8.03 PEDIATRIC DYSRHYTHMIA: BRADYCARDIA - EMSAC November 2023

BLS – FAQ Link

Assess Vital Signs, ABC's and responsiveness, BLS Airway
~~Oxygen (high flow via BVM with BLS airway as indicated)~~
Oxygen therapy to include high flow O2 and positive pressure ventilation
Advanced airway management as indicated, ~~If cardiopulmonary compromise is present after BLS interventions and HR < 60, START CPR (15:2)~~
Start CPR if HR < 60/min despite oxygenation and ventilation

ALS

~~Advanced airway management as indicated,~~ attach ECG monitor, and correct **Reversible Causes**. Refer to ~~Protocol 2.04 Cardiac Arrest and current AHA guidelines for additional details.~~

DRAFT VERSION

Possible Causes
Hypothermia
Hypoxia
Medications
2020 American Heart Association

Reversible Causes:
Hypoxia
Hydrogen ion (acidosis)
Hypovolemia
Hypokalemia
Hyperkalemia
Hypoglycemia
Hypothermia

Toxins
Tamponade (cardiac)
Tension pneumothorax
Thrombosis (pulmonary)
Thrombosis (cardiac)

Cardiopulmonary Compromise?
HR ≤ 60 BPM and any of these signs of shock
(Hypotension, Shortness of Breath, Acute AMS)
~~Bradycardia~~

No →

Support ABCs
Consider oxygen
~~Observe~~
Frequent reassessments
~~12-Lead ECG~~
Identify and treat underlying causes
12-Lead ECG

Yes →

Start
~~Continue~~
CPR

Establish IV/IO access

Epinepherine
0.01 mg/kg IVP/IO. (0.1mg/1mL)
Maximum single dose 1mg.
May repeat q3-5min

If increased vagal tone
(examples: lightheadedness, fainting)
or primary AV block, consider Atropine

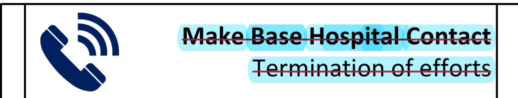
Atropine
0.02 mg/kg IVP/IO. Minimum dose 0.1mg Maximum single dose 0.5mg
May repeat once.

Transcutaneous Pacing
Consider if refractory to Epinephrine and Atropine

Check pulse every 2 minutes
Pulse present and HR >60?

No → **Continue CPR**

Yes → Support ABCs


~~Make Base Hospital Contact~~
~~Termination of efforts~~

Effective: xx/xx/xx
Supersedes: 03/01/15

8.03 PEDIATRIC DYSRHYTHMIA: BRADYCARDIA – EMSAC November 2023

BLS Treatment
• ~~Start CPR if HR < 60/min.~~ • ~~Position of comfort.~~ • ~~NPO~~ • ~~Assess Vital Signs, circulation, airway, breathing, ABC's and responsiveness.~~ • BLS Airway • ~~**Oxygen** (high flow via BVM with BLS airway as indicated); with appropriate adjuncts as indicated.~~ Oxygen therapy to include high flow O2 and positive pressure ventilation • ~~If cardiopulmonary compromise is present after BLS interventions and HR < 60, START CPR (15:2)~~ • ~~Provide **Spinal Motion Restriction** as indicated or position of comfort as indicated.~~ • ~~Appropriately splint suspected fractures/instability as indicated.~~ • ~~Bandage wounds/control bleeding as indicated.~~
ALS Treatment **Current American Heart Association Guidelines concerning Emergency Cardiac Care assessments and interventions shall always take precedence over local protocols when there is a conflict concerning techniques of resuscitation.**
~~Advanced airway management as if indicated.~~ attach ECG monitor, and correct **Reversible Causes**. ~~Refer to **Protocol 2.04 Cardiac Arrest** and current AHA guidelines for additional details.~~ Establish IV/IO access ~~**Normal Saline** TKO, preferably at antecubital fossa.~~ ~~If unstable, IO after 1 min of IV attempts.~~ **Epinephrine** ~~(1:10,000)~~ 0.01 mg/kg IVP/IO. (0.1mg/1ml) Maximum single dose 1mg. May repeat q3-5min If increased vagal tone or primary AV block, consider Atropine **Atropine** 0.02mg/kg IVP/IO. Minimum dose 0.1mg Maximum single dose 0.5mg May repeat once Transcutaneous Pacing Consider if refractory to Epinephrine and Atropine

Comments
SYMPTOMATIC BRADYCARDIA DEFINITION: Cardiopulmonary Compromise? ~~Pulse~~ Heart rate ≤ 60 BPM and any of ~~the following~~ these signs of shock • Hypotension.

- Shortness of breath
- Acute AMS
- ~~Signs of shock/hypoperfusion.~~
- ~~Acutely altered mental status, syncope or near syncope.~~