# BRADYCARDIA



## BASE GUIDELINES

1. Determine ALS Standing Order treatments/procedures rendered prior to Base Hospital Contact. Use ALS Standing Order as guidelines for treatments/procedures not initiated prior to Base Hospital Contact.
2. Pediatric bradycardia is often associated with hypoxia. Oxygenation and ventilation are the primary field management for the emergency.
3. Consider the following as possible causes for pediatric bradycardia other than respiratory distress or hypoxia:
   a. Poisoning (including beta-blockers, clonidine, opioids)
   b. Carbon Monoxide toxicity
   c. Occult head injury
   d. Hypothermia
   e. Electrolyte imbalance
   f. Hypoglycemia
   g. Congenital heart disease
   h. Sepsis/infection
   i. Envenomation
4. Generally, in the field oxygenation, ventilation, and rapid transport to a pediatric capable ERC are the primary focus.
5. Before ordering multiple doses of epinephrine, it is imperative that the child not be hypovolemic. Assessment of intravascular volume (skin turgor, history) is important to decrease risk for complications from epinephrine administration.
6. Consider atropine if poor or no response to epinephrine dose.
7. **Base Hospital may order for continued signs of poor perfusion transcutaneous pacing** using appropriately sized pads with preferred anterior-posterior placement unless child is adult size (Procedure # PR-110).

## ALS STANDING ORDER

Assess for signs of cardiopulmonary compromise (altered mental status, signs of shock, hypotension). If present:

1. Assure airway is open and without foreign body obstruction.
   - ❖ *Assist breathing, if necessary, with high flow oxygen by mask or nasal cannula 6l/min (direct or blow-by) or positive pressure ventilations with BVM.*
2. Monitor cardiac rhythm and document with rhythm strip; monitor pulse, BP, and pulse oximetry.
3. If **pulse rate less than 60/minute** with continued signs of poor perfusion despite oxygenation/ventilation, **initiate CPR**.
   - ❖ Establish IV or IO access
   - ❖ Administer **Epinephrine 0.01mg/kg IV/IO (0.1mL/kg of the 0.1mg/mL concentration).** May repeat Epinephrine every 3-5 minutes.
   - ❖ Make Base Hospital Contact (CCERC base preferred).
   - ❖ If unable to make Base Hospital Contact, give **Atropine 0.02mg/kg IV/IO** for persistent bradycardia with symptoms, increase vagal tone, or primary AV block. Minimum dose 0.1 mg, maximum dose 0.5 mg. May repeat twice.
   - ❖ If continued signs of poor perfusion, obtain Base Hospital order for transcutaneous pacing using appropriately sized pads with preferred anterior-posterior placement unless child is adult size (refer to Procedure #PR-110).
4. If signs of hypovolemia or dehydration suspected, administer **Normal Saline 20 mL/kg (maximum 250 mL) IV/IO**. May repeat twice for a total of 3 boluses as a standing order.

Approved: Carl Schultz, MD

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## ALS STANDING ORDER

5. Identify and treat underlying causes (hypothermia, hypoxia, medications).

If no signs of cardiopulmonary compromise:

1. Support airway, breathing and circulation.
2. Give oxygen with high flow by mask or nasal cannula 6 L/min (direct or blow-by) as tolerated if O2 saturation less than 95% on room air.
3. Obtain 12 lead EKG.
4. Identify and treat underlying causes (hypothermia, hypoxia, medications).
5. Contact Base Hospital (CCERC base preferred) for destination and transport with ALS escort.

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