MEDICAL DIRECTIVE
Rapid Response System (RRS) – Chest Pain

Approved by/Date: February 26, 2013 (For LHB Pilot Only)

GENERAL PREAMBLE:

The purpose of the Rapid Response System (RRS) is to assist in the early recognition of patients at risk of developing critical illnesses. It is well known that greater than 80% of in-hospital cardiac arrests are preceded by a period of abnormal vital signs. There is evidence that 41% of Critical Care Unit admissions may be avoidable if care is provided within this deterioration period. Therefore, the expected results of the RRS is to improve patient outcomes and safety, by quickly identifying patients at risk of becoming critically ill and decreasing the number of in-hospital cardiac arrests.

The RRS will be specially trained group of individuals who apply clinical medical directives when a patient's condition appears to be deteriorating. The RRS will provide additional monitoring as needed and will determine if additional levels of care and treatment are required. If the patient needs to be transferred to Critical Care, the RRS will assist with this and will communicate with the Rapid Response System Physician and / or Most Responsible Physician (MRP).

AUTHORIZING PHYSICIANS:

These Medical Directives are applicable to the Lakeridge Health. The Authorizing Physicians are all Physicians at Lakeridge Health.

"Appropriately Educated Registered Respiratory Therapists (RRT) and Registered Nurses (RN) Responders" will refer to those employees of Lakeridge Health who have successfully attained certification by a course of self-study supplied by the Intensivist – Educators appointed by the Authorizing Physicians, participated in a Didactic and Simulation Day, completed orientation with an established Critical Care Response Team, and have successfully passed both oral and written examinations. The content of the Educational package will be approved by the Medical Department - Critical Care.

The Authorizing Physicians expect that only appropriately educated RRTs and RNs; who are employees of Lakeridge Health: with the specific professional qualifications as outlined in each medical directive will implement these medical directives. The Authorizing Physicians also expect that the responders performing the medical directives will adhere to the specific clinical

conditions/circumstances and contraindications. Deviation from these medical directives is not permitted.

The Authorizing Physicians expect that the pointed Intensivist-Educators will provide the initial and ongoing education and ongoing continuous quality improvement of these medical directives as directed by the section - Critical Care.

PURPOSE:

1. To define the diagnostics and interventions that may be performed by the responders of the RRS for any patient seen by the team.
2. All calls to a physician responsible to the RRS, by a RRS responder are deemed a medical consult from the patients Most Responsible Physician (MRP) / Nurse Practitioner (NP).
3. To comply with the professional standards and guidelines of the College of Physicians and Surgeons of Ontario, the College of Respiratory Therapists of Ontario and the College of Nurses of Ontario.
4. Documentation of the use of the Medical Directive will be made with a notation in the space provided on the Physician orders. SBAR communication will be used to report all interventions.

Inclusion Criteria:

1. Any adult in-patient that is referred to the RRS.

Exclusion Criteria:

1. Any out-patient
2. Any pediatric patient.

Early Recognition:

Traditional vital signs have been used to assess at-risk patients. In most circumstances, physiologic abnormalities in the vital signs occur well before a cardiac arrest takes place. These activation criteria are used to mobilize the Rapid Response System. This is the “Lakeridge Health - Medical Early Warning System (MEWS)” which will be used as activation criteria.

This will apply to the 2013 Rapid Response System (RRS) Directives listed:

Chest Pain

CHEST PAIN (ISCHEMIC) MEDICAL DIRECTIVE

Authorized to whom:

Appropriately educated RRS responders (RRTs and RNs) working within Lakeridge Health may initiate the following therapies for in-patients who present with chest pain suggestive of cardiac ischemic pain.

Medical Directive Description:

- Manage the airway including support of oxygenation and ventilation (intubation if necessary)
- Apply oxygen to keep SaO2 greater than or equal to 95%
- Initiate pulse oximetry, cardiac monitoring (record a 10 second strip), BP (check in both arms and consider aortic dissection if there is a huge difference in values)
- Vital signs including temperature
- 12 Lead EKG - notify physician immediately if ST elevation, ST segment depression or new onset LBBB
- Obtain additional leads; 15 lead ECG, if inferior or posterior myocardial infarction suspected.
- Review patient history and diagnosis
- Insert a large (16 if possible) gauge IV of 0.9% sodium chloride at 30 mL/hr.
- Stat Blood Work (CBC, electrolytes, glucose, urea, creatinine, Corrected calcium, Troponin, Magnesium, Phosphorus, INR, APTT (if on anticoagulation) – See Lab Appendix A
- Stat ABG (pH, pO2, pCO2)
- *Only if IV in place***: Confirm no exclusions to nitroglycerin (use of erectile dysfunction medications, allergy). If Blood Pressure greater than 90 systolic, administer Nitroglycerin 0.4mg sublingually (Sub ling) every 5 minutes as required for chest pain to a maximum of 3 administrations. Heart rate and blood pressure must be checked after each Nitroglycerin dose. Further doses of Nitroglycerin to be withheld if BP drops to less than 90 systolic at any time or if HR less than 40 or greater than 140.
- Intraosseous access may be attained when it is a very unstable, life threatening situation and when IV access has not been successful after 2 attempts or 90 seconds of searching for a suitable vein.

Patient Description/Population

Patient must present with signs and symptoms of cardiac problems.

Identify relevant Controlled Act, Delegated Control Act or Expanded/ Added Skill associated with this Directive:

Administering a substance by injection or inhalation.
Performing a procedure below the dermis - IV Insertion certification
- IO Certification
Putting an instrument beyond the larynx

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

- The patient must have signs and symptoms of cardiac problems.
- Each intervention will be explained to the patient and/or family and verbal consent will be obtained.
- Medications given by hospital personnel or taken by the patient prior to the event, must be included in the calculation of maximum doses.

Contraindications to the implementation of the Directive:

- Patient refuses therapy -no consent.
- Nitroglycerin is to be held if HR less than 40 bpm or above 140 bpm
- Allergies to Nitroglycerin will preclude administration of that drug
- Patient is incapable of cooperating with the procedure
- Patient is taking erectile dysfunction medications

Documentation requirements:

- Implementation of the Medical Directive must be documented on the chart under physician orders
- Vitals signs pre and q 15 minutes post medication
- Response to medications administered must be documented in the RRS note

Review/Evaluation Process (how often/by whom): every 2 years by Medical Department -Emergency Medicine and Critical Care Council.

Related Documents:

Lakeridge Health Corporation – Preprinted Order-Facilitated Percutaneous Coronary Intervention (Code Stemi Facilitated). April 20, 2010

Lakeridge Health Corporation- ED Facilitated Stemi PCI Process Triage to EMS Loading Time less than 30 minutes. April 20, 2010.

ORNGE- Medical Directives and Standing Orders. Circulation-Chest Pain and Cardiac Events-Ischemic Chest Pain Protocol. May 2007. Pg. 72-74.

Ontario Provincial Primary Care Paramedic Medical Directives – Acute Coronary Syndromes Medical Directive. Waterloo Region, Ontario, Canada. Base Hospital Program Jan 1, 2007 pg.12.
Hamilton Health Sciences Corporation. Critical Care Response Team: Care of the Patient with Circulatory Compromise Medical Directive. Ontario. Canada. 2003.

Hamilton Health Sciences Corporation. Critical Care Response Team: Care of the Patient with Dysrhythmia Medical Directive. Ontario. Canada. 2003.

APPENDIX A: LAB REFERENCES

"BIO10.08F Testing Menu for Vitros Analyzer at all Lakeridge Sites Version 1.0" in the Laboratory QMS

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19. Hodder, Rick. Critical Care Response Team Provider Manual; Canadian Resuscitation Institute 2006.

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22. Institute for Healthcare Improvement: Establish a Rapid Response Team - Getting Started Kit: Rapid Response Teams - How-to Guide. Cambridge, Massachusetts, USA. Oct. 2005.

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