

Pediatric Tachycardia



This protocol is for paramedic use only

Aliases: Supraventricular tachycardia (SVT), atrial fibrillation (a-fib), atrial flutter, ventricular tachycardia (V-tach)

This protocol is intended for symptomatic pediatric patients with elevated heart rate, relative to their age. Refer to MI-MEDIC for appropriate vital signs and medication doses.

I. General Treatment

- A. Pediatric patients (≤ 14 years of age) utilize MI MEDIC cards for appropriate medication dosage. When unavailable utilize pediatric dosing listed within protocol.
- B. Follow General Pre-Hospital Care-Treatment Protocol
- C. Determine if patient is stable or unstable
- D. Manage airway as necessary
- E. Provide supplemental oxygen as needed to maintain O₂ saturation $> 94\%$
- F. Initiate monitoring
- G. Perform 12-lead EKG but do not delay care for 12-lead EKG on unstable patients
- H. Establish vascular access
- I. Identify and treat underlying causes of tachycardia such as dehydration, fever, vomiting, sepsis and pain.
- J. Administer **NS** or **LR** bolus 20ml/kg with possible hypovolemia.
- K. Consider the following additional therapies if specific dysrhythmias are recognized:

II. UNSTABLE

A. Regular Narrow Complex Tachycardia – Unstable

- i. Prepare for immediate cardioversion. In conscious patients consider sedation prior to electrical cardioversion. Refer to **Patient Procedural Sedation-Procedure Protocol**.
- ii. Deliver a synchronized shock; 1 J/kg for the first dose
- iii. Repeat doses should be 2 J/kg
- iv. DO NOT EXCEED ADULT DOSING.

B. Regular, Wide Complex Tachycardia – Unstable

- i. Prepare for immediate cardioversion. In conscious patients consider sedation prior to electrical cardioversion. Refer to **Patient Procedural Sedation-Procedure Protocol**.



- ii. Synchronized cardioversion 1 J/kg
- iii. For recurrent or refractory wide complex – unstable tachycardia, consult Medical Control prior to medication administration (medication per MCA selection)

Per MCA Selection

- Amiodarone 5 mg/kg (max single dose 300 mg) IV/IO (May repeat twice). Do not exceed 450 mg total IV/IO
- or
- Lidocaine 1 mg/kg IV/IO (May repeat 0.5 mg/kg twice at 5-10 minute intervals). Maximum 3 doses total

C. Irregular, Wide Complex Tachycardia – Unstable

- i. Defibrillate according to **Electrical Therapy Procedure**
- ii. Refer to **Pediatric General Cardiac Arrest Protocol**

D. If able to convert tachycardia, maintain full cardiac monitoring including pulse oximetry and supportive care until transfer of care at the receiving facility.

III. **STABLE**

A. Regular Narrow Complex Tachycardia – Stable (SVT)

- i. Perform vagal maneuvers
 - 1. Ensure the patient is on oxygen and on a cardiac monitor.
 - 2. Run ECG strip during the procedure.
 - 3. If child is able to follow instructions:
 - a. Blow into a 10 mL syringe for 15 seconds
 - b. Squat and bear down
 - 4. If child is not able to follow instructions:
 - a. While supine elevate the patient's legs to the knee chest position for 60 seconds.
 - b. If available consider quickly placing a bag of ice on the eyes and forehead. Do NOT occlude the nose or place below the bridge of the nose.
 - i. Results are generally seen within 15 seconds.
 - ii. This is not an ongoing intervention, it is an abrupt maneuver not be maintained for more than 15 seconds.
- 5. DO NOT USE CAROTID MASSAGE.



- ii. Contact Medical Control prior to administration. Administer **adenosine** according to MI MEDIC cards if vagal maneuvers are ineffective.
 - 1. If MI MEDIC cards are not available administer **adenosine**
 - a. 0.1 mg/kg (max of 6 mg) rapid IV push through the most proximal injection site, immediately followed by a 10 mL flush.
 - b. May repeat once with 0.2 mg/kg (max of 12 mg) administered as above.

B. Regular, Wide Complex Monomorphic QRS Tachycardia – Stable



- i. Contact Medical Control
- ii. Consider **adenosine** per MI MEDIC cards.
 1. If MI MEDIC cards are not available administer **adenosine**
 - a. 0.1 mg/kg (max of 6 mg) rapid IV push through the most proximal injection site, immediately followed by a 10 mL flush.
 - b. May repeat once with 0.2 mg/kg (max of 12 mg) administered as above.

Medication Protocols

Adenosine
Amiodarone
Lidocaine