	COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY	Document #	9014.22
	<u>PROGRAM DOCUMENT:</u> Pediatric Cardiac Dysrhythmias	Initial Date:	01/30/95
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 Signature on File
 EMS Medical Director

 Signature on File
 EMS Administrator

Purpose:

- A. To serve as the treatment standard in treating pediatric patients with symptomatic bradycardias.
- B. To serve as the treatment standard for treating pediatric patients with tachyarrhythmia's with pulses.

Authority:

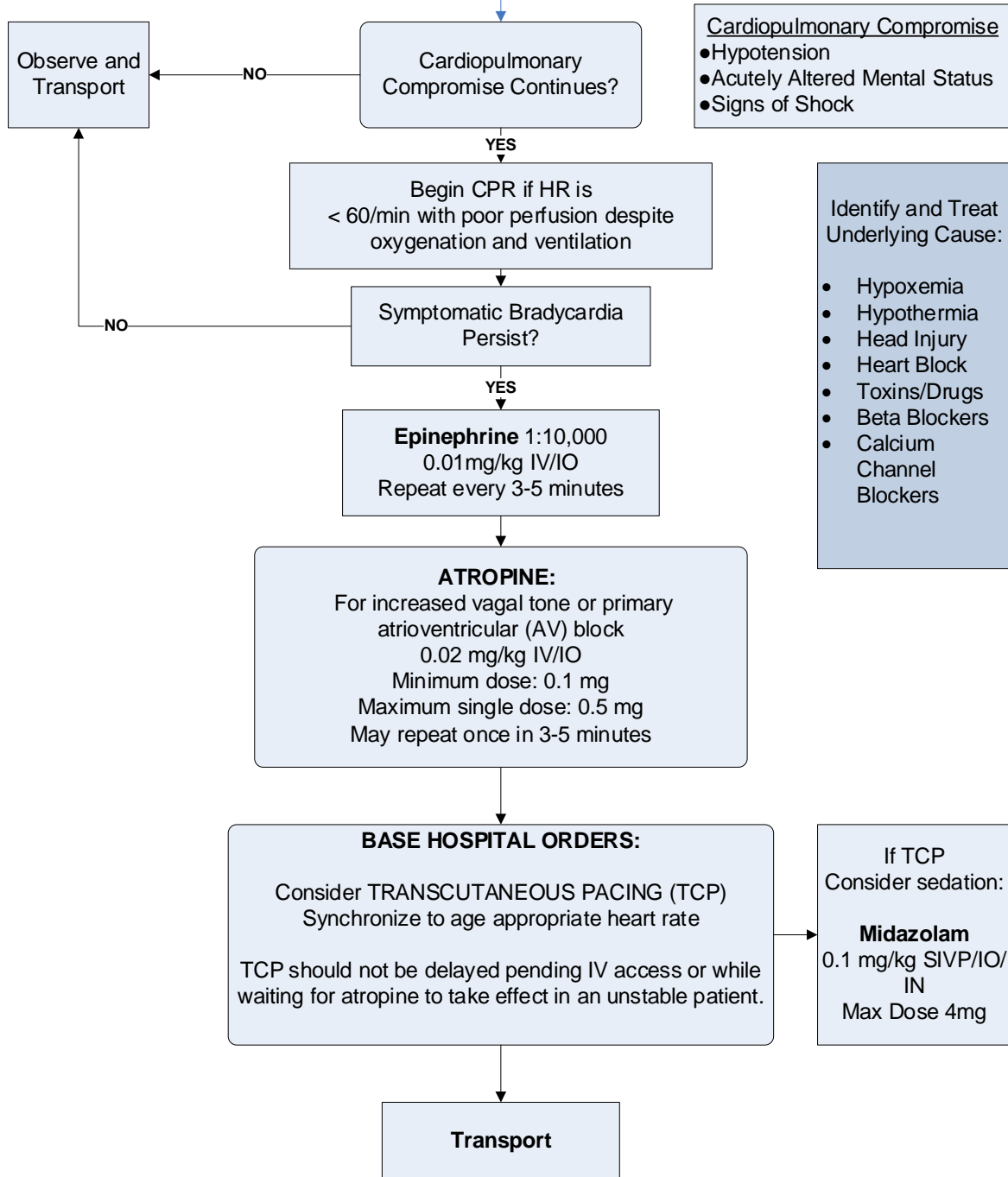
- A. California Health and Safety Code, Division 2.5
- B. California Code of Regulations, Title 22, Division 9

Protocol:

- A. Most pediatric bradycardias can be corrected by hyperventilation with 100% oxygen.
- B. When Cardiopulmonary Resuscitation (CPR) is indicated, high quality CPR improves survival: "Push hard, push fast", minimize interruptions; allow full chest recoil, and don't hyperventilate".
- C. In the prehospital setting with short transport times, Bag Valve Mask (BVM) ventilation is the method of choice for children who required ventilatory support.
- D. Symptomatic Brady and Tachy-Dysrhythmias frequently have an underlying cause which should be recognized and treated in addition to any treatment directed at the dysrhythmia itself. It is critically important to determine the cause of the patient's instability in order to properly direct treatment. Search for and treat possible contributing factors (i.e. Hypothermia, Hyperkalemia, Hypovolemia, Hypoxia, Hypoglycemia, Tamponade, Thrombosis, Tension Pneumo, Toxins, Trauma, etc.).
- E. Avoiding hypothermia is imperative to the management of the critical pediatric patient. Passive warming measures including warm ambient/environmental temperature, use of blanket, covering head may be used to maintain normal body temperature >37°C or 98.6°F.

PEDIATRIC BRADYCARDIA

- Maintain patent airway: Assist breathing as necessary.
- Supplemental O₂ as needed to maintain SpO₂ ≥ 94%. Use lowest concentration and flow rate of O₂ as possible.
- Cardiac monitor, monitor B/P and SpO₂ oximetry.
- 12-Lead if available. Do not delay therapy.
- IV/IO access



Pediatric Tachycardia with a Pulse and Poor Perfusion

- Identify and treat underlying causes
- Maintain patent airway: Assist breathing as necessary
- Supplemental O₂ as needed to maintain SpO₂ ≥ 94%. Use lowest concentration and flow rate of O₂ as possible.
- Cardiac monitor to identify rhythm; monitor blood pressure.
- 12-Lead ECG if available; don't delay therapy.
- IV/IO Access.

Evaluate QRS Duration

Narrow QRS (≤ 0.09 sec)

Wide QRS (> 0.09 sec)

Evaluate rhythm with 12-Lead ECG or monitor

Probable Sinus Tachycardia

- Compatible history consistent with known cause
- P waves present and normal
- Variable R-R and constant P-R
- Infants: rate usually < 220 bpm
- Children: rate usually < 180 bpm

Search for and treat cause.

Probable Supraventricular Tachycardia

- Compatible history (vague, nonspecific) history of abrupt rate changes.
- P waves absent/abnormal.
- HR not variable.
- Infants: rate usually ≥ 220 bpm
- Children: rate usually ≥ 180 bpm

Consider vagal maneuvers

IV/IO Consider fluid bolus 20 ml/kg

BASE HOSPITAL ORDER ONLY:

- If IO/IV access present give:
- Adenosine:**
- 0.1 mg/kg rapid IV/IO (max dose 6 mg)
 - If no response, administer second dose
 - 0.2 mg/kg rapid IV/IO (max dose 12 mg)
- If IO/IV access not available, or if adenosine ineffective:
- **SYNCHRONIZED CARDIOVERSION**

Possible Ventricular Tachycardia

Cardiopulmonary Compromise?

- Hypotension
- Acutely altered mental status
- Signs of shock

YES

NO

BASE HOSPITAL ORDER:

- Consider MIDAZOLAM (VERSED)**
0.1 mg/kg Slow Intravenous Push (SIVP)/IO/IN
Total max dose 4 mg.
- SYNCHRONIZED CARDIOVERSION**
0.5 Joule/kg-1Joule/kg, check rhythm.
If no response:
SYNCHRONIZED CARDIOVERSION
2 Joules/kg, check rhythm.

Contact Base Hospital for additional treatment consultation

Transport

Cross Reference: Pediatric Airway Management, PD# 8837