



PEDIATRIC TACHYCARDIA WITH PULSES

Effective: January 1, 2025
Replaces: January 1, 2021

1. Patient Care Goals

- 1.1. Maintain adequate oxygenation, ventilation, and perfusion
- 1.2. Control ventricular rate
- 1.3. Restore regular sinus rhythm in unstable patient
- 1.4. Identify underlying causes of tachycardia

2. BLS Treatment

- 2.1. Routine Medical Care – Pediatric (700-S05)
 - 2.1.1. **Oxygen** – titrate as appropriate
- 2.2. Treat for signs and symptoms of shock as necessary (700-P10)

3. ALS Treatment

- 3.1. **Vascular Access (IV) or Vascular Access (IO)**, per procedure (700-M13)
- 3.2. Consider obtaining **12 Lead EKG** if patient condition allows
- 3.3. Utilize length-based resuscitation tape to determine medication dosages

4. Sinus Tachycardia

- 4.1. Defined as narrow complex rhythm (QRS duration less than or equal to 0.08 sec)
 - 4.1.1. HR < 220/min infant
 - 4.1.2. HR < 180/min child
 - 4.1.3. Normal P waves
 - 4.1.4. Constant PR interval/HR
- 4.2. Consider **20ml/kg Fluid bolus**, max of 250ml, and monitor the patient

5. Stable Supraventricular Tachycardia (SVT)

- 5.1. Defined as narrow complex rhythm (QRS duration less than or equal to 0.08 sec)
 - 5.1.1. HR > 220/min infant
 - 5.1.2. HR > 180/min child
 - 5.1.3. Absent or abnormal P waves
 - 5.1.4. Constant HR
- 5.2. Consider vagal maneuver
- 5.3. If vagal maneuvers are unsuccessful consider **20ml/kg Fluid bolus** while the provider prepares Adenosine
- 5.4. **Adenosine 0.1mg/kg Rapid IV** followed by a **10ml Rapid saline flush** (max dose 6mg)
- 5.5. If rhythm does not convert in two (2) minutes administer:
 - 5.5.1. **Adenosine 0.2mg/kg Rapid IV** followed by a **10ml Rapid saline flush** (max dose 12mg)

6. Unstable Supraventricular Tachycardia (SVT)

- 6.1. Defined as narrow complex rhythm (QRS duration less than or equal to 0.08 sec)
 - 6.1.1. HR > 220/min infant



- 6.1.2. HR > 180/min child
- 6.1.3. Absent or abnormal P waves
- 6.1.4. Constant HR
- 6.1.5. Signs/symptoms of poor perfusion including
 - 6.1.5.1. Poor skin signs (pallor, mottling, cyanosis)
 - 6.1.5.2. Abnormal breathing
 - 6.1.5.3. Abnormal mental status
 - 6.1.5.4. Hypotension
- 6.2. Consider sedation if patient condition allows administer:
 - 6.2.1. **Midazolam 0.1mg/kg slow IVP**, max single dose 2.5mg
- 6.3. **Synchronized Cardioversion 0.5– 1 joules/kg, 2 joules/kg**
 - 6.3.1. Starting with lowest energy setting (0.5j)
 - 6.3.2. Each subsequent counter shock increasing in energy

7. Stable Ventricular Tachycardia with Pulse

- 7.1. Wide complex tachycardia, QRS duration > 0.08 sec without signs of poor perfusion
- 7.2. **Amiodarone 5mg/kg IV over 10 minutes (max single dose 150mg)**
- 7.3. If at any time the patient becomes hemodynamically unstable proceed to cardioversion

8. Unstable Ventricular Tachycardia with Pulse

- 8.1. Wide complex tachycardia, QRS duration > 0.08 sec with signs of poor perfusion including
 - 8.1.1.1. Poor skin signs (pallor, mottling, cyanosis)
 - 8.1.1.2. Abnormal breathing
 - 8.1.1.3. Abnormal mental status
 - 8.1.1.4. Hypotension
- 8.2. Consider sedation, if patient condition allows. administer:
 - 8.2.1. **Midazolam 0.1mg/kg slow IV**, max single dose 2.5mg
- 8.3. **Synchronized Cardioversion: 0.5–1joules/kg, 2 joules/kg**
 - 8.3.1. Starting with lowest energy setting (0.5j)
 - 8.3.2. Each subsequent counter shock increasing in energy

9. Pertinent Assessment Findings

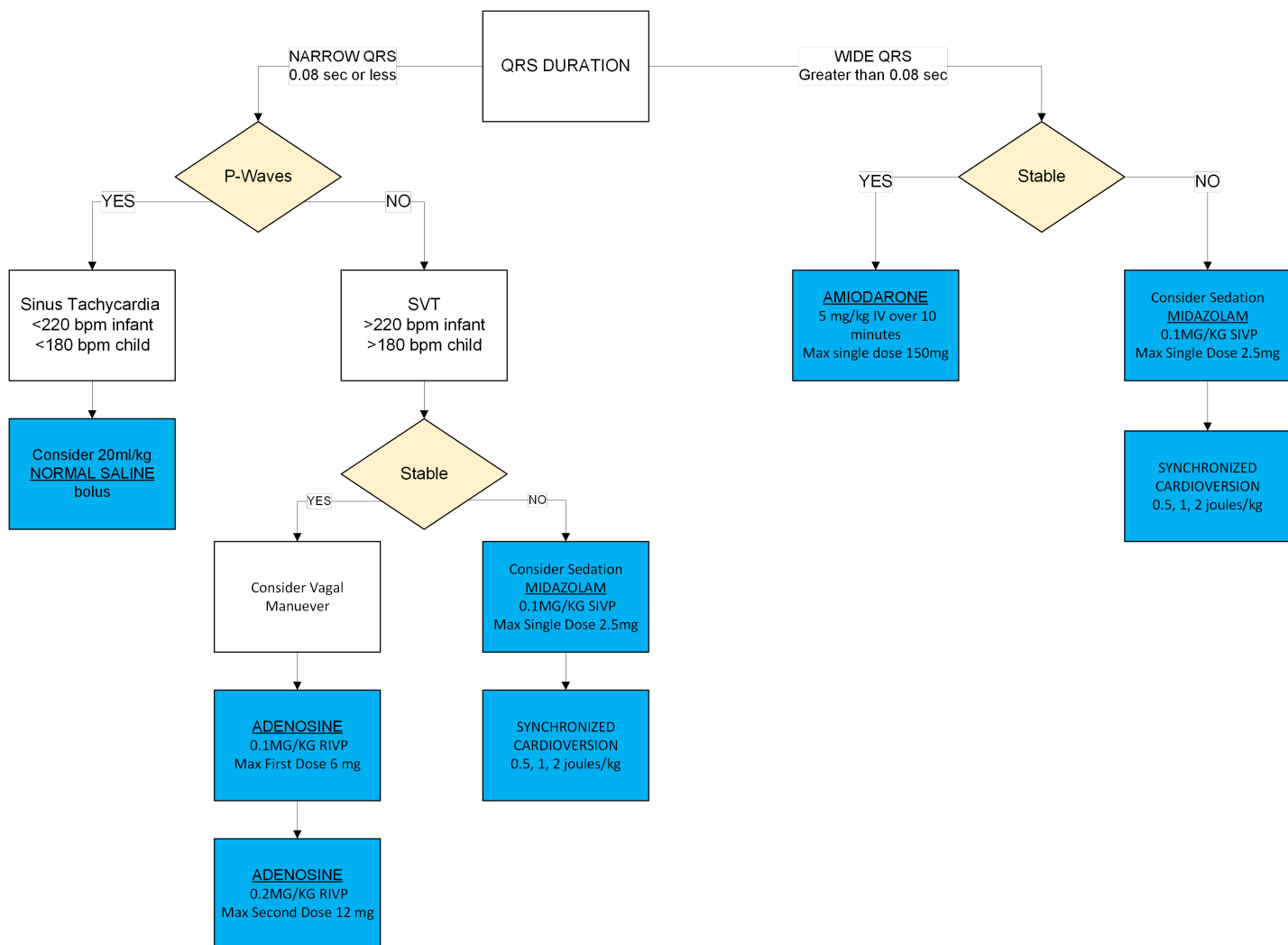
- 9.1. A-FIB rarely requires cardioversion in the field. As it is difficult to ascertain the onset of this rhythm, the risk of stroke needs to be considered prior to cardioversion

10. Key Documentation Elements

- 10.1. Initial rhythm and all rhythm changes
- 10.2. Time, dose, and response to medications given
- 10.3. Obtain monitor strips after each intervention
- 10.4. Patient weight
- 10.5. Pediatric length-based tape color (for pediatrics who fit on tape)
- 10.6. History of event supporting treatment of underlying causes



11. Pediatric Tachycardia with Pulses Treatment Flow Chart



Protocol # 700-P14