SAN FRANCISCO EMERGENCY MEDICAL SERVICES AGENCY

Effective: 09/01/11 **Protocol: P-043.2**
Supersedes: 01/01/11

PEDIATRIC DYSRHYTHMIAS: TACHYCARDIA

SUBJECTIVE FINDINGS

- History, onset and duration of symptoms, fluid loss, fever, nausea, vomiting, trauma, AMS, neurological baseline.
- History of previous diagnosis, cardiac disease, surgery, previous episodes, previous treatment required, medications currently prescribed.
- Antecedent symptoms; dizziness, syncope, chest pain, palpitations or other chief complaints.

OBJECTIVE FINDINGS

- Signs of decreased perfusion, AMS, CHF, and/or tachyarrhythmia.

Sinus Tachycardia	SVT	Ventricular Tachycardia
• Onset. • Progression. • Fluid los.s • Trauma. • Rate: infant usually < 220 bpm. • Rate: child usually < 180 bpm .	• Onset; sudden. • Rate: infant usually > 220 bpm. • Rate: child usually > 180 bpm. • QRS duration < 0.08 sec.	• Onset, sudden. • Rate: > 120 bpm. • QRS duration > 0.08 sec.

BLS Treatment

- ABC's, oxygenation, ventilation, suction prn.
- Oxygen by blow-by, high flow mask or BVM prn, R/O hypoxemia.
- Shock position prn .
- Routine Medical Care.

ALS Treatment

Sinus Tachycardia

- Cardiac monitor.
- IV or IO of NS prn.
- Treat underlying cause.
- Fluid bolus 20 ml/kg x 3.
- Reassess, if signs of hypovolemic shock, see SHOCK Protocol (P-048).

	SVT	Ventricular Tachycardia
Stable	• Cardiac monitor. • IV or IO of NS prn. • Attempt vagal maneuvers. See PRECAUTIONS AND COMMENTS). • Diminished perfusion, but patient is	• Cardiac monitor. • IV or IO of NS prn**.**

	responsive: **Adenosine** 0.1 mg/kg rapid IVP or IO, max first dose 6 mg, repeat x 1 at 0.2 mg/kg, max second dose 12 mg.	

ALS Treatment		
	SVT	**Ventricular Tachycardia**
Unstable	• Cardiac monitor. • IV or IO of NS. • Synchronized cardioversion, 1J/kg; reassess and repeat x 1. For sedation of responsive patient prior to cardioversion: **Midazolam:** Utilize SF EMS Agency approved pediatric dosage chart to determine correct weight-based dose. Maximum single dose is: • 2.5 mg IV (may be repeated once in 5"), • 5 mg IM, or • 5 mg IN. • Fluid bolus 20 ml/kg IVP.	• Cardiac monitor • IV or IO of NS • Synchronized cardioversion 1J/kg, reassess, repeat x 1 at 2 J/kg, reassess For sedation of responsive patient prior to cardioversion: **Midazolam:** Utilize SF EMS Agency approved pediatric dosage chart to determine correct weight-based dose. Maximum single dose is: • 2.5 mg IV (may be repeated once in 5"), • 5 mg IM, or • 5 mg IN. • Consider fluid challenge 20 ml/kg IVP or IO

DOCUMENTATION

Tachycardia rhythm diagnosed (ST, SVT, VT).
Signs of perfusion.
If inadequate perfusion, appropriate treatment given.

PRECAUTIONS AND COMMENTS

- Vagal maneuvers in the infant and pre-school patient is ice cold water to face (place cold washcloth over forehead and face without obstructing airway). In older children, use Valsalva maneuvers.
- Be prepared to support ventilations and oxygenation after administration of **Midazolam**.
- Synchronized cardioversion energy levels vary according to the type of waveform, biphasic or monophasic; follow manufacturer's instructions when performing cardioversion.
- Remember when using paddles for cardioversion in patients < 10 kg or 1 year of age, use pediatric paddles (infant paddles) positioned sternal-apical. In patients weighing 10 kg or more, or over 1 year of age, use adult paddles positioned anterior-posterior with good paddle pressure.
- If available defibrillator will not dial down to appropriate energy setting, use lowest possible energy level on the defibrillator.