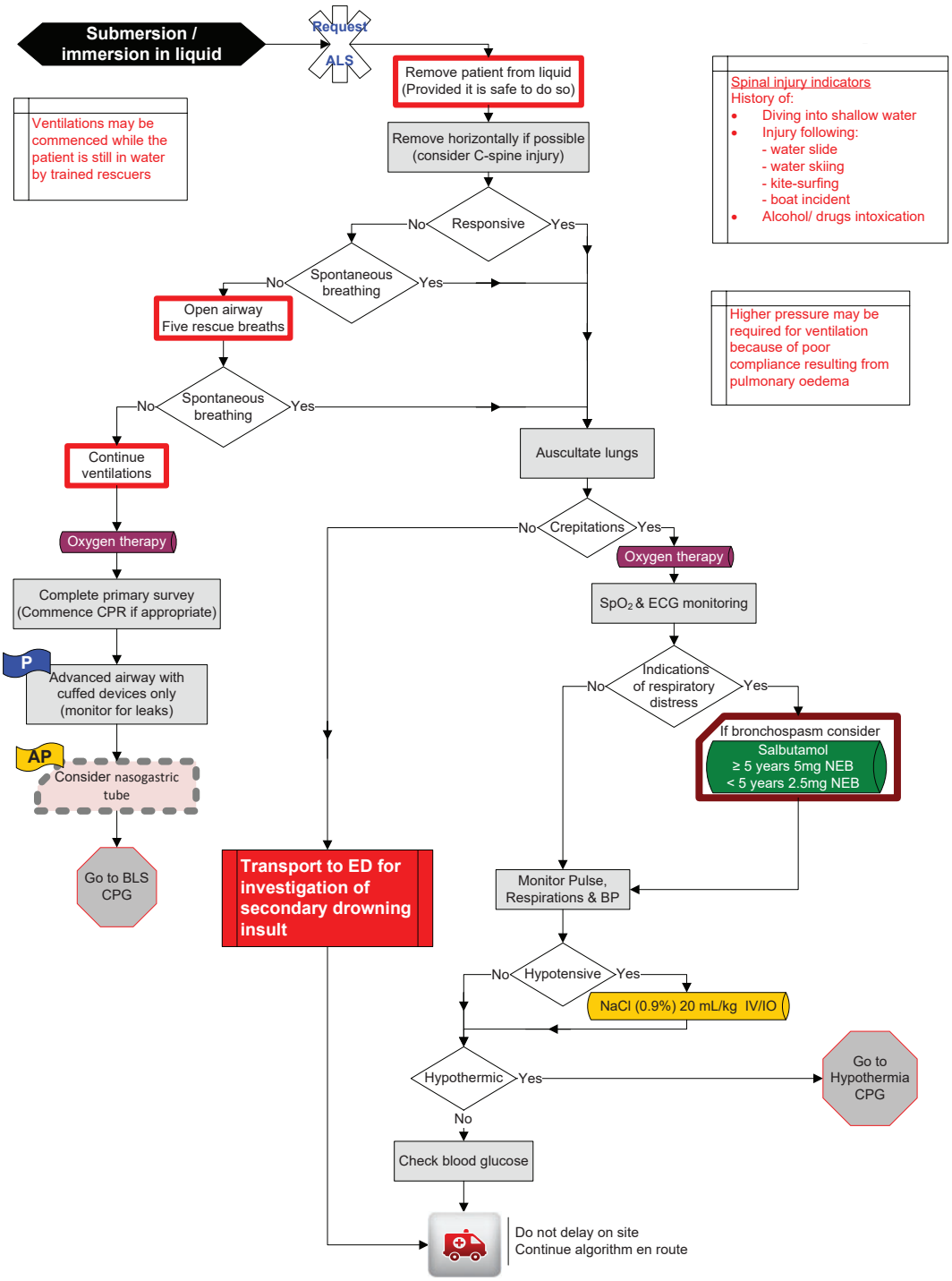
Unlikely to have a clinically significant spinal injury
Low risk factors:- any two or more of;
- involved in a minor rear-end motor vehicle collision
- comfortable in a sitting position
- ambulatory at any time since the injury
- no midline cervical spine tenderness
- no spinal column/ midline pain

And are able to actively rotate their neck 45 degrees to the left and right

Submersion/ Immersion Incident

4/5/6.8.9
Version 3, 03/2021

EMT P AP

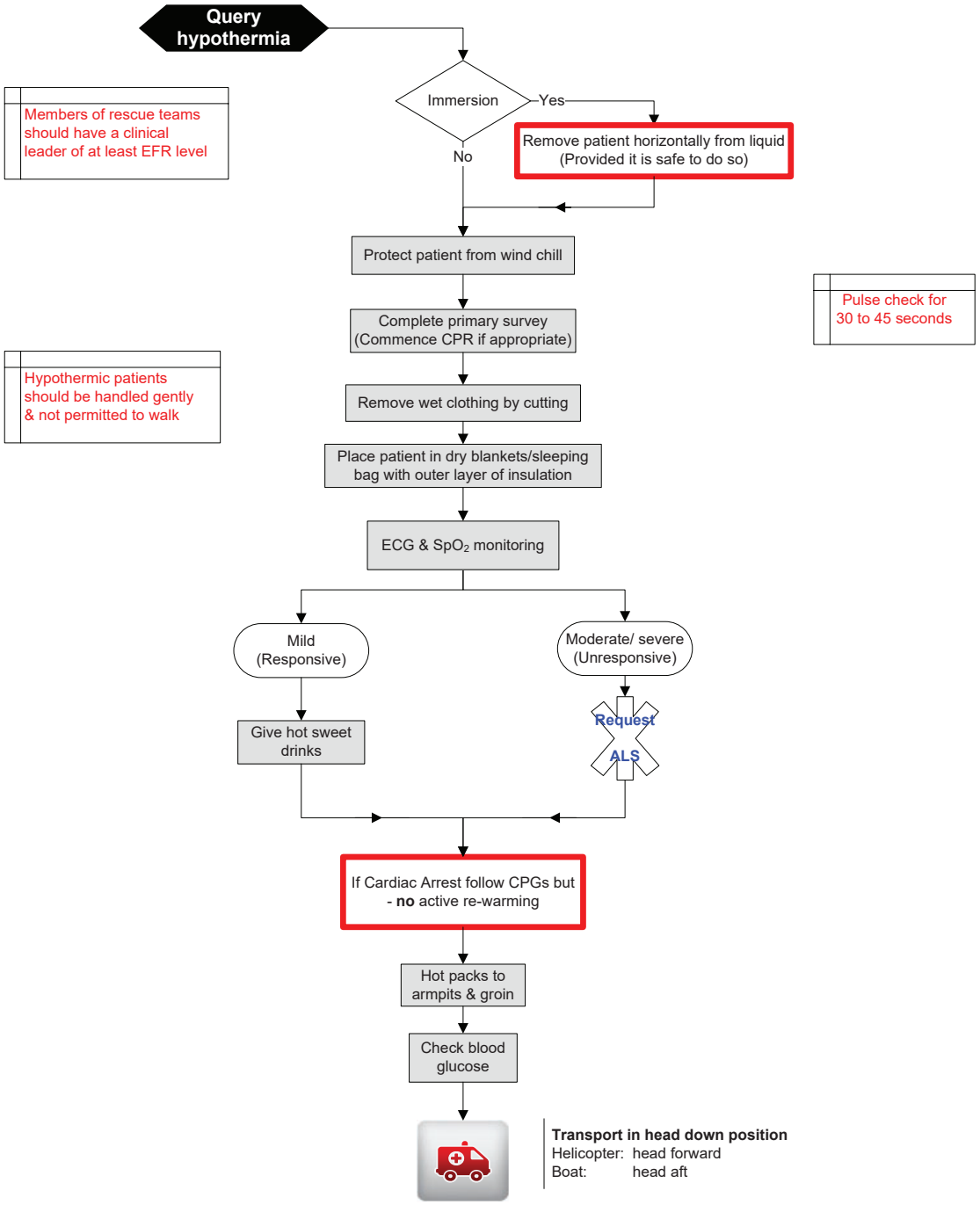


Pre-Hospital Emergency Care Council

Hypothermia

4.9.1
Version 4, 12/2020

EMT

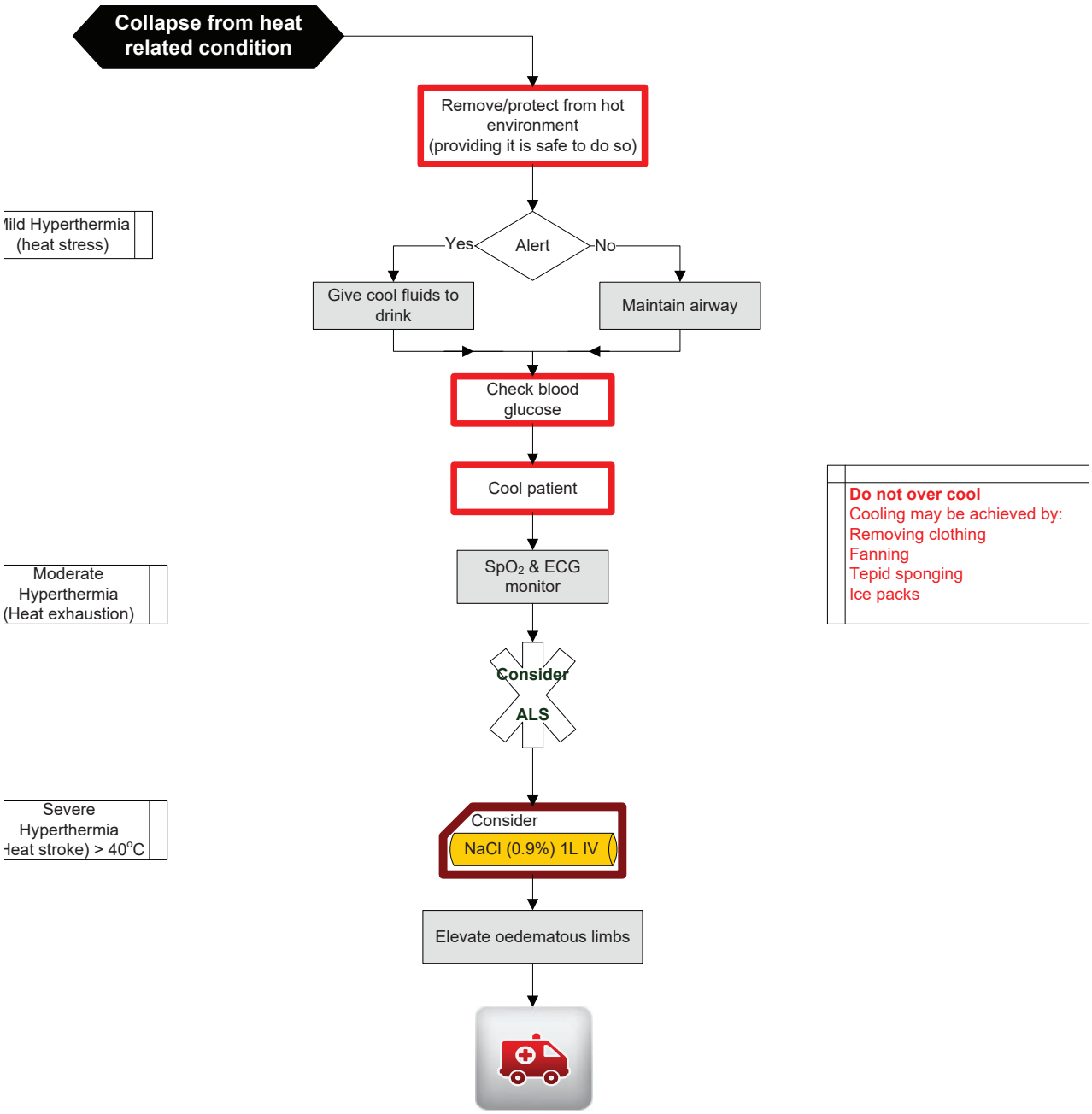


Pre-Hospital Emergency Care Council

Heat Related Emergency – Adult

4/5/6.9.2
Version 3, 01/2021

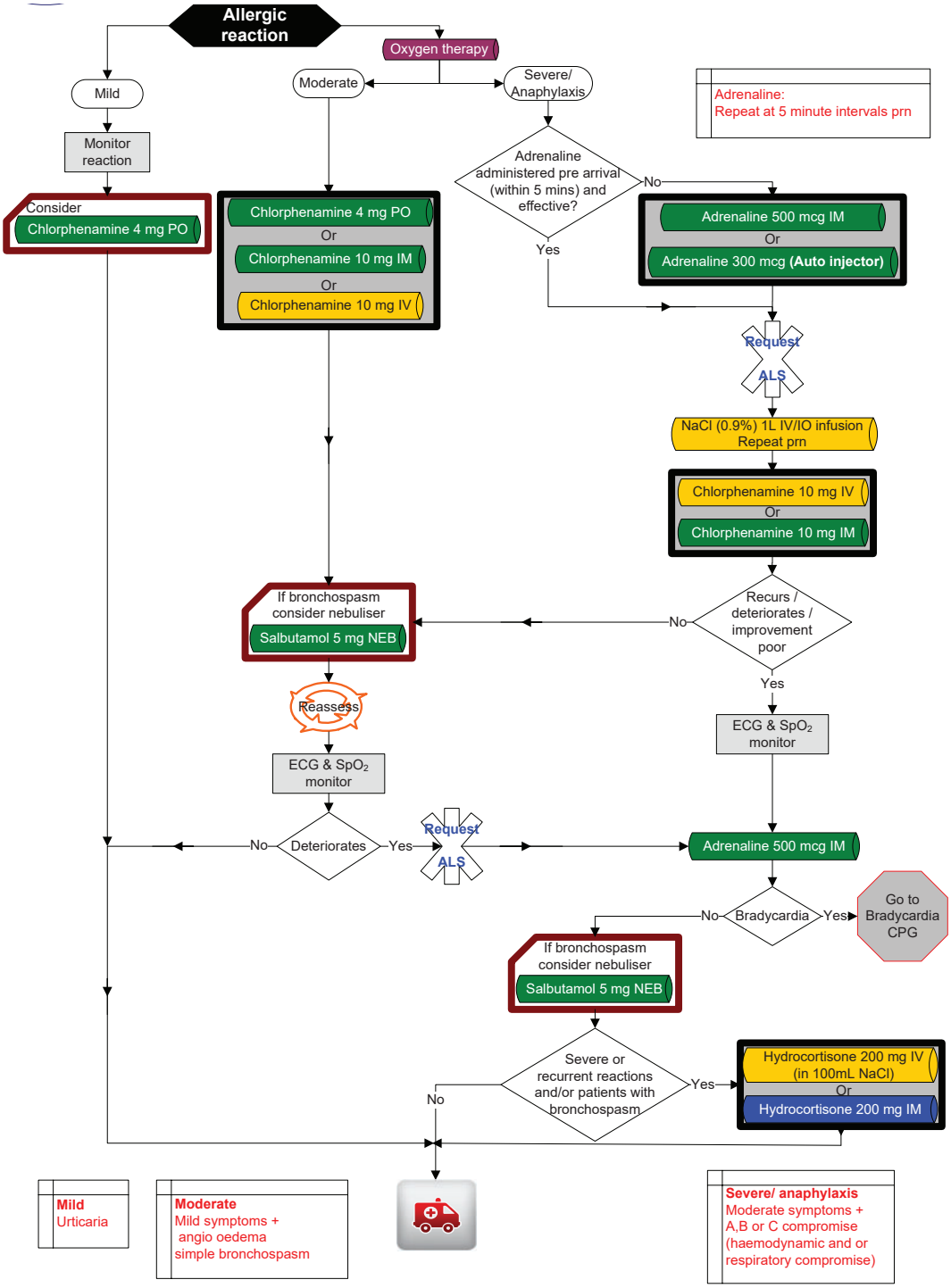
EMT P AP



Allergic Reaction/Anaphylaxis – Adult

4/5/6.10.1
Version 4, 03/2021

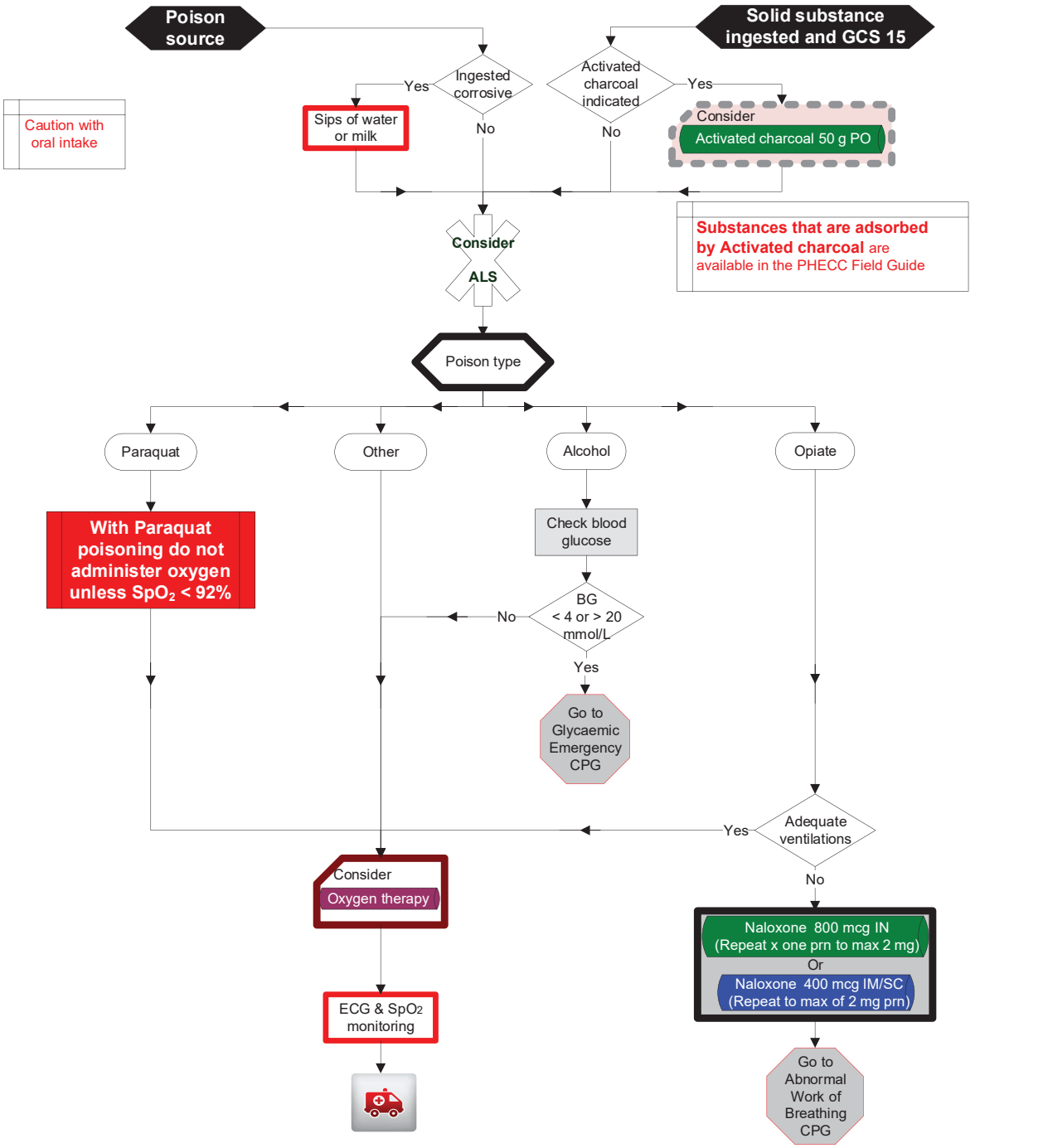
EMT P AP



Poisons - Adult

4/5.10.2
Version 5, 12/2020

EMT P

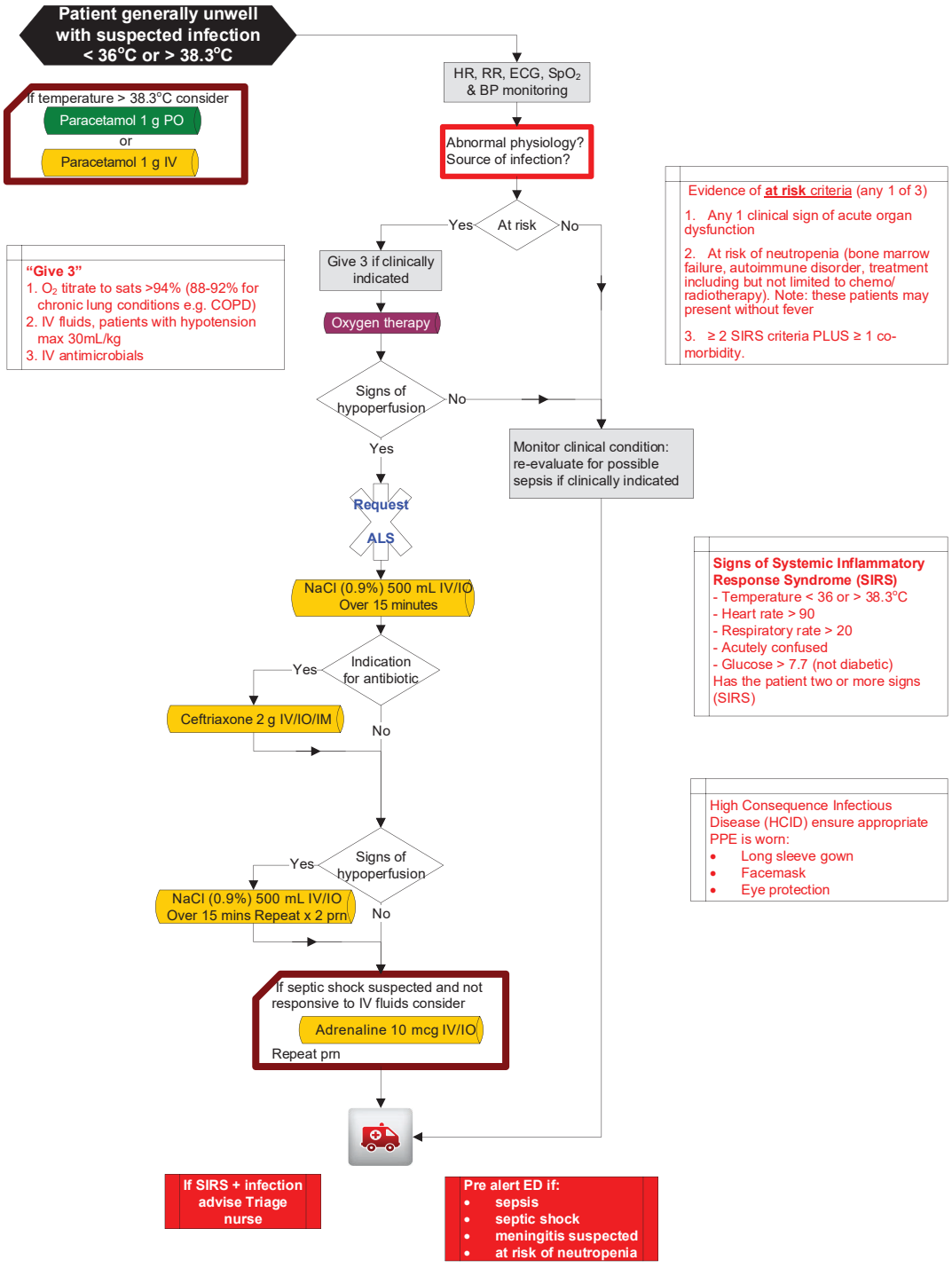


Pre-Hospital Emergency Care Council

Sepsis – Adult

4/5/6.11.1
Version 5, 03/2021

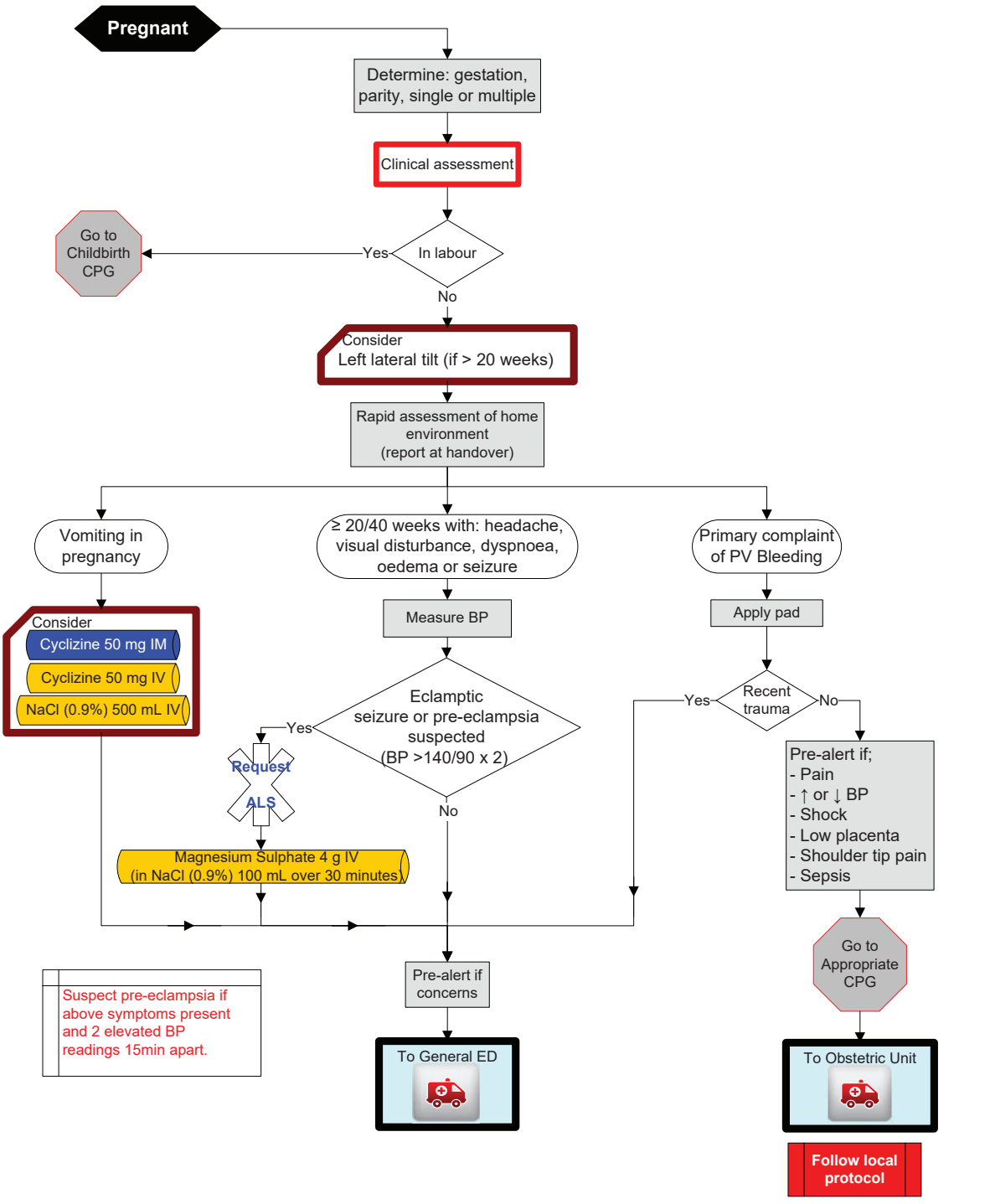
EMT P AP



Pregnancy Related Emergencies

4/5/6.12.1
Version 3, 01/2021

EMT P AP

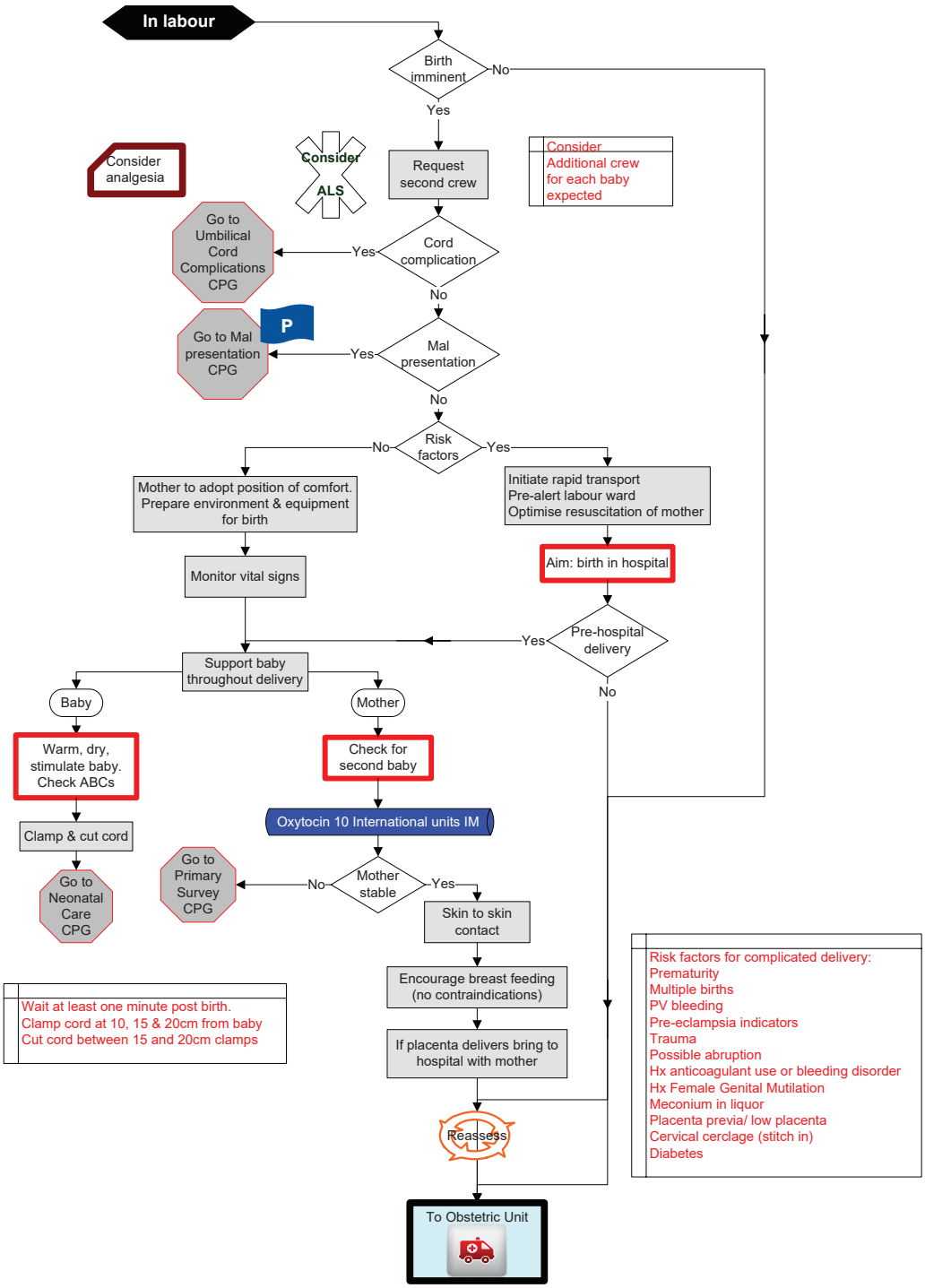


Pre-Hospital Emergency Care Council

Pre-Hospital Emergency Childbirth

4/5/6.12.2
Version 4, 01/2021

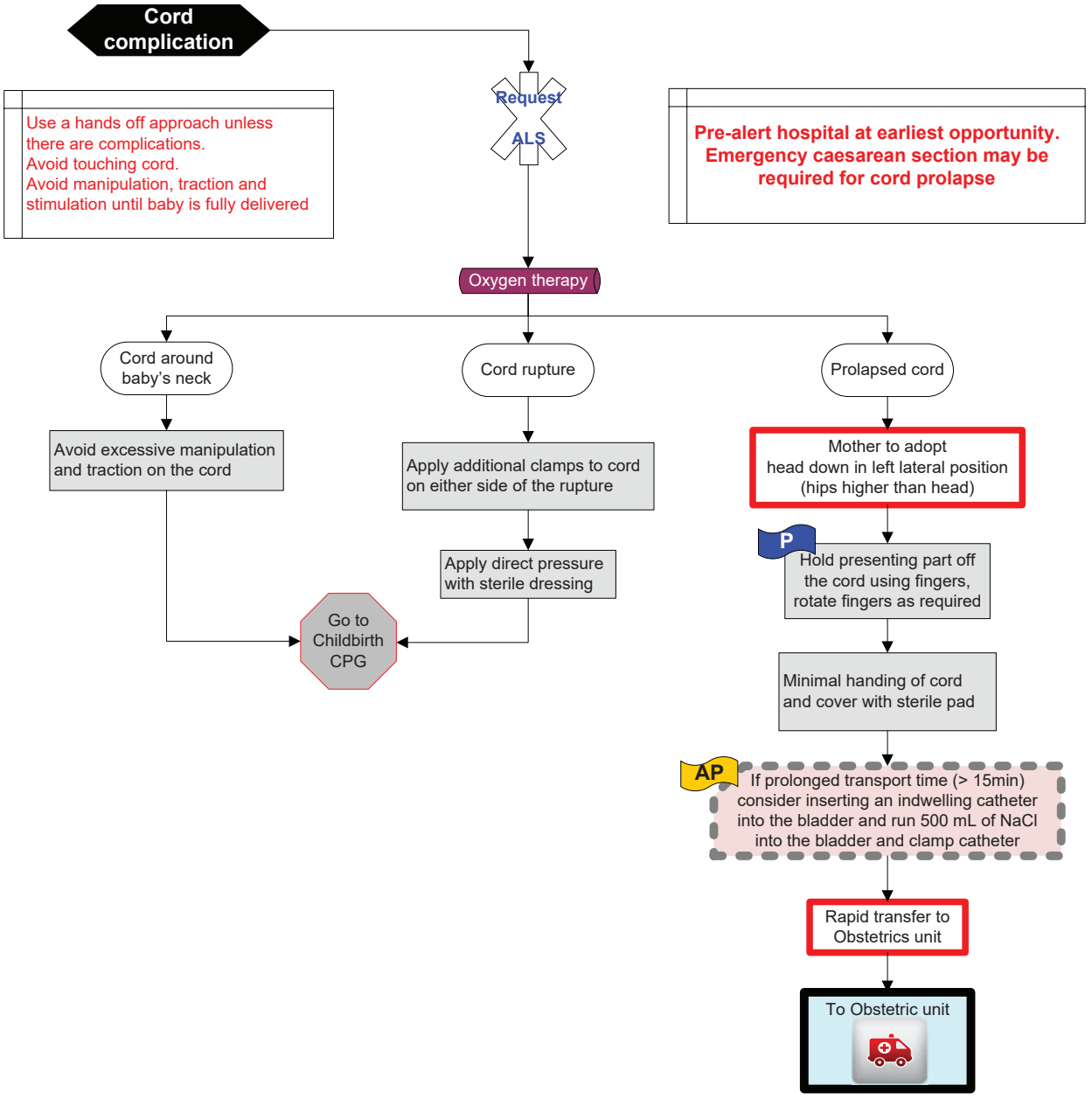
EMT P AP



Umbilical Cord Complications

4/5/6.12.5
Version 3, 01/2021

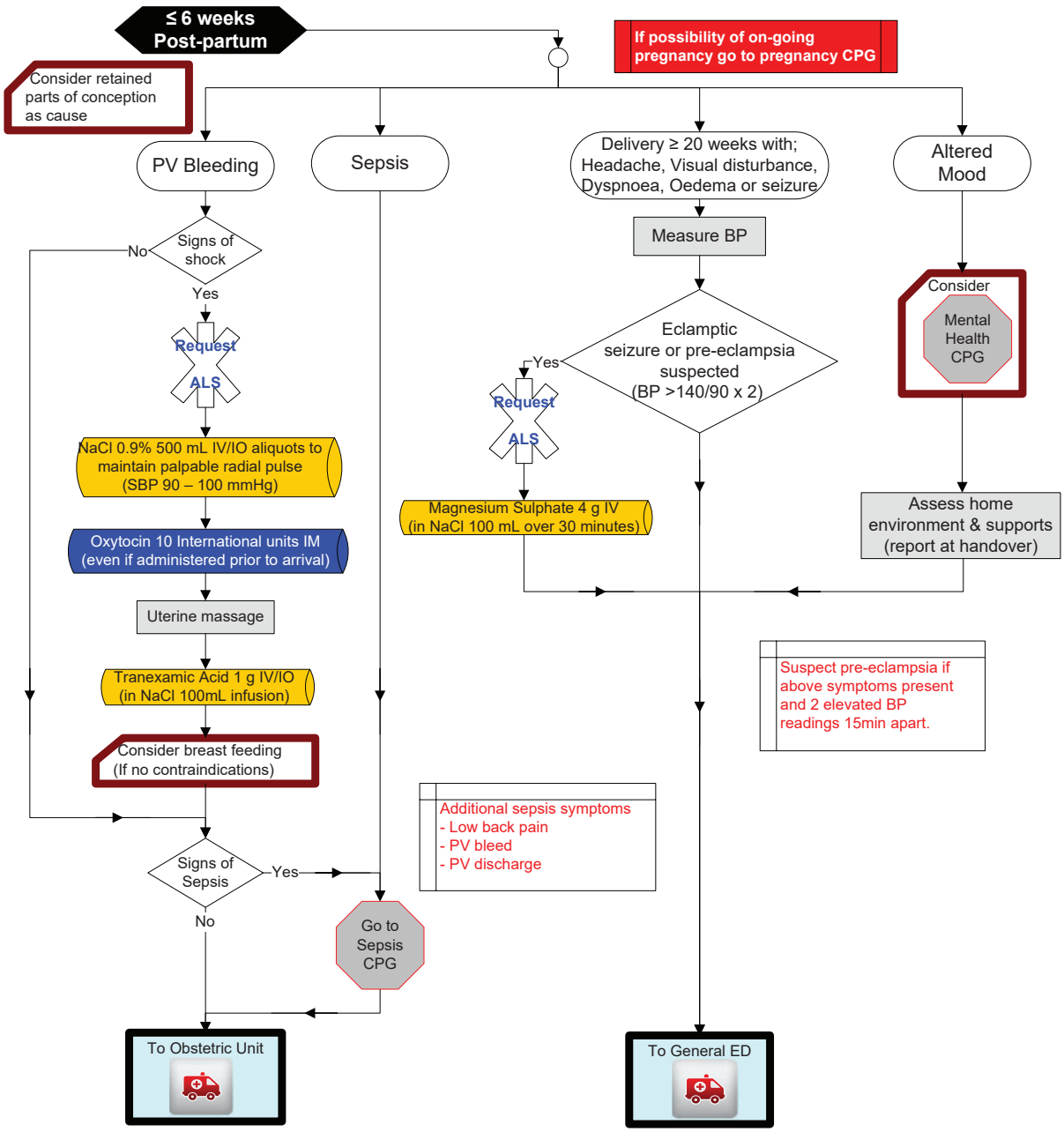
EMT P AP



Post Pregnancy Care
(Including miscarriage and abortion)

4/5/6.12.6
Version 4, 01/2021

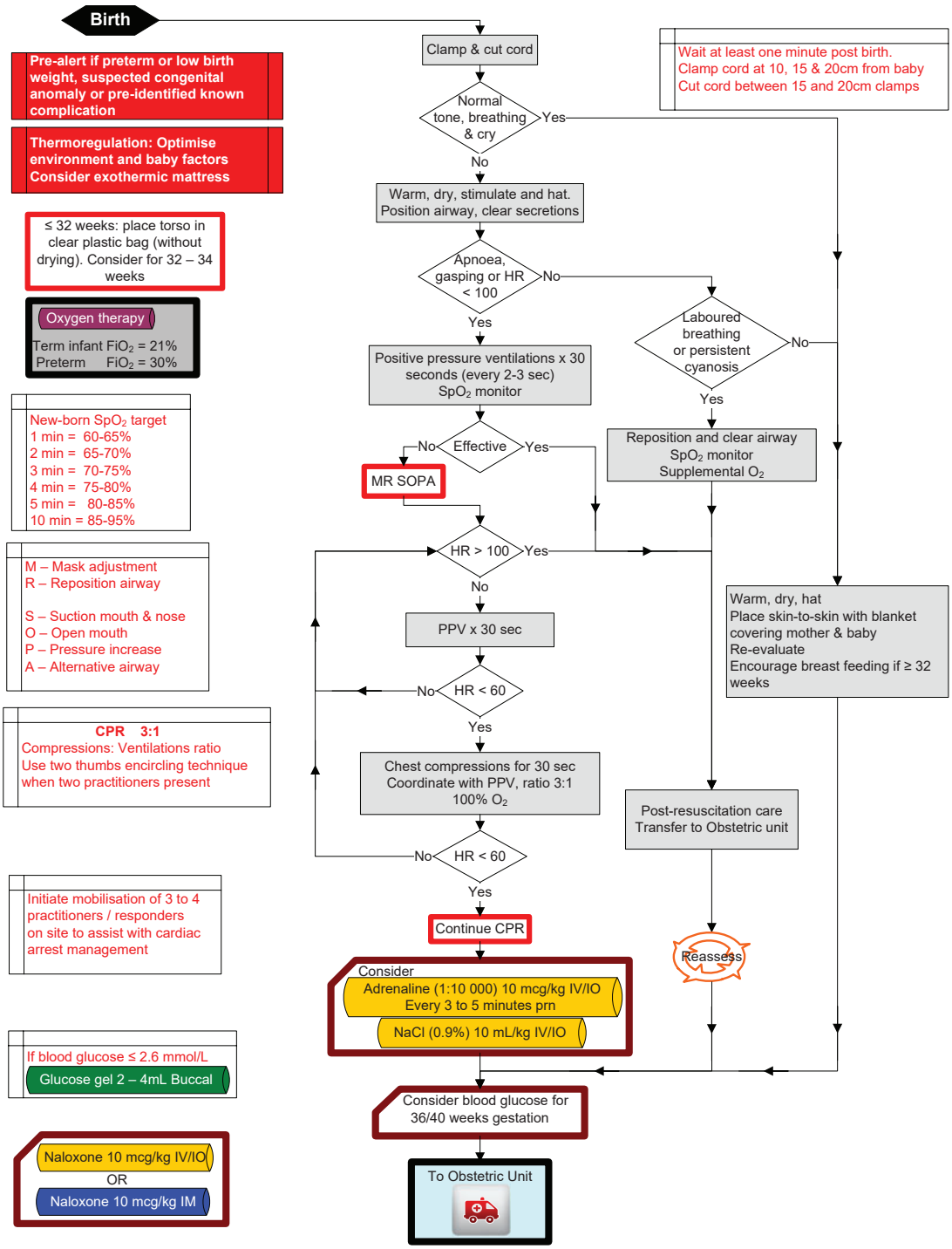
EMT P AP



New-born Neonatal Care and Resuscitation

4/5/6.12.7
Version 5, 04/2021

EMT P AP

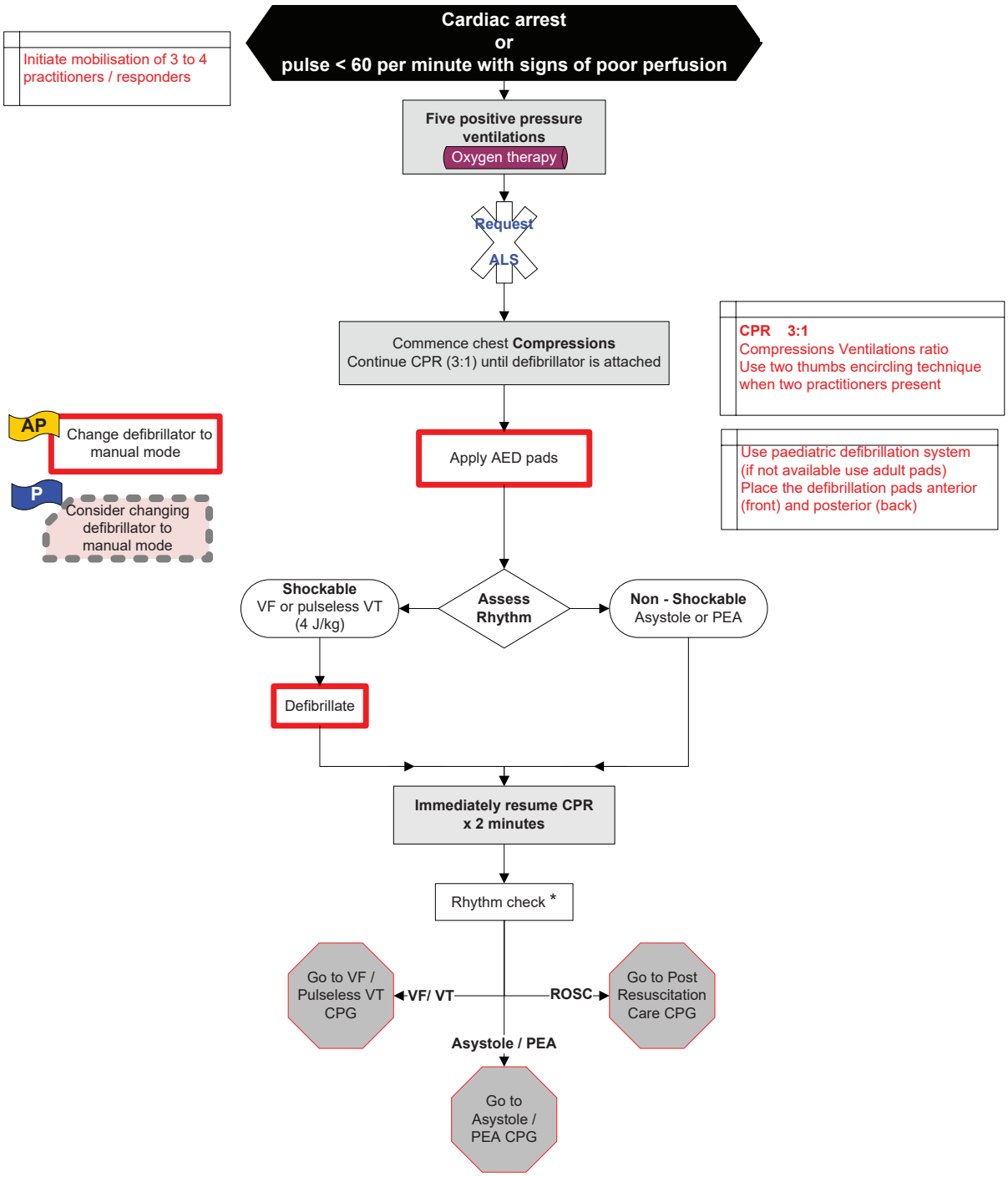


Pre-Hospital Emergency Care Council

Neonatal Resuscitation (≤ 6 weeks)

4/5/6.12.8
Version 1, 01/2021

EMT P AP

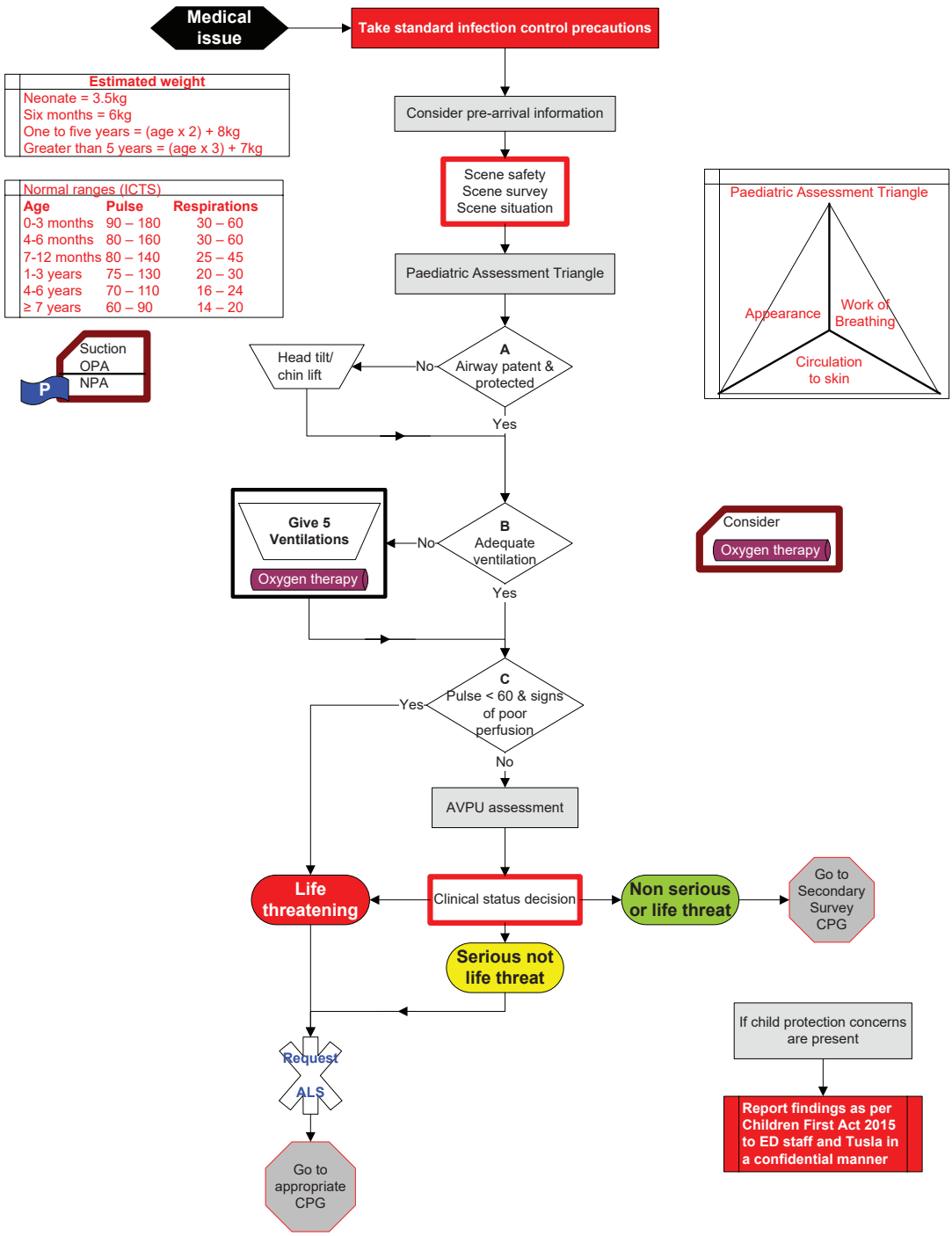


Pre-Hospital Emergency Care Council

Primary Survey Medical – Paediatric

4/5/6.13.1
Version 7, 01/2021

EMT P AP

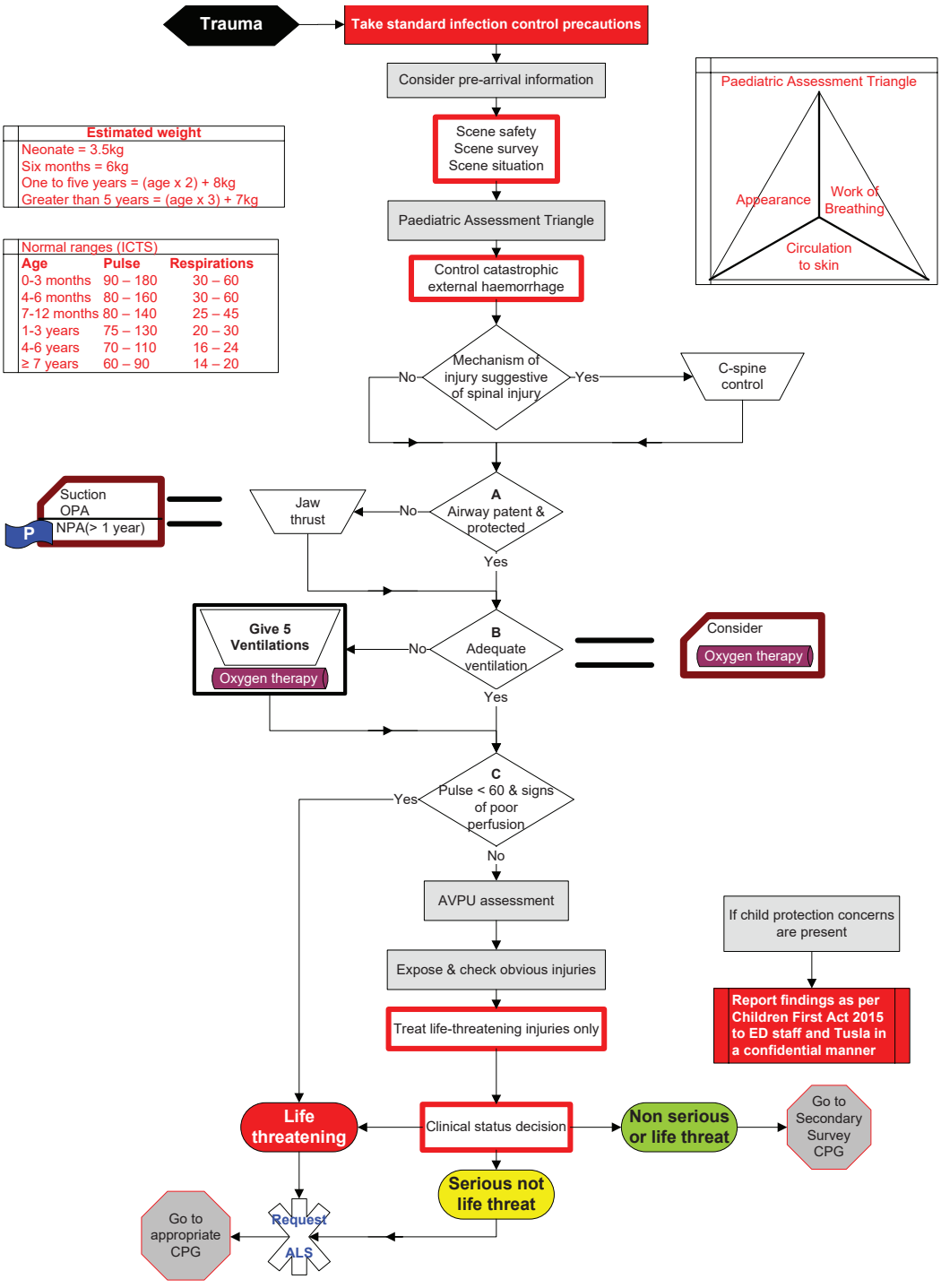


Pre-Hospital Emergency Care Council

Primary Survey Trauma – Paediatric

4/5/6.13.2
Version 7, 01/2021

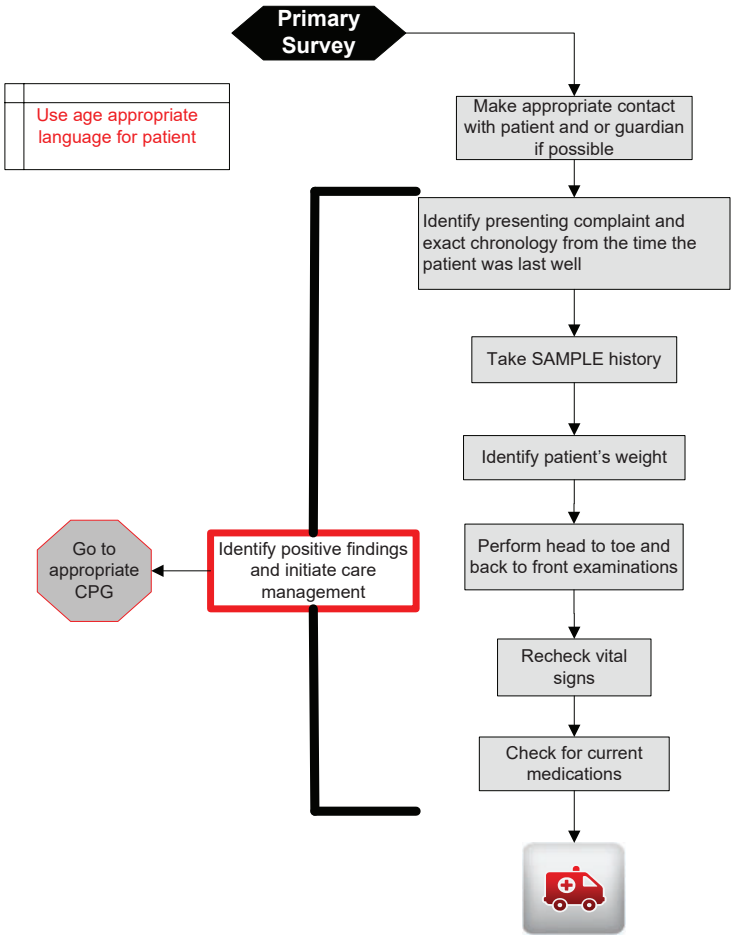
EMT P AP



Secondary Survey – Paediatric

4/5/6.13.4
Version 5, 01/2021

EMT P AP



Use age appropriate language for patient

Normal ranges (ICTS)

Age	Pulse	Respirations
0-3 months	90 – 180	30 – 60
4-6 months	80 – 160	30 – 60
7-12 months	80 – 140	25 – 45
1-3 years	75 – 130	20 – 30
4-6 years	70 – 110	16 – 24
≥ 7 years	60 – 90	14 – 20

Estimated weight

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

Children and adolescents should always be examined with a chaperone (usually a parent) where possible

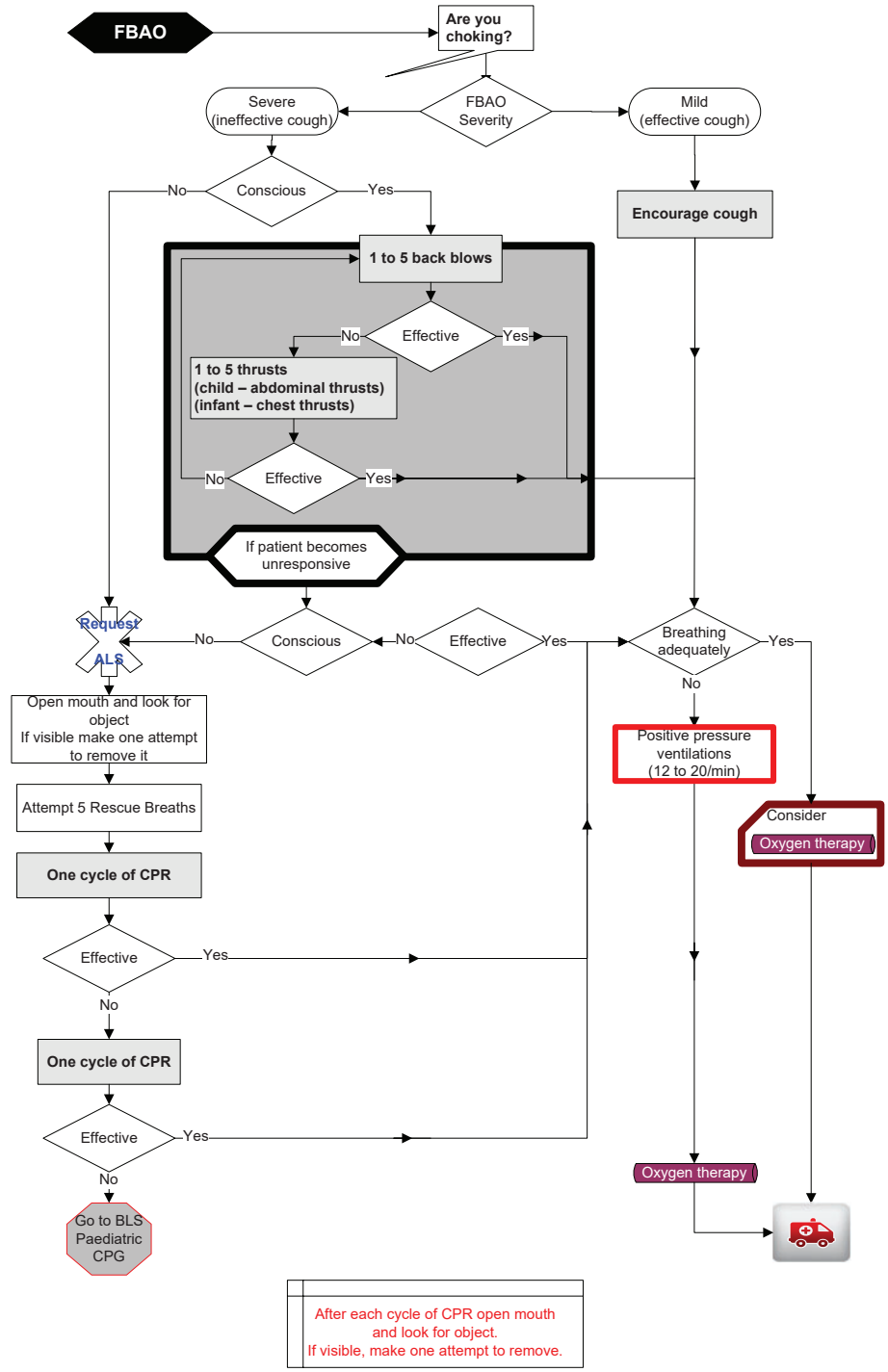
If child protection concerns are present

Report findings as per Children First Act 2015 to ED staff and Tusla in a confidential manner

Foreign Body Airway Obstruction – Paediatric

4/5.13.5
Version 4, 03/2021

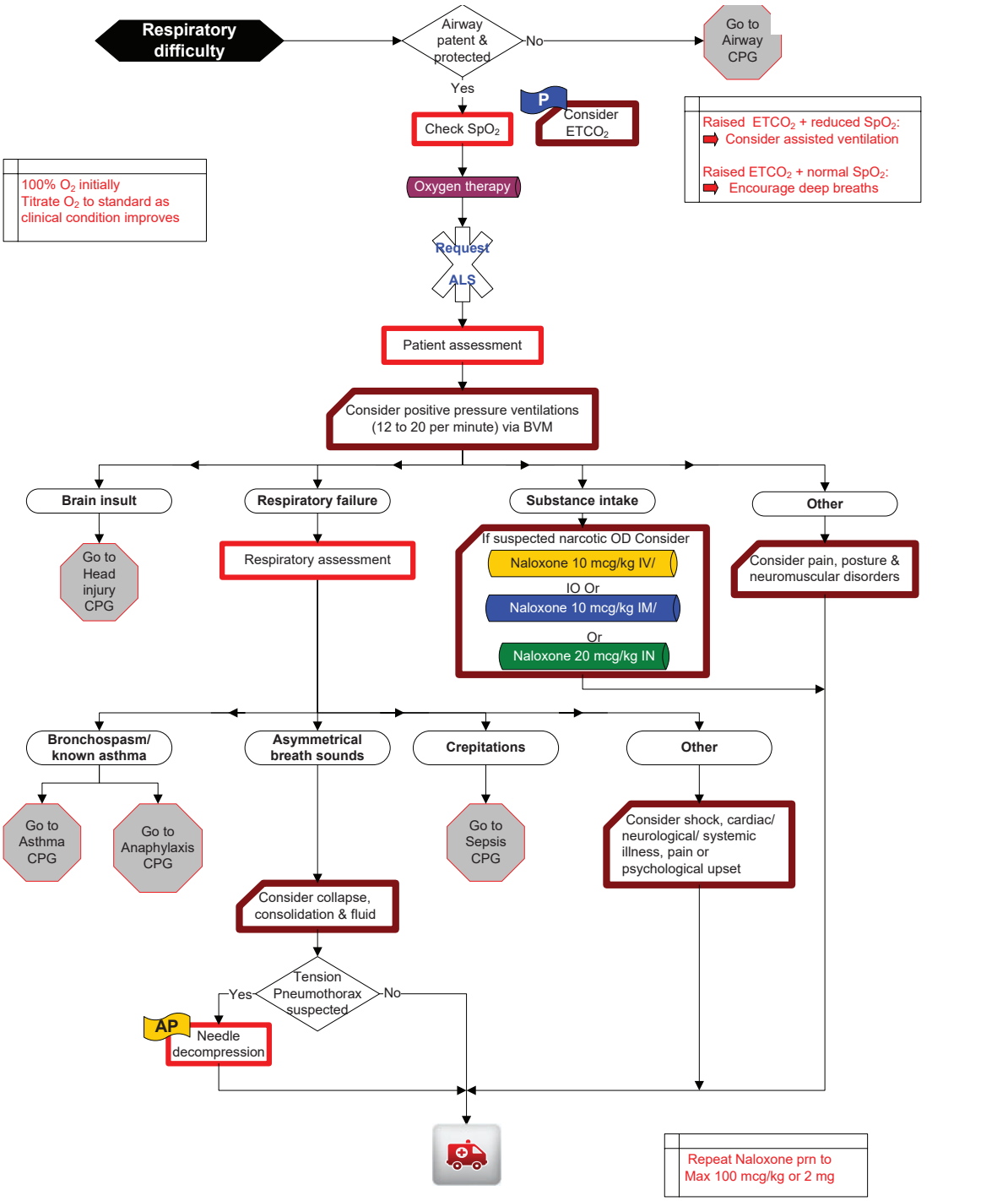
EMT P CFR-A



Abnormal Work of Breathing - Paediatric

4/5/6.13.7
Version 4, 03/2021

EMT P AP

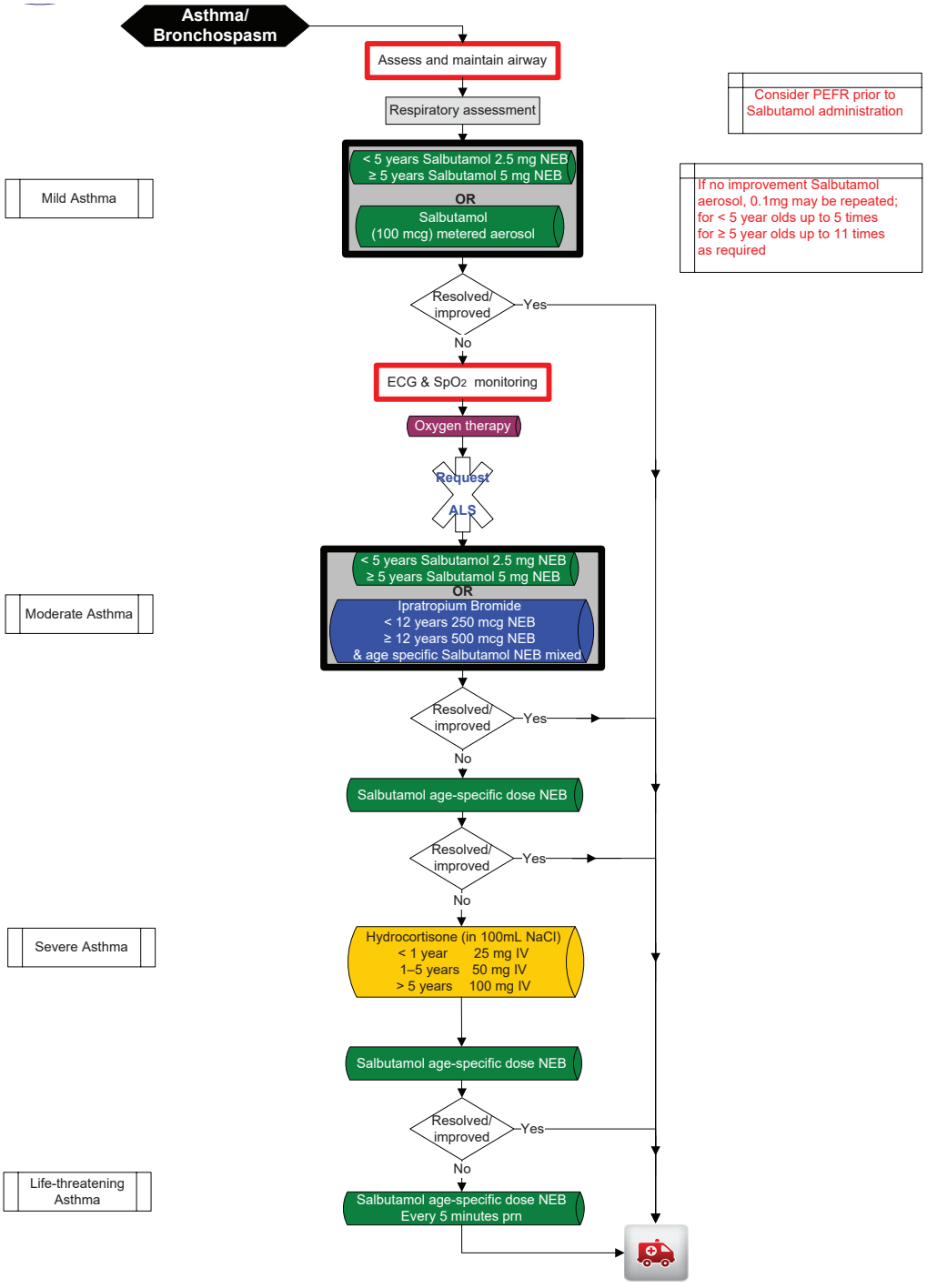


Pre-Hospital Emergency Care Council

Asthma – Paediatric

4/5/6.13.8
Version 4, 01/2021

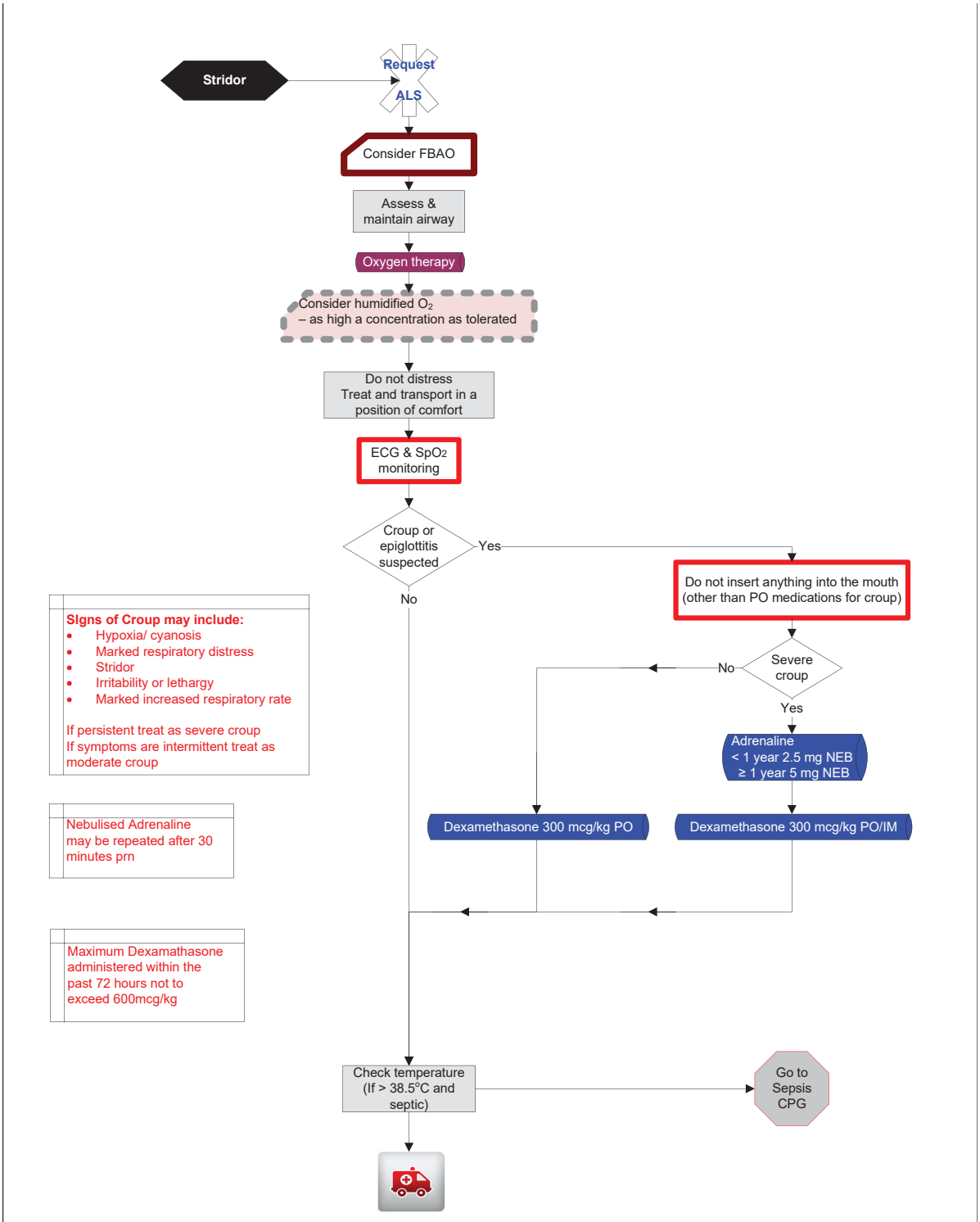
EMT P CFR-A



Stridor – Paediatric

4/5/6.13.9
Version 5, 01/2021

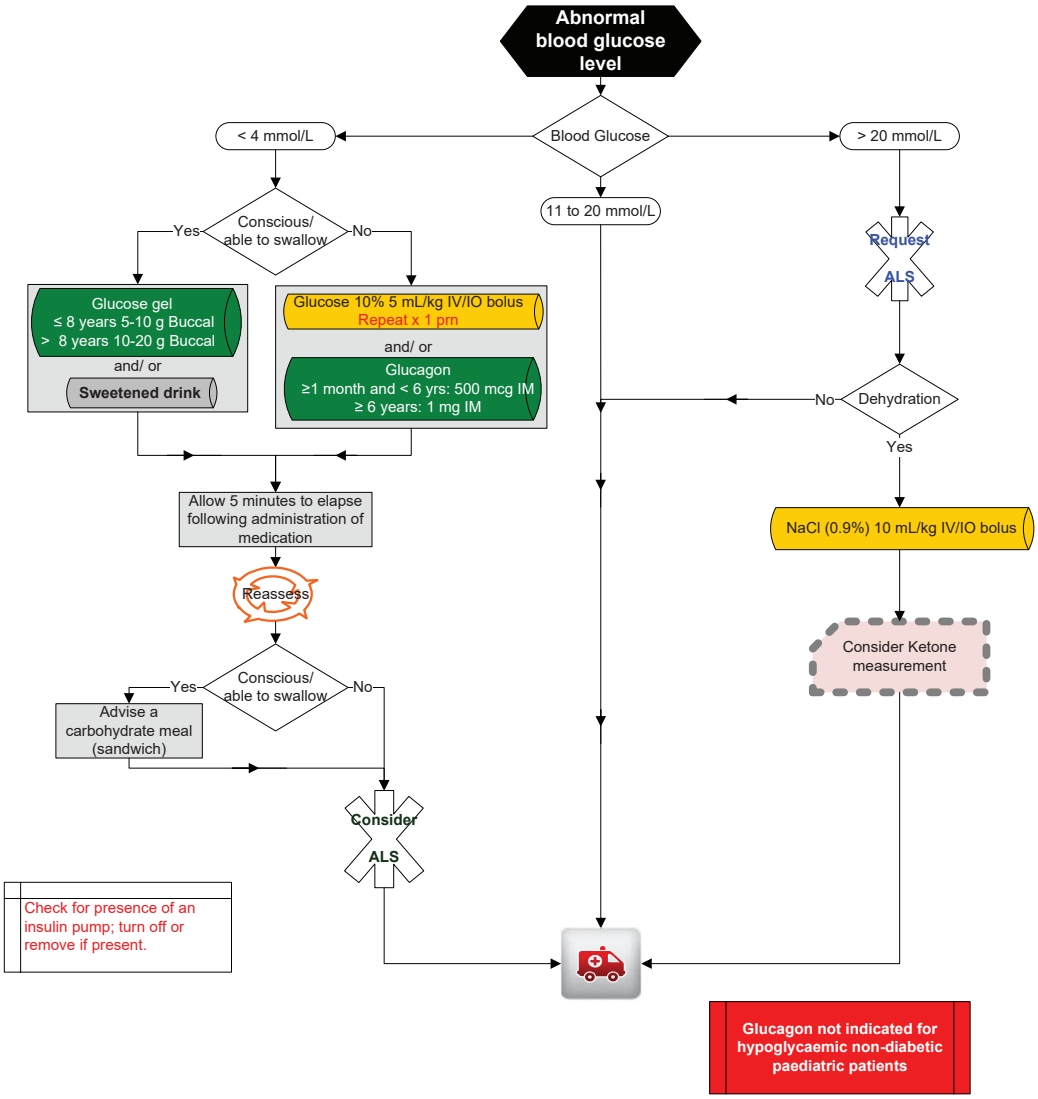
EMT P AP



Glycaemic Emergency – Paediatric

4/5/6.13.11
Version 6, 01/2021

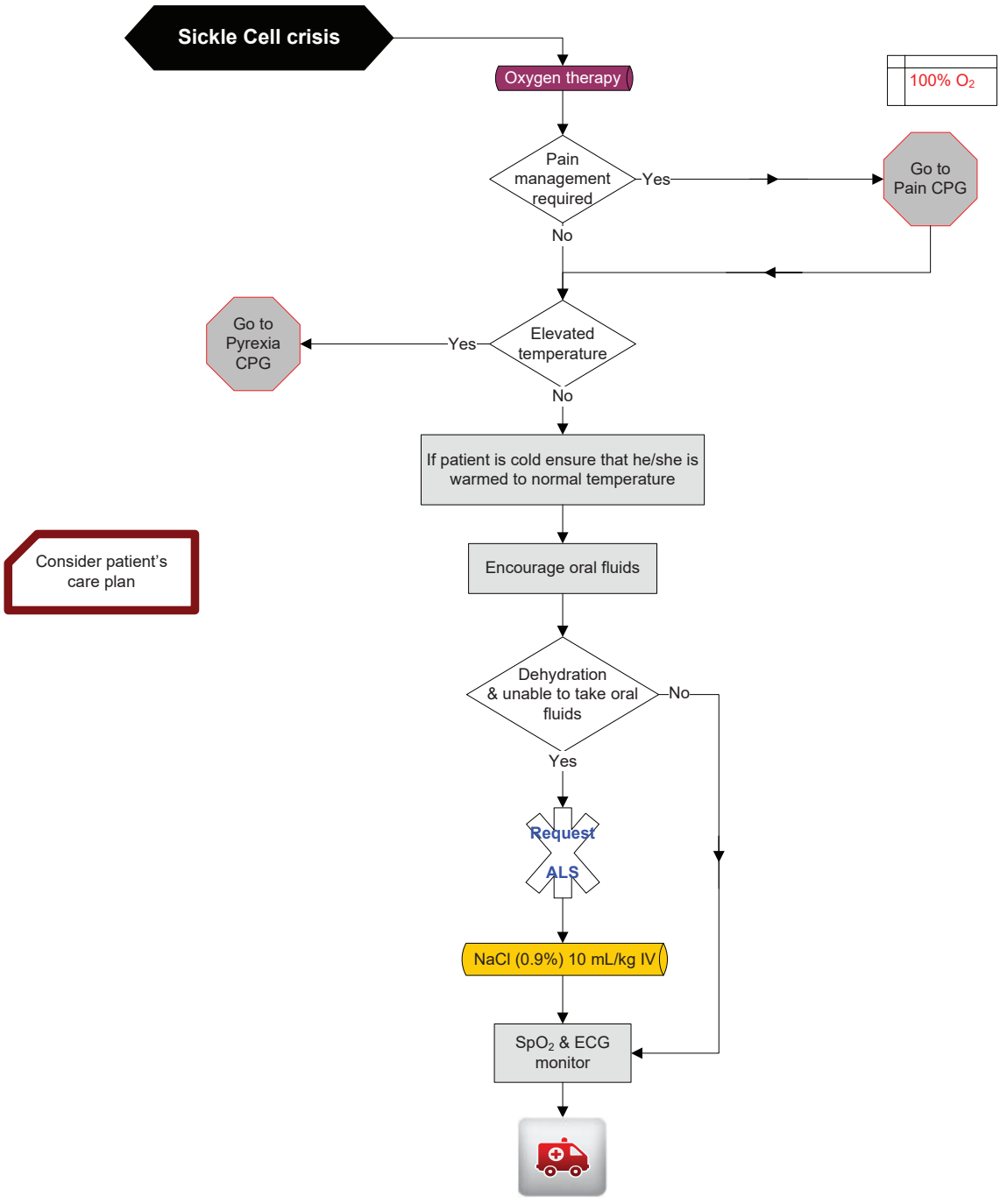
EMT P AP



Sickle Cell Crisis – Paediatric

4/5/6.13.12
Version 2, 01/2021

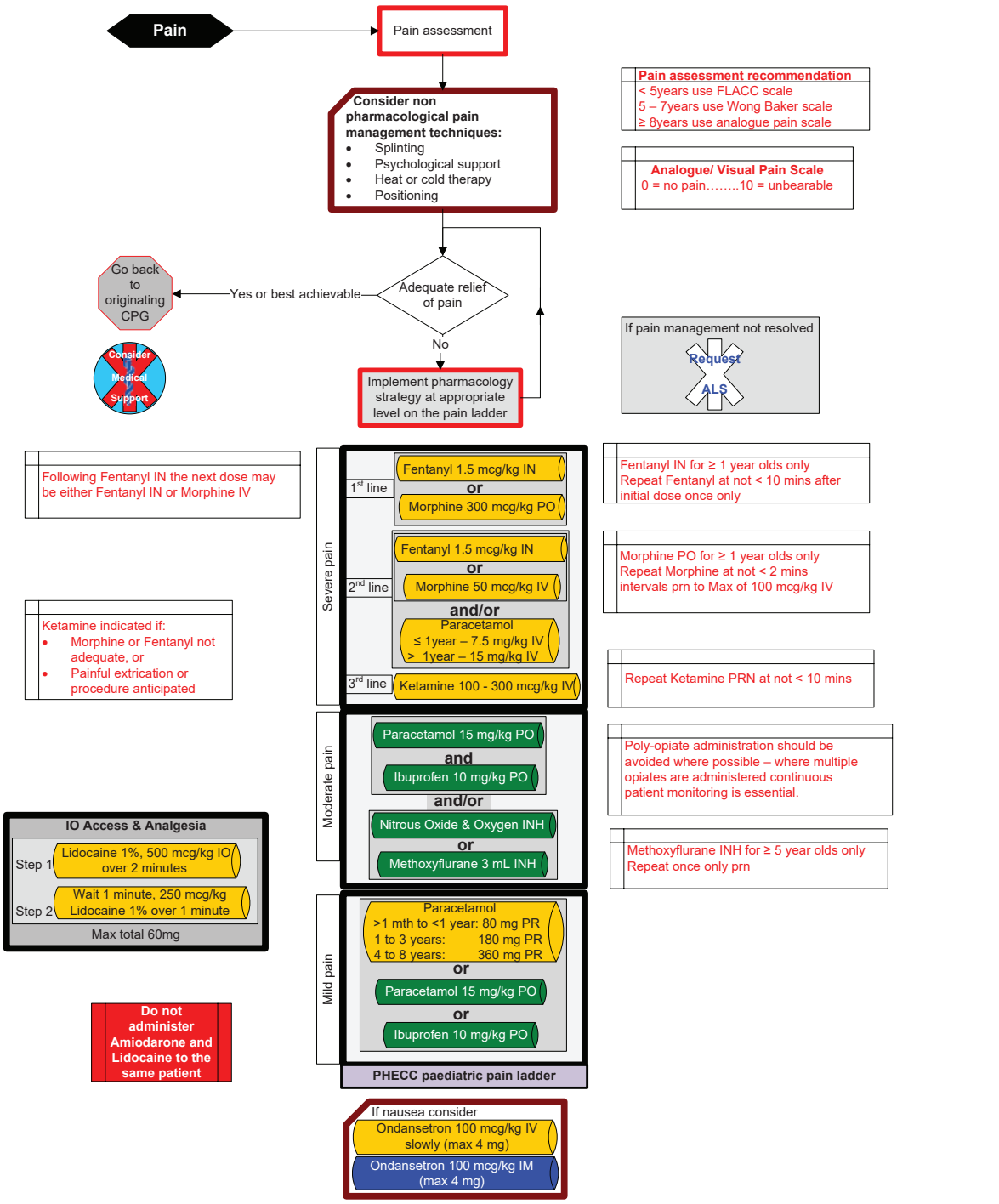
EMT P AP



Pain Management – Paediatric

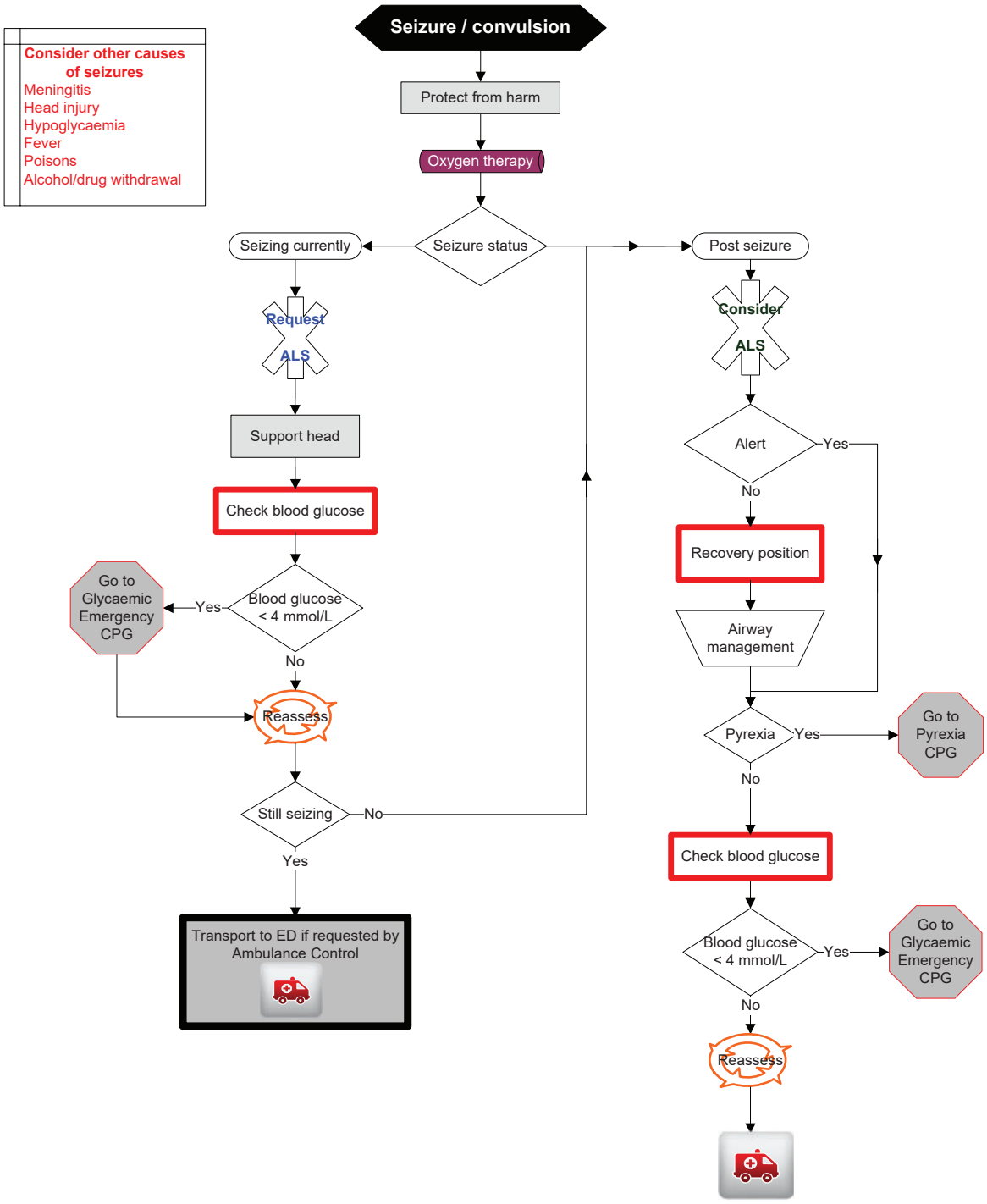
4/5/6.13.13
Version 9, 03/2021

EMT P AP



Seizure/Convulsion – Paediatric

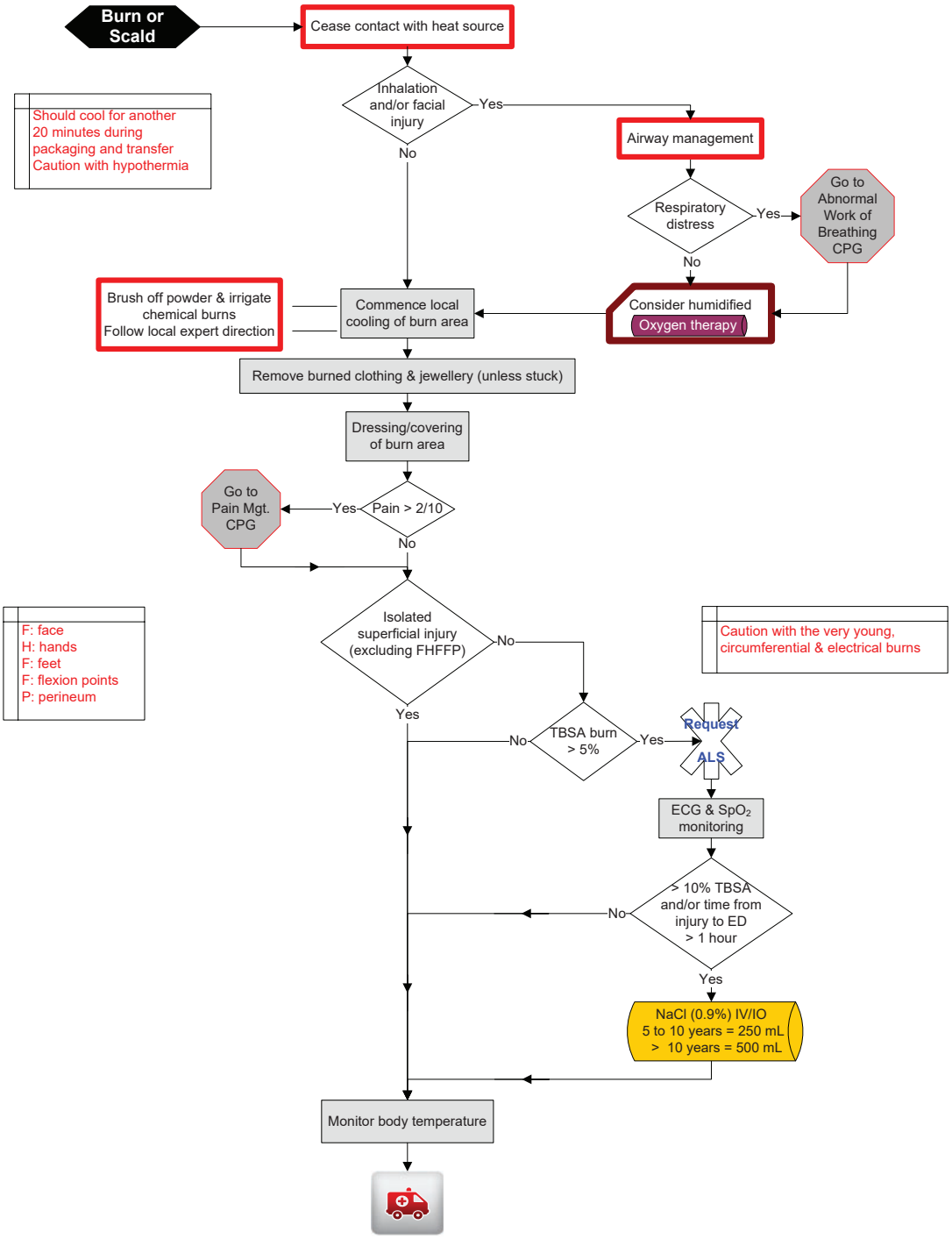
4.13.14
Version 4, 12/2020
EMT



Burns – Paediatric

4/5/6.13.15
Version 4, 01/2021

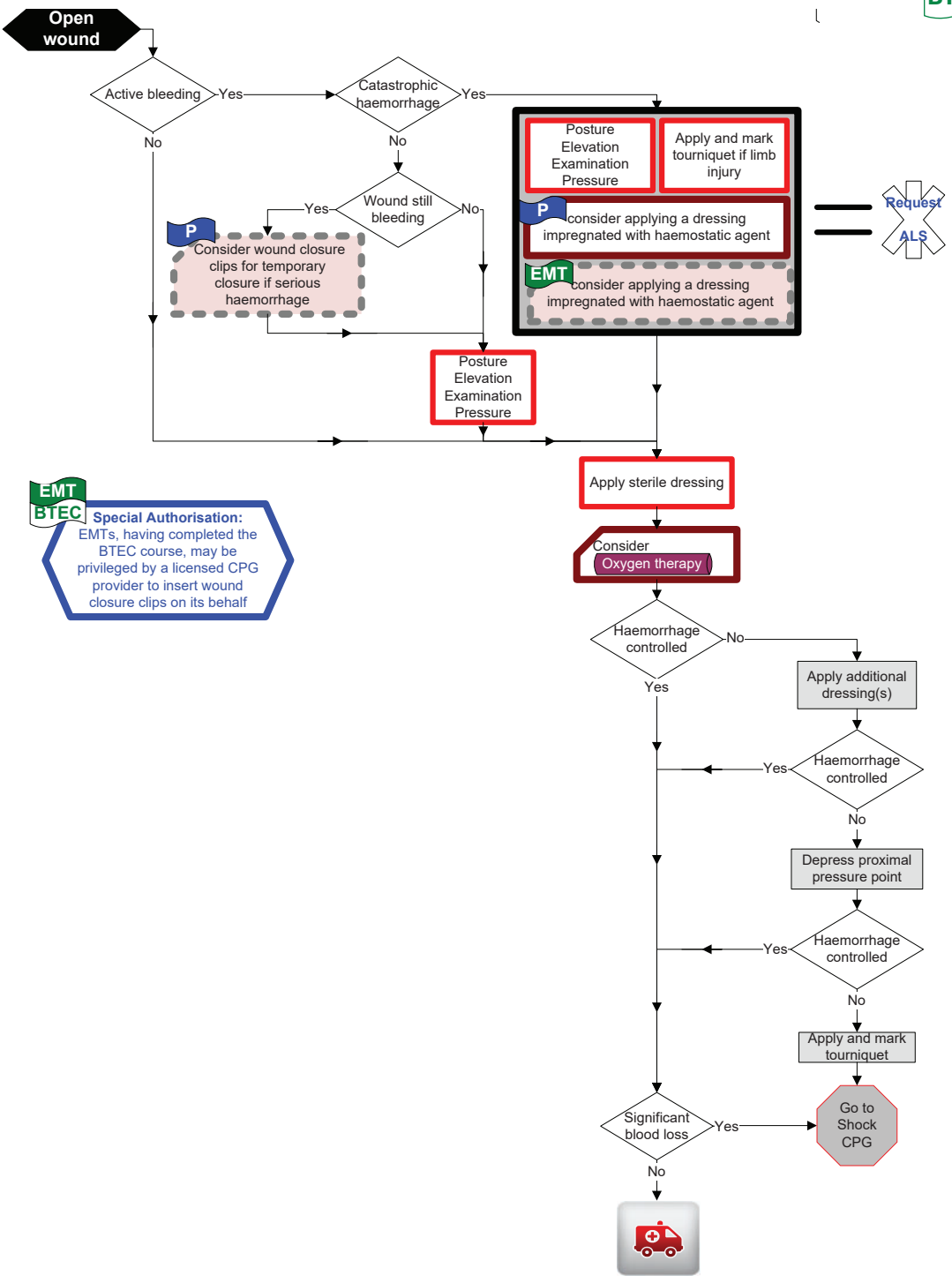
EMT P AP



External Haemorrhage – Paediatric

4/5/6.13.16
Version 5, 01/2021

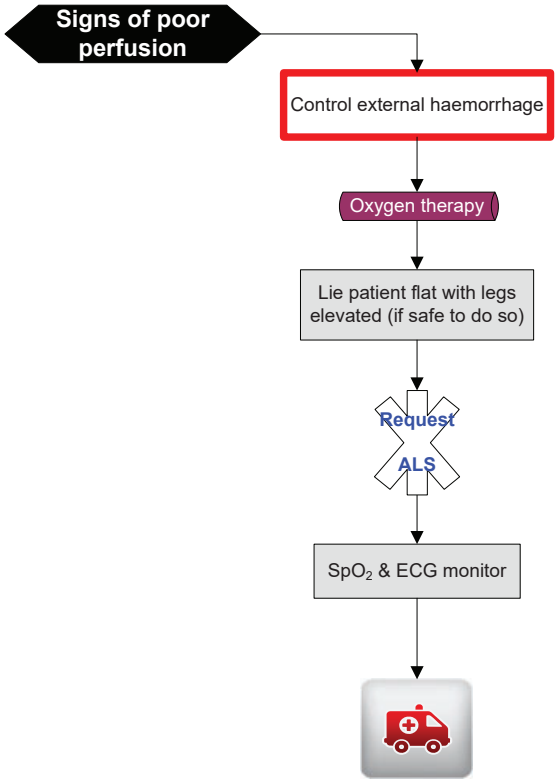
EMT P BTEC AP



Shock from Blood Loss – Paediatric

4.13.17
Version 3, 12/2020

EMT

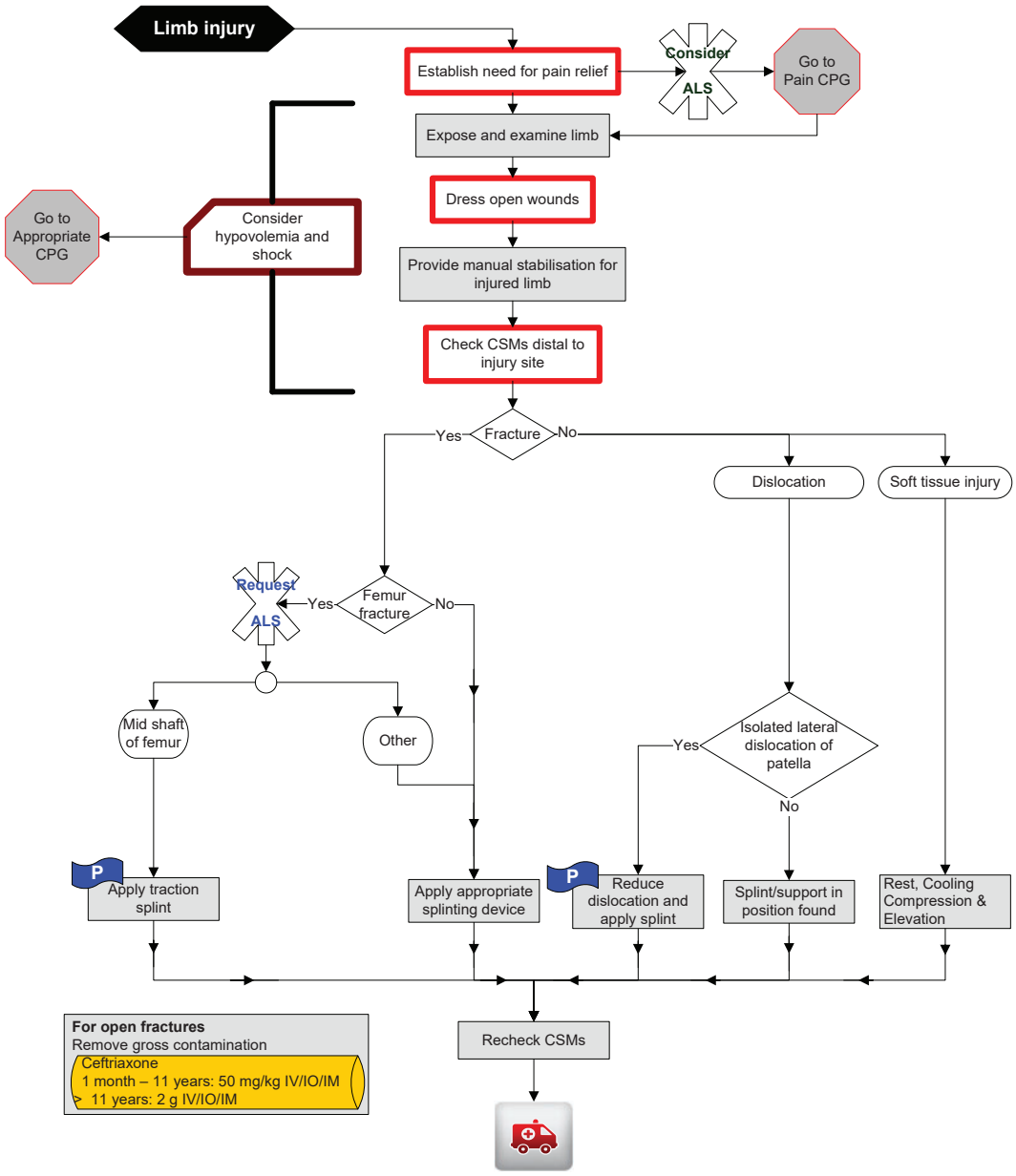


	Signs of inadequate perfusion
	A: (not directly affected)
	B: Increased respiratory rate (without increased effort)
	C: Tachycardia
	Diminished/absent peripheral pulses
	Delayed capillary refill
	D: Irritability/ confusion / ALoC
	E: Cool extremities, mottling

Limb Injury – Paediatric

4/5/6.13.18
Version 1, 04/2021

EMT P AP

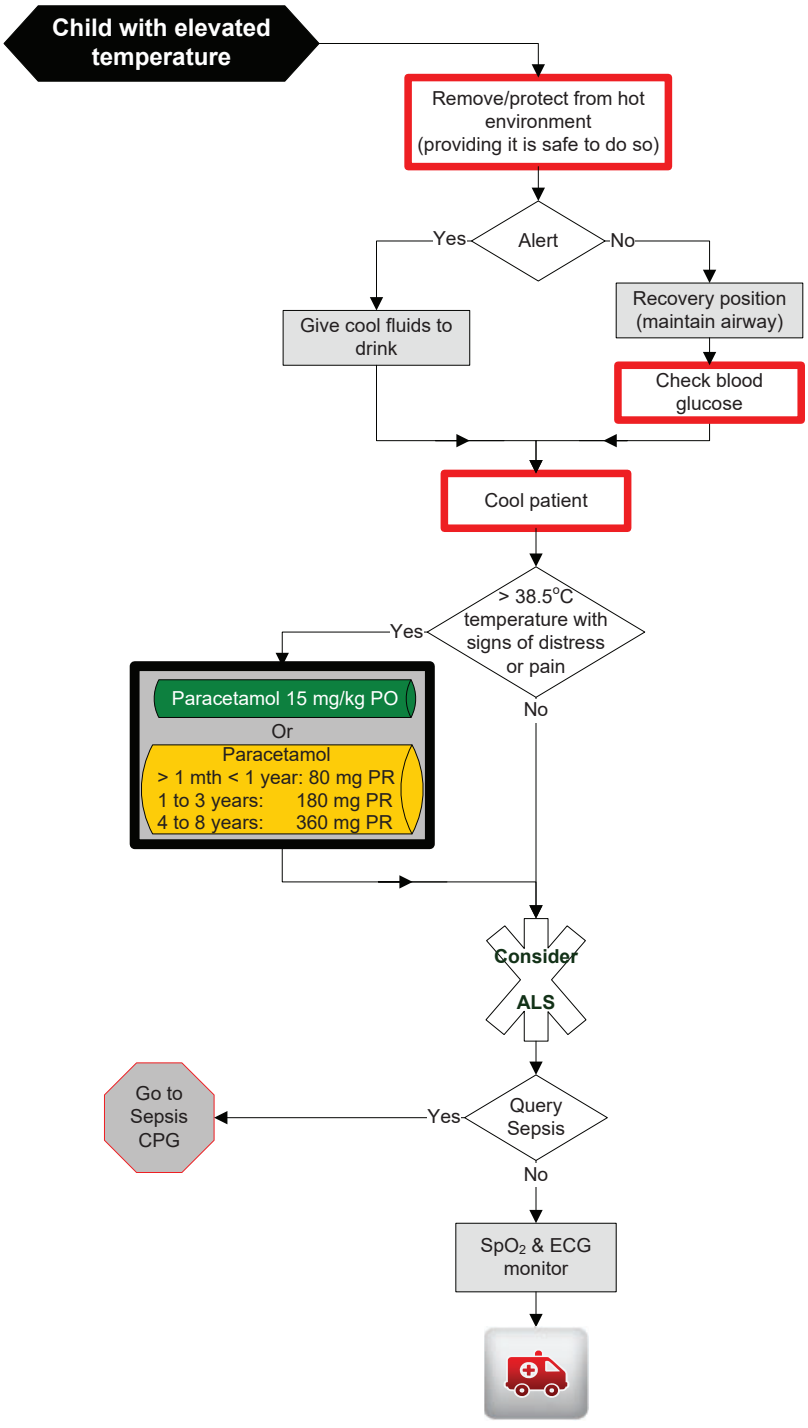


For a limb threatening injury treat as an emergency and pre-alert ED

Pyrexia – Paediatric

4/5/6.13.19
Version 3, 01/2021

EMT P AP

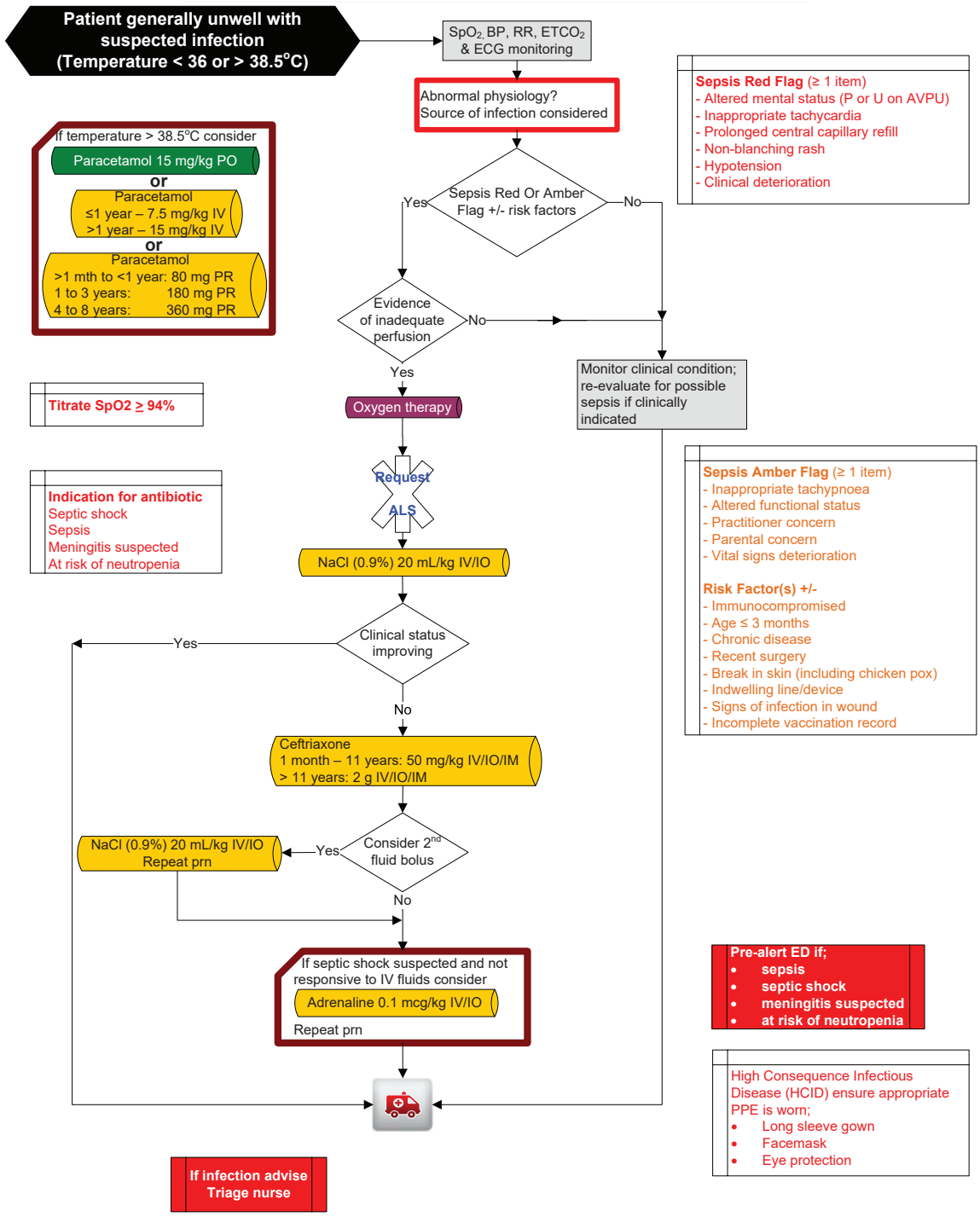


Pre-Hospital Emergency Care Council

Sepsis – Paediatric

4/5/6.13.20
Version 5, 03/2021

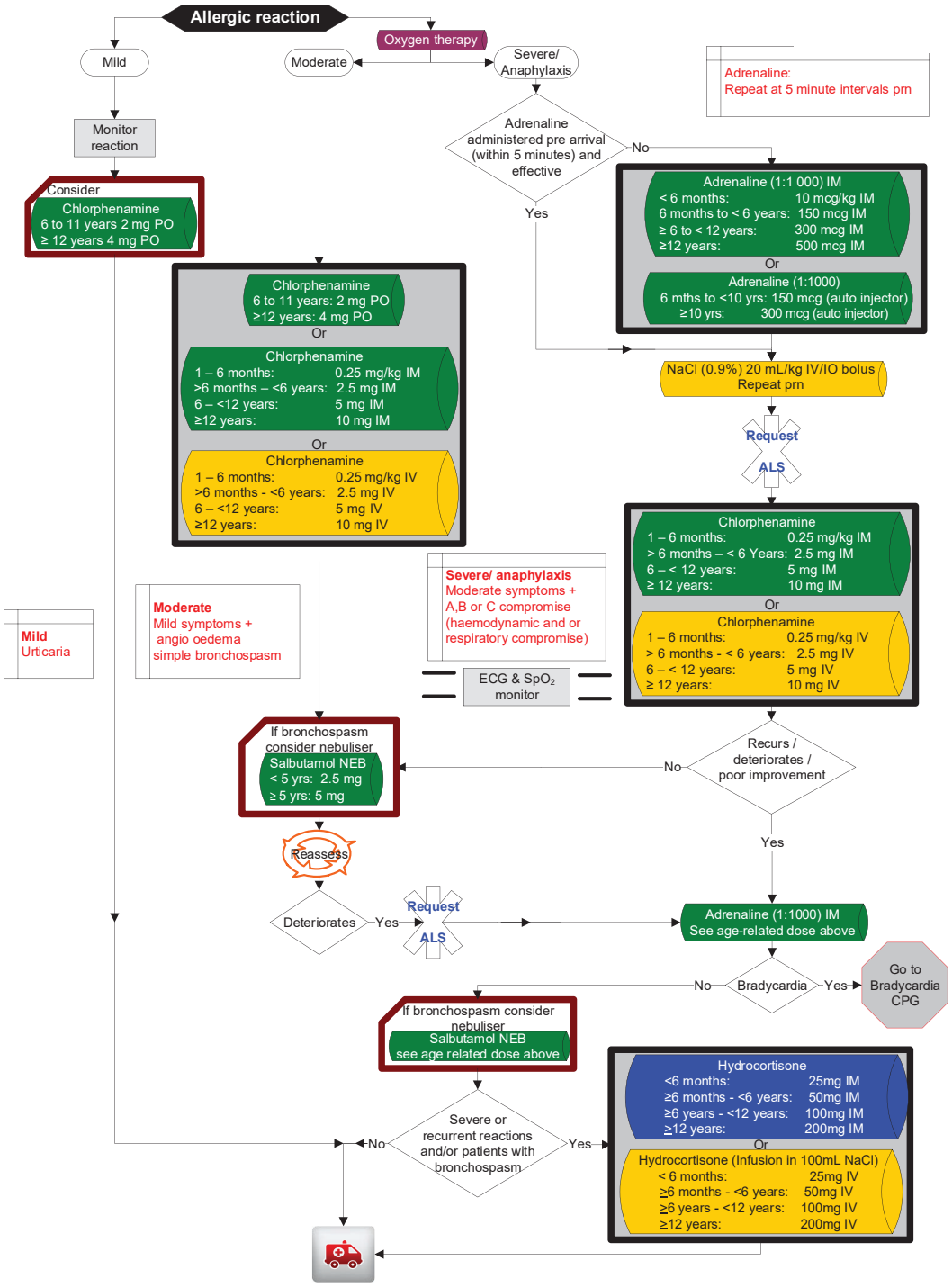
EMT P AP



Allergic Reaction/Anaphylaxis – Paediatric

4/5/6.13.21
Version 5, 04/2021

EMT P AP

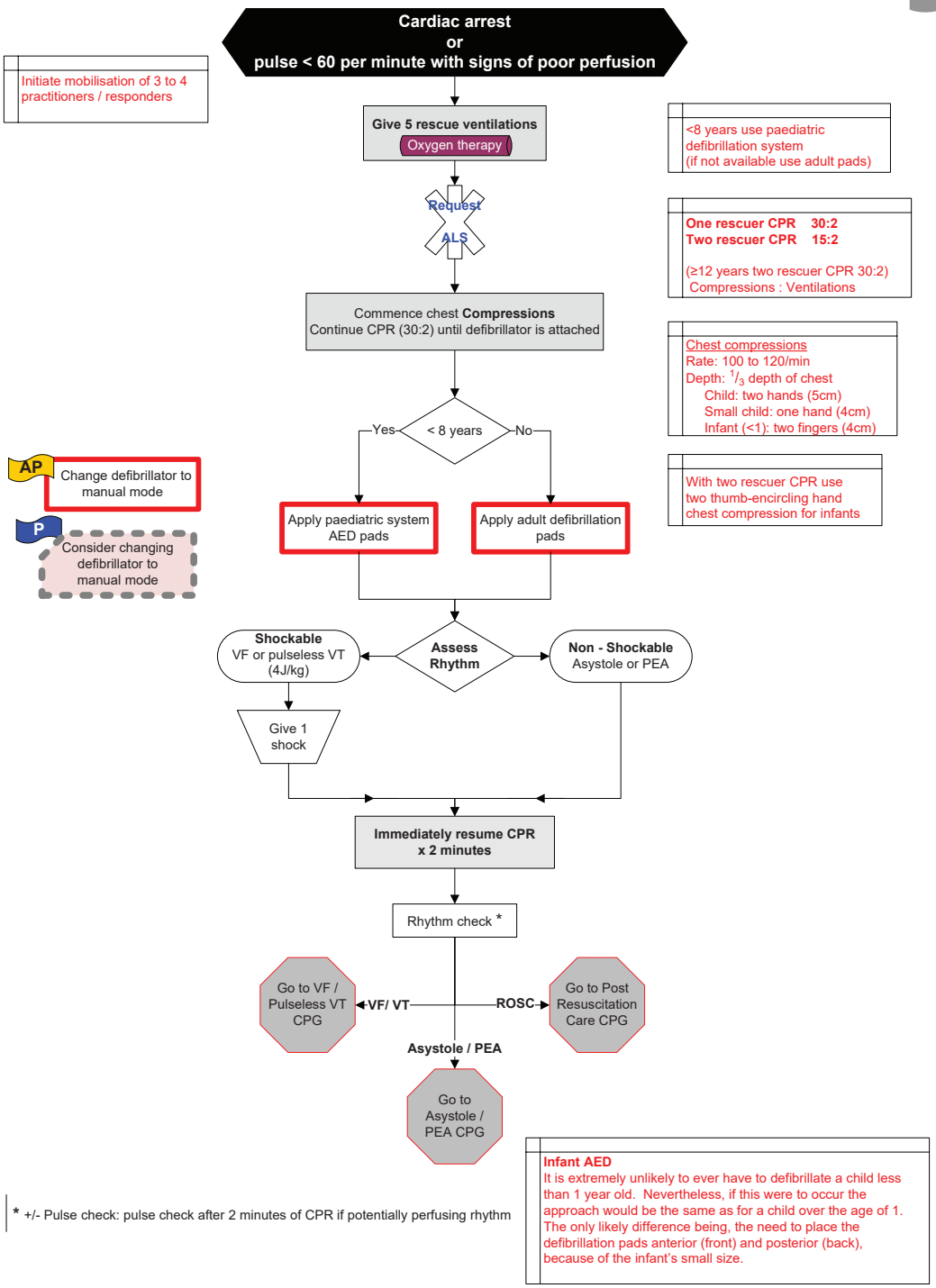


Pre-Hospital Emergency Care Council

Basic Life Support – Paediatric

4/5/6.13.22
Version 5, 02/2021

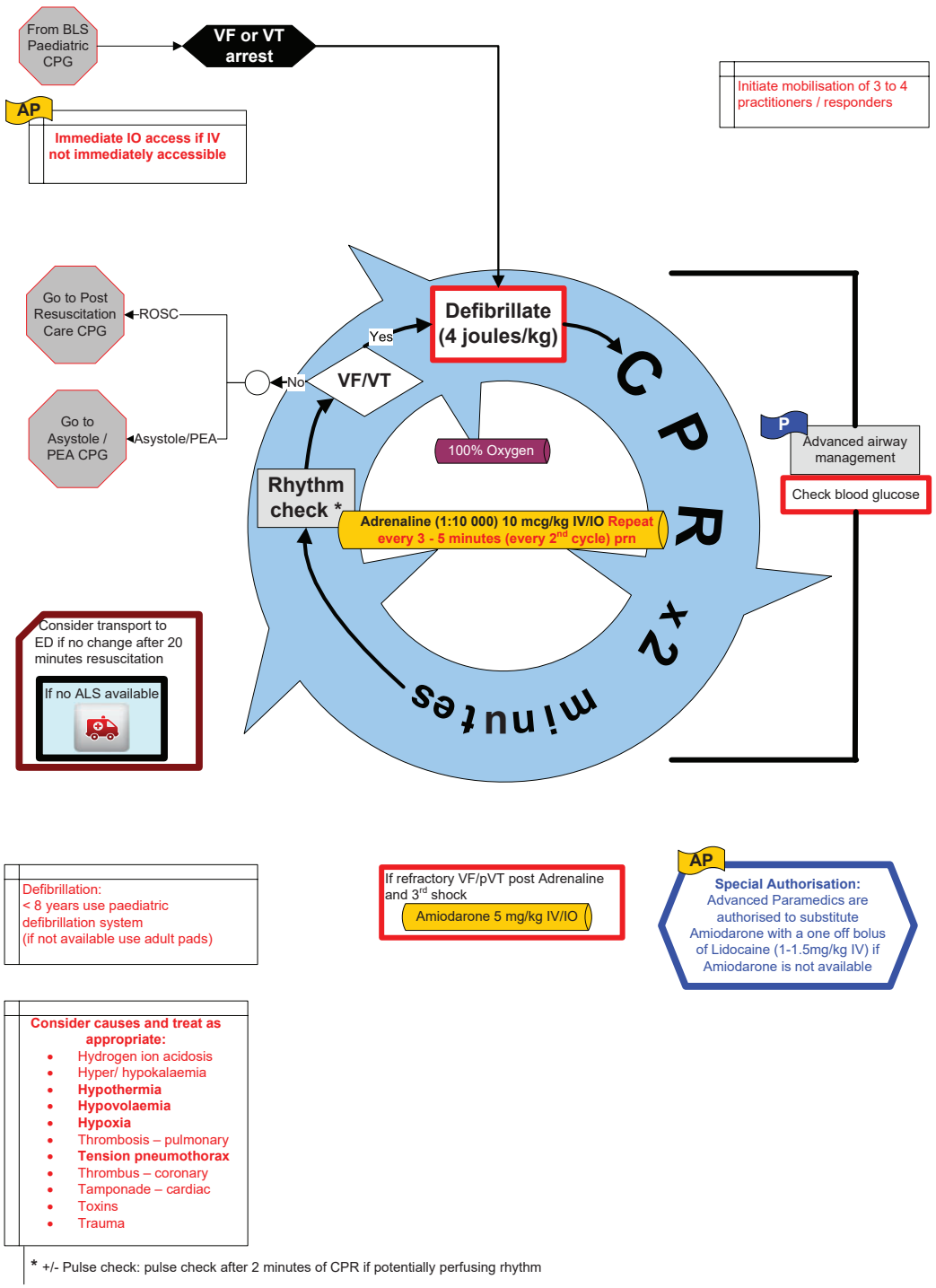
EMT P CFR-A AP



VF or pVT – Paediatric

4/5/6.13.23
Version 6, 01/2021

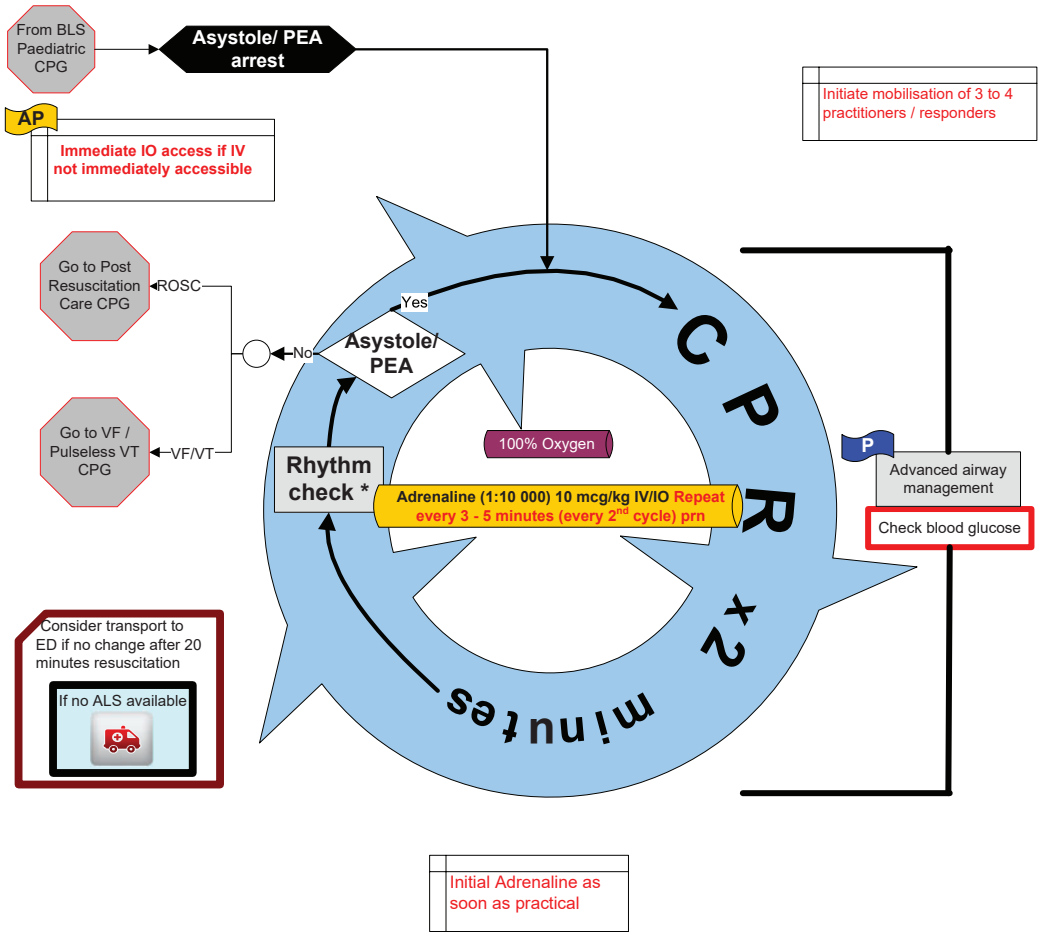
EMT P AP



Asystole/PEA – Paediatric

4/5/6.13.24
Version 5, 01/2021

EMT P AP



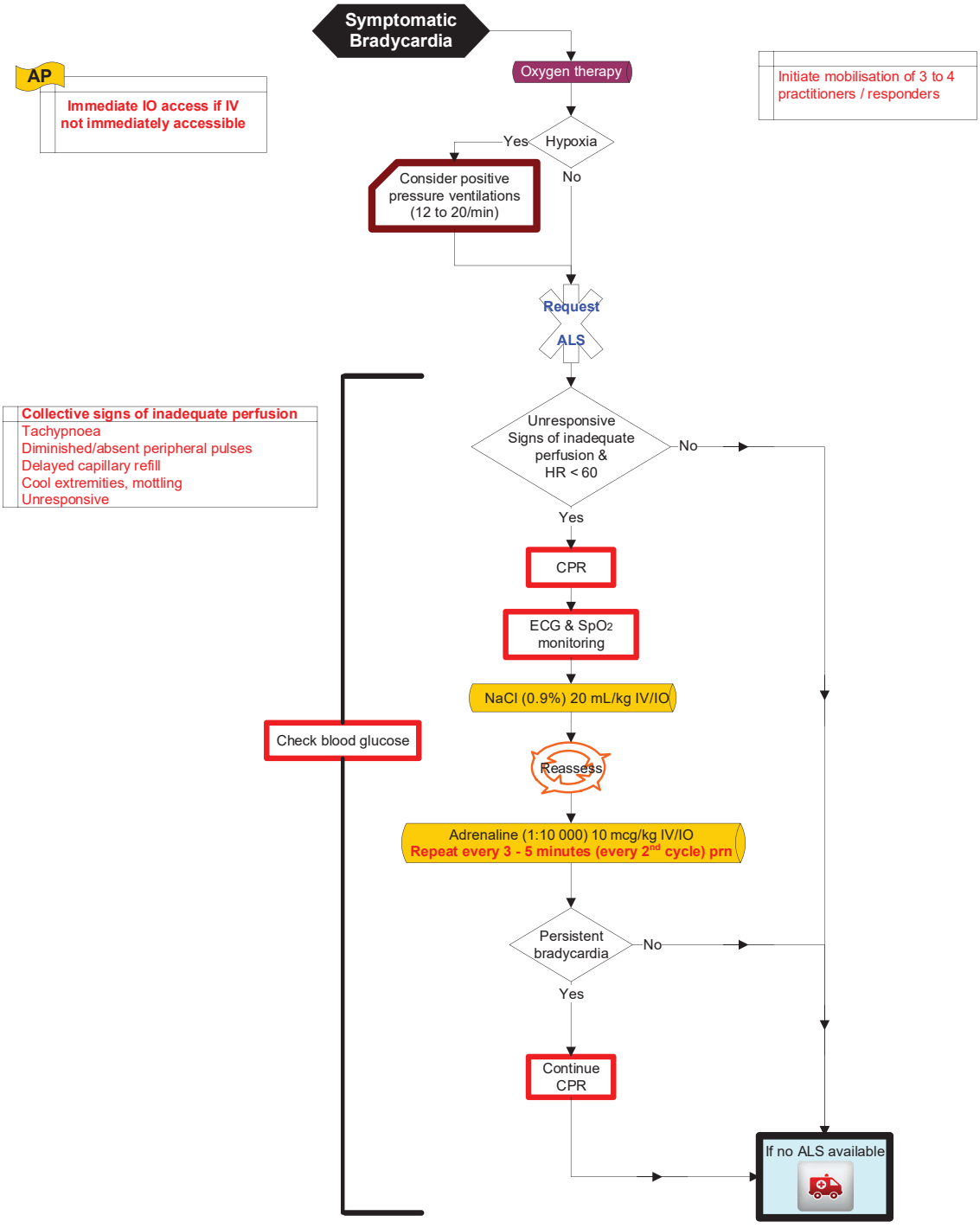
* +/- Pulse check: pulse check after 2 minutes of CPR if potentially perfusing rhythm

Pre-Hospital Emergency Care Council

Symptomatic Bradycardia – Paediatric

4/5/6.13.25
Version 5, 01/2021

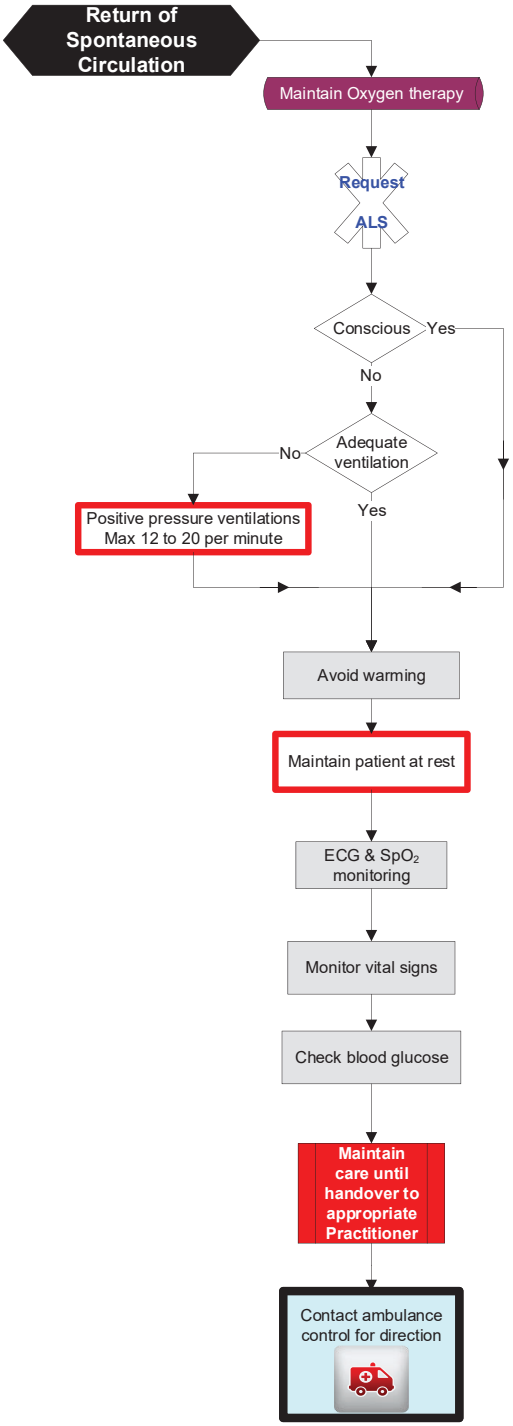
EMT P AP



Post-Resuscitation Care – Paediatric

4.13.26
Version 4, 04/2021

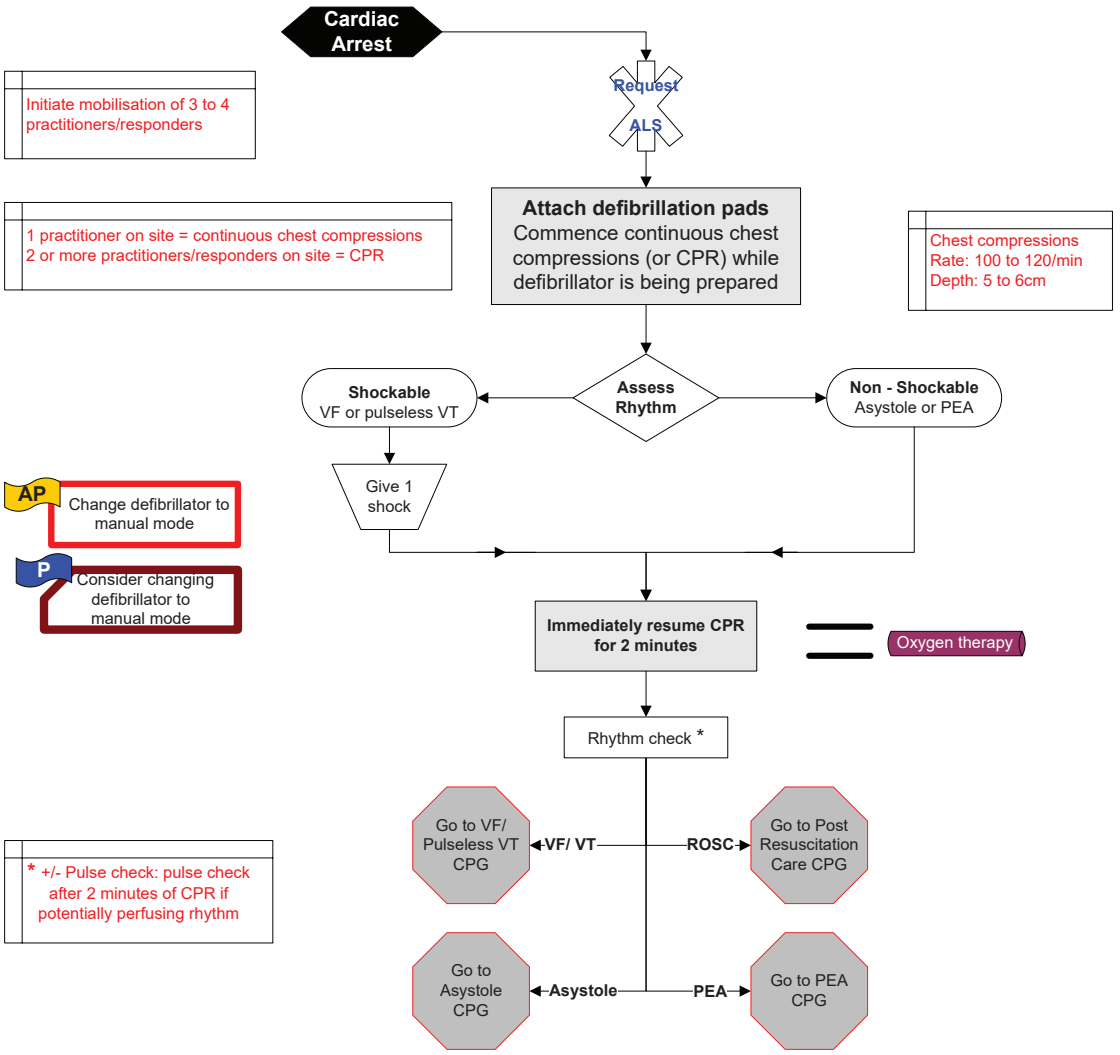
EMT CFR-A



Basic Life Support – Adult

4/5/6.14.1
Version 4, 02/2021

EMT P AP



Ventilations
Volume: 500 to 600 mL

Minimum interruptions of chest compressions

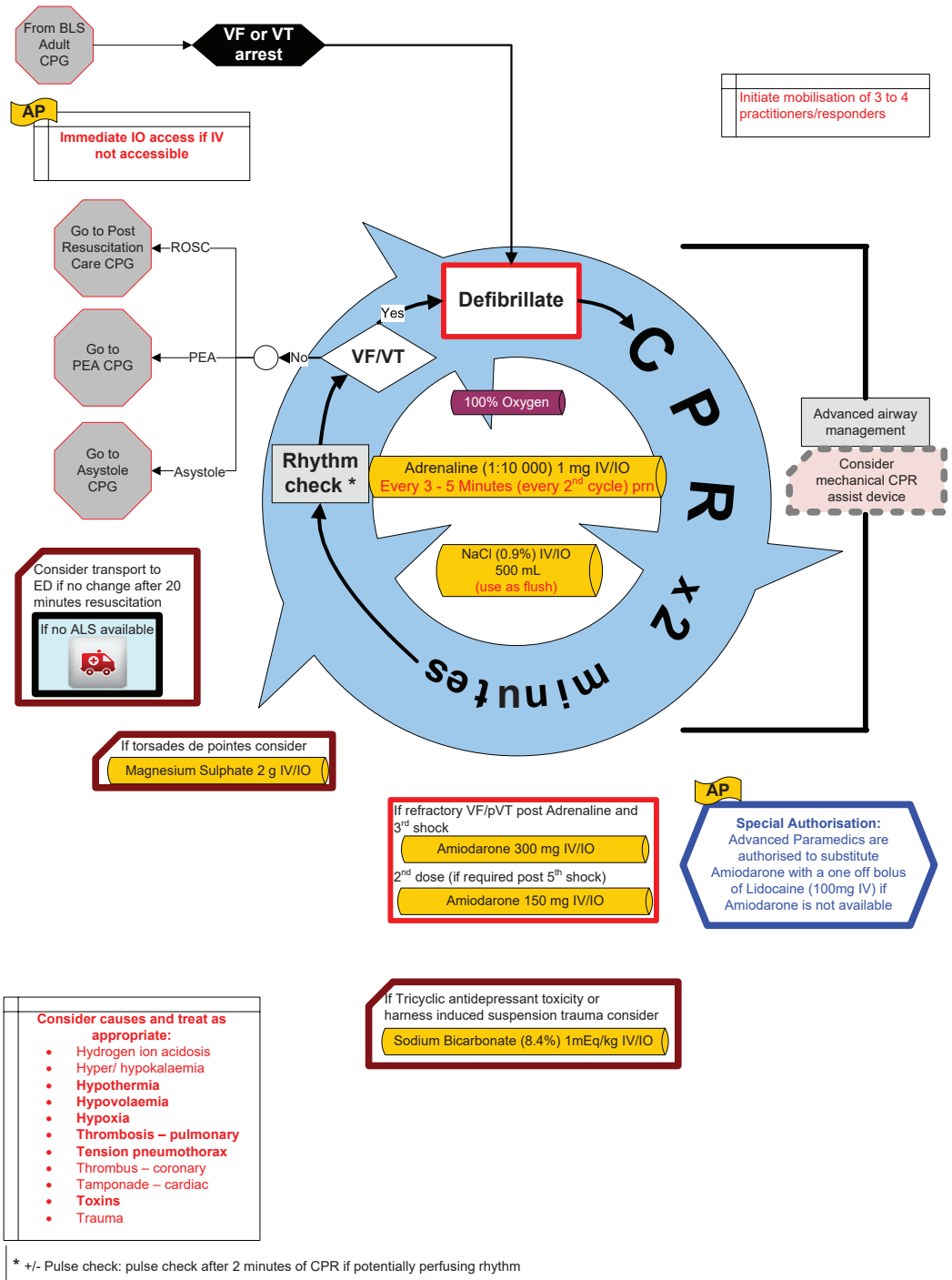
Maximum hands off time 10 seconds

If an Implantable Cardioverter Defibrillator (ICD) is fitted in the patient treat as per CPG. It is safe to touch a patient with an ICD fitted even if it is firing

VF or pVT – Adult

4/5/6.14.2
Version 5, 01/2021

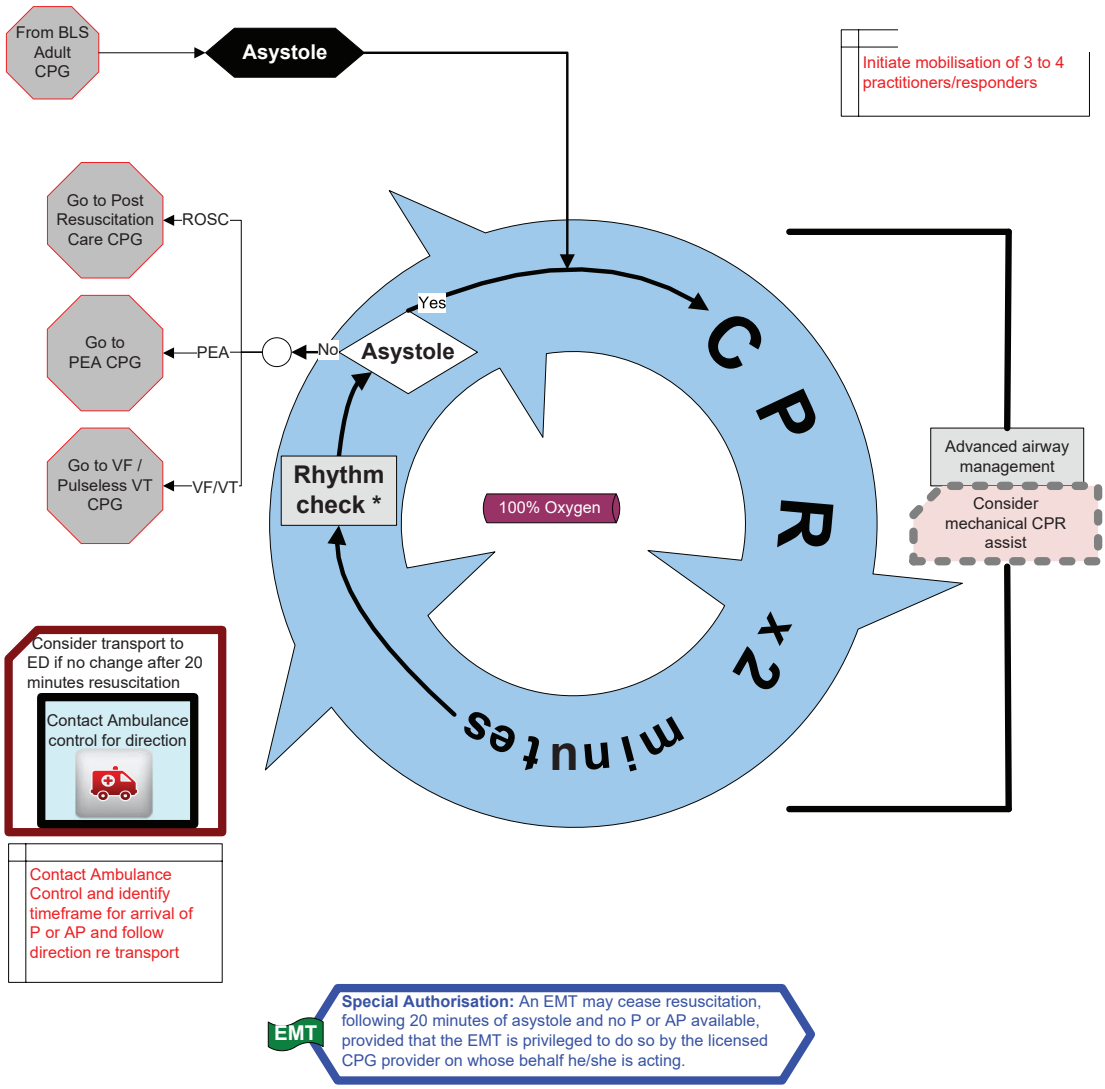
EMT P AP



* +/- Pulse check: pulse check after 2 minutes of CPR if potentially perfusing rhythm

Asystole – Adult

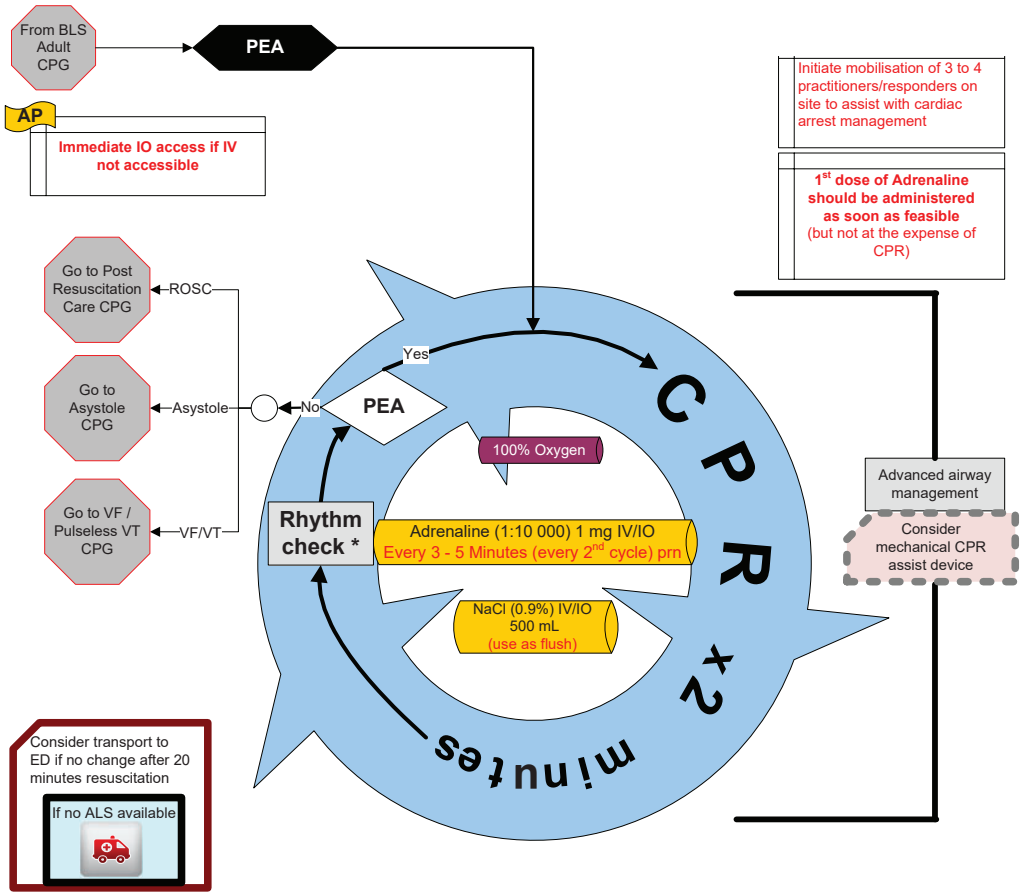
4.14.3
Version 4, 12/2020
EMT



Pulseless Electrical Activity – Adult

4/5/6.14.5
Version 4, 01/2021

EMT P AP



Consider causes and treat as appropriate:

- Hydrogen ion acidosis
- Hyper/ hypokalaemia
- **Hypothermia**
- **Hypovolaemia**
- **Hypoxia**
- **Thrombosis – pulmonary**
- **Tension pneumothorax**
- Thrombus – coronary
- Tamponade – cardiac
- **Toxins**
- Trauma

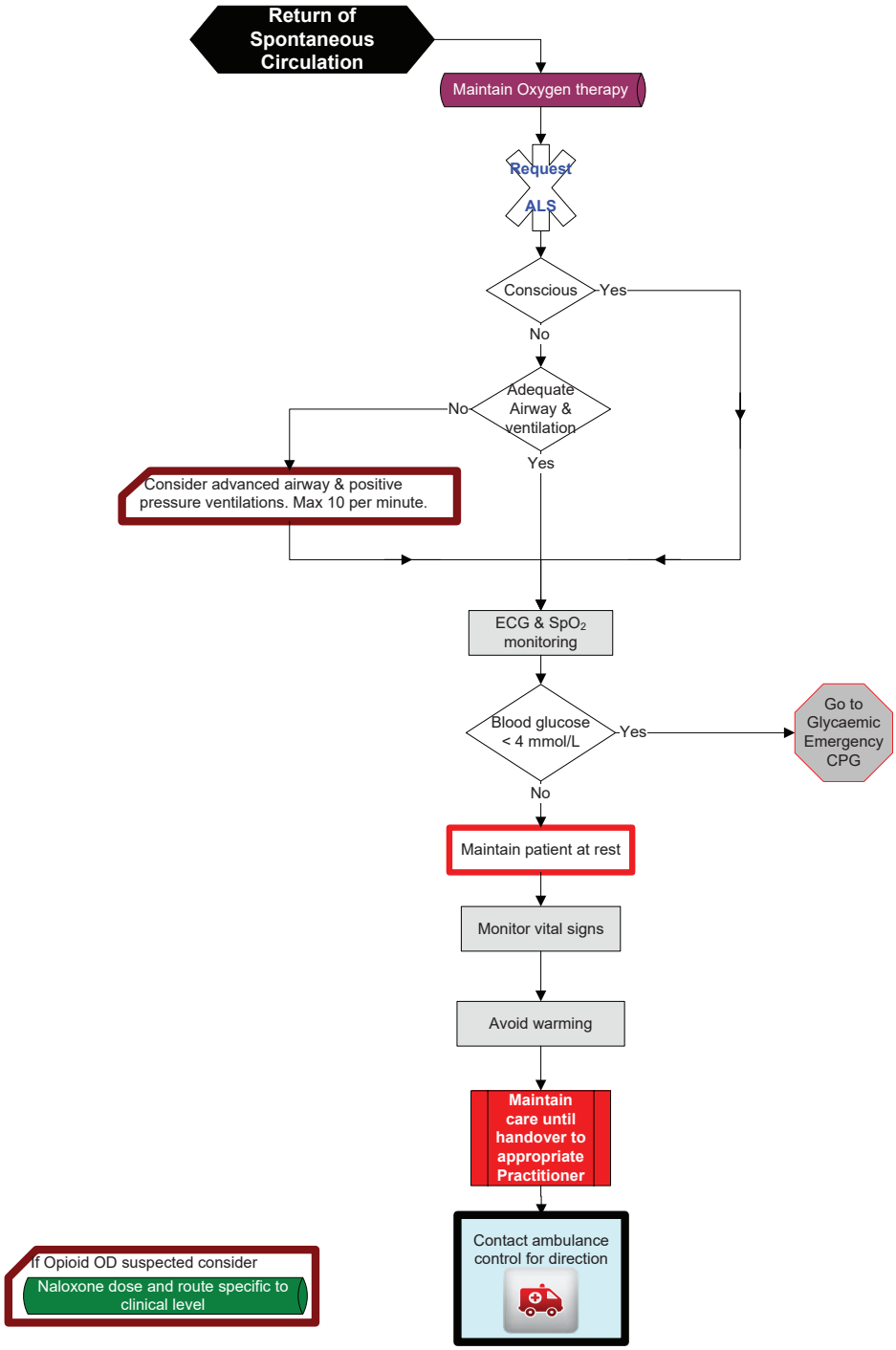
Consider fluid challenge
NaCl (0.9%) 1L IV/IO
Repeat prn

If Tricyclic antidepressant toxicity or harness induced suspension trauma consider
Sodium Bicarbonate (8.4%) 1 mEq/kg IV/IO

* +/- Pulse check: pulse check after 2 minutes of CPR if potentially perfusing rhythm

Post-Resuscitation Care – Adult

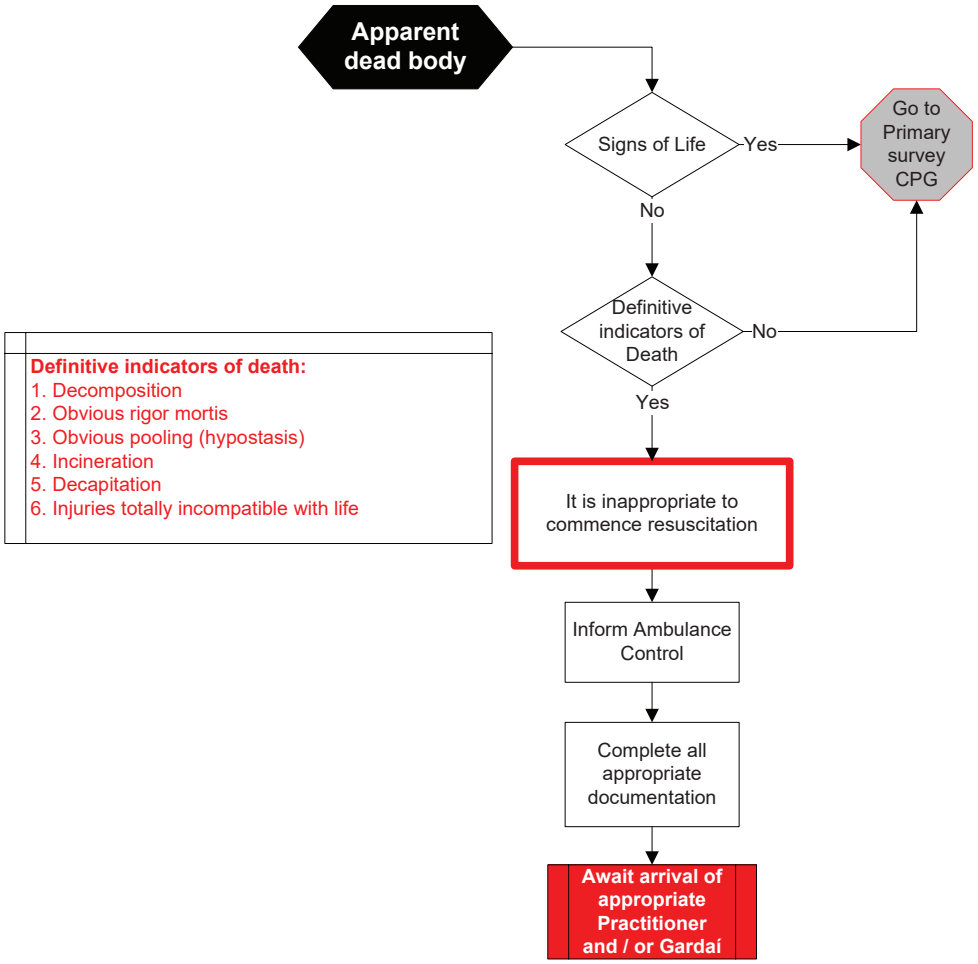
4.14.6
Version 4, 03/2021
EMT



Recognition of Death – Resuscitation not Indicated

4.14.7
Version 2, 12/2020

EMT CFR-A



Team Resuscitation

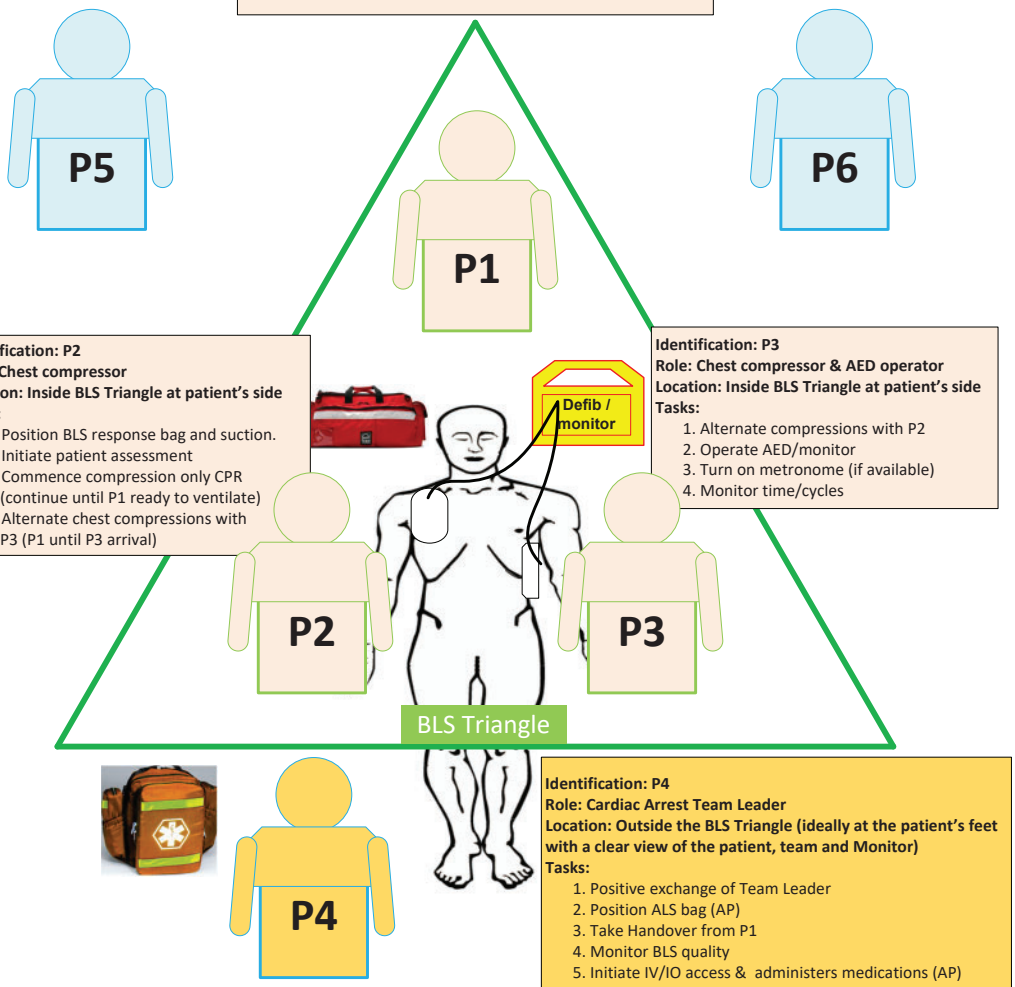
4/5/6.14.8
Version 2, 03/2021

EMT P CFR-A AP

Identification: P5
Role: Family & Team Support
Position: Outside the BLS triangle
1. Family Liaison
2. Patient Hx/meds
3. Manage Equipment
4. Plan removal (if transporting)

Identification: P1
Role: Airway and ventilatory support & initial team leader
Location: Inside BLS Triangle at patient's head
Tasks:
1. Position defibrillator
2. Attach defib pads and operate defibrillator (If awaiting arrival of P3)
3. Basic airway management (manoeuvre, suction & adjunct)
4. Assemble ventilation equipment and ventilate
5. Team leader (until P4 assigned)

Identification: P6
Role: Team Support
Location: Outside BLS Triangle
Tasks:
1. Support P1 with airway and ventilation
2. Support P2/P3 with chest compressions and defibrillation
3. Documentation
4. Support tasks assigned by P4



Identification: P2
Role: Chest compressor
Location: Inside BLS Triangle at patient's side
Tasks:
1. Position BLS response bag and suction.
2. Initiate patient assessment
3. Commence compression only CPR (continue until P1 ready to ventilate)
4. Alternate chest compressions with P3 (P1 until P3 arrival)

Identification: P3
Role: Chest compressor & AED operator
Location: Inside BLS Triangle at patient's side
Tasks:
1. Alternate compressions with P2
2. Operate AED/monitor
3. Turn on metronome (if available)
4. Monitor time/cycles

Identification: P4
Role: Cardiac Arrest Team Leader
Location: Outside the BLS Triangle (ideally at the patient's feet with a clear view of the patient, team and Monitor)
Tasks:
1. Positive exchange of Team Leader
2. Position ALS bag (AP)
3. Take Handover from P1
4. Monitor BLS quality
5. Initiate IV/IO access & administers medications (AP)
6. Intubate if clinically warranted (AP)
7. Communicate with family/Family Liaison
8. Identify and treat reversible causes (H's + T's)
9. Provide clinical leadership
10. Conduct post event debrief

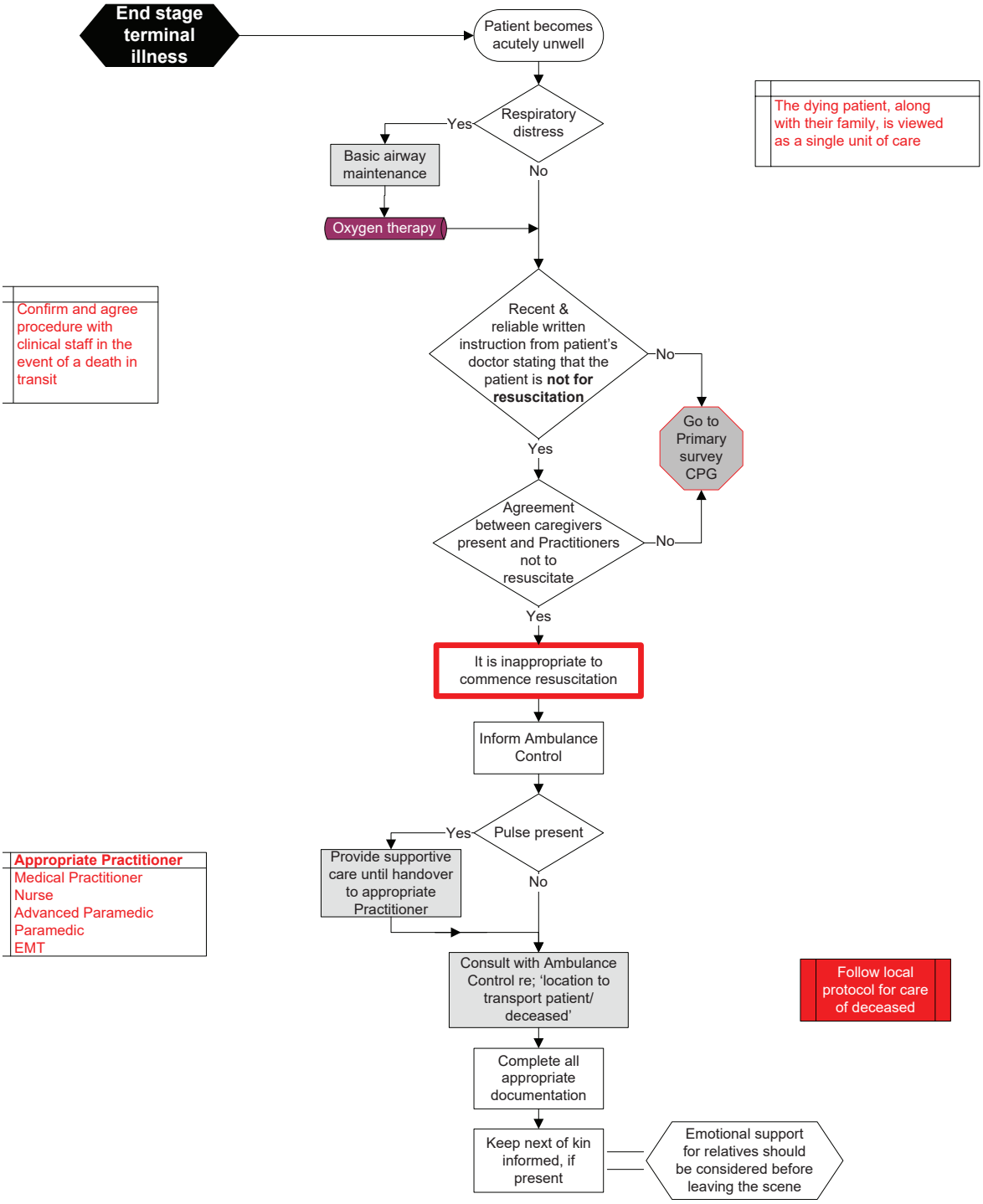
Positions and roles are as laid out, however a practitioner may change position thus taking on the role of that position.

If ALS are first on scene they perform BLS until sufficient BLS personnel are on scene

End of Life – DNAR

4.15.1
Version 2, 12/2020

EMT



Pre-Hospital Emergency Care Council

Major Emergency (Major Incident) – First Practitioners on site

4/5/6.16.1
Version 3, 12/2020

EMT P AP

Irish (Major Emergency) terminology in black
UK (Major Incident) terminology in blue

Possible Major Emergency

Take standard infection control precautions

Consider pre-arrival information

PPE (high visibility jacket and helmet) must be worn

Practitioner 1

Park at the scene as safety permits and in conjunction with Fire & Garda if present

Leave blue lights on as vehicle acts as Forward Control Point pending the arrival of the Mobile Control Vehicle

Confirm arrival at scene with Ambulance Control and provide an initial visual report stating Major Emergency (Major Incident) Standby or Declared

Maintain communication with Practitioner 2

Leave the ignition keys in place and remain with vehicle

Carry out Communications Officer role until relieved

Practitioner 2
(Ideally MIMMS trained)

Carry out scene survey

Give situation report to Ambulance Control using METHANE message

Carry out HSE Controller of Operations (Ambulance Incident Officer) role until relieved

Liaise with Garda Controller of Operations (Police Incident Officer) and Local Authority Controller of Operations (Fire Incident Officer)

Select location for Holding Area (Ambulance Parking Point)

Set up key areas in conjunction with other Principal Response Agencies on site;
- Site Control Point (Ambulance Control Point),
- Casualty Clearing Station
- Ambulance loading point
- On site co-ordination centre

If single Practitioner is first on site combine both roles until additional Practitioners arrive

METHANE message
M – Major Emergency declaration / standby
E – Exact location of the emergency
T – Type of incident (transport, chemical etc.)
H – Hazards present and potential
A – Access / egress routes
N – Number of casualties (injured or dead)
E – Emergency services present and required

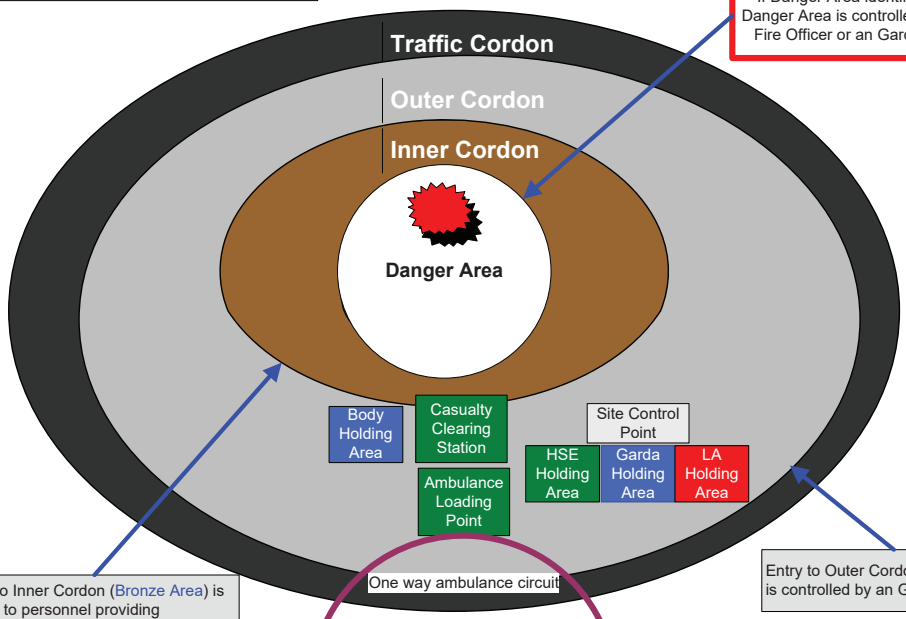
The first ambulance crew does not provide care or transport of patients as this interferes with their ability to liaise with other services, to assess the scene and to provide continuous information as the incident develops

Major Emergency (Major Incident) – Operational Control

4/5/6.16.2
Version 3, 12/2020

EMT P AP

Irish (Major Emergency) terminology in black
UK (Major Incident) terminology in blue



Management structure for;
Outer Cordon, Tactical Area (Silver Area)
On-Site Co-ordinator
HSE Controller of Operations (Ambulance Incident Officer)
Site Medical Officer (Medical Incident Officer)
Local Authority Controller of Operations (Fire Incident Officer)
Garda Controller of Operations (Police Incident Officer)

Management structure for;
Inner Cordon, Operational Area (Bronze Area)
Forward Ambulance Incident Officer (Forward Ambulance Incident Officer)
Forward Medical Incident Officer (Forward Medical Incident Officer)
Fire Service Incident Commander (Forward Fire Incident Officer)
Garda Cordon Control Officer (Forward Police Incident Officer)

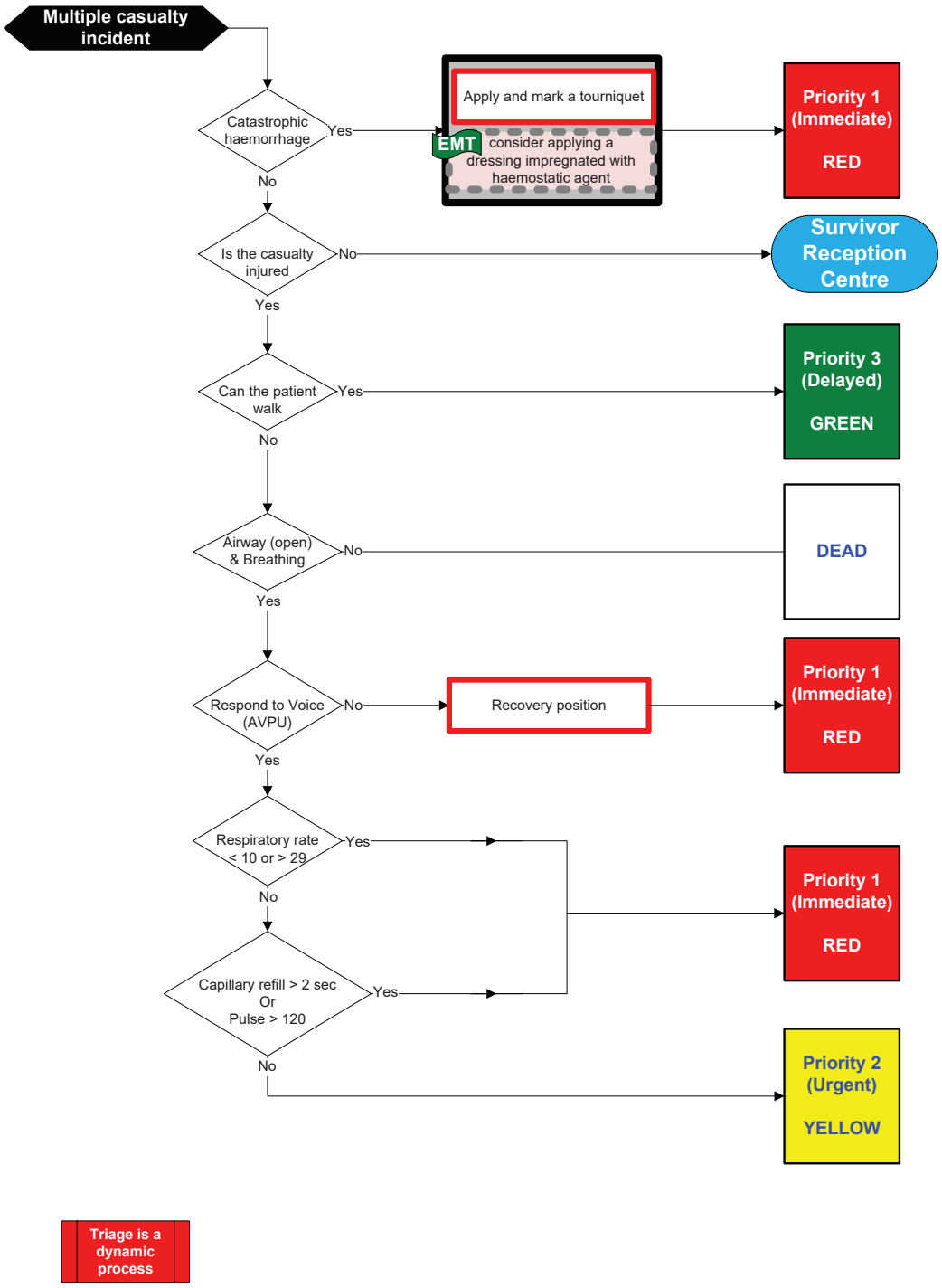
Please note that Controller of Operations may be other than ambulance or fire officers, depending on the nature of the emergency

Other management functions for;
Major Emergency site
Casualty Clearing Officer
Triage Officer
Ambulance Parking Point Officer
Ambulance Loading Point Officer
Communications Officer
Safety Officer

Triage Sieve

4/5/6.16.3
Version 2, 12/2020

EMT P AP



Triage is a dynamic process

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

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 300 of 2014).

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).

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

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 ≥ 16 and Paediatric ≤ 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

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 6 months to < 6 years ≥ 6 years to < 12 years ≥ 12 years	10 mcg/kg IM 150 mcg (0.15 mL IM) 300 mcg (0.3 mL IM) 300 mcg (0.3 mL) (if child small or prepubital) 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	For IV route, administer over 1 minute. May dilute with Sodium Chloride 0.9% for convenient administration volume of small doses.	Removal of all existing paediatric dosing.
Additional information		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.	

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)

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		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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

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 ENTONOX 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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EMT P AP

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 detoxicant 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.

APPENDIX 1 - Medication Formulary

Clinical Level: EFR EMT P AP

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	Adult: Anaphylaxis 500mcg IM (0.5mL of 1: 1,000). EFR assist patient – 0.3 mg (Auto injector). (Repeat every 5 minutes PRN). Adult: Symptomatic Bradycardia / Cardiogenic shock: 10mcg 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). Anaphylaxis Paediatric:

<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 prepubital) or 500 mcG (0.5 mL IM)

EFR assist patient –

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).

Stridor (P/ AP):

< 1 Year: 2.5 mg NEB.

≥ 1 year: 5 mg NEB

(repeat after 30 minutes PRN) (AP).

Sepsis (AP):

Adrenaline 0.1 mcg/kg IV/IO.

Side effects	Palpitations / Tachyarrhythmias / Hypertension / Angina-like symptoms.
Additional information	N.B. Double check the concentration on pack before use.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: CFR FAR EFR EMT P AP

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	*Adult:* 300 mg Tablet. *Paediatric:* 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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EMT P AP

MEDICATION	CHLORPHENAMINE
Classification	Sedating Antihistamine – H2 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	For IV route, administer over 1 minute IV: May dilute with Sodium Chloride 0.9% for convenient administration volume of small doses. *Adult:* *Allergic reaction* *Mild: 4 mg PO (EMT / P / AP).* *Moderate: 4 mg PO or 10 mg IM (EMT / P) or 10 mg IV (AP).* *Severe/Anaphylaxis: 10 mg IM (EMT / P) or 10 mg IV (AP).* *Paediatric:*

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

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.

APPENDIX 1 - Medication Formulary

Clinical Level: EMT P AP

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/ Phaechromocytoma/ 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: EFR EMT P AP

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	*Adult:* 10 – 20 g buccal (Recheck blood glucose and repeat after 15 min if required). *Paediatric:* 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).
Side effects	May cause vomiting in patients under the age of 5 years if administered too quickly.
Additional information	Glucose gel will maintain glucose levels once raised but should be used secondary to Dextrose to reverse hypoglycaemia. *Proceed with caution:* Patients with airway compromise. Altered level of consciousness.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EFR EMT P AP

MEDICATION	GLYCERYL TRINITRATE (GTN)
Classification	Nitrate. Potent coronary vasodilator/ reduces BP/ Dilation of systemic veins.
Presentation	*Aerosol spray:* Metered dose of 400 mcg.
Administration	*Sublingual:* 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). *EFR:* may assist with administration. *EMT:* Angina/ suspected myocardial infarction (MI) with systolic BP ≥110 mmHg. *Advanced Paramedics and Paramedics* - Pulmonary oedema
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	*Adult:* *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). *Paediatric:* 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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EMT P AP

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.
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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EMT P AP

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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EMT P AP

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	*Adult:* 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). *Paediatric:* 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).
Side effects	Acute reversal of narcotic effect ranging from nausea and vomiting to agitation and seizures.
Additional information	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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EMT P AP

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. *Medical gas:* 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.
Usual Dosages	*Adult and Paediatric:* 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 ENTONOX may result in megaloblastic marrow changes, myeloneuropathy and sub-acute combined degeneration of the spinal cord.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: CFR-A FAR EFR EMT P AP

MEDICATION	OXYGEN
Classification	Gas.
Presentation	*Medical gas:* D, E or F cylinders, coloured black with white shoulders. (Please note: By 2025, all cylinders will be completely white with OXYGEN in black). *CD cylinder:* White cylinder.
Administration	*Inhalation via:* High concentration reservoir (non-rebreather) mask/ Simple face mask/ Venturi mask/ Tracheostomy mask/ Nasal cannulae/ CPAP device/ Bag Valve Mask. *(CPG:* Oxygen is used extensively throughout the CPGs).
Indications	Absent / Inadequate ventilation following an acute medical or traumatic event. SpO_2 < 94% adults and < 96% paediatrics. SpO_2 < 92% for patients with acute exacerbation of COPD. SpO_2 < 90% for patients with acute onset of Pulmonary Oedema.
Contra-Indications	Bleomycin lung injury.
Usual Dosages	*Adult:* Cardiac and respiratory arrest or sickle cell crisis; 100%. Life threats identified during primary survey; 100% until a reliable SpO_2 measurement obtained then titrate O_2 to achieve SpO_2 of 94% - 98%. For patients with acute exacerbation of COPD, administer O_2 titrate to achieve SpO_2 92% or as specified on COPD Oxygen Alert Card. All other acute medical and trauma titrate O2 to achieve SpO_2 94% - 98%. *Paediatric:* Cardiac and respiratory arrest or sickle cell crisis; 100%. Life threats identified during primary survey; 100% until a reliable SpO_2 measurement obtained then titrate O_2 to achieve SpO_2 of 96% - 98%. Neonatal resuscitation (< 4 weeks) consider supplemental O_2 (≤ 30%). All other acute medical and trauma titrate O_2 to achieve SpO_2 of 96% - 98%.
Side effects	Prolonged use of O_2 with chronic COPD patients may lead to reduction in ventilation stimulus.
Additional information	Caution with emollients containing paraffin e.g. lip balms & moisurisers – 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. Consider humidifier if oxygen therapy for paediatric patients is > 30 minutes duration. Caution with paraquat poisoning, administer Oxygen if SpO_2 < 92%. Avoid naked flames, powerful oxidising agent.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EMT P AP

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:* 1g PO (Repeat after 4-6 hours x 1 PRN). *Paediatric:* **PO** (EMT, P/AP): 15 mg/Kg PO **PR** (AP): > 1 month < 1 year - 80 mg PR; 1-3 years - 180 mg PR; 4-8 years - 360 mg **IV Infusion** (AP) (≥ 1 year Max 1g): < 1 year – 7.5 mg/kg IV slowly; ≥ 1 year – 15 mg/kg IV slowly
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.

APPENDIX 1 - Medication Formulary

EMERGENCY MEDICAL TECHNICIAN

Clinical Level: EFR EMT P AP

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 100mcg metered aerosol spray (repeat aerosol x 11). Repeat NEB at 5 minute intervals PRN EFR assist patient with Asthma/ Anaphylaxis. - 100mcg 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 - 100 mcg/ 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.

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

New Medications and Skills for 2021

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Activated Charcoal PO*					√	√	√
Adrenaline nebulised						√	√
Dexamethasone PO/IM						√	√
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)*							√

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.

√	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

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

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.

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/IM						√	√
Glucose 5% IV						√ SA	√
Glucose 10% IV						√ SA	√
Hydrocortisone IM						√	√
Ipratropium Bromide nebulised						√	√
Midazolam buccal/IM/IN						√	√

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Naloxone IM/SC						√	√
Ondansetron IM						√	√
Oxytocin IM						√	√
Ticagrelor PO						√	√
Sodium Chloride 0.9% IV/IO						√ SA	√
Adenosine IV							√
Adrenaline (1:10,000) IV/IO							√
Amiodarone IV/IO							√
Atropine IV/IO							√
Ceftriaxone IV/IO/IM							√
Chlorphenamine IV							√
Cyclizine IV							√
Diazepam IV/PR							√
Fentanyl IN/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							√

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

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		√		√	√	√	√
Oxygen humidification				√	√	√	√
Nasopharyngeal airway				BTEC	BTEC	√	√
Supraglottic airway adult (uncuffed)		√			√	√	√
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							√

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

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						√	√

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

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						√	√
Infusion calculations							√
Intraosseous injection/infusion							√
Intravenous injection/infusion							√
Per rectum							√

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

TRAUMA

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
Burns care			√	√	√	√	√
Application of a sling			√	√	√	√	√
Soft tissue injury			√	√	√	√	√
Active Spinal Motion Restriction			√	√	√	√	√
Hot packs for active rewarming (hypothermia)			√	√	√	√	√
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						√	√

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					√	√	√
Malpresentations in labour						√	√
Shoulder Dystocia management						√	√
Umbilical cord complications						√	√
Verification of Death						√	√
Intraosseous cannulation							√
Intravenous cannulation							√
Nasogastric tube insertion*							√
Procedural Sedation*							√
Urinary catheterisation*							√

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			√	√	√	√	√

APPENDIX 2 - Medication & Skills Matrix

EMERGENCY MEDICAL TECHNICIAN

CLINICAL LEVEL	CFR-C	CFR-A	FAR	EFR	EMT	P	AP
CSM assessment				√	√	√	√
Rule of Nines				√	√	√	√
Assess pupils				√	√	√	√
Blood pressure				√ SA	√	√	√
Capacity evaluation					√	√	√
Chest auscultation					√	√	√
Glucometery					√	√	√
Ketone measurement*					√	√	√
Paediatric Assessment Triangle					√	√	√
Pain assessment					√	√	√
Patient Clinical Status					√	√	√
Pulse oximetry					√	√	√
Temperature					√	√	√
Triage sieve					√	√	√
Broselow tape						√	√
Capnography						√	√
Glasgow Coma Scale (GCS)						√	√
Peak expiratory flow						√	√
Pre-hospital Early Warning Score						√	√
Treat and referral						√	√
Triage sort						√	√
Richmond Agitation-Sedation Scale (RASS) *							√

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 that 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

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

New CPGs	The new skills and medications incorporated into the CPGs are
4/5/6.2.7 Emergency Tracheostomy Management	This CPG outlines the approach to managing respiratory issues in a patient with a tracheostomy. Includes saline nebulised
CPG 4/5/6.12.1 Pregnancy related emergencies	This CPG outlines the assessment and management of pregnancy related emergencies.

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

New CPGs	The new skills and medications incorporated into the CPGs are
CPG 4/5/6.12.2 Pre-Hospital Emergency Childbirth	This CPG replaces the previous Pre-Hospital Emergency Childbirth CPG and integrates EMT, Paramedic and Advanced Paramedic.
CPG 4/5/6.12.7 New-born Neonatal Care and Resuscitation	This CPG outlines the assessment and management of the new-born including resuscitation.
CPG 4/5/6.12.8 Neonatal Resuscitation (≤6 weeks)	This CPG outlines the approach to neonatal resuscitation and integrates EMT, Paramedic and Advanced Paramedic.
CPG 4/5/6.13.18 Limb Injury – Paediatric	This CPG outlines the approach to paediatric limb injury.
CPG 4/5/6.12.20 Sepsis – Paediatric	This CPG outlines the approach to paediatric sepsis.

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 (≤ 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)

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

CPGs	The principal differences are
CPG 4/5/6.2.4 Exacerbation of COPD	*Deleted* Sequence step 'Measure Peak Expiratory Flow' Decision process 'PEF < 50% predicted' *Added* Decision process 'Deteriorates / unstable' replaces decision process 'PEF < 50% predicted' Decision process 'Adequate ventilation' replaces decision process 'Adequate respirations' Consider treatment 'consider CPAP for profound refractory hypoxia' is introduced for Paramedic and AP level Instruction box 'If no improvement Salbutamol may be repeated at 5 min intervals' *Medication Update* Salbutamol may be repeated at 5 min intervals
CPG 4/5/6.2.5 Asthma - Adult	*Added* Instruction box 'If no improvement Salbutamol aerosol 100mcg may be repeated up to 11 times as required via MDI' replaces 'If no improvement Salbutamol aerosol 0.1 mg may be repeated up to 11 times as required'
CPG 4.3.1 Acute Coronary Syndrome	*Added* Parallel process 'Contact Ambulance Control/ Operations Centre for direction' replaces 'Contact NAS control for direction'
4/5/6.4.2 Epistaxis	*Deleted* Equipment list 'Proprietary nasal pack'
CPG 4/5/6.5.2 Decompression Illness	*Added* 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'
CPG 4/5/6.5.3 Glycaemic Emergency – Adult	*Added* Consider treatment option 'Consider Ketone measurement' is a non-core element for EMT, Paramedic and AP level Instruction box 'Consider Glucagon IM if not already given'
CPG 4/5/6.5.4 Sickle Cell Crisis - Adult	*Added* Instruction box 'Administer 15L of oxygen via a non-rebreather facemask' replaces '100% O_2'

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

CPGs	The principal differences are
CPG 4.6.1 Altered Level of Consciousness - Adult	*Added* 'Possible differential diagnosis' box replaces 'Differential diagnosis' box
CPG 4/5/6.6.2 Pain Management – Adult	*Deleted* Instruction box 'Following Fentanyl IN the next dose may be either Fentanyl IV or Morphine IV but not both' *Added* Instruction box 'Repeat Fentanyl IN once only at not < 10 min after initial dose prn' Instruction box 'Repeat Ketamine PRN at not < 10 min' replaces 'Repeat Ketamine once only at not < 10 minutes prn' 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' Cyclical process box for 'IO Access & Analgesia' Special instructions box 'Do not administer Amiodarone and Lidocaine to the same patient'
CPG 4/5/6.7.2 Behavioral Emergency	*Deleted* '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 *Added* Decision process 'Aggressive/violent and/or risk to self or others and uncooperative with practitioner' is reorganised Mandatory sequence step 'Hand over to MP/ Garda care' replaces 'Hand over to RMP/ Garda care' Sequence step '$ETCO_2$' added to 'Monitor BP SpO_2 and ECG' Sequence step 'Mental Health Illness' 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'

CPGs	The principal differences are
CPG 4/5/6.8.3 External Haemorrhage – Adult	*Deleted* Paramedic skill flag from mandatory sequence step 'Apply tourniquet if limb injury' Paramedic skill flag from sequence step 'Depress proximal pressure point' Paramedic skill flag from sequence step 'Apply tourniquet' 'apply a tourniquet and/or' from EMT-BTEC Special Authorisation box *Added* Mandatory sequence step 'Apply and mark tourniquet if limb injury' replaces 'Apply tourniquet if limb injury' and is introduced as an EMT level skill Consider treatment option 'Consider wound closure clips for temporary closure if serious haemorrhage' is a non-core element for Paramedic and AP level Consider treatment option 'consider applying a dressing impregnated with haemostatic agent' is a Paramedic level skill Consider treatment option 'consider applying a dressing impregnated with haemostatic agent' is a non-core element for EMT level
CPG 4/5/6.8.6 Limb Injury – Adult	The CPG treatment pathway is reorganised *Deleted* Instruction box 'Contraindications for application of traction splint' Decision process 'Injury type' Decision process '> 20 min to facility' *Added* Parallel process 'Consider hypovolaemia and shock' Decision process 'Fracture' Decision process 'Femur fracture' replaces clinical finding 'Fractured femur' Decision process 'Rest, Cooling, Compression & Elevation' replaces decision process Rest – Ice – Compression – Elevation' Sequence step 'For open fracture - Remove gross contamination'

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

CPGs	The principal differences are
CPG 4/5/6.8.9 Submersion / Immersion Incident	The CPG is retitled 'Submersion/ Immersion Incident' (previously Submersion Incident) The CPG entry point is updated to 'Submersion / immersion in liquid' The CPG treatment pathway is reorganised 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' *Deleted* Decision process 'Adequate ventilations' *Added* Decision process 'Responsive' Decision process 'Spontaneous Breathing' Mandatory sequence step 'Open airway - Five rescue breaths' Decision process 'Spontaneous Breathing' Mandatory sequence step 'Continue ventilations' Sequence step 'Advanced airway with cuffed devices only (monitor for leaks)' for Paramedic and AP level Consider treatment option 'Consider nasogastric tube' is a non-core element for AP level Sequence step 'Auscultate lungs' Decision process 'Crepitations' Decision process 'Hypotensive' Decision process Hypothermic' replaces 'Patient is hypothermic'
CPG 4/5.10.2 Poisons – Adult	*Added* Additional CPG entry point 'Solid substance ingested and GCS 15' Decision process 'Activated charcoal indicated' Instruction box 'Substances that are adsorbed by Activated charcoal are available in the PHECC field guide'. Medication Update 'Naloxone 0.8 - 2 mg IN (Repeat x one prn to max 2mg)' replaces 'Naloxone 0.8 mg IN (Repeat x one prn)' New Medications Consider treatment option 'Activated charcoal 50 g PO' is a non-core element for Paramedic and EMT level

CPGs	The principal differences are
CPG 4/5/6.11.1 Sepsis - Adult	The CPG entry point is updated to 'Patient generally unwell with suspected infection < 36°C or > 38.3°C' The CPG treatment pathway is significantly reorganised *Deleted* Sequence step 'Signs of Systemic Inflammatory Response Syndrome (SIRS)' Sequence step 'Could this be a severe infection?' Instruction box 'Risk stratifier' Instruction box 'If history of penicillin allergy assess the severity of the reaction and if not life-threatening, i.e. rash, proceed with Ceftriaxone' Instruction box 'If meningitis suspected ensure appropriate PPE is work; Mask and goggles' Instruction box 'Indication for antibiotic' Instruction box 'Signs of shock/ poor perfusion' Consider treatment 'If Sys BP < 100 mmHg consider aliquots NaCl 0.9% 250 mL IV/IO *Added* Sequence step 'HR, RR, ECG, SpO_2 & BP monitoring' replaces 'ECG, SpO_2 & BP monitoring' Mandatory sequence step 'Abnormal physiology? Source of Infection?' Decision process 'At risk' 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' Sequence step 'Give 3 if clinically indicated' Instruction box 'Signs of Systemic Inflammatory Response Syndrome (SIRS)' Instruction box 'Give 3 1. O_2 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 - O_2 titrate to sats > 94% - IV fluids – IV antimicrobials' Decision process 'Signs of hypoperfusion' replaces 'Signs of poor perfusion' Sequence step 'Monitor clinical condition; re-evaluate for possible sepsis if clinically indicated' Instruction box 'High Consequence Infectious Disease (HCID) ensure appropriate PPE is worn; Long sleeve gown, Facemask, Eye protection' Special instruction box 'Pre alert ED if sepsis" replaces 'Pre alert ED if severe sepsis'

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

CPGs	The principal differences are
CPG 4/5/6.12.2 Pre-Hospital Emergency Childbirth	EMT level is added to this CPG The CPG treatment pathway is significantly reorganised The CPG entry point is updated to 'In labour' *Deleted* Instruction box 'If no progress with labour consider transporting patient' Sequence step 'Take SAMPLE history' Decision process 'Patient in labour' 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' Mandatory sequence step 'Cover newborn in polythene wrap/bag up to neck without drying first' *Added* Decision process 'Birth imminent' replaces 'Birth imminent or travel time too long' 'Consider ALS' replaces 'Request ALS' Sequence step 'Request second crew' Instruction box 'Consider Additional crew for each baby expected' Decision process 'Malpresentation' replaces 'Breech birth' Decision process 'Risk factors' Sequence step 'Initiate rapid transport – Pre-alert labour ward – Optimise resuscitation of mother' Mandatory sequence step 'Aim: birth in hospital' Sequence step 'Mother to adopt position of comfort and prepare environment & equipment for birth' replaces 'Position mother and prepare equipment for birth' Sequence step 'Monitor vital signs' replaces 'Monitor vital signs and BP' Decision process 'Pre-hospital delivery' Mandatory sequence step 'Warm, dry, stimulate baby. Check ABCs' replaces 'Dry baby and check ABCs' Mandatory sequence step 'Check for second baby' Sequence step 'Skin to skin contact' replaces 'Wrap baby and present to mother (Skin to skin preference)' Sequence step 'Encourage breastfeeding (no contraindications)' nstruction 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'

CPGs	The principal differences are
	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' Transport 'To Obstetric Unit' *Medication updates* Consider treatment 'Consider analgesia' replaces 'Consider Nitrous Oxide & Oxygen'
CPG 4/5/6.12.5 Umbilical Cord Complications	*Deleted* 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' Sequence step 'Attempt to slip the cord over the baby's head' Sequence step 'Ease the cord from around the neck as shoulders are delivered' Consider treatment 'Nifedipine 20 mg PO' *Added* Instruction box 'Use a hands off approach unless there are complications. Avoid touching cord. Avoid manipulation, traction and stimulation until baby is fully delivered' 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' Sequence step 'Avoid excessing manipulation and traction on the cord' Sequence step 'Apply additional clamps to cord on either side of the rupture' replaces 'Apply additional clamps to cord' 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' 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 Sequence step 'Minimal handling of cord and cover with sterile pad' replaces 'Maintain cord temperature and moisture' 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 Mandatory sequence step 'Rapid transfer to Obstetrics Unit' Transport 'To Obstetric Unit'

CPGs	The principal differences are
CPG 4/5/6.12.6 Post Pregnancy Care (Including miscarriage and abortion)	The CPG is retitled 'Post Pregnancy Care (Including miscarriage and abortion)' (previously Postpartum Haemorrhage) The CPG entry point is updated to '≤ 6 weeks Post-partum' The CPG treatment pathway is significantly reorganised *Deleted* 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' *Added* 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 ≥ 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 x 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

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

CPGs	The principal differences are
CPG 4/5/6.13.1 Primary Survey Medical – Paediatric	*Added* 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'
CPG 4/5/6.13.2 Primary Survey Trauma – Paediatric	*Added* 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' Sequence step 'Jaw thrust' replaces sequence step 'Jaw thrust (Head tilt/ chin lift)'
CPG 4/5/6.13.4 Secondary Survey – Paediatric	*Added* 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'
CPG 4/5.13.5 Foreign Body Airway Obstruction – Paediatric	The CPG treatment pathway is reorganised with the introduction of a cyclical process *Deleted* Sequence step '1 to 5 back blows followed by 1 to thrusts as indicated' Instruction box 'After each cycle of CPR open mouth and look for object. If visible attempt once to remove it' *Added* Cyclical process '1 to 5 back blows' - '1 to 5 thrusts (child - abdominal thrusts – infant – chest thrusts) - 'If patient becomes unresponsive' Decision process 'Effective' 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'
CPG 4/5/6.13.7 Abnormal Work of Breathing – Paediatric	The CPG is retitled Abnormal Work of Breathing – Paediatric (previously Inadequate Ventilations – Paediatric)

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

CPGs	The principal differences are
CPG 4/5/6.13.9 Stridor – Paediatric	*Added* Consider treatment option 'Consider humidified O_2 – as high a concentration as tolerated' is a non-core element for EMT, paramedic and AP level and replaces sequence step 'Humidified O_2 – as high a concentration as tolerated'. Mandatory sequence step 'Do not insert anything into the mouth (other than PO medications for croup)' replaces 'Do not insert anything into the mouth' 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' Instruction box 'Maximum Dexamethasone administered within the past 72 hours not to exceed 600 mcg/kg' Medication Updates Oxygen therapy and sequence step 'Humidified O_2 – as high a concentration as tolerated' have been uncoupled
CPG 4/5/6.13.11 Glycaemic Emergency – Paediatric	*Added* Consider treatment option 'Consider Ketone measurement' is a non-core element for EMT, Paramedic and AP level Medication Updates Glucagon age specific doses IM are revised
CPG 4/5/6.13.13 Pain Management – Paediatric	*Added* 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'. 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 Instruction box 'Repeat Ketamine PRN at not < 10 minutes.' replaces 'Repeat Ketamine once only at < 10 minutes prn. Instruction box 'Poly-opiate administration should be avoided where possible – where multiple opiates are administered continuous patient monitoring is essential' Medication Updates Paracetamol PO dose is revised to 15 mg/kg

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

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

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

CPGs	The principal differences are
CPG 4/5/6.13.20 Sepsis – Paediatric (contd.)	*Added* Sequence step 'SpO_2, BP, RR, $ETCO_2$ & ECG monitoring' replaces 'ECG, SpO_2 & BP monitoring' Mandatory sequence step 'Abnormal physiology? Source of infection considered' Decision process 'Sepsis Red or Amber Flag +/- risk factors' Decision process 'Evidence of inadequate perfusion' Instruction box 'Titrate SpO_2 ≥ 94%' 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' 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' Sequence step 'Monitor clinical condition; re-evaluate for possible sepsis if clinically indicated' Decision process 'Clinical status improving' Decision process 'Consider 2nd fluid bolus' Instruction box 'High Consequence Infectious Disease (HCID) ensure appropriate PPE is worn; Long sleeve gown, Facemask, Eye protection' Special instruction box 'If infection advise Triage nurse' replaces 'If SIRS + infection advise Triage nurse' **Medication Update** Paracetamol PO dose is revised to 15 mg/kg
CPG 4/5/6.13.21 Allergic Reaction/ Anaphylaxis - Paediatric	Medication Updates Chlorphenamine age specific doses IM are revised Adrenaline (1:1000) age specific doses IM are revised
CPG 4.13.26 Post-Resuscitation Care – Paediatric	*Deleted* Instruction box 'Titrate O_2 to 96% - 98%' *Added* Sequence step 'Avoid warming' replaces sequence step 'Prevent warming'
CPG 4/5/6.14.2 VF or pVT – Adult	*Added* Mandatory sequence step 'Defibrillate' replaces 'Defibrillate (escalating energy)' 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

APPENDIX 4 - CPG Updates
for Emergency Medical Technicians

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

NOTES

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2nd Floor, Beech House, Millennium Park, Osberstown, Naas, Co. Kildare W91 TK7N
045 882042 info@phecc.ie

www.phecc.ie