



## PAEDIATRIC ACUTE CARE GUIDELINE

### Supraventricular Tachycardia

<b>Scope (Staff):</b>	All Emergency Department Clinicians
<b>Scope (Area):</b>	Emergency Department

This document should be read in conjunction with this DISCLAIMER  
<http://kidshealthwa.com/about/disclaimer/>

# Supraventricular Tachycardia

## Background

- Rapid regular, usually narrow (<0.08 sec) complex tachycardia of 220-320bpm in infants and 150-250bpm in older children
- SVT may be well tolerated in infants for 12-24 hours, heart failure later manifests with irritability, poor perfusion, pallor, poor feeding and then rapid deterioration
- **Do not** use verapamil or beta blockers in infants or children with SVT – cause profound AV block, negative inotropy and sudden death
- Several atrial rhythms; atrial flutter, atrial fibrillation and sinoatrial node re-entry tachycardia are considered subgroups of re-entrant SVT. These do not respond to adenosine but the transient slowing of the ventricular rate may unmask the atrial activity and therefore underlying cause of the SVT. A running rhythm strip is therefore imperative.

## Management

- Assess and manage ABC
- A 12 lead ECG in SVT and post conversion is **essential**
  - Monitoring with a rhythm strip during manoeuvres (i.e. in SVT and post conversion) allows later assessment of underlying rhythm in unclear cases

### Child Appears Shocked

- Hypotensive
- Poor peripheral perfusion
- Reduced GCS

- **Seek urgent senior assistance**
- Insert IV/IO
- Administer sedation if child is conscious
  - Sedation requires a senior doctor (e.g. ED, PICU, Anaesthetist)
- Synchronous DC shock
  - 1st shock - 1 Joule/kg
  - 2nd shock - 2 Joules/kg
  - 3rd shock - 2 Joules/kg
- Consider amiodarone in discussion with Cardiologist

### Child Does Not Appear Shocked

- Attempt Vagal Manoeuvres
  - Infants: ice plus water in bag placed on the face for up to 10 seconds - often effective
  - Older children: carotid sinus massage, valsalva manoeuvre (30-60 seconds), deep inspiration/cough/gag reflex, blow through straw

#### If unsuccessful

- Insert peripheral IV cannula as proximal as possible with 3 way tap
- Turn on continuous trace monitoring
- Administer rapid IV adenosine bolus. Follow bolus immediately with a 0.9% saline flush (minimum of 5mL)
  - 1st dose: 0.1mg/kg and wait 2 minutes
  - **Maximum** single dose 12mg
- Further doses 2 minutes apart if required up to the maximum dose
  - 2nd dose: 0.2mg/kg and wait 2 minutes
  - 3rd dose: 0.3mg/kg

- If reversion to sinus rhythm occurs but is not sustained, there is little to be gained by persisting with that manoeuvre/drug
- Discuss with Cardiologist

## Nursing

### Observations

- Baseline observations include temperature, pulse rate, respiratory rate, blood pressure, SpO2
- 12 lead ECG as soon as possible and have it reviewed by a doctor
- Continuous cardiac monitoring using the defibrillator is preferable as printing and recording an event is instant
- If unwell or unstable - Minimum of 15 minutely pulse rate, respiratory rate, blood

pressure and SpO<sub>2</sub>

- If stable and in sinus rhythm - hourly observations
- Continuous cardiac monitoring for 1 hour post resolution of SVT or longer if specified by medical staff




### Other nursing considerations

- Reassure the child
- Vagal manoeuvres such as ice water on face, valsalva manoeuvre and carotid body massage will often be attempted after medical review
  - If this is unsuccessful then it is likely that the child will require intravenous adenosine

### References

1. Advanced Paediatric Life Support: The Practical Approach. 5th edition. Australian and New Zealand Version. Wiley-Blackwell, 2012

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