SYMPTOMATIC BRADYCARDIA - ADULT/ADOLESCENT

ALS STANDING ORDERS:

1. Monitor cardiac rhythm and document with rhythm strip.
2. Pulse oximetry; if room air oxygen saturation less than 95%:

   ► *Administer High-flow oxygen by mask or nasal cannula at 6 l/min flow rate as tolerated.*

3. <u>If immediate transcutaneous pacing NOT required:</u>

   ► Obtain 12-lead ECG; if "Acute MI" indicated or a STEMI is suspected based on paramedic interpretation of 12-lead ECG, make Base Hospital contact for CVRC destination with an open cardiac catheterization lab.

4. <u>If symptomatic (see Guidelines below) bradycardia</u>:

   ► *Place transcutaneous pacemaker and initiate pacing (see Procedure Guideline # PR-110).*

   → If paced by pacemaker, contact Base Hospital for potential CVRC destination.
   → If paced by pacemaker, blood pressure less than 90 systolic and lungs clear to auscultation, contact Base Hospital for potential CVRC destination and:

   ► *Establish IV access*

   ► *Normal Saline, infuse 250 mL IV, repeat up to maximum 1 liter to maintain adequate perfusion*

   → If transcutaneous pacing causes anxiety and extreme discomfort and blood pressure greater than 90 systolic, e*stablish IV access and administer*:

   ► *Midazolam (Versed®) up to 5 mg IV slowly titrated to attain sedation (Assist ventilation and maintain airway if respiratory depression develops)*

   → If IV access cannot be established and blood pressure greater than 90 systolic:

   ► *Midazolam (Versed®) 5 mg IN divided between each nostril, may repeat once after approximately 3 minutes*
   (Assist ventilation and maintain airway if respiratory depression develops)

5. If transcutaneous pacer fails to capture and pace heart, stop pacing function of monitor and administer:

   ► *Atropine: 0.5 mg IV / IM approximately every 3 minutes as needed to correct bradycardia to a maximum total dose of 3 mg.*

6. For systolic blood pressure less than 90 (paced or if non-capture) or no response to atropine; and lungs clear to auscultation:

   ► *Normal Saline, infuse 250 mL* and assess blood pressure and perfusion; may repeat 3 times (total 1 liter) to maintain perfusion.
   ► If BP < 90 after 1 liter of NS or if evidence of CHF, contact Base Hospital.

7. ALS escort with Base Hospital contact for CVRC destination.

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TREATMENT GUIDELINES:

- Symptomatic bradycardia is defined as heart rate less than or equal to 60 bpm and:
  - Signs of poor perfusion (hypotension, poor skin signs, altered level of consciousness)
  - Chest pain
  - Shortness of breath, signs of pulmonary edema

- If patient has an implanted pacemaker and is bradycardic with heart rate less than 60 bpm, treat in same manner as described in ALS Standing Orders above.

- Cardiac pacing, when immediately required to stabilize a patient, should be deployed without waiting for IV access.

- Consider an acute MI for the following 12-lead monitor interpretations:

  1. ***ACUTE MI***
  2. ***STEMI***
  3. Acute ST Elevation Infarct
  4. Probable Acute ST Elevation Infarct
  5. Acute Infarction
  6. Infarct, Probably Acute
  7. Infarct, Possible Acute

- Base Hospital may order push-dose epinephrine for refractory hypotension, refer to ALS Procedure # 230 (Push-Dose Epinephrine).

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