Authorizing physician(s)

LHO - Code Blue, Emergency Department & Critical Care Physicians
LHB - Emergency Department and Critical Care Physicians
LHPP - Emergency Department Physicians

Authorized to who

Registered Nurses (RN)/Registered Respiratory Therapists (RRT) that have the knowledge, skill and judgment and hold competency in the Lakeridge Health Advanced Life Support competency validation program. Competency validation on theory and practical simulation testing must be completed every two years. Must maintain current Advanced Cardiac Life Support (ACLS) provider status (new or renewal course every 2 years).

Patient Description / Population

Patients with symptomatic bradycardia, defined as a heart rate that is less than 50 beats per minute (bpm) and systolic blood pressure [SBP] less than 90 mmHg plus one or more of the following additional signs and symptoms: acute altered mental status, ongoing chest pain, hypotension, congestive heart failure, or other signs of shock (dizzy, diaphoretic etc.) Adult patients or patients that appear to be 16 years of age or older.

Medical Directive Description/Physician's Order

1. Notify physician STAT
2. Obtain 12 Lead ECG
3. Determine whether the rhythm is atropine responsive vs. unresponsive. **If unsure treat patient as atropine responsive.**

Atropine responsive Cardiac Rhythms → Sinus Bradycardia, First Degree AV Block and Second Degree AV Block Type 1

1. Administer Atropine 0.6 mg IV/IO over 30 seconds every 3 minutes as needed, to a maximum dose of 3 mg to achieve a SBP between 90 and 120 mmHg.
2. If Atropine is ineffective (no change in patient's status, patient's condition is deteriorating, or total dose of 3 mg of Atropine given) move to Atropine unresponsive.

Atropine unresponsive Cardiac Rhythms → Second Degree Heart Block Type 2, Third Degree (Complete) Heart Block, or failed response to Atropine.

1. DOPamine 400 mg in 250 mL D5W IV infusion. Start infusion at 2 mcg/kg/min and titrate infusion to achieve a SBP between 90 and 120 mmHg. Maximum infusion dose of DOPamine is not to exceed 20 mcg/kg/min.

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2. If there is adequate perfusion, continue to monitor and observe the patient's status.
3. If the patient's condition deteriorates, initiate transcutaneous pacing.

Pacing Procedure:
1. Verify mode is set on demand
2. Verify rate is set at 70 bpm
3. Initiate pacing at a starting current of 30 mA
4. Increase current by 10 mA until pacing captures and cardiac output confirmed
5. Once cardiac output confirmed increase current by 10 mA and continue pacing
6. Ensure Physician has been notified

See Appendix A

Specific conditions/circumstances that must be met before the Directive can be implemented

The physician must not be immediately available.

Contraindications to the implementation of the Directive

1. Documented allergies to the medication being administered
2. Asymptomatic Bradycardia
3. Patient capable of consent refuses treatment or substitute decision maker refuses on behalf of the patient. **Note: If a patient or substitute decision maker refuses treatment, contact the physician immediately to determine plan of care.**

Identify relevant Delegated Controlled Act or Added Skill associated with this Directive

Applying a form of energy - electricity for transcutaneous pacing.

Documentation requirements

Documentation of the initiation of the symptomatic bradycardia medical directive must be provided on the physician order sheet and in the health professional's documentation section of the patient chart. Documentation on the Code Blue Record as required.

Review/Evaluation Process (how often/by who)

The medical directive will be reviewed every 2 years by the Section Chief of Critical Care and the Adult Resuscitation Committee.

Appendix A: Symptomatic Bradycardia

Identify if patient meets criteria for Advanced Life Support: Symptomatic Bradycardia Medical Directive

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Signs and Symptoms of Symptomatic Bradycardia: Heart Rate less than 50 bpm and SBP less than 90 mm Hg and any of the following:
- Acute Altered Mental Status
- Ongoing Chest Pain
- Congestive Heart Failure
- Signs of Shock = dizziness, diaphoretic, etc.

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Notify Physician STAT
12 LEAD ECG

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Identify if Cardiac Rhythm Atropine Responsive of Atropine Unresponsive

Left branch:

Atropine Responsive Cardiac Rhythms
- Sinus Bradycardia
- First Degree Heart Block
- Second Degree Heart Block Type 1

(Centre branch: If unsure, treat as Atropine Responsive → Atropine Responsive Cardiac Rhythms)

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Administer Atropine 0.6 mg IV/IO over 30 seconds every 3 minutes as needed, to a maximum dose of 3 mg

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Is Atropine effective (patients condition is stable)? And SBP between 90-120 mmHg

- Yes → Monitor and Observe
- No → DOPamine infusion (right branch)

Right branch:

Atropine Unresponsive Cardiac Rhythms
- Second Degree Type II
- Third Degree Heart Block

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DOPamine 400 mg in 250 ml D5W infusion to start at 2 mcg/kg/min. Titrate infusion to achieve SBP between 90 to 120 mmHg. Maximum infusion dose of DOPamin not to exceed 20 mcg/kg/min

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Effective?

- Yes → Monitor and Observe
- No → Prepare for Transcutaneous Pacing

Related Documents

Resuscitation Status Policy
IV Monographs

References

American Heart Association (2010). Retrieved February2011 http://acls-algorithms.com/

College of Nurses of Ontario (2009). Legislation and Regulation RHPA: Scope of practice, controlled acts model. Reference document Retrieved July 28, 2009, from College of Nurses of Ontario Web site: http://www.cno.org/docs/policy/41052_RHPAscope.pdf