Pediatric Cardiac Protocol Section

Pediatric Tachycardia

Wide Complex (> 0.09 sec)



History

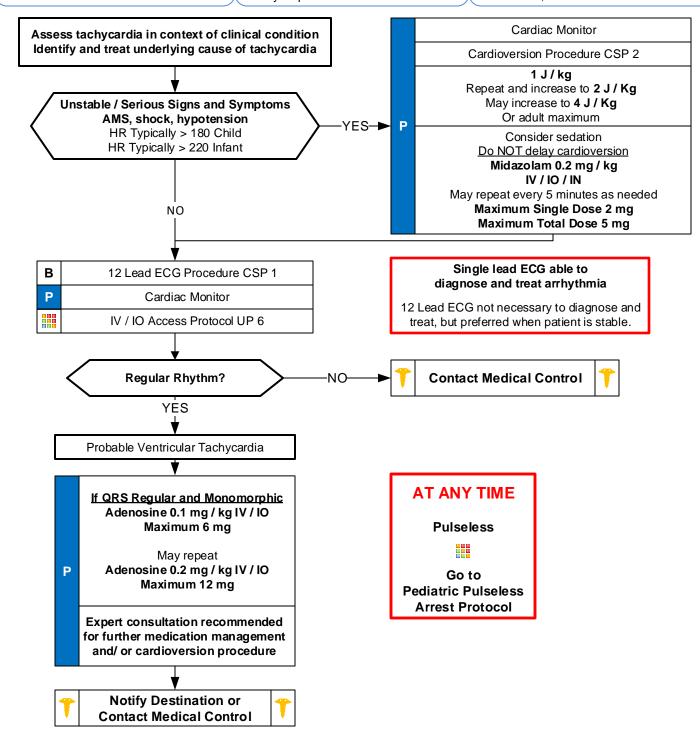
- Past medical history
- Medications or Toxic Ingestion (Aminophylline, Diet pills, Thyroid supplements, Decongestants, Digoxin)
- Drugs (nicotine, cocaine)
- Congenital Heart Disease
- Respiratory Distress
- Syncope or Near Syncope

Signs and Symptoms

- Heart Rate: Child > 180/bpm Infant > 220/bpm
- * Pale or Cyanosis
- * Diaphoresis
- * Tachypnea
- Vomiting
- * Hypotension
- * Altered Level of Consciousness
- Pulmonary Congestion
- Syncope

Differential

- Heart disease (Congenital)
- Hypo / Hyperthermia
- * Hypovolemia or Anemia
- * Electrolyte imbalance
- * Anxiety / Pain / Emotional stress
- ★ Fever / Infection / Sepsis
- Hypoxia, Hypoglycemia
- Medication / Toxin / Drugs (see HX)
- Pulmonary embolus
- * Trauma, Tension Pneumothorax



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** Refer to Length Based Medication Tape for Medication Doses IF pediatric patients weight is unknown *

Pearls

- * Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention
- * Recommended Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Neuro
- * Monomorphic QRS:

All QRS complexes in a single lead are similar in shape.

- * Polymorphic QRS:
 - QRS complexes in a single lead will change from complex to complex.
- Use length-based or weight-based pediatric resuscitation system for medication, equipment, cardioversion, and defibrillation guidance. Pediatric paddles should be used in children < 10 kg.
- * Rhythm should be interpreted in the context of symptoms and pharmacological or electrical treatment given only when symptomatic, otherwise monitor and reassess.
- * 12-Lead ECG:

12-Lead ECG is not necessary to diagnose and treat arrhythmia. A single lead ECG is often all that is needed. Obtain 12-Lead when patient is stable and/ or following a rhythm conversion.

When administering adenosine, obtaining a continuous 12-Lead can be helpful later to physicians.

* Unstable condition:

Condition which acutely impairs vital organ function and cardiac arrest may be imminent.

If at any point patient becomes unstable move to unstable arm in algorithm

- * Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.
- * Serious Signs and Symptoms:

Respiratory distress/failure.

Signs of shock/ poor perfusion with or without hypotension.

AMS

Sudden collapse with rapid, weak pulse

* Wide Complex Tachycardia (> 0.09 seconds):

SVT with aberrancy.

VT: Uncommon in children. Rates may vary from near normal to > 200/ minute.

Most children with VT have underlying heart disease / cardiac surgery/ long QT syndrome/ cardiomyopathy.

Amiodarone 5 mg / kg over 20 – 60 minutes or Procainamide 15 mg / kg over 30 – 60 minutes IV / IO are recommended agents. They should not be administered together. Consultation with Medical Control is advised when these agents are considered.

* Torsade's de Pointes/ Polymorphic (multiple shaped) Tachycardia:

Rate is typically 150 to 250 beats/ minute.

Associated with long QT syndrome, hypomagnesaemia, hypokalemia, many cardiac drugs.

May quickly deteriorate to VT.

Separating the child from the caregiver may worsen the child's clinical condition.

- Monitor for respiratory depression and hypotension associated if Diazepam, Lorazepam, or Midazolam is used.
- Continuous pulse oximetry is required for all SVT patients if available.