

**Assess with ABCDE approach – recognise and treat reversible causes**  
 Oxygen if SpO<sub>2</sub> < 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 LOC, tachypnoea, bradycardia /tachycardia, BP < 5th centile\*, CRT > 2 secs, weak or impalpable peripheral pulses

**YES**

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

**Bradycardia**  
 < 1 year < 80 min<sup>-1</sup>  
 > 1 year < 60 min<sup>-1</sup>  
 Optimal oxygenation with positive pressure ventilation if required  
*If unconscious and HR < 60 min<sup>-1</sup> 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	Broad complex
<p><b>Sinus tachycardia</b>                      Infant &lt; 220 min<sup>-1</sup>                      Child &lt; 180 min<sup>-1</sup>                      Gradual onset</p> <p><b>Treat the cause:</b>                      Physiological response:                      – Crying                      – Exercise                      – Anxiety/fear                      – Pain</p> <p><b>Identify precipitant</b>                      Compensatory mechanism:                      – Respiratory/circulatory failure                      – Hypovolaemia                      – Sepsis                      – Anaemia</p>	<p><b>SVT</b>                      Infant &gt; 220 min<sup>-1</sup>                      Child &gt; 180 min<sup>-1</sup>                      Abrupt onset</p> <p>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</p>
	<p><b>VT</b>                      Could be VT or SVT, if unsure treat as VT</p> <p><b>If conscious:</b>                      Synchronised cardioversion with appropriate sedation + analgesia (e.g. IM/intranasal ketamine if delay in IV access, <i>do not delay cardioversion</i>).</p> <p><b>If unconscious:</b>                      Immediate synchronised cardioversion                      Consider amiodarone before 3rd shock</p>

**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
Treatment	<p><b>Up to 11 years:</b> 20 mcg kg<sup>-1</sup>.</p> <p><b>12-17 years:</b> 300–600 mcg, larger doses may be used in emergency.</p>	<p><b>For bradycardia:</b> 10 mcg kg<sup>-1</sup> repeat if necessary.</p>	<p><b>Up to 1 year:</b> 150 mcg kg<sup>-1</sup>, increase 50–100 mcg kg<sup>-1</sup> every 1–2 min. Maximum single dose: Neonates 300 mcg kg<sup>-1</sup>, Infants 500 mcg kg<sup>-1</sup></p> <p><b>1–11 years:</b> 100 mcg kg<sup>-1</sup> increase 50–100 mcg kg<sup>-1</sup> every 1–2 min. Maximum single dose: 500 mcg kg<sup>-1</sup> (max. 12 mg)</p> <p><b>12–17 years:</b> 3 mg IV, if required increase to 6 mg after 1–2 min, then 12 mg after 1–2 min</p>	<p>5 mg kg<sup>-1</sup> – by SLOW IV infusion (&gt; 20 min) before 3rd cardioversion in discussion with paediatric cardiologist/expert</p>	<p>With appropriate sedation + analgesia (e.g. IM/intranasal Ketamine if delay in IV access + airway management) – IV access attempts must not delay cardioversion</p> <p><b>1st shock:</b> 1 J kg<sup>-1</sup></p> <p><b>2nd shock:</b> 2 J kg<sup>-1</sup>, consider up to 4 J kg<sup>-1</sup></p>	<p>25–50 mg kg<sup>-1</sup> Maximum per dose 2 g to be given over 10–15 min, may be repeated once if necessary, in Torsades de pointes VT</p>

Age	*Systolic BP 5th centile mmHg
<b>1 month</b>	50
<b>1 year</b>	70
<b>5 years</b>	75
<b>10 years</b>	80