

POLICY: 555.14
TITLE: Pediatric Bradycardia

EFFECTIVE: 09/01/2026
REVIEW: 8/2028
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, AEMTs, 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 A=Advanced EMT D = Base Hospital Physician Order Required**

	F	E	O	A	P	D
ASSESSMENT: look for signs of poor perfusion or respiratory distress (delayed capillary refill, diminished distal pulses, cool extremities, ALOC).	X	X	X	X	X	
OXYGEN: 100% by non-rebreather mask or blow-by.	X	X	X	X	X	
BLS AIRWAY: okay if airway patent. Support ventilations with appropriate airway adjuncts.	X	X	X	X	X	
SUPRAGLOTTIC AIRWAY: if GCS is < 8 and not rapidly improving.			X	X	X	
PULSE OXIMETRY: apply and monitor.		X	X	X	X	
CAPNOGRAPHY: apply and monitor if SGA has been placed.					X	
ECG MONITOR: lead placement may be delegated. Treat as indicated.					X	
*CONSIDER HP-CPR: if heart rate < 60, despite oxygen and ventilations if signs of poor perfusion.	X	X	X	X	X	
VASCULAR ACCESS: IV/IO, rate as indicated.				X	X	
FLUID BOLUS: NS 20 mL/kg as indicated. Reassess after each bolus.				X	X	
EPINEPHRINE: 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	
ATROPINE: 0.02 mg/kg IV/IO. May be repeated once. Minimum dose of 0.1 mg. Maximum single dose 0.5 mg.					X	
TRANSCUTANEOUS CARDIAC PACING: If patient remains hemodynamically unstable with serious signs & symptoms, DO NOT delay TCP waiting for vascular access or for atropine to take effect. AP pad placement. Start current level at 10 milliamps, increase current until electrical capture noted. Start at a					X	

rate of 60/minute and increase rate as indicated. Check pulses to confirm mechanical capture.						
---	--	--	--	--	--	--

***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

Pediatric Normal Vital Signs

Age	HR	RR	BP	Temp (C)	Temp (F)
<i>Premie</i>	120-170	40-70	55-75/35-45	36-38	96.8-100.4
<i>0-3 months</i>	100-160	35-60	65-85/45-55	36-38	96.8-100.4
<i>3-6 months</i>	90-120	30-45	70-90/50-65	36-38	96.8-100.4
<i>6-12 months</i>	80-120	25-40	80-100/55-65	36-38	96.8-100.4
<i>1-3 years</i>	70-110	20-30	90-105/55-70	36-38	96.8-100.4
<i>3-6 years</i>	65-110	20-25	90-110/60-75	36-38	96.8-100.4
<i>6-12 years</i>	65-100	14-22	90-120/60-75	36-38	96.8-100.4
<i>12+</i>	55-100	12-20	100-135/65-85	36-38	96.8-100.4