REGION I EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
EMT – Basic

SMO: Adult Symptomatic Bradycardia

Overview: Adult Bradycardia is defined as a patient having a pulse rate of < 60. Well trained athletes may have low pulse rates as well as patients on certain medications. As long as the patient is tolerating the slow heart rate well, treatment of the slow rhythm is not necessary. This protocol is intended to define "symptomatic bradycardia" and its treatment.

INFORMATION NEEDED

__ Presenting symptoms: time of onset, gradual or sudden
__ Associated signs / symptoms: discomfort (pain, location, quality, radiation, severity, previous occurrences), palpitations, dizziness, syncope, dyspnea, nausea, vomiting, fever, cough
__ Medical history: dysrhythmias, cardiac disease, stress, drug abuse, diabetes mellitus, renal failure, pacemaker

The definition of a "symptomatic bradycardia" is a patient with a pulse rate <60 bpm and any one or more of the following "serious signs or symptoms":

OBJECTIVE FINDINGS

__SBP less than 90 and signs of hypoperfusion
__Altered Mental Status, syncope or near syncope due to a decrease in cerebral perfusion
__Signs/symptoms of CHF (dyspnea, crackles, pitting edema)
__Ischemic chest pain unrelieved by **NTG**

TREATMENT

__ Assess ABC's, secure airway, administer oxygen at 100% via NRB mask
__ Assess vital signs and perform secondary survey
__ RMC
__ ILS or ALS Intercept

Documentation of adherence to protocol:

__ Vital Signs taken and monitored appropriately
__ ILS or ALS intercept

REGION I EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
EMT – Intermediate

SMO: Adult Symptomatic Bradycardia

Overview: Adult Bradycardia is defined as a patient having a pulse rate of < 60. Well trained athletes may have low pulse rates as well as patients on certain medications. As long as the patient is tolerating the slow heart rate well, treatment of the slow rhythm is not necessary. This protocol is intended to define "symptomatic bradycardia" and its treatment.

INFORMATION NEEDED

__ Presenting symptoms: time of onset, gradual or sudden
__ Associated signs / symptoms: discomfort (pain, location, quality, radiation, severity, previous occurrences), palpitations, dizziness, syncope, dyspnea, nausea, vomiting, fever, cough
__ Medical history: dysrhythmias, cardiac disease, stress, drug abuse, diabetes mellitus, renal failure, pacemaker

The definition of a "symptomatic bradycardia" is a patient with a pulse rate <60 bpm and any one or more of the following "serious signs or symptoms":

OBJECTIVE FINDINGS

__SBP less than 90 and signs of hypoperfusion
__Altered Mental Status, syncope or near syncope due to a decrease in cerebral perfusion
__Signs/symptoms of CHF (dyspnea, crackles, pitting edema)
__Ischemic chest pain unrelieved by **NTG**

TREATMENT

__Assess ABC's, secure airway, administer oxygen at 100% via NRB mask
__Assess vital signs and perform secondary survey
__RMC
__Attach monitor
__IV of NS
__**Atropine 0.5 mg IVP**, may repeat q 3-5 min. to a max dose of 3 mg (See PRECAUTIONS AND COMMENTS)
__**Trancutaneous pacing (TCP)**
__ Contact Medical Control for permission to use **Valium (diazepam) 5 mg** OR **Versed (midazolam) 2 mg** IVP for sedation prior to TCP if patient conscious and Systolic BP >100.
__ Contact Medical Control for permission to use **Morphine sulfate** 2 mg IVP for pain control if needed (see PAIN MANAGEMENT protocol)
__If the heart rate normalizes but hypotension persists:

- Repeat fluid challenge of 500cc

Medical Control Contact Criteria
__ Permission for use of Valium or Versed __ Permission for use of Morphine Sulfate

Documentation for Adherence to Protocol:

__ Vital signs obtained
__ Correct doses of medications administered if indicated
__ Transcutaneous pacing (TCP) results in HR>60

PRECAUTIONS AND COMMENTS

- If utilizing TCP, verify mechanical capture and patient tolerance. Utilize sedation and pain management as needed, but use with caution in the hypotensive patient.
- If the patient is symptomatic and one of the following conditions exists, go directly to transcutaneous pacing (TCP):
  - an IV cannot be established and the patient has serious signs or symptoms associated with the bradycardia,
  - if type II 2nd degree AV block or 3rd degree heart block is noted, or
  - if the patient is status-post heart transplant (as atropine will not work in these patients)

REGION I EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
EMT – Paramedic

SMO: Adult Symptomatic Bradycardia

Overview: Adult Bradycardia is defined as a patient having a pulse rate of < 60. Well trained athletes may have low pulse rates as well as patients on certain medications. As long as the patient is tolerating the slow heart rate well, treatment of the slow rhythm is not necessary. This protocol is intended to define "symptomatic bradycardia" and its treatment.

INFORMATION NEEDED

__ Presenting symptoms: time of onset, gradual or sudden
__ Associated signs / symptoms: discomfort (pain, location, quality, radiation, severity, previous occurrences), palpitations, dizziness, syncope, dyspnea, nausea, vomiting, fever, cough
__ Medical history: dysrhythmias, cardiac disease, stress, drug abuse, diabetes mellitus, renal failure, pacemaker

The definition of a "symptomatic bradycardia" is a patient with a pulse rate <60 bpm and any one or more of the following "serious signs or symptoms":

OBJECTIVE FINDINGS

__SBP less than 90 and signs of hypoperfusion
__Altered Mental Status, syncope or near syncope due to a decrease in cerebral perfusion
__Signs/symptoms of CHF (dyspnea, crackles, pitting edema)
__Ischemic chest pain unrelieved by **NTG**

TREATMENT

__Assess ABC's, secure airway, administer oxygen at 100% via NRB mask
__Assess vital signs and perform secondary survey
__RMC
__Attach monitor
__IV of NS
__**Atropine 0.5 mg IVP**, may repeat q 3-5 min. to a max dose of 3 mg (See PRECAUTIONS AND COMMENTS)
__**Trancutaneous pacing (TCP)**
__ Consider use of **Valium (diazepam) 5 mg** OR **Versed (midazolam) 2 mg** IVP for sedation prior to TCP if patient conscious and Systolic BP >100.
__ **Morphine sulfate 2 mg** IVP for pain control if needed (see PAIN MANAGEMENT protocol)
__If the heart rate normalizes but hypotension persists:

- Repeat fluid challenge 500cc
- **Dopamine** titrated to SBP>90 mm Hg. Start at 10mcg/kg/minute and titrate up in increments of 5mcg/kg/minute until SBP >90 or maximum of 20 mcg/kg/minute reached.

Documentation for Adherence to Protocol:

__ Vital signs obtained
__ Correct doses of medications administered if indicated
__ Transcutaneous pacing (TCP) results in HR>60

PRECAUTIONS AND COMMENTS

- If utilizing TCP, verify mechanical capture and patient tolerance. Utilize sedation and pain management as needed, but use with caution in the hypotensive patient.
- If the patient is symptomatic and one of the following conditions exists, go directly to transcutaneous pacing (TCP):
    - an IV cannot be established and the patient has serious signs or symptoms associated with the bradycardia,
    - if type II 2nd degree AV block or 3rd degree heart block is noted, or if the patient is status-post heart transplant (as atropine will not work in these patients)