

Medical Emergencies in Dental Practice
July 2022

Medical Emergencies in Primary Dental Care

Cardio Pulmonary Resuscitation

Adult AED Awareness

Verifiable CPD Educational Learning and Training Initiative

**To Statements and recommendations of the General Dental Council
"Scope of Practice" 2013. Resuscitation Council (UK) Guidelines 2021.
Standards for Clinical Dental Practice, Dental Practitioners,
Dental Care Professionals and Dental Technicians**



Please add your name:

GDC Registration No.....

Duty of Care

During the course of the session you will be asked to take part in simulations. These will require you to participate in simulated emergency procedures which will require you to bend, kneel, and lay flat. Due to the nature of this training these movements will be carried out on the floor and require you to have a level of physical fitness and movement. Also, if you are at any stage of pregnancy which will or may cause you or your unborn baby any harm whatsoever, please exclude yourself from taking part in simulations.

You may come into contact with different materials and substances: **Rubber, Latex gloves, Alcohol based Cleaning Wipes, Plastic Vent Aids.**

Are you aware of experiencing an allergic reaction to any of the above? This may include swelling, irritation or breathing difficulties. **If yes please discuss with trainer before commencing training.**

Please also be aware that for the prevention of cross infection, candidates will be unable to take part in the mouth to mouth resuscitation simulation if they have the Herpes virus (cold sore) sore throat or upper airway infection. Lipstick needs to be removed, prior to the resuscitation training.

Please read the following carefully:

Having thoroughly read the above, I consider that I am able to undertake the planned First Aid and Medical Emergency Training.

I agree to notify the trainer if I am experiencing any difficulty meeting the physical requirements of the training.

I am aware that if I have experienced in the past or begin to experience an allergic reaction during the course (this may include swelling, irritation or breathing difficulty) to any of the materials and substances listed above, I will notify the trainer immediately.

Disclaimer

This guide is intended to be used in conjunction with the latest guidance from the national bodies such as The Resuscitation Council (UK), BNF, NICE, GDC, Department of Health etc.

- These are guidelines and not a substitute for clinical knowledge and sound clinical judgement.
- Guidelines cannot determine appropriate care and cannot address all individual situations.
- The user of these guidelines must always be aware that such innovations or alterations can and do change.
- **Dental Practitioners and dental care professionals have a responsibility to ensure that they keep up to date with current knowledge and ensure that they are aware of any changes.**

Mr James Corlass and Associates do not guarantee and accept no legal liability of whatever nature arising from or connected to the accuracy, reliability or completeness of content within these guidelines.

Mr James Corlass and Associates make no representation, express or implied, that the drug doses in this booklet are correct. Readers must therefore always check the product information and clinical procedures with the most up-to-date product information and data sheets provided by the manufacturers and the most recent codes for conduct and safety regulations.

Mr James Corlass and Associates wish to develop and maintain a trust and a respected relationship with your Dental Practice and Staff within and offer sound and practical advice on all aspects of dealing with Medical Emergencies and Basic Life Support within the General Dental Practice.

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Medical Emergencies Training

'A patient could collapse on any premises at any time, whether they have received treatment or not.

It is therefore essential that ALL registrants are trained in dealing with medical emergencies, including resuscitation, and possess up to date evidence of capability.'

General Dental Council Scope of Practice 2013.

Training programme contents

1. Welcome
2. Registration
3. Please ensure that **mobile phones** are set to silent for the respect and courtesy of all.
4. Back to basics
5. Medical Oxygen
6. Airway Management
7. Recovery & unconscious patient
8. CPR & Defibrillation
9. Syncope
10. Anaphylactic shock
11. Cardiac emergencies
12. Hypoglycaemia
13. Asthma
14. Prolonged convulsions
15. End course evaluation

Learning aims and objectives:

By the end of the course, the delegate will be able to demonstrate the skills of Primary and Secondary Survey, Airway management, Basic Life Support (CPR), Care of the unresponsive patient, and a level of skill in dealing with medical emergencies in general dental practice. Documentation / administration of the clinical incident report.

Overview: Medical Emergencies in General Dental Practice

1. Medical emergencies can happen at any time. Dental Professionals should be competent in managing the common medical emergencies.
2. In the event of any significant medical emergency an ambulance should be summoned at the earliest opportunity.
3. The Dental Practitioner should accompany the patient to hospital with written documentation and should have details of the time, dental procedure (if any), medical emergency, any treatment given and the name of the Dental Practitioner.
4. Relatives should be informed at the earliest opportunity.
5. All dental practices should have a process for medical risk assessment of their patients.
6. All members of staff need to know their role in the event of a medical emergency, **to a level appropriate to their expected clinical responsibilities.**
7. Specific emergency drugs and items of emergency medical equipment should be immediately available in all dental surgery premises... these should be standard throughout the UK.
8. Dental practitioners and Dental Care Professionals should all undergo regular basic training in cardiopulmonary resuscitation (CPR), basic airway management and the use of an AED. They should have knowledge and understanding of medical emergency drugs available in general dental practices.
9. There should be regular practice scenario based exercises of simulated medical emergencies. Evidence based training record of such training should be kept with a signature of evidence of attendance.
10. An audit of all medical emergencies should take place; a clinical report form must be completed on all medical emergencies. Ideally, the audit should include periods of debriefing after any medical emergency. Regular staff meeting will often provide the ideal forum for such discussions.
11. Staff skills should be updated annually. All general dental practices should recognise the need for this and make provision for staff to have sufficient time to train in resuscitation skills as part of their employment.
12. All training should be recorded in a database (evidence based teaming with a signature of evidence of attendance)
13. It is expected that AEDs should be available in every healthcare environment and the Dental Surgery is not seen as an exception.

Suggested Medical Emergency Dental Team Response Protocol

Stay Calm

1. At presentation of medical emergency: use 'MR RED' instant message protocol to alert all practice staff of the emergency.
2. Dental nurse to leave surgery and return with medical emergency kit (Emergency Drugs, Medical Oxygen, AED).
3. Other dental practitioners to leave their surgery and report to the surgery with the medical emergency: the dental nurse should remain in the surgery when dentist leaves to reassure the patient (if any.)
4. Dental Practitioners to carry out a primary survey of the patient.
5. If more than 2 Practitioners, decide who will be the 'team leader (to oversee safe practice but not to get involved in clinical care).
6. Dental Practitioners to carry out a secondary survey and decide on diagnosis and treatment.
7. If necessary, advise reception team to call 999 for an ambulance, stating full practice name, address phone number and post code (The time of call must be recorded with Ambulance 999 Ref number).
8. Whilst dental practitioners perform treatment: the dental nurse must gather a copy of patient's: full medical history. If the patient is responsive confirmation from them if they would like their next of kin to be informed. Unresponsive - inform next of kin at the earliest opportunity.
9. A member of staff to don high visibility jacket and stand outside the practice, awaiting arrival of the ambulance, ready to swiftly direct the emergency service team into the practice.
10. Once ambulance service arrive, the dental practitioner / team leader to give professional handover: full details of event, diagnosis, treatment, drug therapy and provide patients medical history and Dental treatment / Dental Drugs given.
11. After the event, a staff debrief should be carried out. Incident report form, Medical Emergency report form to be completed and actioned in line with policy.
12. Medical Emergency Drugs and Equipment and Medical Oxygen should be replenished if necessary.
13. If at any time, only one surgery is running, with only one dentist on site, the dental nurse will replace the role of the second dentist and the receptionist will take the role of calling 999, collecting patient documents and directing the emergency services into the building.

Good Medical Practice: Treatment in Emergencies

In an emergency, wherever it arises, you must offer assistance, taking account of your own safety, your competence, and the availability of other options for care.

Circumstances may arise in which a patient cannot be informed about the disclosure of information, for example, in a medical emergency. In such a case, you should pass relevant information promptly to those providing the patients care. If and when the patient is capable of understanding, you should inform them of how their personal information was disclosed if it was in a way that they would not reasonably expect.

Confidential Guidance: Disclosing information with consent

Seeking a patients consent to disclose information shows respect, and is part of good communication and practice between the dental practice and their patients.

Sharing Information within the healthcare team or with others providing care

Most patients understand and accept that information must be shared within the healthcare team in order to provide their care. You should make sure information is readily available to patients, explaining that, unless they object, personal information about them will be shared within the healthcare team, including administrative and other staff who support the provision of care.

You must respect the wishes of any patient who objects to particular information being shared within the healthcare team or with others providing care, unless disclosure would be justified in the public interest. If a patient objects to a disclosure that you consider essential to the provision of safe care, you should explain that you cannot refer them or otherwise arrange for their treatment without also disclosing that information.

[http://www.gmc-uk.org/confidentiality core 2009](http://www.gmc-uk.org/confidentiality%20core%202009)

Equipment List

Suggested Minimum Equipment List, Basic Life Support (CPR) *(To be immediately available)**

Item	Comments
AIRWAY AND BREATHING	
Protective equipment - gloves, aprons, eye protection	
Pocket mask with oxygen port	
Portable suction e.g. Yankauer	
Oropharyngeal airways	Sizes 0,1,2,3,4
Self-inflating bag with reservoir (adult)	
Self-inflating bag with reservoir (child)	
Clear face masks for self-inflating bag	sizes 0,1,2,3,4
Oxygen cylinder	
Oxygen masks with reservoir	
Oxygen tubing	
CIRCULATION	
Automated external defibrillator (AED)	Type of AED and location determined by a local risk assessment. Consider facilities for paediatric use, especially for practices that treat children.
Adhesive defibrillator pads	Immediate
Razor	Immediate
Scissors	Immediate

*The Resuscitation Council (UK) (updated 31 October 2018)

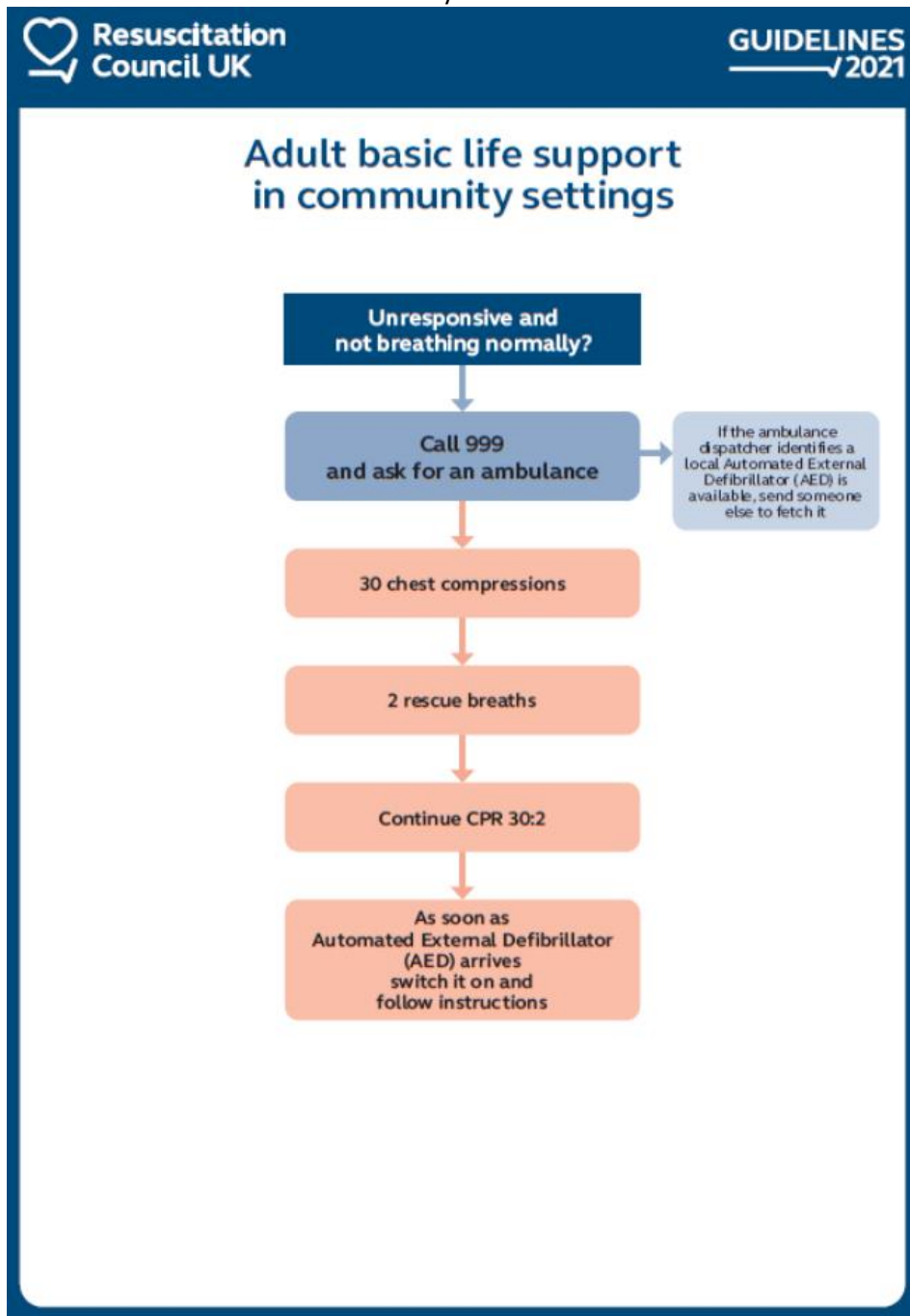
Medications and Other Medical Emergency Equipment *(To be immediately available)**

Item	Comments
Adrenaline/epinephrine Injection	Adrenaline 1:1000 (Caution – not to be confused with 1:10,000) (adrenaline 1 mg/mL as acid tartrate), 1 mL amps
Aspirin	Dispersible Tablets 300 mg
Glucagon Injection	Glucagon (as hydrochloride), 1- unit vial (with solvent) <i>(Extended shelf life when kept in fridge)</i>
Glucose	Glucose (for administration by mouth), glucose gel, high glucose drink, dextrose tablets etc.
Glyceryl trinitrate (GTN) Spray	
Midazolam Oromucosal Solution	
Oxygen	
Salbutamol	Salbutamol Aerosol Inhalation, salbutamol 100 micrograms/ metered inhalation. (Ventolin)
Single use sterile syringes and needles.	eg. 21g Needles (green – adult), 23g Needles (blue – children/small adult), small gauge/mixing/drawing-up needles.
'Spacer' device for inhaled bronchodilators.	
Automated blood glucose measurement device.	
Irrigation Solution	Eye care.

*See BNF for more details.

Primary Survey, CPR and AED: Protocol

1. **Danger** - Assess the scene for safety.
2. **Response** - Assess for patient by talking, shouting and tapping their shoulders.
3. **Shout for help**
4. **Airway** – Use a head tilt, chin lift to open the airway.
5. **Breathing** - Look, listen and feel (up to 10 seconds) for normal breathing. **If not breathing Start CPR**
6. **Circulation** – (If patient is breathing) Check for obvious injuries or bleeding, look at the colour of the skin.
7. **Send someone to call ambulance and return with AED**
8. **Commence CPR:** 30 chest compressions, 5-6 cm depth, 100 - 120 times per minute
9. **Two rescue breaths:** each one second long - see rise and fall of chest
10. **Prepare AED:** switch on
11. **Prepare patients bare chest:** Dry if wet, shave hair if present, remove medical patches and jewellery
12. **Follow voice prompts:** place electrode pads securely and correctly on patient's bare chest
13. **Analyse:** Follow voice prompts
14. **Do not touch patient,** keep everyone clear
15. **If shock advised:** follow voice prompt ~ **shout 'stand - clear'- press shock button**
16. **Continue CPR, following AED voice prompts** until: A health professional tells you to stop, you become exhausted, the victim is definitely waking up, moving, opening eyes and breathing normally



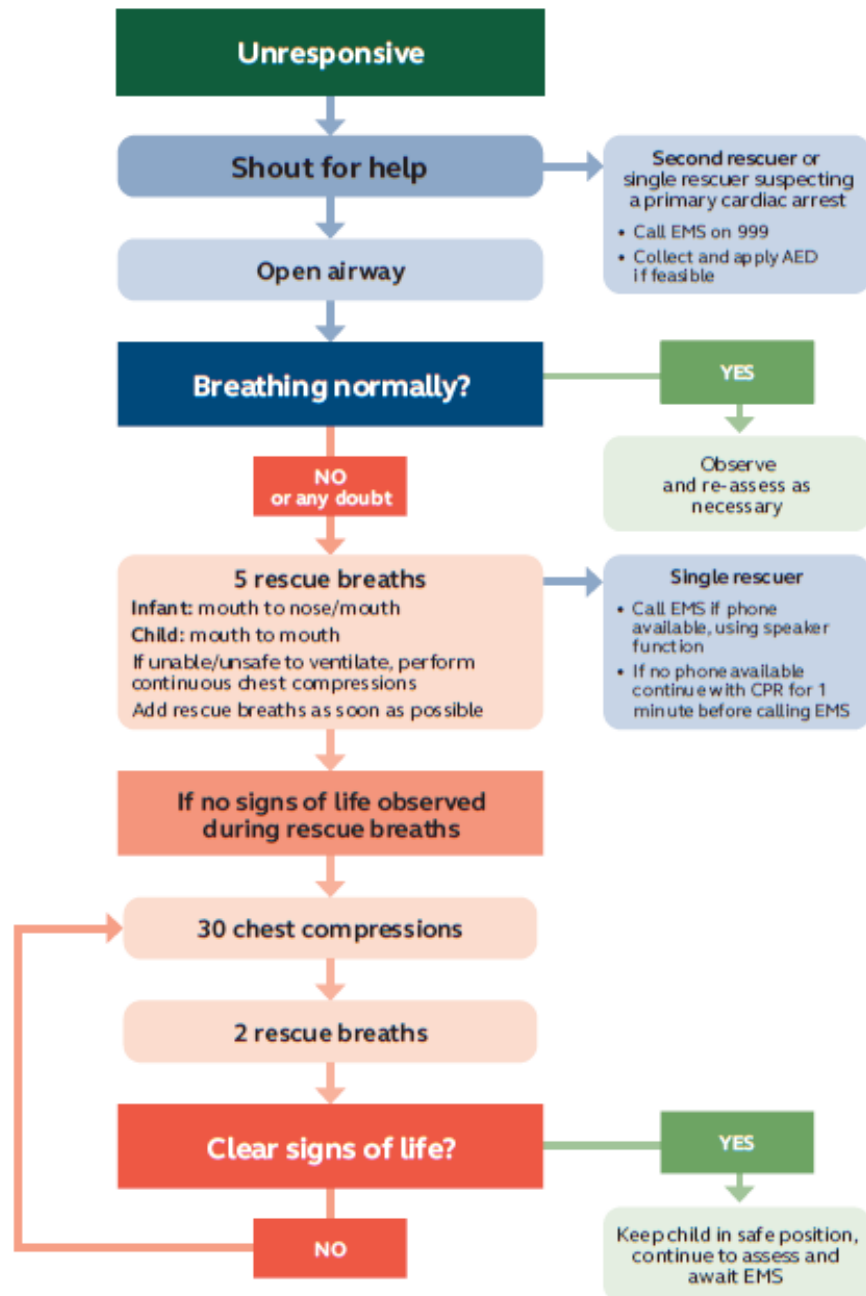
Acknowledgement: Algorithms reproduced with permission of the Resuscitation Council (UK)

Additional Information

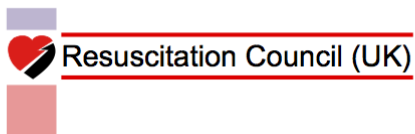
- Chest compressions should be to a depth of 5–6 cm
- Give chest compressions at a rate of 100-120 p/min.
- **Do not interrupt resuscitation until:**
 - A health professional tells you to stop
 - You become exhausted
 - The casualty is definitely waking up, opening eyes and/or breathing normally

It is rare for CPR alone to restart the heart. Unless you are certain the person has recovered continue CPR.

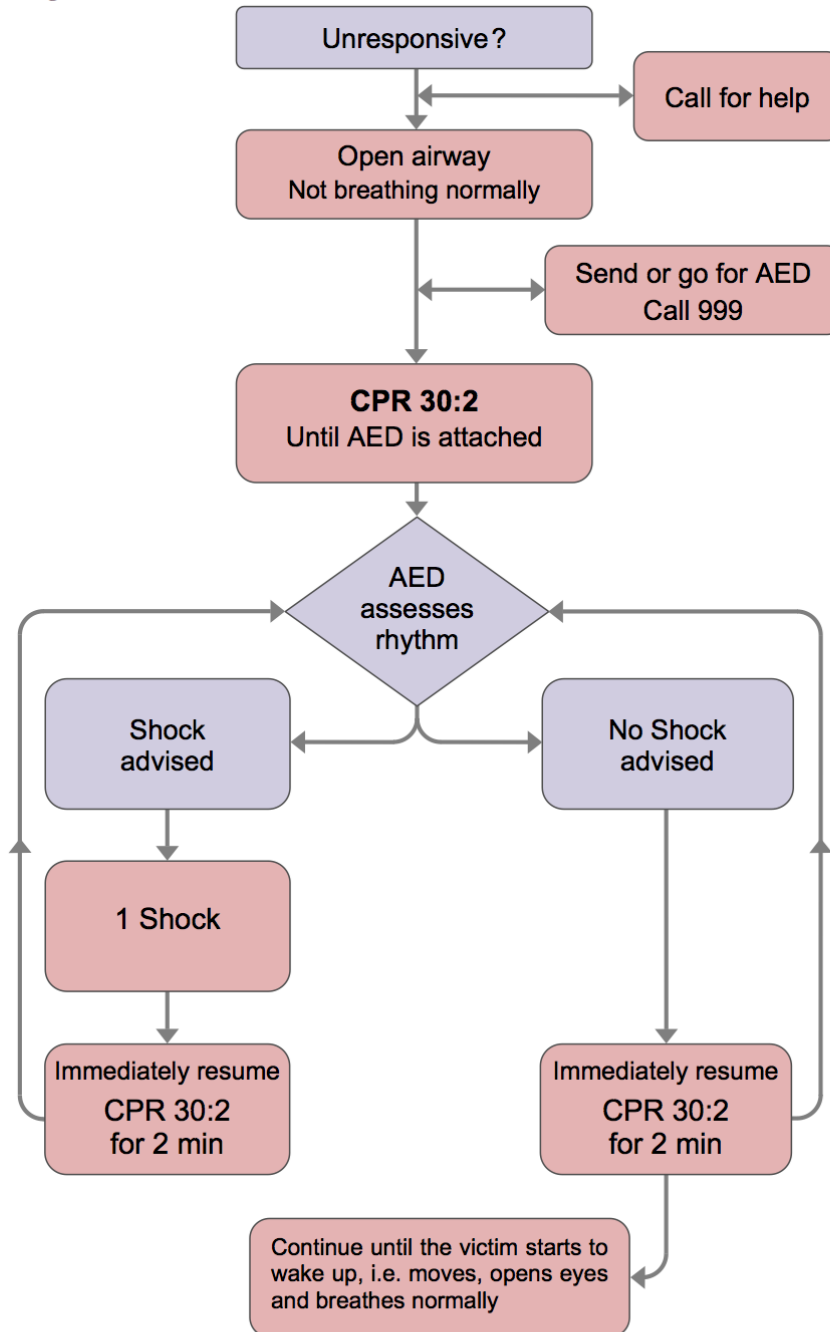
Paediatric out-of-hospital basic life support



Those trained only in 'adult' BLS (may include healthcare providers and lay rescuers) who have no specific knowledge of paediatric resuscitation, should use the adult sequence they are familiar with, including paediatric modifications.



AED algorithm



Acknowledgement: Algorithms reproduced with permission, Resuscitation Council (UK) 2010 Guidelines (Not changed in 2021).



Approximately 30,000 people sustain cardiac arrests outside of the hospital in UK each year. Cardiac arrests can be caused by ventricular fibrillation (VF) or pulseless Ventricular Tachycardia (VT). The delay from collapse to defibrillation is the single most important determinant of survival. Prompt defibrillation can achieve survivor rates as high as 75%. Each minute of delay reduces survival by 10%. Around 20% of persons suffering cardiac arrest are not in a shockable rhythm. The AED (Automated external defibrillator) will identify that rhythm automatically. Chest compressions and ventilation must be continued throughout, at a rate of 100-120 chest compressions per minute and at a ratio of 30:2, so every 30 compressions, 2 ventilations should take place.

*Ambulance paramedics can certify death of a patient if they've been in unshockable rhythm with Asystole (flat-line) rhythm or PEA (Peripheral, pulseless electrical activity, a bizarre electrical activity with no cardiac output) and fixed dilated pupils, for more than 20 minutes. Resuscitation attempts may be discontinued, under the direction of the paramedic with a team decision. You cannot make this decision without the ECG reading. *Reference: *JRCALC - Joint Royal Colleges Ambulance Liaison Committee. (UK ambulance service) Clinical practice guide-lines 2013*

This is background knowledge; the paramedics AED have facilities to display an ECG reading. It's a misconception that defibrillation starts the heart, when in fact, it stops the heart. The electrical charge depolarises the myocardium which gives the heart's natural pacemaker (the Sino-atrial node) time to re-compose itself and send out the correct coordinated electrical activity to the cardiac muscle which in turn re-establishes the cardiac output.

Definition of Defibrillation: defined literally as the termination of the fibrillation. The shock depolarises a clinical mass of myocardium to enable restoration of coordinated electrical activity, hopefully resulting in a cardiac output. *Please remember in severe blood loss, cardiac output is less likely to return to normal output.*

Who can use an AED?

'While it is highly desirable that those who may be called upon to use an AED should be trained in their use, and keep their skills up to date, circumstances can dictate that no trained operator (or a trained operator whose certificate of training has expired) is present at the site of an emergency. Under these circumstances no inhibitions should be placed on any person willing to use an AED.'

It is the view of the Resuscitation Council (UK) that **the use of AEDs should NOT be restricted to trained personnel.'** (*Resuscitation Council (UK) 2021*)

Use of AED in children

The Resuscitation Council (UK) has clarified guidelines for use of an AED in children:

- Persons >eight years of age standard adult size pads should be used.
- Children aged 1 to 8 years paediatric pads should be used.
- If not all available, standard adult size adult pads can be used.

Secondary Survey

1. Ask **SAMPLE** questions:

S Signs and Symptoms

A Allergies

M Medications

P Past Medical History

L Last Meal

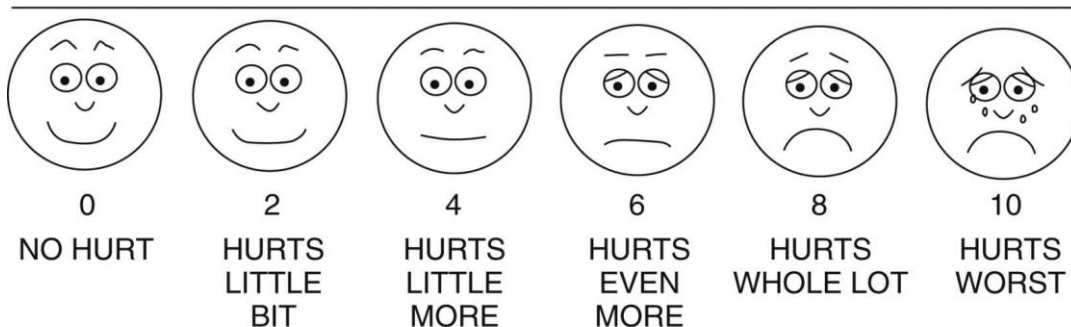
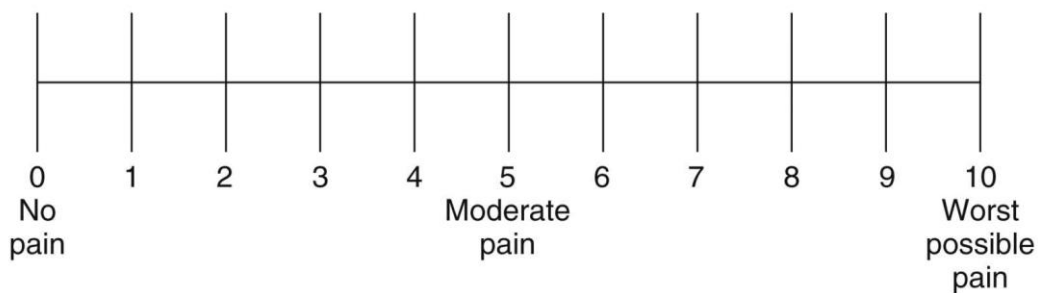
E Event History, leading up to the emergency

2. Check Vital Signs

3. Head to toe check (if necessary)

Pain Scoring

Numerical Rating Scale



Wong-Baker FACES Pain Rating Scale

Recovery Position



Place patients arm nearest you at a right angle, as if to 'stop traffic' DO NOT force it to the floor.

Move the patients other arm, as shown, with the back of their hand against their cheek (palm out).



Then get hold of the knee furthest from you and pull up until foot is flat on the floor.

Pull the knee towards you, keeping the patients hand pressed against their cheek, and position the leg at a right angle.



Make sure that the airway remains open by tilting the head back and lifting the chin. Check breathing.



Check circulation in lower arm is not restricted. No longer than 30 minutes, then they should be turned onto the opposite side.

If necessary, cover the patient with a blanket to keep them warm and protect dignity.

Medical Oxygen (O₂) administration

Indications

Children

- Significant illness and/or injury.

Adults

- Critical illnesses requiring high levels of supplemental oxygen. (CPR, Major Trauma, Shock, Anaphylaxis)
- Serious illnesses requiring moderate levels of supplemental oxygen if the patient is hypoxaemic.
- COPD and other conditions requiring controlled or low-dose oxygen therapy. (See below)
- Conditions for which patients should be monitored closely but oxygen therapy is not required unless the patient is hypoxaemic. (Stroke, Abdominal pain, headache)

Contra-Indications

Explosive environments

Cautions

Oxygen increases the fire hazard at the scene of an incident.

Defibrillation – ensure pads firmly applied to reduce spark hazard. (Move oxygen away)

Side Effects

Non-humidified O₂ is drying and irritating to mucous membranes over a period of time.

In patients with COPD there is a risk that even moderately high doses of inspired oxygen can produce increased carbon dioxide levels which may cause respiratory depression and this may lead to respiratory arrest.

Dosage and Administration

- Measure oxygen saturation (SpO₂) in all patients using pulse oximetry.
- The fundamental indication is the presence of hypoxia (a condition in which the body or a region of the body is deprived of adequate oxygen supply) due to whatever cause.
- Alternate masks/nasal cannulae may be required for patients with for example COPD, tracheostomy.
- **Special care** is needed when oxygen is administered to patients that present with **Paraquat/Bleomycin poisoning, COPD (Chronic obstructive pulmonary disease), Give Medical Oxygen in Medical Emergencies**

Pulse Oximetry

1. Normal healthy range of oxygen saturation is **94-99%**. *Remember 'Treat the patient, not the machine'.*
2. **Chronic bronchitic** patients, **COPD** (Chronic obstructive pulmonary disease) – aim for target saturation within the range of **88-92%** or **pre-specified range** detailed on patients alert card.
3. **Carbon monoxide poisoning** – Some pulse oximetry monitors cannot differentiate between carboxyhaemoglobin and oxyhaemoglobin meaning that the device may not show low levels of oxygen in the patient with carbon monoxide poisoning.

Warnings

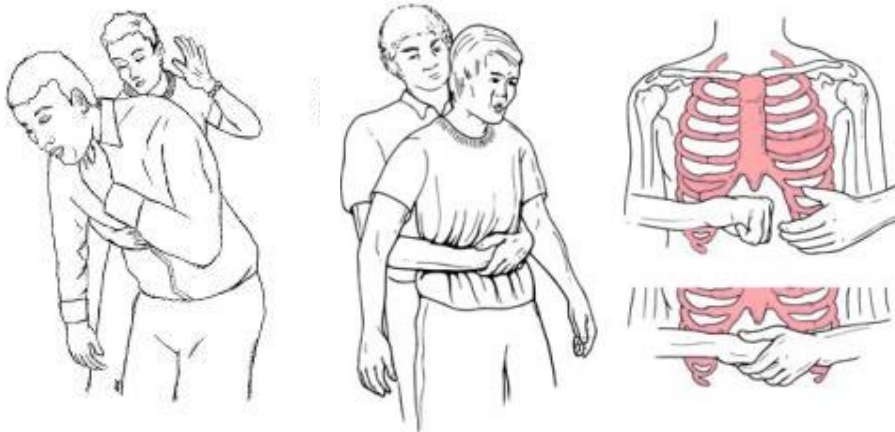
- Shelf life: 36 months from date of filling of O₂ cylinder.
- A warning notice prohibiting smoking and naked flames must be posted clearly in the cylinder storage area.
- Oxygen supports combustion; smoking and the use of naked flame should be prohibited when oxygen is in use.
- Oxygen is highly dangerous in the presence of oils, greases, tarry substance and many plastics. This is due to the risk of spontaneous combustion in the presence of compressed medical oxygen in relative high concentrations.
- Care is needed in the handling and use of medical oxygen gas cylinders.

(Correct at time of printing, to be used in conjunction with clinical guidance.)

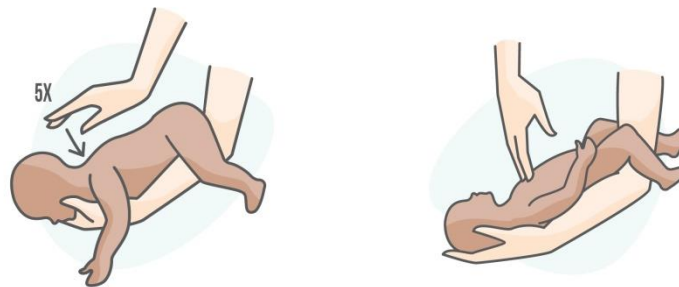
Further Information: BOC Gasses Tel: 0330 173 3109

Choking Adult and Child

1. **Stay Calm...** Ask the casualty **“Are you choking?”**
2. Encourage them to cough vigorously. Remove any obvious obstructions.
3. **If cough is ineffective:** Stand to the side and slightly behind the casualty, support their chest with one hand, and help them lean forward.
4. **Give up to 5 sharp back blows** between the shoulder blades, **stop if the obstruction clears.** Check mouth.
5. If the back blows fail to clear the obstruction, **try up to 5 abdominal thrusts.** This will be demonstrated. (Always refer the casualty for a check-up after abdominal thrusts)
6. Check the patient’s mouth, if the obstruction is still not cleared, **call 999/112.**
7. Continue alternating five back blows with five abdominal thrusts until help arrives, the obstruction is cleared or the casualty becomes unconscious.
8. **If unconscious, start CPR** and call 999/112 for ambulance.



Adult and children over 1 year.



For an infant (<1 Year) perform up to 5 back blows followed by up to 5 chest thrusts, NOT abdominal thrusts.

Cardiac Emergencies: Angina, Myocardial Infarction, any chest pain

These are only guidelines and not a substitute for clinical knowledge

1. Stay Calm, DRABC.
2. Signs and Symptoms? Previous history? Angina? (Remember: No two heart attacks are the same, some patients may not have obvious symptoms/pain)
3. 999: Ambulance
4. Allow the patient to rest in the position that feels most comfortable; in the presence of breathlessness this is likely to be sitting position, whereas the syncopal patient should be laid flat; often an intermediate position (dictated by the patient) will be most appropriate.
5. Oxygen may be given (15 litres per minute) (See BNF)
6. Pain Scoring 0 to 10
7. Drugs:

GTN (providing 400 MCGs per dose) via the mouth: spray under the tongue. Tell the patient to close their mouth but DO NOT inhale the spray: check capillary refill. Repeat GTN after 5 minutes if pain persists (Max 800MCGs).

Indication (Dental Setting)	Contra-indications	Cautionary note: side effects
Cardiac chest pain due to angina or myocardial infarction, when systolic blood pressure is greater than 90mmHg . If no history of angina, it may be better to wait for an ambulance crew to carry out an ECG before administering GTN. (Posterior MI or right-ventricular infarct)	<ul style="list-style-type: none">• Viagra or other erectile dysfunction drug has been taken in the last 24 hours• Systolic Blood Pressure <90mmHg in Angina/Myocardial infarction• Unconscious patient• Known severe aortic or mitral• Hypovolaemia (loss of blood)• Head Injury/cerebral haemorrhage	Hypotension, headaches, dizziness

Ref: JRCALC 2022

ASPIRIN 300 MG: to be chewed by the patient.

Indication (Dental Setting)	Contra-indications	Cautions
Clinical or ECG evidence suggestive of myocardial infarction or ischaemia.	<ul style="list-style-type: none">• Known aspirin allergy or sensitivity.• Children under 16 years.• Active gastrointestinal bleeding.• Haemophilia or other known clotting disorders.• Severe hepatic failure with jaundice.	As the likely benefits of a single 300 milligram dose of aspirin outweigh the potential risks, aspirin may be given to patients with: <ul style="list-style-type: none">• Asthma.• Pregnancy.• Renal failure.• Gastric or duodenal ulcer.• Current treatment with anticoagulants.• Moderate hepatic disease without jaundice.

Ref: JRCALC 2022

Unresponsive Patient

1. Monitor A.B.C. and BP
2. Oxygen therapy at high rate
3. Call 999/112 for ambulance

Emergency Action Plan

Anaphylactic Shock

These are only guidelines and not a substitute for clinical knowledge

Quickly remove from trigger if possible but **DO NOT** delay treatment.

1. **Stay Calm, DRABC.**
2. **999 for Ambulance.** State 'Anaphylaxis'
3. **Lay patient down and elevate legs/semi-recumbent position (if patient has predominantly respiratory symptoms and no evidence of cardiovascular instability).** (Recovery position if unconscious and at risk of vomiting)
4. **Drugs: Administer Adrenaline intramuscular (IM) - Use 1mg/mL [1:1000] stat. (antero-lateral aspect of thigh)**
 - **Adult and Children above 12 years: 500 micrograms IM (0.5 mL of 1 mg/ml adrenaline) IM**
 - **Children 6-12yrs: 300 micrograms (0.3 mL) IM**
 - **Children 6 months - 6 years: 150 micrograms (0.15 mL) IM**
 - **Infants < 6 months: 100 – 150 micrograms (0.1 to 0.15 mL) IM**

*repeat at five minute intervals if necessary.

STOP, STOP, STOP - IM Adrenaline if Cardiac Arrest.

- Adrenaline IM is not beneficial, once cardiac arrest has occurred
5. **Oxygen therapy high rate** (15 litres per minute, Pulse Oximetry)
 6. **Salbutamol inhaler with spacer device if wheeze/tight chested**, continue oxygen therapy at high rate.

Consider anaphylaxis if: Sudden onset and rapid progression **Airway** and/or **Breathing problems** (e.g. Bronchospasm and laryngospasm with breathing difficulties, hoarseness, stridor, wheeze, throat and chest tightness) and/or **Circulation** (e.g. Rapid weak pulse together with fall in blood pressure, pallor, syncope, pronounced tachycardia) and/or **Skin** (e.g. Paraesthesia, flushing, and swelling of face, urticarial, mucosal changes, generalised itching, especially of hands and feet)

Time critical: nasal flaring, exhaustion, falling BP.

If life threatening: nasal flaring, exhaustion, falling blood pressure (increased capillary refill time) pulse and respiratory function, silent chest, confusion, incontinence, abdominal cramps and finally cardiac arrest.

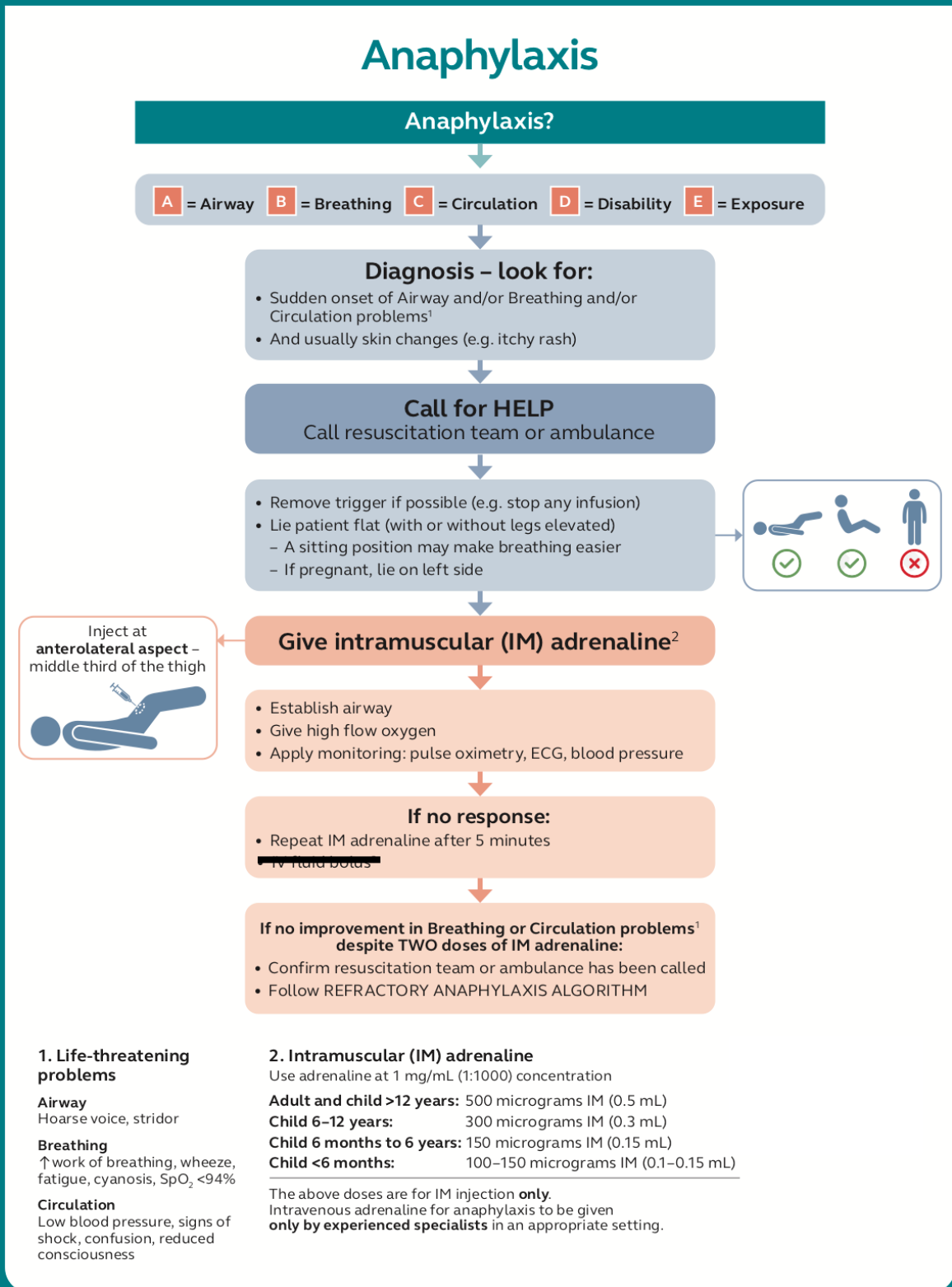
If life threatening symptoms persist: repeat the dose as necessary at **five minute intervals**.

Medication and Equipment List: Anaphylaxis

1. 2 x Adrenaline Injection 1 in 1000 - 1ml Vial
 2. 4 x 1ml Syringe
 3. 4 x Drawing up Needles
 4. 4 x 21 g Needle (green - adult)
- A 25 mm (length) needle is best and is suitable for all ages. (DoH UK recommendation)

Standards for clinical practice and training for dental practitioners and dental care professionals in general dental practice

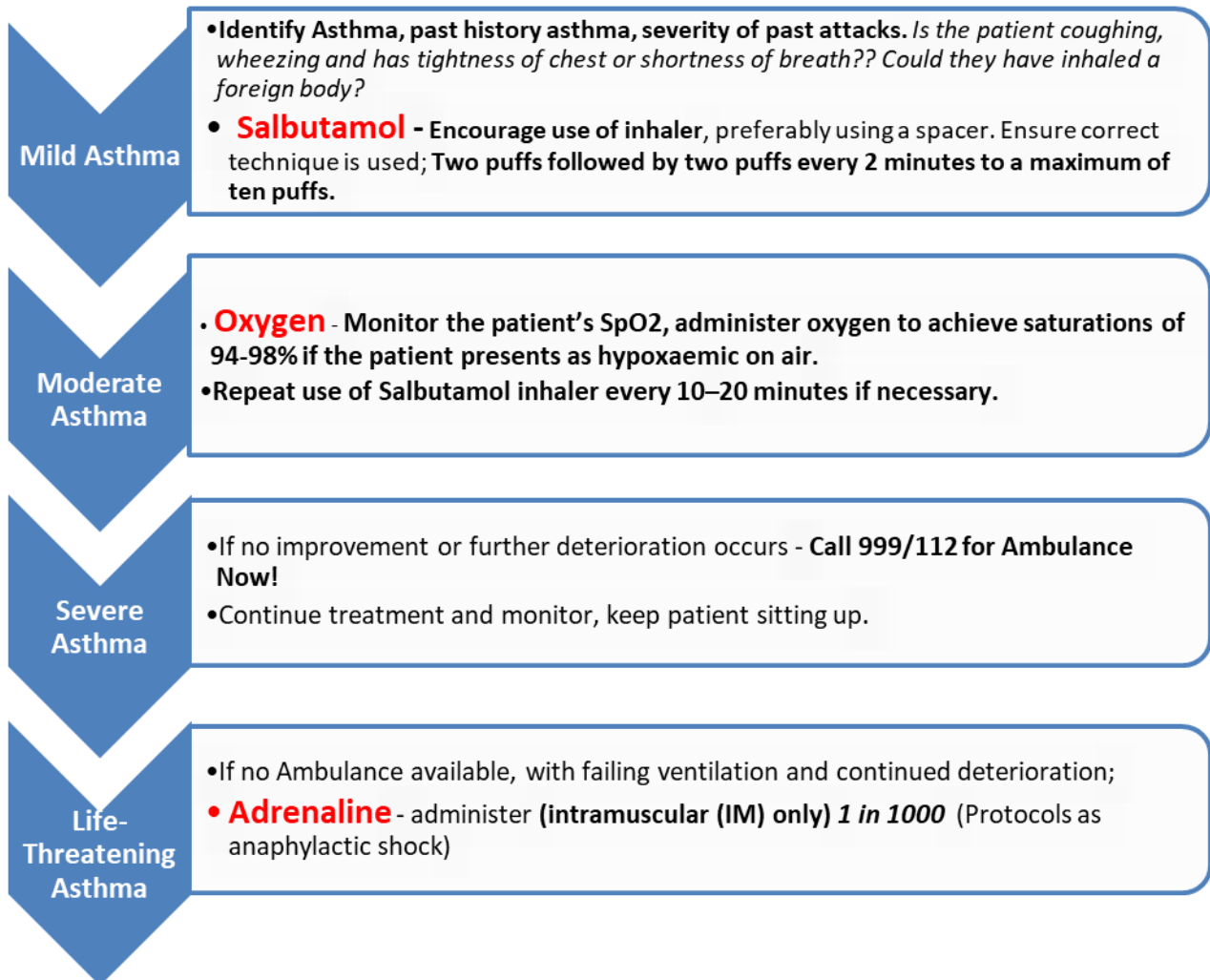
Anaphylaxis Algorithm



Acknowledgement: Algorithms reproduced with permission, Resuscitation Council (UK) 2021. (Adjusted for dental setting)

Emergency Action Plan Asthma

These are only guidelines and not a substitute for clinical knowledge



Cautionary note: DO NOT underestimate asthma in Adults or Child

Suggested Medication and Equipment List: Asthma

1. Salbutamol x 1 BP (Ventolin Inhaler)
2. Adrenaline 1mg x 2 in 1 ML (1:1,000) - cautionary note, not to be confused with 1:10,000
3. 2 x 1ml syringe
4. 2 x 21g Needle (green - adult)
5. 2 x 23g Needle (blue for children /Small Adult)
6. 2 x Drawing up Needles

Standards for clinical practice and training for dental practitioners and dental care professionals in general dental practice

Hypoglycaemia Emergencies

These are only guidelines and not a substitute for clinical knowledge

1. Stay Calm, DRABC

2. If conscious, with an intact gag reflex, give 10 – 20g glucose via high glucose drink (Lucozade, etc.) / 4 teaspoons of sugar dissolved in water / Glucose gels. If necessary this may be repeated in 10–15 minutes.

After initial treatment, a snack providing sustained availability of carbohydrate (e.g. a sandwich, fruit, milk, or biscuits) or the next meal (if it is due) can prevent blood-glucose concentration from falling again.

3. If impaired consciousness or uncooperative / unable to swallow - treat as unconscious / unresponsive—Call 999/112, consider administering:

Glucose 40% Oral Gel

Indication	Contra-indications	Cautions
Known or suspected hypoglycaemia in a conscious patient where there is no risk of choking or aspiration. See paperwork for dosage.	None	Altered consciousness – risk of choking or aspiration (in such circumstances glucose gel can be administered by soaking a gauze swab and placing it between the patient's lip and gum to aid absorption.

Ref: JRCALC 2022

Glucagon (Read included paperwork first!)

Indication	Contra-indications	Cautions
Hypoglycaemia, clinically suspected hypoglycaemia or unconscious patient where hypoglycaemia is considered a likely cause (blood glucose <4.0 millimoles per litre). NB Glucagon should only be administered when oral glucose administration is not possible or is ineffective, AND/OR when IV access to administer 10% glucose is not possible. (Dental setting)	<ul style="list-style-type: none">• Pheochromocytoma• Glucagon should not be given by IV injection because of increased vomiting associated with IV use.	<ul style="list-style-type: none">• Low glycogen stores (e.g. recent use of glucagon or starvation).• For hypoglycaemic seizures, glucose 10% IV is the preferred intervention (call 999/112 for ambulance).

(JRCALC 2022)

(Note recovery time: Patient will wake up in 10-15 minutes - give oral glucose and carbohydrates once they are alert and able to swallow). Recheck blood glucose level. **If patient does not recover after 10 minutes, you must call 999.**

You must not allow patient to drive. The patient may go home if fully recovered and they are accompanied.

Send report letter to patients GP

Medication and Equipment List

1. High glucose drink (Lucozade® etc.) (To be kept in Fridge)
2. Glucose Gel x 3 sachets
3. Glucagon 1 ML x 1 (mini-jet system) (Shelf life increased when kept in fridge)
4. Automated blood glucose monitoring system + Single use safety lancets

Standards for clinical practice and training for dental practitioners and dental care professionals in general dental practice

Emergency Action Plan

Prolonged Convulsion / Status Epilepticus

These are only guidelines and not a substitute for clinical knowledge

1. **Stay Calm, DRABC**
2. Identify **prolonged** convulsions (more than 5 minutes) or 3 or more convulsions in an hour.
3. **Call 999/112 for Ambulance**
4. **High flow oxygen therapy** (15lts/min) for active convulsion.
5. **Drugs:**

Midazolam (Read instructions first!)

Buccal administration use oral dispenser between the gums and cheek.

Follow the patient's individual action plan/Epilepsy passport if available.

Indication	Contra-indications	Cautions
Patients who have prolonged convulsions (lasting 5 minutes or more), OR repeated convulsions (three or more in an hour), and are CURRENTLY CONVULSING – not secondary to an uncorrected hypoxic or hypoglycaemic episode. Convulsion continuing 10 minutes after first dose of medication.	None.	Always check the dose of the midazolam presentation carefully. Administration can lead to respiratory arrest. Susceptible patients are children, adults over 60 years and those with chronic illness (renal, hepatic or cardiac). Enhanced side effects when alcohol, anti-depressants or other sedative drugs are present.

Ref: JRCALC 2022. (See BNF for further details)

Carefully monitor for:

CNS depression; compromised airway; severe respiratory depression, allergic reaction to Midazolam

Note: The safety of Midazolam during pregnancy has not yet been established. (Eclampsia)

See BNF for full list of cautions and interactions.

Note: How soon will it work? The first effects will start to be seen after approximately 5 minutes and controlled within 10 minutes.

Side Effects: The side effects of buccal Midazolam are similar in effect to IV administration, although may differ: Respiratory depression, hypotension, reduced level of consciousness leading to impaired airway control, confusion leading to increased agitation and amnesia in some patients. (JRCALC 2022) **DO NOT allow to drive.**

Medication and Equipment List

1. Midazolam Oromucosal Solution

Adrenal Insufficiency

Adrenal insufficiency may follow long term administration of oral corticosteroids and can persist for years after stopping therapy. A patient with adrenal insufficiency may become hypotensive when under physiological stress. The nature of dental treatment makes this a rare possibility however if the patient collapses during dental treatment other causes should be considered first and managed before diagnosing adrenal insufficiency.

1. Always update patient's medical history and current medications.
2. If on long term steroids (e.g. Rh Arthritis, Crohn's disease, and organ transplants) the patient may need steroid cover prior to any dental treatment Liaise with patients GP / Consultant. As GDP one cannot prescribe steroids, only a doctor can.
3. Always be alert about possibility of Adrenal Crisis emergency in a long term steroid medicated patient.

Management

1. **A.B.C.** Note time now! **Stay Calm**
2. Lay the patient flat
3. Give oxygen
4. Transfer patient urgently to hospital

Guidance on the management of those patients with known Addison's disease is available from the Addison's Clinical Advisory Panel, who recommends doubling the patient's steroid dose before significant dental treatment under anaesthesia and continuing this for 24 hours.

For more information, visit:

www.addisons.org.uk

Patient Clinical Incident Report (Confidential)

Practice Address:

Practice Tel: Date: Time:

Dentist Name:

Patient Details	
Name:	
DOB:	
Address:	

Clinical: Medical / Trauma (Please circle)	
Before Treatment?	YES / NO
During Treatment?	YES / NO
After treatment?	YES / NO
Time of presentation?	

Patient Assessment / Primary survey	
RESPONSE – (Please Circle)	A V P U
AIRWAY - Clear/ Part obstructed/Obstructed	
BREATHING – Normal / Absent - Rate?	
CIRCULATION – Pulse rate? Regular? Location?	
Cyanosed?	YES/NO
Capillary Refill – 2 seconds normal	Normal/Delayed

Drug Table				
Drug Name	Dose	Batch No.	Time given	Staff Initial
Adrenaline				
Aspirin				
Midazolam				
Glucagon				
GTN Spray				
Glucose Gel				
Medical Oxygen				
Salbutamol Inhaler				

Disposal	
Ambulance Service called?	YES / NO
Call time	
Arrival time	
Ambulance service 999 Ref.	
Patient taken to hospital?	YES / NO
Name of Hospital:	
GP's Name/Surgery:	

Medical Notes of Incident

Dentist Signature

.....

Date:

Refusal and Withdraw of Consent:

Patient Statement of Fact

I have been advised by my Dental Surgeon that my medical condition needs A&E Hospital Treatment, having had or experienced a medical emergency, **but I have declined this advice.** I understand the consequence of this decision as it had been explained to me in great detail **and I accept responsibility of my own care and medical condition.**

Patient name:	Patient signature:	Date:	Time:
Witness name:	Witness signature:	Date:	Time:

A framework for reflection

It is important for lifelong learning that you try to capture what you have learnt from any education initiative that you have undertaken.

One way of doing this is to reflect on the experience using a structured framework.

Please use the questions below to help you assess what knowledge you have gained.

Once completed, keep your reflection together with relevant documentation in your professional portfolio.

Write your notes using the following prompts:

1. What have I learnt from this course that maintains or develops my professional knowledge and competence?
2. What can I apply immediately to my practice and patient care?
3. What do I know or what can I do that I could not do before attending this course?
4. Is there anything that I did not understand or may need to explore further to clarify?
5. What else do I need to do or know to extend my professional development in this area?
6. Quality controls: did you have the opportunity to give feedback with a view to improving quality?

Source information and suggested further reading:

www.resus.org.uk

www.gdc-uk.org

www.bnf.org

Clinical Examination and Practical Skills

Oxford Medical (Handbook) Publications: www.oup.com

JRCALC: Joint Royal Colleges Ambulance Liaison Committee. UK ambulance service. Clinical practice guidelines 2019

British Guideline on the Management of Asthma (2011) -

(www.brit-thoracic.org.uk/guidelines/asthma-guidelines.aspx)

Emergency Oxygen Use in Adult Patients (2008) - www.brit-thoracic.org.uk/guidelines/emergency-oxygen-use-in-adult-patients.aspx)

Emergency Treatment of Anaphylactic Reactions; Guidelines for Healthcare Providers -

(www.resus.org.uk/pages/reaction.pdf)

Principles of Dental Team Working - GDC London 2005.

Medical Emergencies in Dentistry - Nigel D. Robb/Jason Leitch—Oxford University Press