



**Assess with ABCDE approach – recognise and treat reversible causes**

Oxygen if  $\text{SpO}_2 < 94\%$ , respiratory rate, heart rate, CRT, cardiac monitoring, blood pressure, vascular access, AVPU

**Signs of circulation?**

NO

Follow  
ADVANCED  
LIFE SUPPORT  
ALGORITHM

**Decompensated – seek expert help**

**Signs of vital organ perfusion compromise:**  
Reduced conscious level, tachypnoea, bradycardia / tachycardia, BP < 5th centile\*, CRT > 2 secs, weak or impalpable peripheral pulses

YES

**Compensated**

Normal conscious level,  
+/- respiratory distress  
and signs of circulatory  
compromise, BP > 5th centile\*

## Bradycardia

< 1 year < 80  $\text{min}^{-1}$   
> 1 year < 60  $\text{min}^{-1}$

- **Optimal oxygenation** with positive pressure ventilation if required
- **If unconscious and HR < 60  $\text{min}^{-1}$  despite oxygenation, start chest compressions**
- **No response to oxygenation:**
  - If vagal stimulation possible cause – atropine
  - If no response to oxygenation or atropine consider adrenaline
- **Pacing – very rarely required and guided by aetiology**

## Tachycardia

### Narrow complex

#### Sinus tachycardia

Infant typically 180–220  $\text{min}^{-1}$   
Child typically 160–180  $\text{min}^{-1}$   
Gradual onset

• **Treat the cause:**

- Physiological response:
- Crying
  - Exercise
  - Anxiety/fear
  - Pain

• **Identify precipitant**

- Compensatory mechanism:
- Respiratory/circulatory failure
  - Hypovolaemia
  - Sepsis
  - Anaemia

#### SVT

Infant > 220  $\text{min}^{-1}$   
Child > 180  $\text{min}^{-1}$   
Abrupt onset

- Synchronised cardioversion with appropriate sedation + analgesia (e.g. IM/intranasal ketamine if delay in IV access)
- Chemical cardioversion may be 1st choice if suitable IV access is in place and delay in synchronised cardioversion
- Adenosine
- Consider amiodarone before 3rd shock

### Broad complex

#### VT

Could be VT or SVT, if unsure treat as VT

• **If conscious:**

- Synchronised cardioversion with appropriate sedation + analgesia (e.g. IM/intranasal ketamine if delay in IV access, **do not delay cardioversion**)

• **If unconscious:**

- Immediate synchronised cardioversion
- Consider amiodarone before 3rd shock

**Monitor for clinical deterioration and seek expert help**

**Treat the cause:**

- If bradycardia, consider oxygenation and vagal tone
- If SVT, consider vagal manoeuvres
- Reassess
- Consider adenosine

Drug	Atropine	Adrenaline	Adenosine	Amiodarone	Synchronised cardioversion	Magnesium	Age	*Systolic BP 5th centile mmHg
Treatment	<b>Up to 11 years:</b> 20 mcg $\text{kg}^{-1}$ (max. 0.5 mg) <b>12–17 years:</b> 300–600 mcg, larger doses may be used in emergency	<b>For bradycardia:</b> 1–2 mcg $\text{kg}^{-1}$ or continuous infusion	<b>Infants &gt; 1 month &amp; children up to 17 years:</b> 0.1–0.2 mg $\text{kg}^{-1}$ (100–200 mcg $\text{kg}^{-1}$ ) <b>If the SVT persists:</b> give a 0.3 mg $\text{kg}^{-1}$ (300 mcg $\text{kg}^{-1}$ ) (max. 12–18 mg) after at least 1 min.	5 mg $\text{kg}^{-1}$ – by SLOW IV infusion (> 20 min) before 3rd cardioversion in discussion with paediatric cardiologist/expert	With appropriate sedation + analgesia (e.g. IM/intranasal Ketamine if delay in IV access + airway management) – IV access attempts must not delay cardioversion <b>1st shock:</b> 1 J $\text{kg}^{-1}$ <b>Subsequent shocks:</b> doubling the energy with each subsequent attempt up to a max of 4 J $\text{kg}^{-1}$	25–50 mg $\text{kg}^{-1}$ (max. 2 g) to be given over 10–15 min, may be repeated once if necessary, in Torsades de pointes VT	<b>1 month</b> 50 <b>1 year</b> 70 <b>5 years</b> 75 <b>10 years</b> 80	