



CLINICAL PRACTICE GUIDELINE
NEWBORN EMERGENCY TRANSPORT SERVICE (NETS WA)

Cardiac Dysrhythmias

This document should be read in conjunction with the [Disclaimer](#)

Supraventricular Tachycardia (SVT)

- Narrow complex tachycardia (heart rates >230/min regular with hidden, normal or retrograde P waves).
- May have history of foetal 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 (e.g. cardiac failure) or prolonged transport:
 - Always consult the on-call neonatologist and/or cardiologist.
 - If shocked or in cardiac failure, may require intubation, supplementation oxygen.
 - Vagal manoeuvres (e.g. ice pack over face).
 - Adenosine 100 micrograms/kg fast IV push followed by a flush using a three way; to use IV line closer to the heart (brachial if possible). If unresponsive, increase dose by 50-100 micrograms/kg, to maximum 300 micrograms/kg per dose.
 - Cardioversion and other antiarrhythmic drugs like Amiodarone/ Flecainide rarely required, and only when all above has failed, and patient in cardiac failure. Cardiologist must be consulted before cardioversion.
 - If in cardiac failure: diuretics (Frusemide 1mg/kg).

Bradyarrhythmias

- 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 (e.g. 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 (20 mg/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 and/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.**

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