PEDIATRIC TACHYCARDIA WITH A PULSE ALGORITHM

ProMed CERTIFICATIONS

IDENTIFY AND TREAT UNDERLYING CAUSE

- MAINTAIN PATENT AIRWAY
  > Assist breathing as necessary
- OXYGEN
- CARDIAC MONITOR TO IDENTIFY RHYTHM
  > Monitor blood pressure and oximetry
- IO / IV ACCESS
- 12-LEAD ECG IF AVAILABLE
  > Don't delay therapy

Synchronized Cardioversion

Start with 0.5 - 1 J/kg:

- If ineffective, increase to 2 J/kg
- Do not delay cardioversion; sedate if needed

Adenosine IO/IV Dose

- First dose: 0.1 mg/kg rapid bolus (maximum of 6 mg)
- Second dose: 0.2 mg/kg rapid bolus (maximum of 12 mg

EVALUATE RHYTHM

Use 12-lead ECG or monitor

Probable sinus tachycardia

> Compatible history consistent with known cause
> P waves present/normal
> Variables RR with constant PR
> Infants: rate usually <220/min
> Children: rate usually <180/min

Search for and treat cause

Cardiopulmonary Compromise?

> Acutely altered mental state
> Signs of shock
> Hypotension

YES

NO

EVALUATE QRS DURATION

QRS NARROW (≤0.09 sec)

QRS WIDE (>0.09 sec)

Probable supraventricular tachycardia

> Compatible history (vague, nonspecific; history of abrupt rate changes
> P waves absent/normal
> HR not variables with activity
> Infants: rate usually ≥220/min
> Children: rate usually ≥180/min

> If IO/IV access present, give adenosine 0.1 mg/kg rapid bolus (maximum first dose 6 mg)
> May give second dose of 0.2 mg/kg rapid bolus (maximum second dose 12 mg)
> Or if no IO/IV access or adenosine ineffective, synchronized cardioversion

Possible Ventricular Tachycardia

Synchronized cardioversion

Expert consultation Recommended

> Amiodarone
> Procainamide

EVALUATE QRS DURATION

QRS NARROW (≤0.09 sec)

QRS WIDE (>0.09 sec)

Probable supraventricular tachycardia

> Compatible history (vague, nonspecific; history of abrupt rate changes
> P waves absent/normal
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Consider vagal maneuvers
Do not Delay

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> Or if no IO/IV access or adenosine ineffective, synchronized cardioversion

Possible Ventricular Tachycardia

Consider Adenosine
If rhythm regular and QRS monomorphic

Expert consultation Recommended

> Amiodarone
> Procainamide

This Algorithm is based on the latest (2020) American Heart Association standards and guidelines