

POLICY: 555.14  
TITLE: Pediatric Bradycardia

EFFECTIVE: 07/01/2024  
REVIEW: 07/2027  
SUPERCEDES:

APPROVAL SIGNATURES ON FILE IN EMS OFFICE

PAGE: 1 of 2

**PEDIATRIC BRADYCARDIA**

- I. AUTHORITY  
Health and Safety Code, Division 2.5, California Code of Regulations, Title 22, Division 9
- II. PURPOSE  
To serve as a patient treatment standard for EMRs, EMTs, and Paramedics within their scope of practice.
- III. PROTOCOL  
Bradycardia is characterized by a decrease in the rate of atrial depolarization due to slowing of the sinus node. The rhythm is regular or slightly irregular. Bradycardia is defined as heart rate < 80 in infants (< 1 year of age) and < 60 in children (1 year to 12 years of age). QRS complexes are normal, each preceded by a P wave.

**NOTE: Most bradycardia in children is due to hypoxia.**

Provider Key: F = First Responder/EMR      E = EMT      O = EMT Local Optional SOP  
P = Paramedic      D = Base Hospital Physician Order Required

	F	E	O	P	D
<b>ASSESSMENT:</b> look for signs of poor perfusion or respiratory distress (delayed capillary refill, diminished distal pulses, cool extremities, ALOC).	X	X	X	X	
<b>OXYGEN:</b> 100% by non-rebreather mask or blow-by.	X	X	X	X	
<b>BLS AIRWAY:</b> okay if airway patent. Support ventilations with appropriate airway adjuncts.	X	X	X	X	
<b>SUPRAGLOTTIC AIRWAY:</b> if GCS is < 8 and not rapidly improving.				X	
<b>PULSE OXIMETRY:</b> apply and monitor.		X	X	X	
<b>CAPNOGRAPHY:</b> apply and monitor if SGA has been placed.				X	
<b>ECG MONITOR:</b> lead placement may be delegated. Treat as indicated.				X	
<b>*CONSIDER HP-CPR:</b> if heart rate < 60, despite oxygen and ventilations if signs of poor perfusion.	X	X	X	X	
<b>VASCULAR ACCESS:</b> IV/IO, rate as indicated.				X	
<b>FLUID BOLUS:</b> NS 20 mL/kg as indicated. Reassess after each bolus.					
<b>EPINEPHRINE:</b> 0.01 mg/kg of 1:10,000 (0.1 mg/mL) IV/IO. Repeat every 3-5 minutes. Maximum of 1 mg per administration.				X	
<b>ATROPINE:</b> 0.02 mg/kg IV/IO. May be repeated once. Minimum dose of 0.1 mg. Maximum single dose 0.5 mg.				X	

**\*During CPR**

- Push hard (1/3 of Anterior-Posterior depth) and fast (at least 100/min)
- Ensure full chest recoil
- Minimize interruptions in chest compressions
- One cycle of CPR: 15 compressions then 2 breaths; 5 cycles = 1 – 2 min
- Avoid hyperventilation
- After advanced airway placement, give continuous chest compressions

**CONSIDER CAUSES AND TREAT PER TREATMENT GUIDELINES**

- Hypovolemia
- Hypoglycemia
- Hypoxia
- Hypothermia
- Hypo or Hyperkalemia
- Acidosis
- Toxins
- Cardiac Tamponade
- Tension Pneumothorax