



## NEWBORN EMERGENCY TRANSPORT SERVICE MEDICAL GUIDELINES

### CLINICAL GUIDELINES

Cardiac dysrhythmias  
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Newborn Emergency Transport Service Medical Guidelines  
King Edward Memorial/Princess Margaret Hospitals  
Perth Western Australia  
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## Cardiac Dysrhythmias

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### Supraventricular Tachycardia (SVT)

- Narrow complex tachycardia (heart rates usually between 220-280bpm).
- May have history of fetal tachycardia
- Episodes are usually paroxysmal lasting between 10-15 minutes; prolonged episodes may precipitate cardiac failure
- May be associated with hydrops fetalis, or cardiac malformations

### Management:

- If clinically asymptomatic (no cardiac failure) and short transport:
  - Close observation
  - IV access in case of clinical deterioration, draw up first dose of adenosine
- If clinically symptomatic (eg cardiac failure) or prolonged transport:
  - Always consult the on-call neonatologist &/or cardiologist.
  - If shocked or in cardiac failure, may require intubation, supplementation oxygen.
  - Vagal manoeuvres (eg ice pack over face.)
  - Adenosine 100micrograms/kg fast IV push. If unresponsive, increase dose by 50-100micrograms/kg, to maximum 300micrograms/kg per dose.
  - Cardioversion and other antiarrhythmic drugs like Amiodarone rarely required, & only when all above has failed, & patient in cardiac failure. Cardiologist must be consulted before cardioversion.
  - If in cardiac failure: diuretics (Frusemide 1mg/kg)

## **Bradycarrhythmias**

- Heart Rate <100
- In premature infants, most common cause is sinus bradycardia secondary to apnoea of prematurity. HR responds appropriately to stimulation.
- In term infants, most common cause is sinus bradycardia in a relaxed baby. HR responds appropriately to stimulation.
- Pathological causes include:
  - Congenital heart block (does the mother have SLE?)
  - Pre-arrest
  - Hypothermia (eg. when cooled for HIE)
  - Hypothyroidism
  - Raised intracranial pressure
  - IV Calcium given too quickly
  - Hyperkalaemia

## **Management:**

- If clinically asymptomatic (no cardiac failure, good perfusion, normal lactate, HR response with stimulation):
  - Preterm infants: loading dose caffeine (20mg/kg/dose)
  - Term infants: close observation, no treatment needed
- If clinically symptomatic (cardiac failure, poor perfusion, worsening lactate, no response with stimulation or caffeine):
  - Always consult the on-call neonatologist &/or cardiologist.
  - ABC as per NRP.
  - In preterm infants if likely secondary to apnoeas and not responding to stimulation/ caffeine, will require intubation and ventilation.
  - In term infants, consider intubation and ventilation May require isoprenaline infusion (Dose is 0.1-1 mcg/kg/min) – **after discussion with cardiology**