Pediatric Tachycardia With Pulses and Poor Perfusion Algorithm

Pediatric Advanced Life Support

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

American Heart Association
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TACHYCARDIA
With Pulses and Poor Perfusion

- Assess and support ABCs as needed
- Give **oxygen**
- Attach monitor/defibrillator

Symptoms Persist

Evaluate QRS duration

Narrow QRS (≤0.08 sec) → **Evaluate rhythm with 12-lead ECG or monitor**

Wide QRS (>0.08 sec) → **Possible Ventricular Tachycardia**

Probable Sinus Tachycardia
- Compatible history consistent with known cause
- P waves present/normal
- Variable R-R; constant PR
- Infants: rate usually <220/min
- Children: rate usually <180/min

→ **Search for and treat cause**

Probable Supraventricular Tachycardia
- Compatible history (vague, nonspecific); history of abrupt rate changes
- P waves absent/abnormal
- HR not variable
- Infants: rate usually ≥220/min
- Children: rate usually ≥180/min

→ **Consider vagal maneuvers (No delays)**

- **If IV access readily available:**
  Give adenosine 0.1 mg/kg (maximum first dose 6 mg) by rapid bolus
  May double first dose and give once (maximum second dose 12 mg)
  or
- **Synchronized cardioversion:** 0.5 to 1 J/kg; if not effective, increase to 2 J/kg
  Sedate if possible but don't delay cardioversion

→ **Expert consultation advised**
- **Amiodarone** 5 mg/kg IV over 20 to 60 minutes
  or
- **Procainamide** 15 mg/kg IV over 30 to 60 minutes

Do not routinely administer amiodarone and procainamide together

- **Synchronized cardioversion:** 0.5 to 1 J/kg; if not effective, increase to 2 J/kg
  Sedate if possible but don't delay cardioversion
- May attempt **adenosine** if it does not delay electrical cardioversion

During Evaluation
- Secure, verify airway and vascular access when possible
- Consider expert consultation
- Prepare for cardioversion

Treat possible contributing factors:
- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypoglycemia
- **H**ypothermia
- **T**oxins
- **T**amponade, cardiac
- **T**ension pneumothorax
- **T**hrombosis (coronary or pulmonary)
- **T**rauma (hypovolemia)

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