



Safe Hands
Medical Emergencies
& First Aid Training

Medical Emergencies Training

Welcome

www.safe-handstraining.com
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Objectives

To understand:

The importance of early recognition of the 'sick' patient

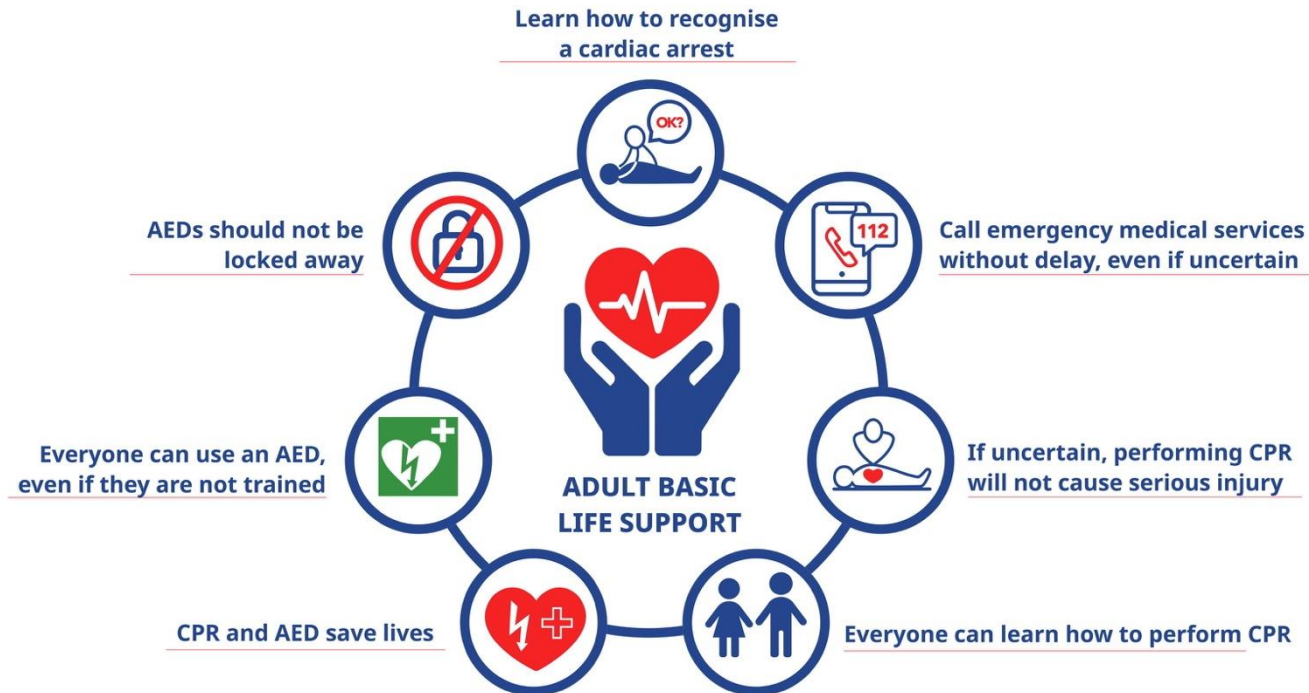
The causes and prevention of cardio respiratory arrest

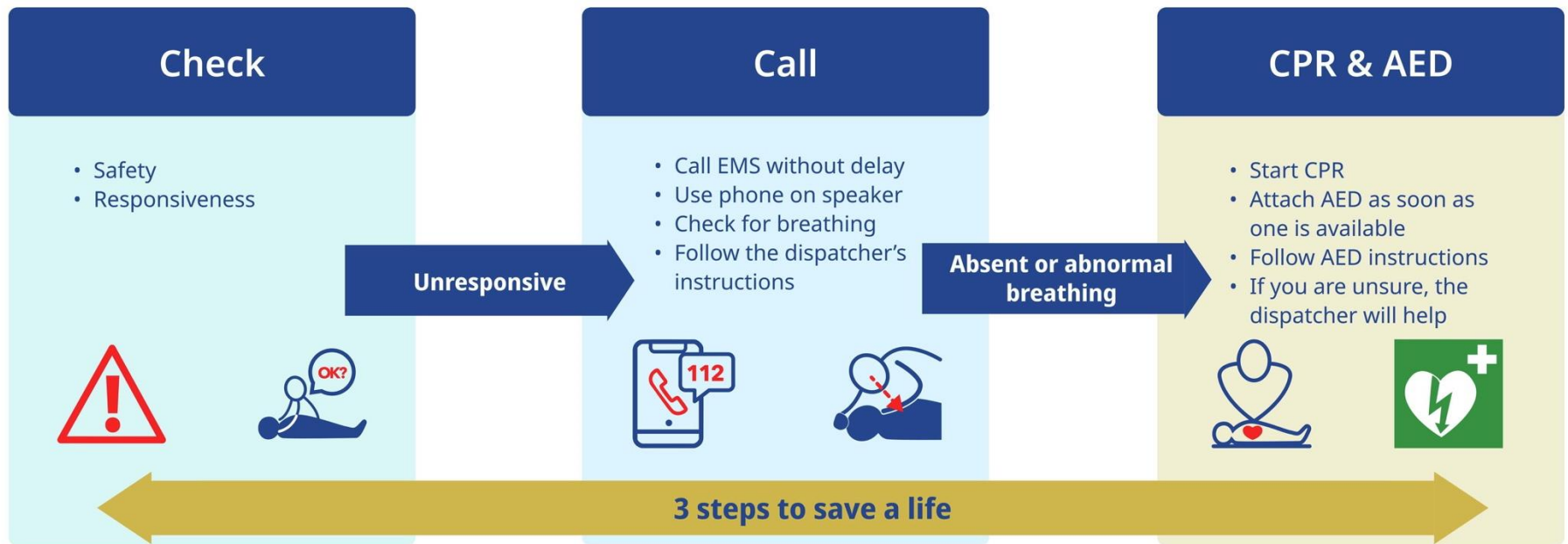
The **AMPLE** history

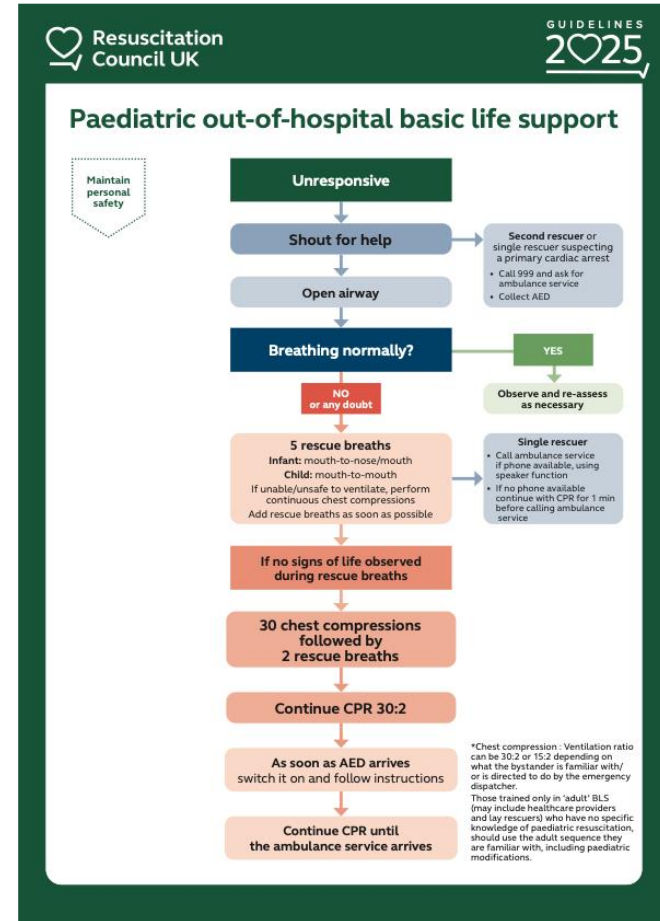
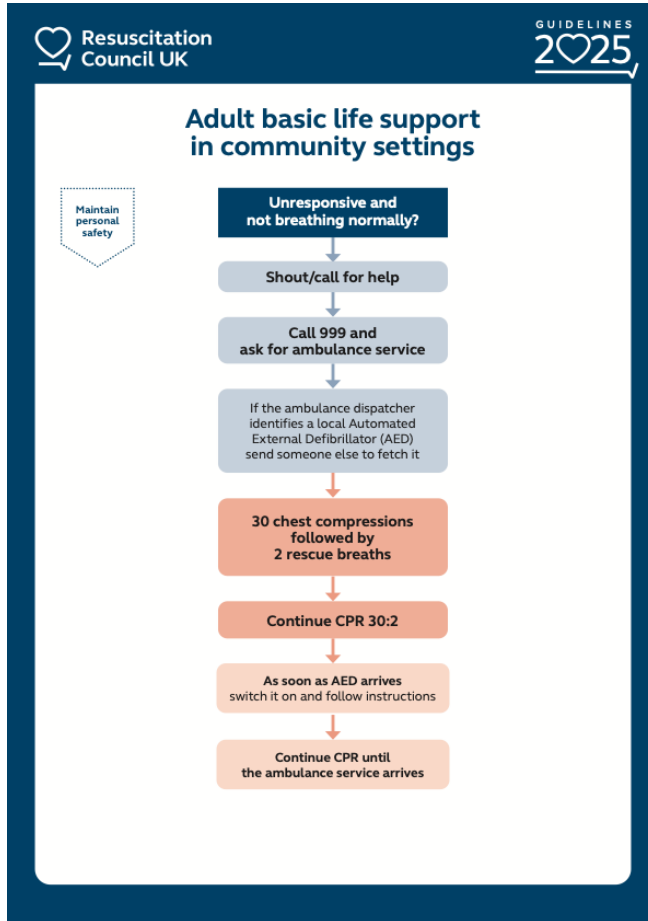
The **ABCDE** assessment

The role of the healthcare professional

ADULT BASIC LIFE SUPPORT KEY MESSAGES







“embed human factors, avoid complacency like the plague!”

Sir Stephen Moss

Medical Emergency Kit



Patient Assessment Chart



Patient Assessment & Management Chart

Safe Hands (copyright 2019)



Patient History:

- A** – Allergies
- M** – Medications
- P** – Past Medical History
- L** – Last Meal / Drink
- E** – Event

Patient A, B, C, D, E Assessment

Airway	Patient unable to maintain airway / Patient unable to speak in full sentences	Snoring/Gurgling	Stridor / Sudden Onset Lip / Tongue / Facial Swelling
Breathing	Abnormal Respiratory Rate – less than 12 greater than 20 (<12 / >20)	Work of Breathing (LABOURED)	Choking, Presence of Stridor (Inspiratory), Unable to Cough / Talk
Circulation	Colour – Pale, Ashen	Capillary Refill Time (CRT) greater than 2 seconds (>2) or Systolic BP less than 90mmHg (<90mmHg)	Wheeze (EXPIRATORY)
Disability	Check ACVPU (Alert, Confusion (New), Voice, Pain, Unresponsive)	Blood sugar (<4 mmol) +/- feeling hungry, feeling dizzy, feeling anxious or irritable, sweating, shaking, tingling lips, heart palpitations, feeling tired or weak, changes in vision such as blurred vision, feeling confused	Chest Tightness/Heaviness/Crushing Sensation or pain which may radiate to Neck/Jaw, Arm(s), Back or Epigastrium (Severe indigestion) associated with +/- Sweating, Pallor, Nausea/Vomiting, Breathlessness
Exposure	Blood loss	? Stroke - Think FAST test	Seizure Type Activity / Posturing, Jerking movements of limb(s), Tongue Biting, Sudden Collapse, Rigidity, Cyanosis
		Bruising	Urticaria / Rash – associated with life threatening changes in A & / or B & / or C

*****All Medical Emergencies Require OXYGEN @ 15lit Immediately and 999/112*****

	TREATMENT	CONTRAINDICATIONS
A	Adrenaline Autoinjector / Adrenaline Amp 1:1000 (Hold in place for 10 secs, Anterolateral Thigh, Alternate legs): Over 12 yrs - 500 micrograms IM (0.5ml) 6 – 12 yrs - 300 micrograms IM (0.3ml) < 6 yrs - 150 micrograms IM (0.15 mL) Every 5 mins if required	
	5 x Back slaps +/- 5 x Abdominal Thrusts	Ability to cough
B	Salbutamol 1 puff every 0.5–1 minute for up to 10 doses, each dose to be inhaled separately via a spacer, repeat every 10–20 minutes or when required.	
C	Aspirin 300mg chewed or dispersed in a small amount of water	Allergy; Active Peptic Ulceration; Bleeding Disorders; Children Under 16 years (risk of Reye's syndrome); Haemophilia; Previous Peptic Ulceration (analgesic dose); Severe Cardiac Failure (analgesic dose)
	GTN 2 puffs sublingual repeated in 5 mins if BP is stable i.e. Capillary Refill Time (CRT) less than 2 seconds (<2 secs) or systolic BP greater than 90mmHg (>90mmHg)	Low BP (<90mmHg) and / or CRT > 2 secs, aortic stenosis; cardiac tamponade; constrictive pericarditis; hypertrophic cardiomyopathy; hypovolaemia; marked anaemia; mitral stenosis; raised intracranial pressure due to cerebral haemorrhage; raised intracranial pressure due to head trauma; toxic pulmonary oedema
D	Hypo / Faint: Sugary Drink / LIFT Glucose Shot / Hypostop Gel Buccally (IF ALERT)	Not Alert
	Glucagon (if ↓ level of consciousness) 0.5mg = 1mth - 8yrs (Body Weight up to 25kg) 1mg = 9yrs and above (Body Weight 25kg >) Consider Recovery Position	
	Seizure: Support head/prevent further injury Seizure lasting > 5 mins give: Buccal Midazolam 10mg > 10yrs 7.5mg 5 yrs - 9 yrs 5mg 1 yr - 4 yrs 2.5mg 3mths - 11 mths Repeat after a further 10 minutes if seizure does not terminate after initial dose – no more than 2 doses	CNS depression; compromised airway; severe respiratory depression
E	Adrenaline (doses as above in green A section) IM every 5 mins if required	

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BNF 2026, Medical Emergencies in Dental Practice [ONLINE] Available at: <https://bnf.nice.org.uk/medicines-guidance/prescribing-in-dental-practice/> [Accessed May 2026]



The AMPLE History



A

Allergies

M

Medications

P

Past Medical History

L

Last Ate/Drank

E

Event -

Signs (What you see)

Symptoms (What the patient tells you)

The **ABCDE** Approach to the critically ill patient



A

Airway

B

Breathing

C

Circulation

D

Disability

E

Exposure

Remember



Don't Diagnose

Treat the Symptoms using ABCDE

- History (AMPLE)
- Complete initial assessment (A.B.C.D.E)
- Treat life-threatening problems
- Reassessment
- Call for help early
- Identification of team roles i.e. team leader, scribe etc.

Appoint a Scribe

- During a medical emergency or cardiac arrest, appoint a designated person to scribe and time.
- Consider putting a stopwatch, pen and notebook in medical emergency kit.



Avoid Hypoxia at all costs:-

- Have knowledge of your oxygen cylinder, know how to use it & know your oxygen masks
- Never lose the airway
- Never ignore noise in the airway
- Always monitor respiratory rate & ensure ventilation is maintained
- High flow O2 for all Medical Emergencies

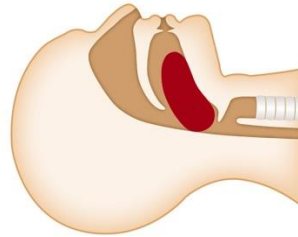
ABCDE – Approach Airway - treatment



Airway blocked by vomit.



ABCDE Approach Airway – treatment



Airway blocked by the tongue.



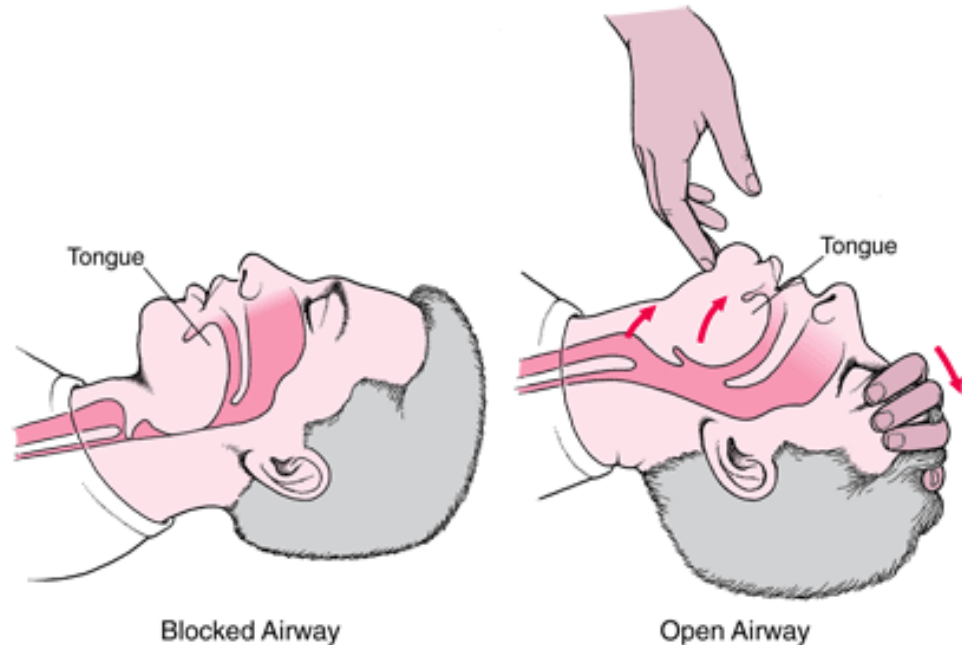
❖ Look for obstruction

Remove with:

- Two finger sweep
- Suction

❖ Airway opening

- Head tilt, chin lift
- Jaw Thrust



❖ Oxygen

- Can they speak in full sentences
- Noisy breathing - Stridor
- Is there any lip or tongue swelling

- Often happens whilst eating / drinking
- Ask “are you choking?”

Mild choking:

- Can cough and answer your question

Severe choking:

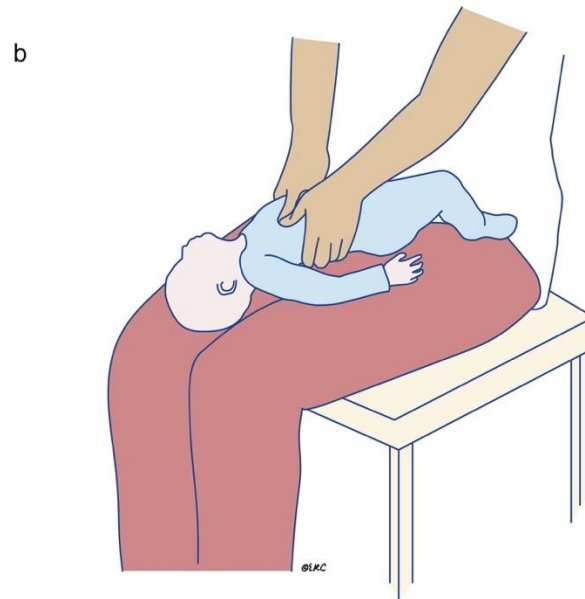
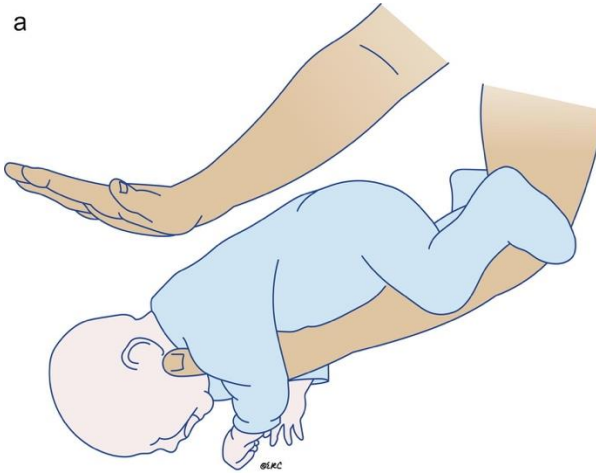
- Weakening cough
- Unable to speak – may ‘nod’ in response to your question.
- Struggling or unable to breathe.
- Distressed look on the face.
- Will become unconscious if untreated.



ABCDE approach **Airway** - Choking adult or child > 1yr



ABCDE approach **Airway** – assessment choking baby < 1 yr



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Anaphylaxis has three main characteristics:

1. A rapid onset – the casualty usually becomes very ill, very quickly.
2. A life-threatening **Airway, Breathing** or **Circulation** problem
(or a combination of them).
3. A skin rash, flushing and/or swelling
(but not all casualties have this).



Airway recognition:

- Swelling of the tongue, lips or throat. A feeling of the throat ‘closing up’.
- A hoarse voice or loud pitched, noisy breathing.

Breathing recognition:

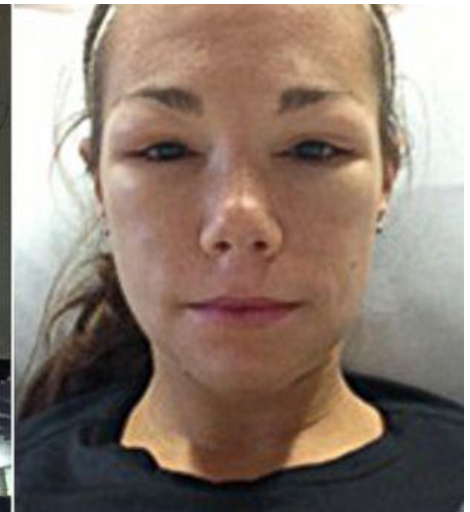
- Difficult, wheezy breathing or a ‘tight chest’.

Circulation recognition:

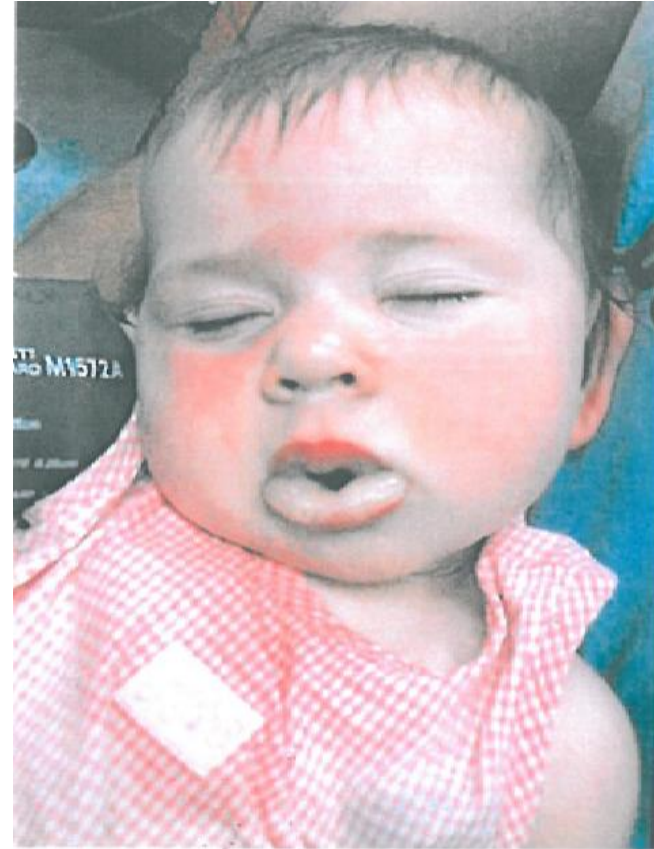
- Dizziness, feeling faint or passing out, particularly if sat upright.
- Pale, cold, clammy skin and fast pulse.
- The rash may disappear.
- Nausea, vomiting, stomach cramps, diarrhoea.



ABCDE Approach - Anaphylaxis



ABCDE Approach - Anaphylaxis



Skin Changes

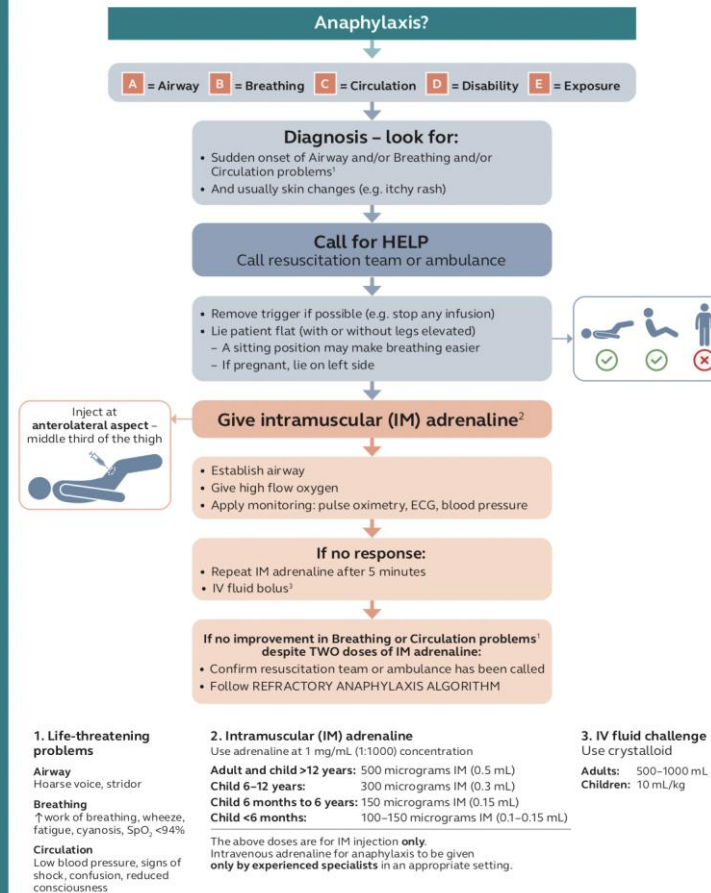




Resuscitation
Council UK

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Anaphylaxis



- Adrenaline doses:-
 - Adult and child over 12yrs 500 micrograms IM (0.5ml)
 - Child 6yrs-12yrs 300 micrograms IM (0.3ml)
 - Child 6 months – 6yrs 150 micrograms (0.15ml)
 - Child < 6months 100 – 150 micrograms IM (0.1-0.15ml)
- Oxygen – High Flow, using a mask with an oxygen reservoir
- Ambulance – state ANAPHYLAXIS

Repeat the IM adrenaline dose after 5 minutes if there is no improvement in the patient's condition continue to give IM adrenaline after every 5 minutes while life-threatening cardiovascular and respiratory features persist.

ABCDE Approach Anaphylaxis – treatment



- oxygen
- ambulance
- adrenaline



Equipment for drawing up adrenaline:-

- 1ml syringe
- A 25mm needle is best and is suitable for all ages, in some adults a longer needle may be needed (38mm)



- respiratory rate
(12 – 20 breaths per minute for adults)
- work of breathing
- listen – wheeze



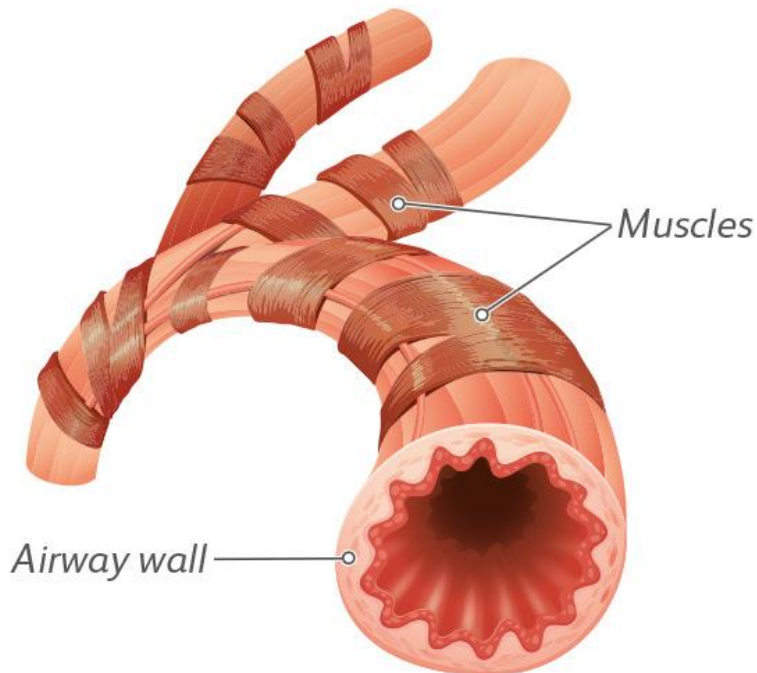
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- listen – wheeze



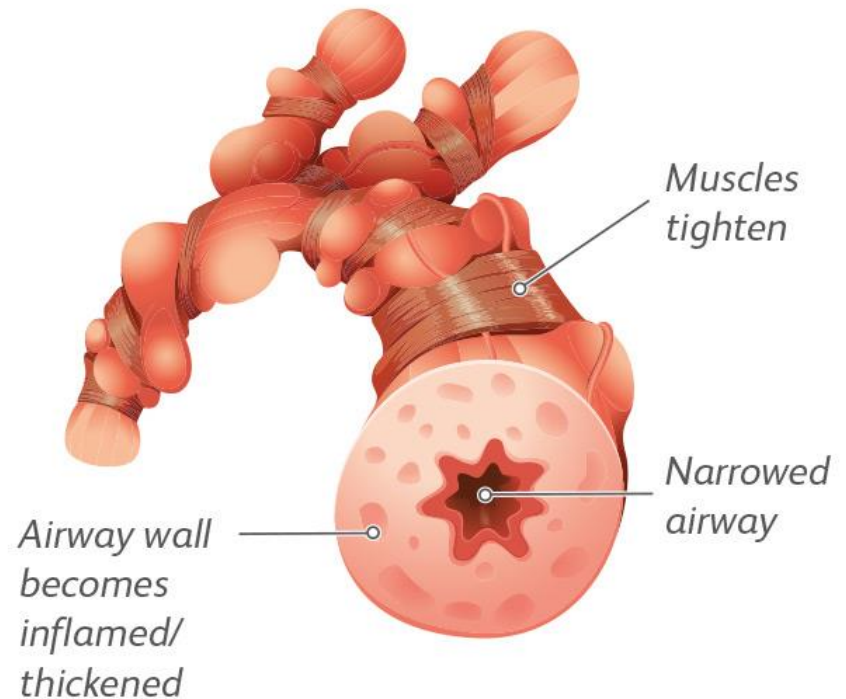
- respiratory rate
(12 – 20 breaths per minute for adults)
- work of breathing
- listen – wheeze



Normal airway



Airway during asthma attack



Dilate then Oxygenate

ABCDE Approach **Breathing** – treatment

- Ambulance
- Oxygen
- Salbutamol (Blue Inhaler)
- Spacer



ABCDE Approach Airway – treatment



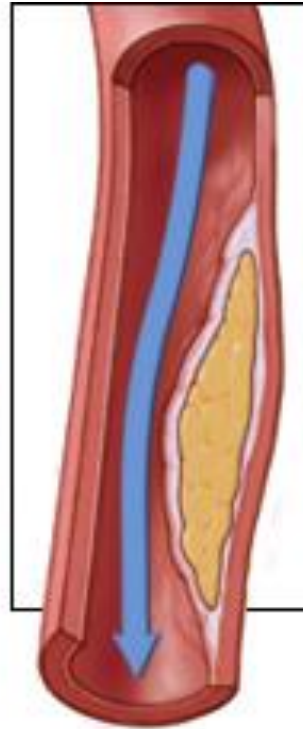
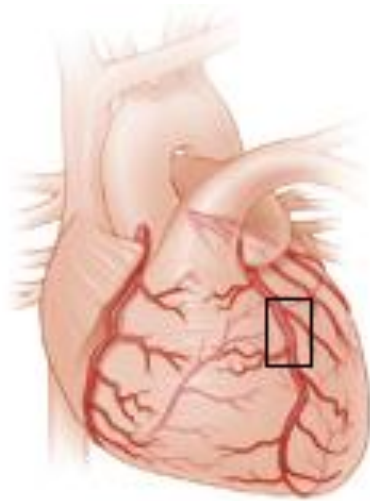
ABCDE Approach Breathing



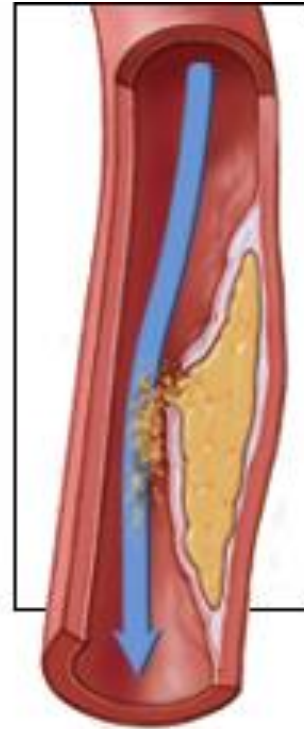
- Check patient's colour – pale, ashen colour, clammy
- CRT “Thumb Test” should be < 2 secs
 - good indication of blood pressure
 - CRT > 2 secs or systolic blood pressure < 90 mmHg (abnormal)
- Chest tightness / pain / discomfort / heaviness / crushing sensation



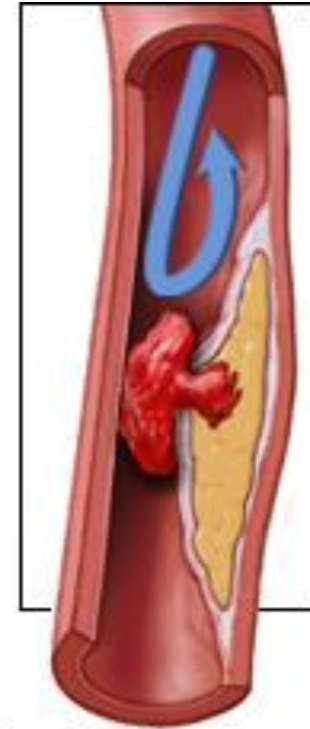
ABCDE Approach **Circulation** – heart attack



Plaque with
fibrous cap

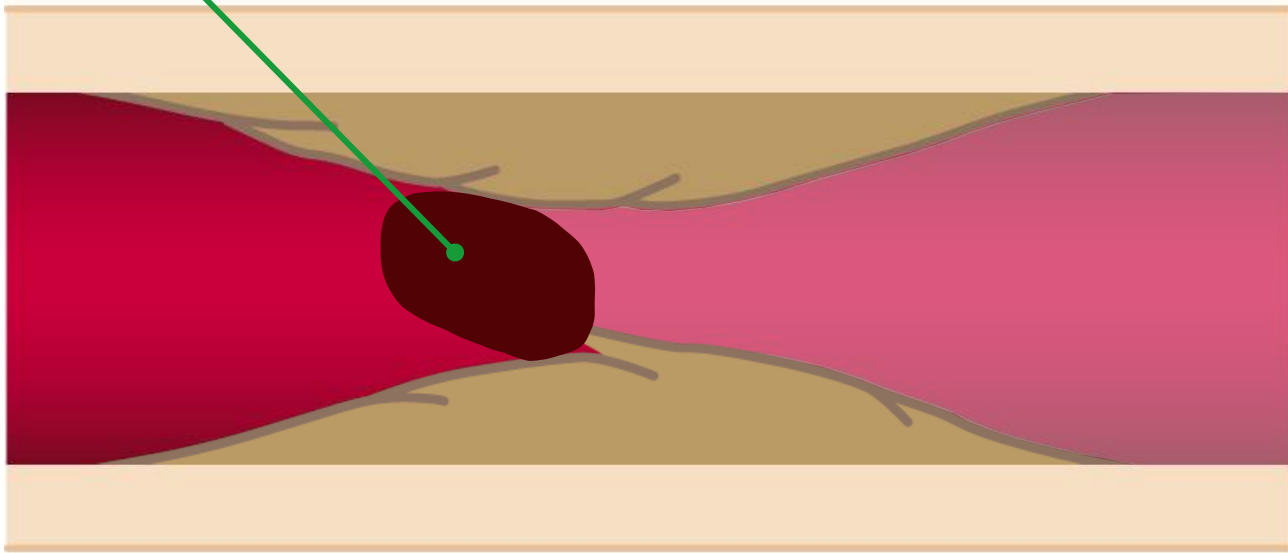


Cap
ruptures



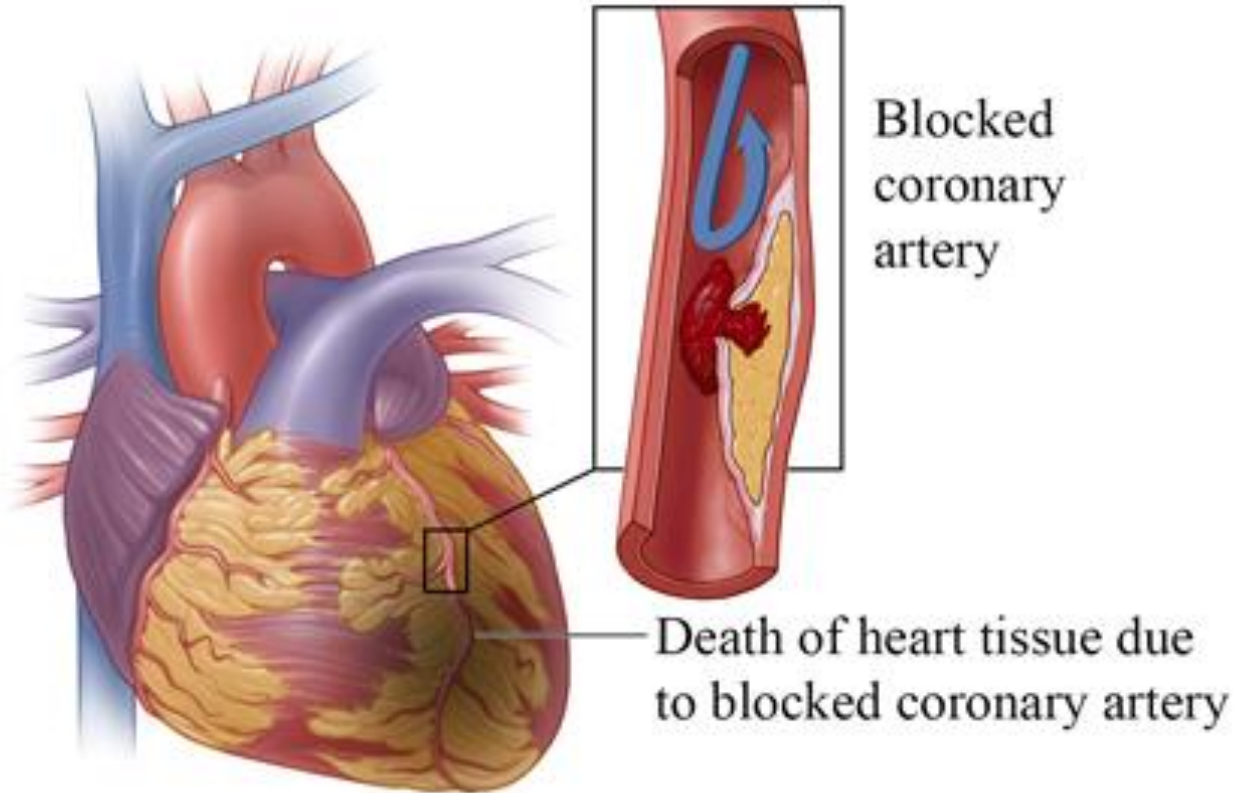
Blood clot forms
around the rupture,
blocking the artery

Blood Clot



Heart Attack

ABCDE Approach **Circulation** – heart attack



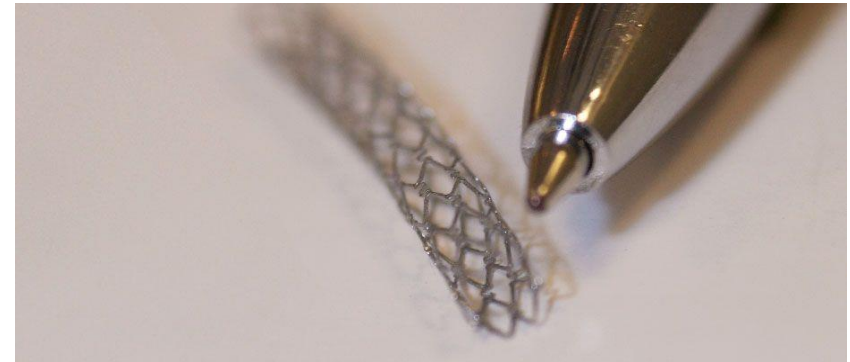
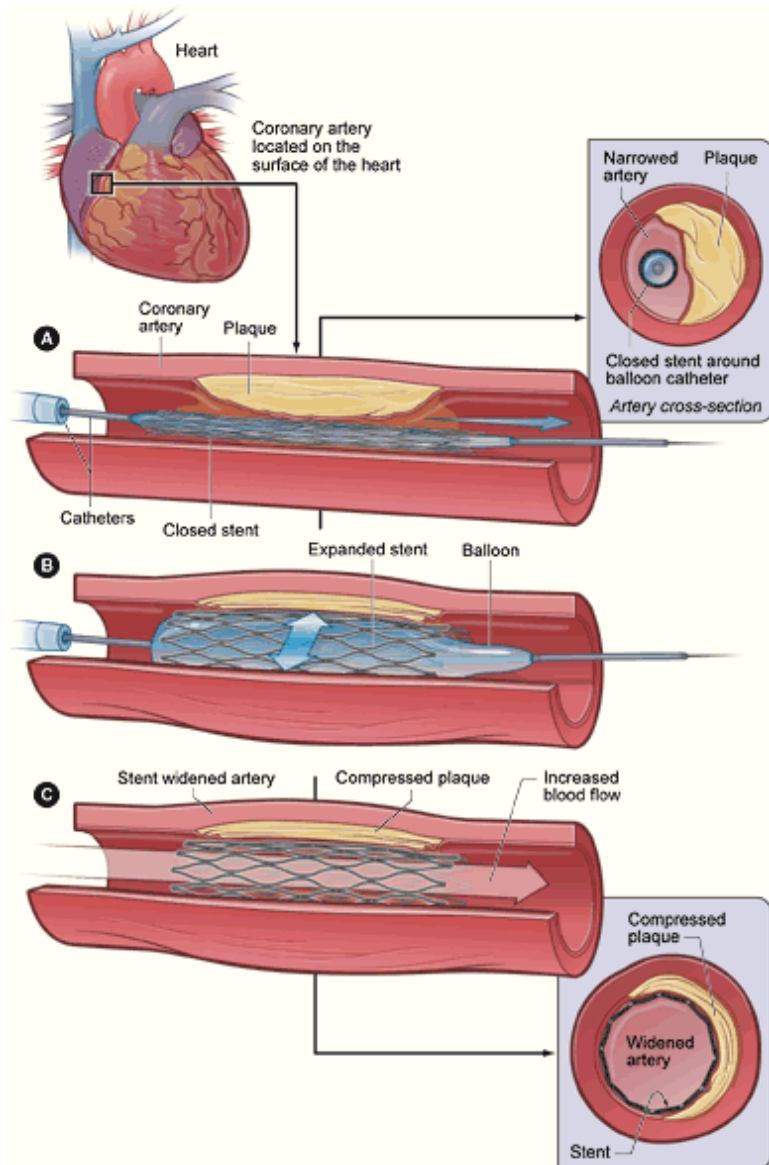
- Ambulance
- Oxygen
- Aspirin / Disprin **300mg DISPERSIBLE**
- GTN if no contraindications



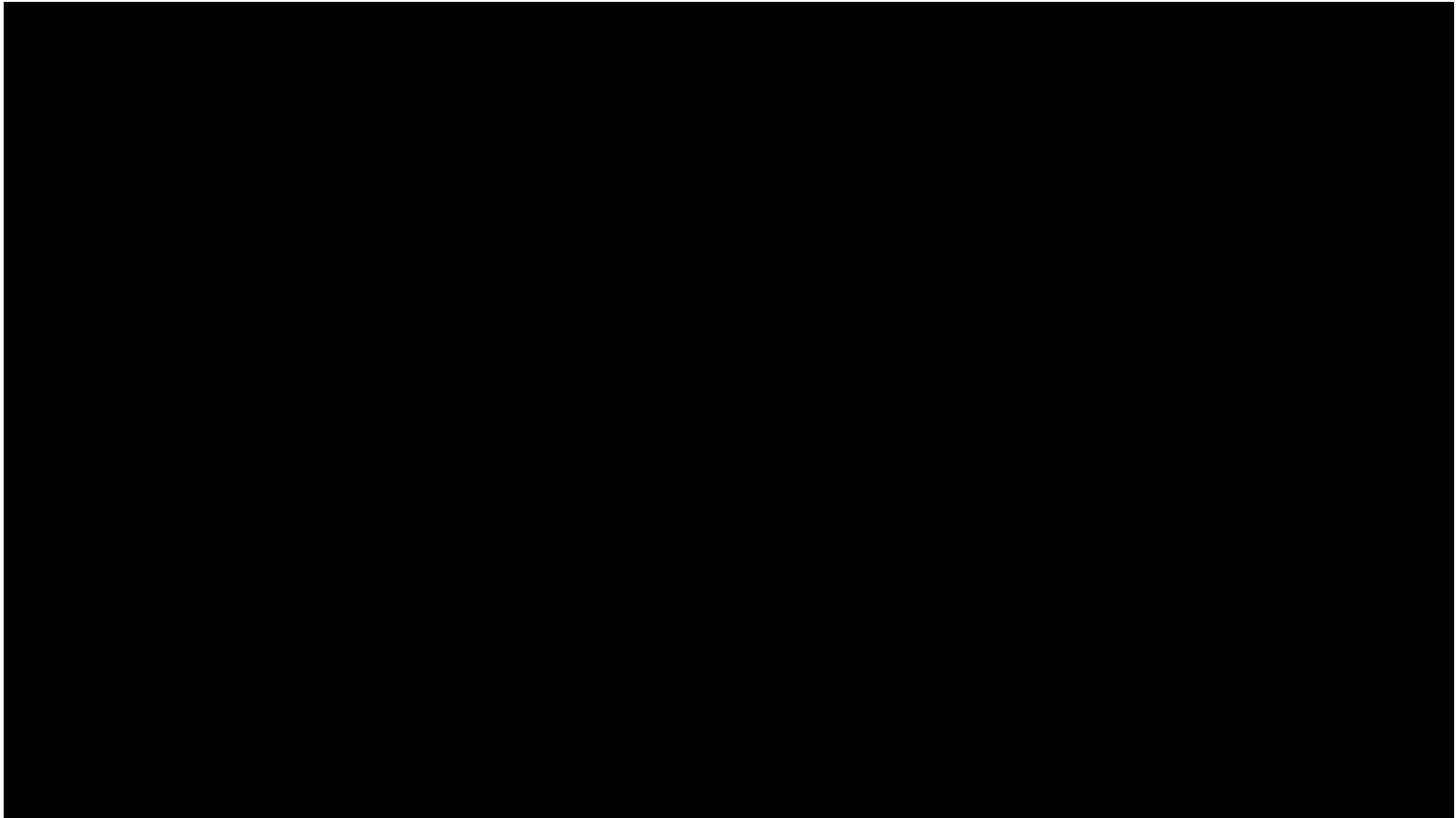
© Lucan Pharmacy



ABCDE Approach **Circulation** – heart attack stenting



ABCDE Approach **Circulation** – heart attack stenting



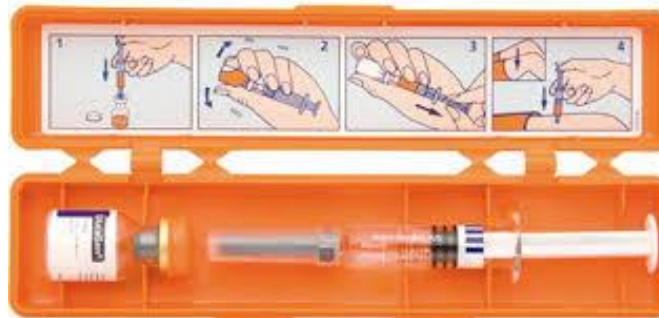
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ABCDE Approach **Disability** – hypoglycaemia treatment



- Oxygen
- Ambulance?
- Glucogel/Hypostop
- Glucagon
- Recovery position



- Oxygen
- Ambulance
- Time the seizure
- Buccal midazolam



When seizure stops put patient in the recovery position and **check they are breathing regularly**

ABCDE Approach **Disability** – Recovery position

1



2



3



4



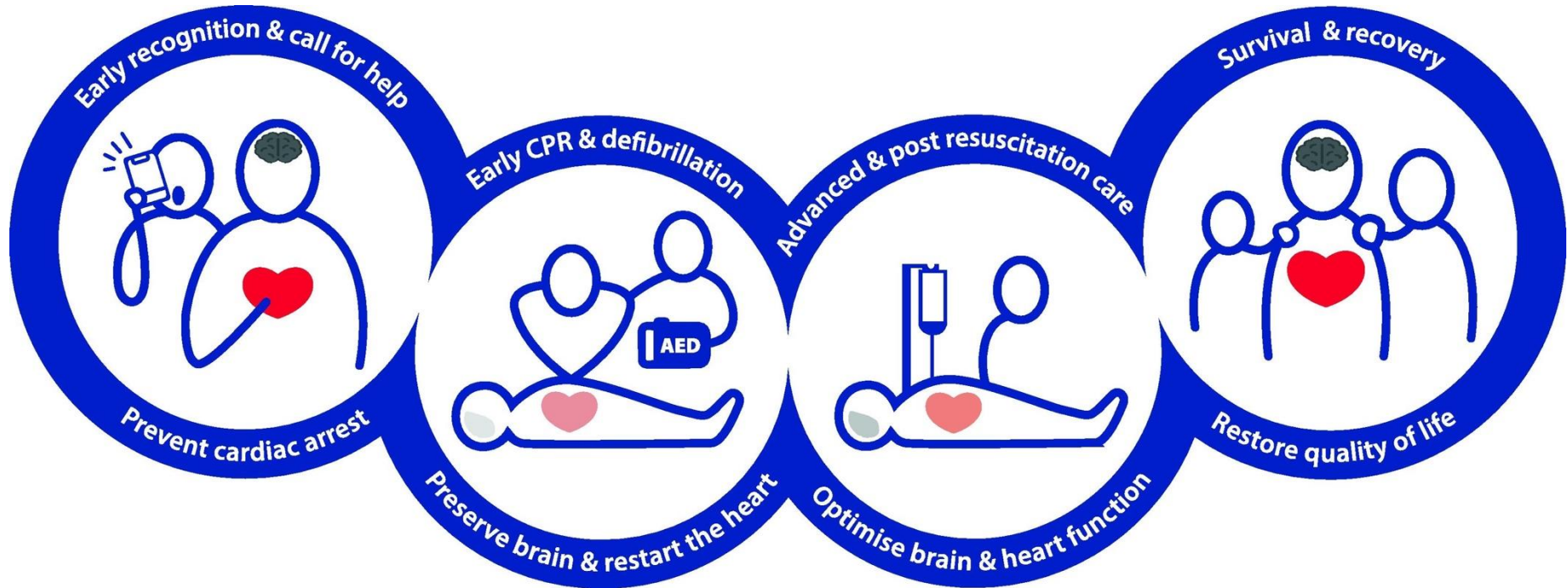
- Look for rashes
- Bruising / swelling
- Haemorrhage / bleeding
- Maintain patients temperature



Summary

- Most patients who have a cardiac arrest have warning signs and symptoms before the arrest.
- Early recognition and treatment of the deteriorating patient will prevent some cardiac arrests.
- Airway, Breathing and Circulation problems can cause cardiac arrest.
- Take an **AMPLE** history and use the **ABCDE** assessment to recognise and treat patients at risk of cardiorespiratory arrest

Chain of survival

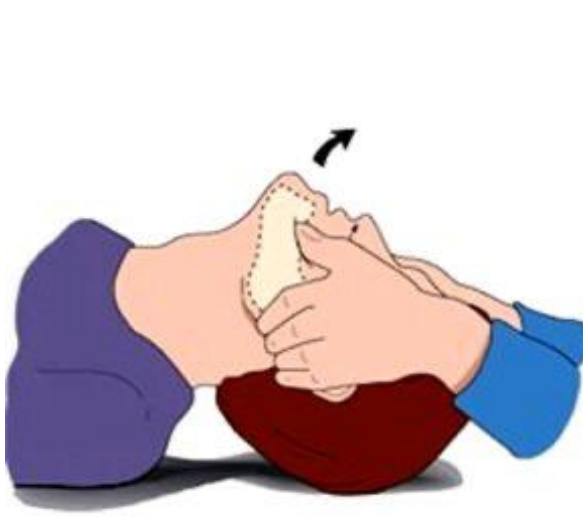


SSS AB

- Scene safety
- Stimulation
- Shout for help
- Airway
- Breathing



Open the airway



Jaw thrust



Chin lift

- Jaw Thrust
- Head tilt & Chin lift

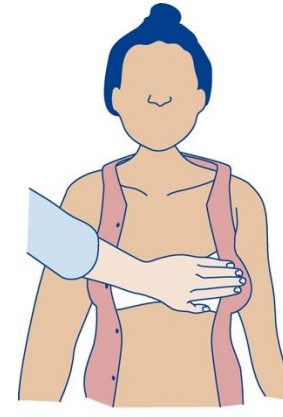
Is the person breathing?

- Look for chest movement
- Listen for 'normal' breath sounds
- Feel for expired air
- Assess for no more than 10 seconds, if not breathing immediately commence chest compressions

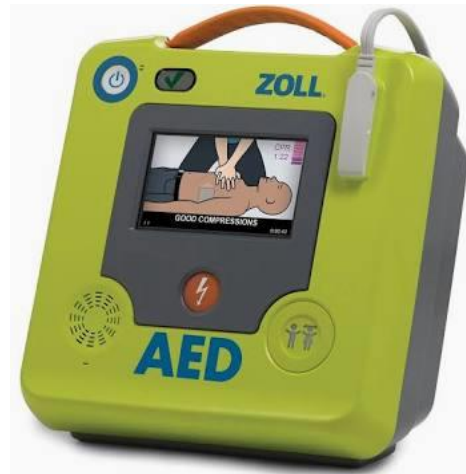


CPR

- Arms straight vertically above the victim's chest and press down on the sternum to a depth of **5–6 cm**
- Maintain high quality compressions with minimal interruptions (< 5 s)
- **Continuous chest compressions** until bag-valve-mask arrives then **30:2** (30 compressions, 2 ventilations))
- After each compression, release all the pressure on the chest without losing contact between your hands and the sternum (**Recoil**)
- Repeat at a rate of **100–120 min**
- Switch CPR provider regularly to avoid fatigue

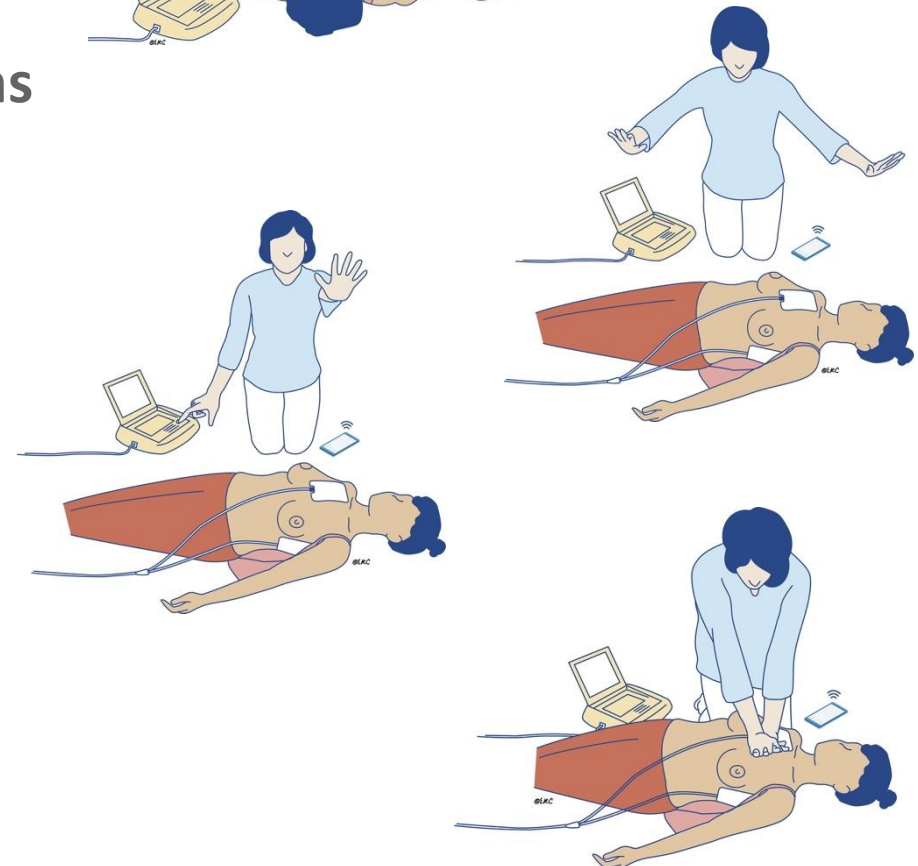


Automated External Defibrillation (AED)

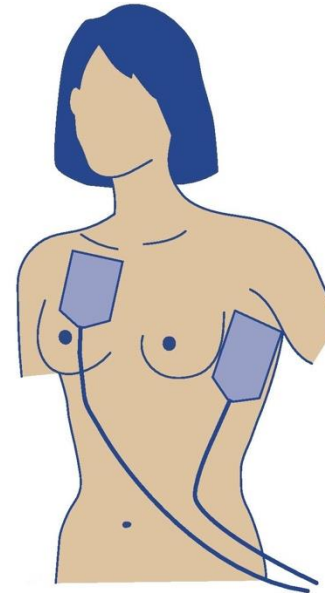
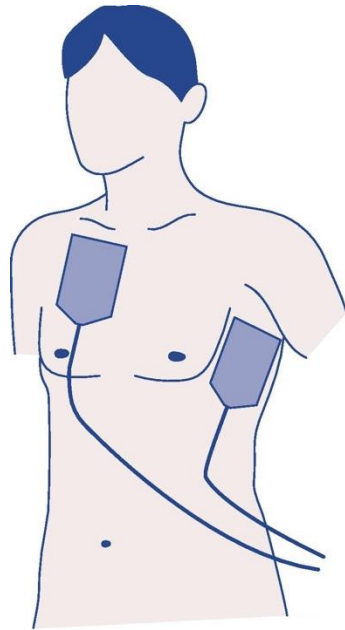


Defibrillation

- Attach defibrillator
- **Do not stop chest compressions to apply defibrillator pads**
- Ensure safety before pressing shock button and immediately shock if indicated



Adult Pad Placement



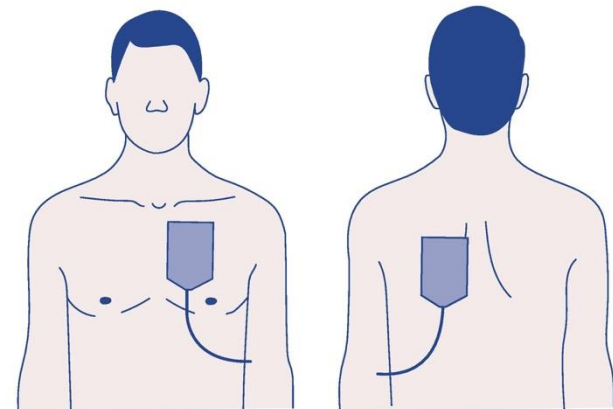
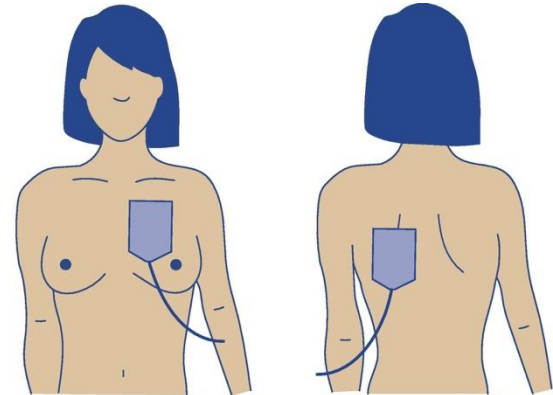
Rule of 'Ps'



- Playtex (Bras)
- Pendants
- Piercings
- Perspiration
- Pacemakers
- Patches



Right Sided Pacemaker



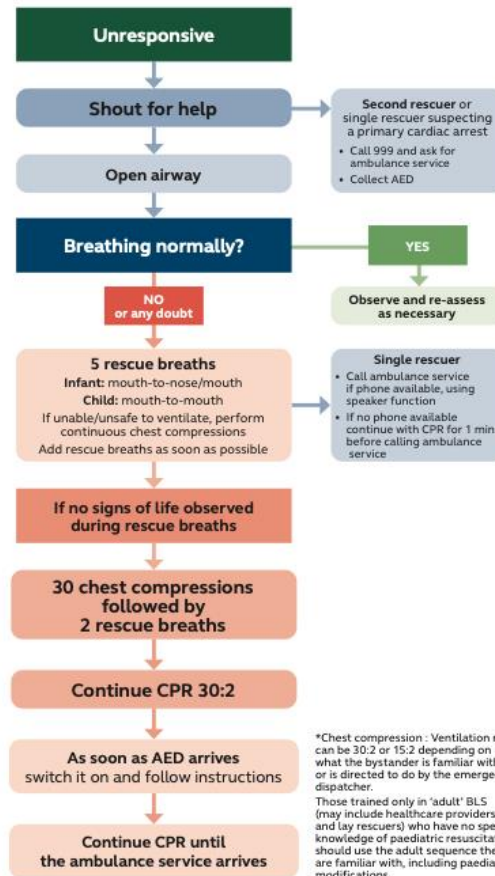
Paediatric Resuscitation



GUIDELINES
2025

Paediatric out-of-hospital basic life support

Maintain personal safety



*Chest compression: Ventilation ratio can be 30:2 or 15:2 depending on what the bystander is familiar with/ or is directed to do by the emergency dispatcher.
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.

Paediatric Resuscitation - Infant



Keep the head in the neutral position in infants by slightly tilting the head and lifting the chin with two fingers on the chin bone without pressing on the soft tissues



Give 5 initial Rescue Breaths - Ensure the airway is open and blow steadily into the child's mouth (or infant's mouth and nose) for about 1 s, sufficient to make the chest visibly rise and then allow the chest to fall back passively while you take your next breath.

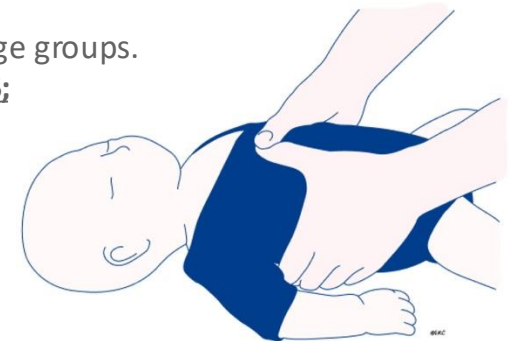
Competent providers should use bag-mask ventilation with oxygen.



- Perform chest compressions on a firm surface if immediately available.
- Perform chest compressions over the lower half of the sternum (breastbone) in all age groups.
- **Use a compression-to-ventilation ratio of 15:2 if you are specifically trained in PBLIS; otherwise, use a ratio of 30:2.**
- Use the two-thumb encircling method for chest compressions in infants.

Deliver high-quality chest compressions as defined by:

- Rate of 100-120 min.
- Depress the chest by at least one third.
- Ensure Chest Recoil.
- Do not interrupt chest compressions except when giving ventilations, or if you are instructed to do so by the AED.



Paediatric Resuscitation - Child



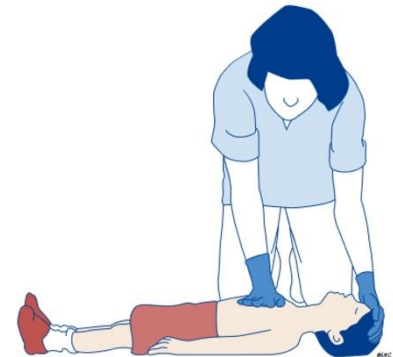
In older children, more head tilt will be needed. In adolescents, full extension of the head is needed as in adults.

Give 5 initial Rescue Breaths - Ensure the airway is open and blow steadily into the child's mouth (or infant's mouth and nose) for about 1 s, sufficient to make the chest visibly rise and then allow the chest to fall back passively while you take your next breath.



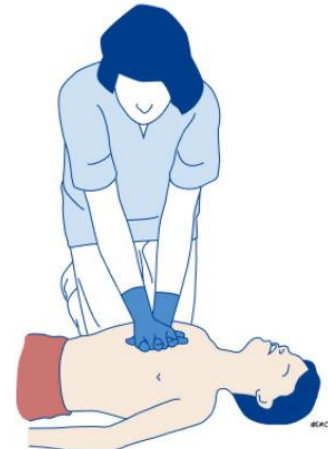
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- Perform chest compressions over the lower half of the sternum (breastbone) in all age groups.
- **Use a compression-to-ventilation ratio of 15:2 if you are specifically trained in PBLs; otherwise, use a ratio of 30:2.**
- Use the one-hand or two-hand technique in children older than 1 year, or when unable to give high-quality chest compressions with the two-thumb-encircling technique.

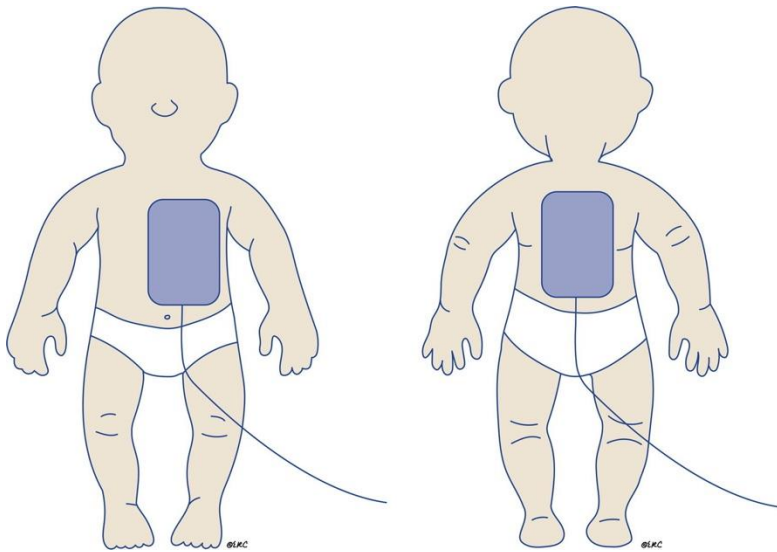


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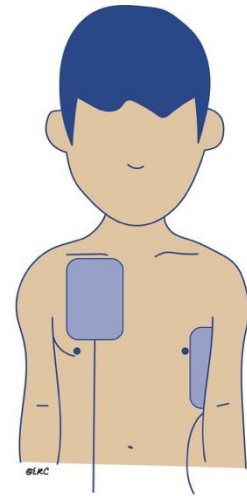
- Rate of 100-120 min.
- Use the adult depth recommendation of 5-6 cm in adolescents, and do not exceed a depth of 6 cm at any age.
- Ensure Chest Recoil.
- Do not interrupt chest compressions except when giving ventilations, or if you are instructed to do so by the AED.



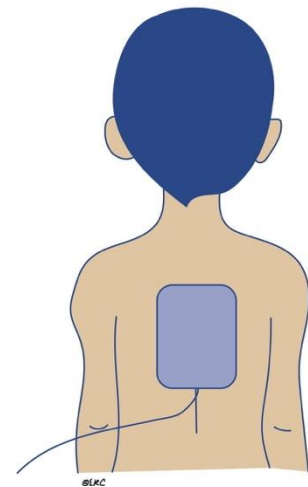
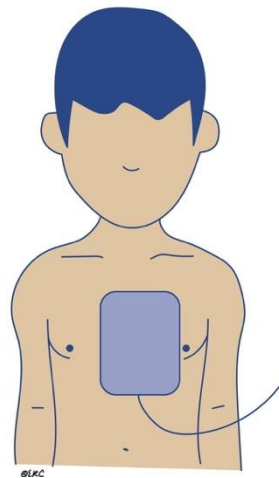
Paediatric Pad Placement



a



b



Ventricular Fibrillation







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BLS, AED & Medical Emergencies Training

Thank you!

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