A1a. PAEDIATRIC RESUSCITATION (LAY RESCUER)

Check for response

Lone rescuer:
Call for help & ask for an ambulance and get a defibrillator (or an AED) if it is visible and less than 100 m away, then start chest compressions

No movement or response:
Send someone to call EMS
Position patient face up on a flat, hard surface

Open Airway

Lay rescuer: head tilt, chin lift for both injured and uninjured

Check for Breathing

Not breathing or only gasping
Yes
Normal breathing present
Put in recovery position
Assess for normal breathing every 2 minutes

• Start cycles of 30 compressions and 2 breaths.
• Push hard and fast (100–120/min) and release completely.
• Minimise interruptions in compressions.
• In two-person rescuer CPR, the 1st rescuer performs compressions and 2nd rescuer performs ventilations.
• The compressor role is rotated every 5 cycles to avoid fatigue.
• Rescuers who are unable or unwilling to provide mouth-to-mouth ventilation are encouraged to perform at least good quality chest compressions.

No
If not already done, call EMS
Continue CPR until help comes or victim starts to move

A1b. PAEDIATRIC RESUSCITATION (HEALTHCARE PROVIDER)

Check for response

Lone rescuer:
Call for help & ask for an ambulance and get a defibrillator (or an AED) if it is visible and less than 100 m away, then start chest compressions

No movement or response:
Send someone to call for help (EMS/code)
Position patient face up on a flat, hard surface

Open Airway

Healthcare provider: head tilt-chin lift for uninjured; jaw thrust for suspected cervical spine injury

Check for Breathing

Not breathing or only gasping
Yes
Check pulse (optional):
DEFINITE pulse felt within 10 seconds?

No
Rescue breaths:
Give 1 breath every 3 seconds
Recheck pulse every 2 minutes

• For single rescuers, start cycles of 30 compressions and 2 breaths.
• For healthcare providers, team resuscitation –
  o If no advanced airway – 15:2
  o With advanced airway (e.g. LMA) – provide 100 compressions per minute with 10 ventilations per minute
• Push hard and fast (100–120/min) and release completely.
• Minimise interruptions in compressions.
• The compressor role is rotated every 5 cycles to avoid fatigue. The switch should take less than 5 seconds.

If not already done, call for help (code/EMS)
Continue CPR until help comes or victim starts to move
A2. PAEDIATRIC FBAO TREATMENT

Assess severity

- Ineffective cough
- Effective cough

- Unconscious
  - Start CPR
  - Check for foreign body – remove if seen

- Conscious
  - 5 back blows
  - 5 thrusts – Chest for infant; abdomen for child > 1 year

Encourage cough
Continue to check for deterioration to ineffective cough or until obstruction is relieved

A3. ALGORITHM FOR PULSELESS ARREST (NON-SHOCKABLE)

- BLS algorithm
- Give oxygen
- Attach monitor/defibrillator when available

Check rhythm: shockable?

- YES – pulseless VT/VF
- NO – asystole or PEA

Search for and treat possible contributing factors (Hs & Ts):
- Hypovolaemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-/hyperkalaemia
- Hypothermia
- Toxins
- Tamponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)

Start CPR immediately
Give adrenaline:
- IV/IO 0.01 mg/kg (0.1 mL/kg 1:10,000)
- ET 0.1 mg/kg (0.1 mL/kg of 1:1,000)

- Check rhythm: shockable?
- Pulseless – shockable
- Pulseless – non-shockable

Pulse present – ROSC

Post-resuscitation care
Assist ventilation if indicated
### A4. ALGORITHM FOR PULSELESS ARREST (SHOCKABLE)

- **BLS algorithm**
- Give oxygen (via BVM)
- Attach monitor/defibrillator when available

#### Check rhythm: shockable?

**YES/SHOCKABLE – pulseless VT/VF**

1. **1st shock 4 J/kg**
   - CPR immediately
   - Can use AED if > 1 year old

2. **2nd shock 4 J/kg**
   - CPR immediately

3. **3rd shock 4 J/kg**
   - CPR immediately

4. **4th shock 4 J/kg**
   - CPR immediately

5. **5th shock 4 J/kg**
   - CPR immediately

6. **6th shock 4 J/kg**
   - CPR immediately

**Pulse present/return of spontaneous circulation**

- Post-resuscitation care

**AED advises shock OR shockable rhythm on manual defibrillator**

**Apply AED if available:**
- Older children and teenagers: standard AEDs
- 1–8 years old: AEDs with paediatric attenuation systems preferred
- <1 year old: manual defibrillators preferred

**Perform 2 min of CPR, then check for pulse and rhythm – shockable?**
- Give adrenaline every other shock (every 3–5 min)
- Consider other anti-arrhythmics:
  - IV/IO lignocaine 1 mg/kg (max 100 mg) initial bolus followed by infusion 20–50 mcg/kg/min. Repeat bolus can be given 15 min after initiating infusion if delayed > 15 min
  - IV/IO amiodarone 5 mg/kg, up to 3 times
  - IV/IO magnesium sulphate 50 mg/kg (max 2 g) for torsades de pointes

**Consider increasing energy dose of shocks to max 10 J/kg for refractory VF**

**Search for and treat possible contributing factors (Hs & Ts):**
- Hypovolaemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-/hyperkalaemia
- Hypothermia
- Toxins
- Tamponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)

**During CPR:**
- Monitor CPR quality
- Check frequently for reversible causes – Hs, Ts
- Advanced airway placement and confirmation

**IV/IO adrenaline**
- (0.01 mg/kg; max 1 mg) q3–5 min or every other shock

**IV/IO amiodarone**
- (5 mg/kg)

**IV/IO lignocaine**
- (1 mg/kg; max 100 mg) initial bolus followed by infusion 20–50 mcg/kg/min

**Search for and treat possible contributing factors (Hs & Ts):**
- Hypovolaemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-/hyperkalaemia
- Hypothermia
- Toxins
- Tamponade, cardiac
- Tension pneumothorax
- Thrombosis (coronary or pulmonary)

### A5. ALGORITHM FOR PEDIATRIC CPR-AED (SHOCKABLE)

- \* Check response

  **NO response or movement**
  - Send someone to call 995; get AED if available;
  - For lone rescuers, call 995 and get AED (if it is visible and less than 100 m away)
  - Position patient face up on a flat, hard surface

- **Open AIRWAY, check BREATHING**

- **If NO breathing or only GASPING**

  **Definite pulse or signs of life**
  - RESCUE BREATHING: Give 1 breath/ventilation every 3 seconds
  - Recheck for signs of life or pulse every 2 minutes

- **No definite pulse or no signs of life**

  **All laypeople (single or 2 rescuers):** Start 30 COMPRESSIONS followed by 2 BREATHS (30:2)
  - Healthcare providers (single rescuer): 30 COMPRESSIONS followed by 2 BREATHS (30:2)
  - Healthcare providers (2 or more rescuers): 15 COMPRESSIONS followed by 2 BREATHS (15:2)
  - Push hard, push fast with full recoil for chest compression (at least ⅓ AP chest depth OR infants: ~4 cm & children: ~5 cm)
  - at 100–120/min, minimising interruptions

  **AED advises shock OR shockable rhythm on manual defibrillator**

  **Give 1 shock**
  - Resume CPR immediately for 2 minutes

  **AED does not advise shock OR non-shockable rhythm on manual defibrillator**

  **Resume CPR immediately until paramedics take over or victim starts to move**
A6. ALGORITHM FOR BRADYCARDIA

Bradydardia with a pulse causing cardiorespiratory compromise

Support ABC
  - Give oxygen
  - Attach monitor/defibrillator

Bradydardia still causing cardiorespiratory compromise?

Yes

Perform CPR if despite oxygenation and ventilation HR < 60/min with poor perfusion

No

• Support ABCs, give oxygen if needed
  • Observe
  • Expert consultation

Persistent symptomatic bradycardia?

Yes

• Give adrenaline:
  - IV/IO 0.01 mg/kg
  - ET 0.1 mg/kg
  - Repeat every 3–5 min
  - If increased vagal tone or primary AV block, give atropine (0.02 mg/kg), may repeat once (maximum single dose for child: 0.6 mg)
  • Consider cardiac pacing

If pulseless arrest develops, go to pulseless arrest algorithm

No

A7. ALGORITHM FOR TACHYCARDIA

Tachycardia with pulses and poor perfusion

Evaluate QRS duration

Narrow QRS (< 0.08 s)

Possible sinus tachycardia
  - Compatible history
  - P waves normal
  - HR not variable
  - History of abrupt changes
  - Infants: rate usually < 220/min
  - Child: rate usually < 180/min

Possible SVT
  - Compatible history
  - P waves absent/abnormal
  - HR not variable
  - History of abrupt changes
  - Infants: rate usually > 220/min
  - Child: rate usually > 180/min

With cardiopulmonary compromise, immediate synchronised cardioversion: 0.5–1 J/kg; if not effective, increase to 2 J/kg. Sedate if possible, but do not delay cardioversion.

May attempt adenosine if it does not delay cardioversion.

Search and treat for cause

Consider vagal manoeuvres (no delay)

If IV access readily available:
  • Give adenosine 0.1 mg/kg rapid bolus (max first dose 6 mg), may double first dose and give once (max second dose 12 mg)
  • Synchronized cardioversion: 0.5–1 J/kg; if not effective, increase to 2 J/kg
  • Sedate if possible, but do not delay cardioversion

If IV access readily available:
  • Give IV amiodarone 5 mg/kg over 20–60 min
  • IV procainamide 15 mg/kg over 30–60 min

Do not routinely administer amiodarone and procainamide together