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Executive Director

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Medical Director

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PEDIATRIC SYMPTOMATIC BRADYCARDIA

- I. AUTHORITY: Health and Safety Code, Division 2.5, California Code of Regulations, Title 22, Division 9
- II. PURPOSE: To serve as the treatment standard for EMT-Is and EMT-Ps in treating patients.
- III. PROTOCOL:

Most bradycardias in children are due to hypoxia. Bradycardia may also be secondary to sinus node disease, increased parasympathetic tone or drug effects (e.g., digitalis, beta-blockers, or calcium antagonists), hypothermia or head injury. Heart rate is below 60 beats per minute, with associated signs/symptoms of low cardiac output. Never treat any bradycardia if the patient does not have serious symptoms.

STANDING ORDERS

ABC

OXYGEN

NOTE: Most bradycardias in children are due to hypoxia.

SECURE AIRWAY

Using the simplest effective method. A BLS airway with objective evidence of good ventilation and oxygenation is adequate and acceptable. Consider intubation only if unable to establish adequate ventilation and oxygenation using a BVM. Confirm placement, if intubated, with end-tidal CO₂ detector. **Continuous waveform capnography should be used in all intubated patients, if available.**~~As appropriate. Confirm tube placement, if intubated, with end-tidal CO₂ detector and esophageal detector device. **Monitor intubated patients with continuous waveform capnography if available.**~~

MONITOR

IV/IO ACCESS

TKO with microdrip tubing and volume control chamber.

ASSESS

For:
1. Heart rate: less than 80 beats per minute in infants (less than 1 year); less than 60 beats per minute in children (1 - 12 years).
AND
2. Signs of poor perfusion (delayed capillary refill, diminished distal pulses, cool extremities, altered level of consciousness) or respiratory distress.

CPR

If heart rate less than 80/minute in infant or less than 60/minute child.

EPINEPHRINE

0.01 mg/kg of 1:10,000 IV/IO ~~or 0.1 mg/kg of 1:1000 ET~~. Repeat every 3 minutes until above heart rate target or signs of poor perfusion or respiratory distress have improved.

CONSIDER

ATROPINE

0.02 mg/kg IV/IO ~~or 0.04 mg/kg ET~~. Minimum dose 0.1 mg. Maximum single dose 0.5 mg. May be repeated once in 3 minutes.

