

Advanced Life Support

Unresponsive and not breathing normally?



Call Resuscitation Team



interruptions

circulation

Immediately resume CPR for 2 min Minimise interruptions

IMMEDIATE POST CARDIAC ARREST TREATMENT

- Use ABCDE approach
- Aim for SaO₂ of 94-98%
- Aim for normal PaCO₂
- 12 Lead ECG
- Treat precipitating cause
- Targeted temperature management

Immediately resume CPR for 2 min Minimise interruptions

DURING CPR

TREAT REVERSIBLE CAUSES

- Ensure high quality chest compressions
- Minimise interruptions to compressions
- Give oxygen
- Use waveform capnography
- Continuous compressions when advanced airway in place
- Vascular access
- (intravenous or intraosseous)
- Give adrenaline every 3-5 min
- Give amiodarone after 3 shocks

Hypoxia Thrombosis – coronary or pulmonary Hypovolaemia Tension pneumothorax Hypo-/hyperkalaemia/metabolic Tamponade – cardiac Hypothermia/hyperthermia Toxins

CONSIDER

- Ultrasound imaging
- Mechanical chest compressions to facilitate transfer/treatment
- Coronary angiography and percutaneous coronary intervention
- Extracorporeal CPR

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In-hospital Resuscitation

Collapsed / sick patient



CPR 30:2 with oxygen and airway adjuncts

Apply pads/monitor Attempt defibrillation if appropriate

Advanced Life Support

when resuscitation team arrives

Call resuscitation team if appropriate



resuscitation team

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Newborn Life Support



Dry the baby Maintain normal temperature Start the clock or note the time

Assess (tone), breathing and heart rate

If gasping or not breathing: Open the airway Give 5 inflation breaths Consider SpO₂ ± ECG monitoring

Re-assess If no increase in heart rate look for chest movement

rature

Maintain Tempel

If chest not moving: Recheck head position Consider 2-person airway control and other airway manoeuvres Repeat inflation breaths SpO₂ monitoring ± ECG monitoring Look for a response

Acceptable		
pre-duct	al SpO ₂	
2 min	60 %	
3 min	70 %	
4 min	80 %	
5 min	85 %	
10 min	90 %	

60 s

All Times Ask: Do You Need Help?

At

When the chest is moving: If heart rate is not detectable or very slow (< 60 min⁻¹) Start chest compressions Coordinate compressions with PPV (3:1)

If no increase in heart rate

look for chest movement

lncrease oxygen by oximetry if available)

(Guided by

Reassess heart rate every 30 seconds If heart rate is not detectable or very slow (< 60 min⁻¹) consider venous access and drugs

Discuss with parents and debrief team

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Basic Life Support and Automated External Defibrillation (AED)

Unresponsive and not breathing normally

Call Emergency Services

Give 30 chest compressions

Give 2 rescue breaths

Continue CPR 30:2

As soon as AED arrives switch it on and follow instructions

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Basic Life Support with the use of an Automated **External Defibrillator (AED)**





Shake gently

Ask loudly: "Are you all right?"





If unresponsive

If unresponsive and not breathing normally

Call 112, send someone to get an AED

Open airway & check for breathing

If breathing normally

Turn into recovery position ■ Call 112

Continue to assess that breathing remains normal





Start chest compressions immediately

Place your hands in the centre of the chest Deliver 30 chest compressions:



- Press firmly at least 5 cm but no more than 6 cm deep

- Press at a rate of at least 100/min but no more than 120/min
- If trained and able combine chest compressions with ventillations otherwise continue with compression only CPR
 - Seal your lips around the mouth
 - Blow steadily until the chest rises
 - Give next breath when the chest falls
- Continue CPR 30 compressions to 2 ventilations

As soon as AED arrives Switch on the AED & attach pads

- Follow the spoken/visual directions
- Attach one pad below the left armpit
- Attach the other pad below the right collar bone, next to the breastbone
- If more than one rescuer: do not interrupt CPR



Follow AED instructions

Continue CPR unless you are certain the victim has recovered and starts to breathe normally.

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Paediatric Basic Life Support

Unresponsive?

Shout for help



5 rescue breaths



15 compressions

Call cardiac arrest team or Paediatric ALS team after 1 minute of CPR

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Paediatric Advanced Life Support

Unresponsive? Not breathing or only occasional gasps



1 Shock 4 J/Kg

spontaneous circulation

Immediately resume: CPR for 2 min Minimise interruptions At 3rd cycle and 5th cycle consider amiodarone in shock-resistant VF/pVT

IMMEDIATE POST CARDIAC ARREST TREATMENT

- Use ABCDE approach
- Controlled oxygenation and ventilation
- Investigations
- Treat precipitating cause
- Temperature control

Immediately resume: CPR for 2 min Minimise interruptions

DURING CPR

REVERSIBLE CAUSES

- Ensure high-quality CPR: rate, depth, recoil
- Plan actions before interrupting CPR
- Give oxygen
- Vascular access (intravenous, intraosseous)
- Give adrenaline every 3-5 min
- Consider advanced airway and capnography
- Continuous chest compressions when advanced airway in place
- Correct reversible causes

Hypoxia

Hypovolaemia

- Hyper/hypokalaemia, metabolic
- Hypothermia
- Thrombosis (coronary or pulmonary)
- Tension pneumothorax
- Tamponade (cardiac)
- Toxic/therapeutic disturbances

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Anaphylaxis

- Acute onset of illness
- Life-threatening Airway and/or
 - Breathing and/or Circulation problems¹
- And usually skin changes

When skills and equipment available:

- Establish airway
- High flow oxygen
- IV fluid challenge³
- Chlorphenamine⁴
- Hydrocortisone⁵
- ECG Blood pressure

Pulse oximetry

Monitor:

^{1.} Life-threatening problems:

Airway: swelling, hoarseness, stridor **Breathing:** rapid breathing, wheeze, fatigue, cyanosis, $SpO_2 < 92\%$, confusion **Circulation:** pale, clammy, low blood pressure, faintness, drowsy/coma

 IM doses of 1:1000 adrenaline (rep Adult Child more than 12 years Child 6-12 years Child less than 6 years Adrenaline IV to be given only by Titrate: Adults 50 mcg; Children 1	eat after 5 min if no better) 500 mcg IM (0.5 mL) 500 mcg IM (0.5 mL) 300 mcg IM (0.3 mL) 150 mcg IM (0.15 mL) experienced specialists mcg kg ⁻¹	Adult 500 - 1000 mL Child 20 mL kg ⁻¹ Stop IV colloid if this might be the cause of anaphylaxis

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Avalanche Accident

Assess patient at extrication

^{1.} Core temperature may substitute if duration of burial is unknown

- ^{2.} Transport patients with injuries or potential complications (e.g. pulmonary oedema) to the most appropriate hospital
- ^{3.} Check for spontaneous breathing and pulse for up to 1 min
- ^{4.} Transport patients with cardiovascular instability or core temperature < 28°C to a hospital with ECLS (extracorporeal life support)
- ^{5.} Withold CPR if risk to the rescue team is unacceptably high

^{6.} Crush injuries and depolarising neuromuscular blocking drugs may elevate serum potassium

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Shout for help and call emergency services

Open airway

Give 5 rescue breaths / ventilations supplemented with oxygen if possible

Signs of life?

Start CPR 30:2

Attach AED and follow instructions

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Hyperkalaemia

- Assess using ABCDE approach
- 12-lead ECG and monitor cardiac rhythm if serum potassium (K⁺) \geq 6.5 mmol L⁻¹
- Exclude pseudohyperkalaemia
- Give empirical treatment for arrhythmia if hyperkalaemia suspected

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Traumatic Cardiac Arrest

Trauma patient

- Immediate transport to appropriate hospital

In-hospital:

- Damage control resuscitation
- Definitive haemorrhage control

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