MEDICAL DIRECTIVE
Rapid Response System (RRS) – Suspected Anaphylaxis – Like

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 appointed 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:

Suspected Anaphylaxis -Like

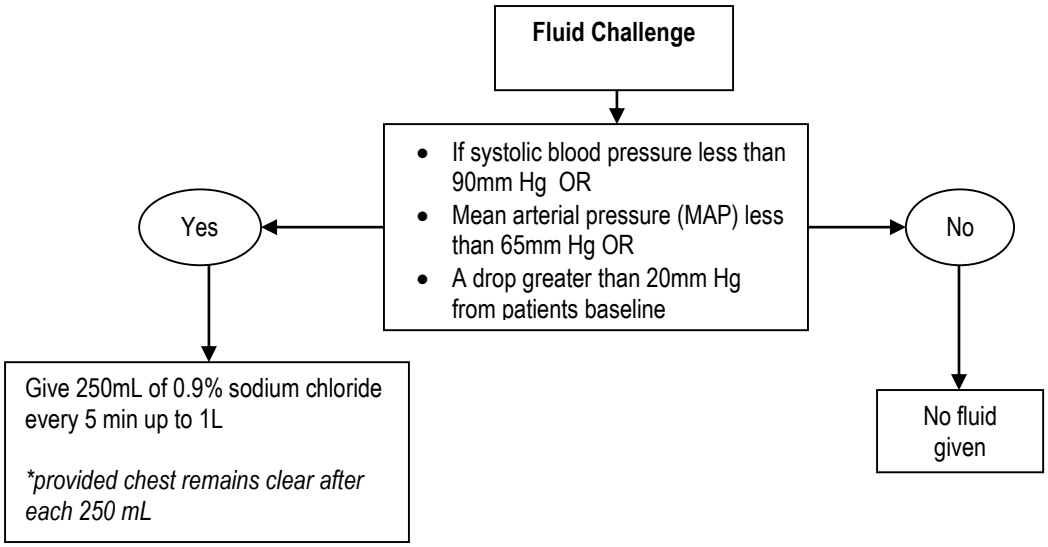
SUSPECTED ANAPHYLAXIS - LIKE MEDICAL DIRECTIVE

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 a recent history of exposure to a probable allergen and demonstrate signs and symptoms of a severe life-threatening anaphylactic reaction such as rash, hives, shortness of breath, nausea and vomiting.

Medical Directive Description:

- Manage the airway including support of oxygenation and ventilation (intubation if necessary)
- Oxygen therapy as required to maintain oxygen saturation above 92%, COPD 88-92%
- Monitoring including cardiac, blood pressure and pulse oximetry
- **Immediately stop/discontinue offending agent**
- Vital signs including temperature
- Review patient history and diagnosis
- Stat ABG (pH, pO2 and pCO2)
- Stat Blood Work (CBC, electrolytes, glucose, urea, creatinine, Magnesium, Phosphorus, Corrected calcium)
- Portable Chest X-ray – upright if possible : for shortness of breath
- Insert a large (16 if possible) gauge IV of 0.9% sodium chloride at 30 mL/hr.
- 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.
- Administer diphenhydramine (Benadryl) 50 mg IM/IV x 1 dose
- ***Severe allergic-like reaction:*** If patient is in respiratory distress, has audible stridor, or is hypotensive (SBP less than 90) administer 0.3 mL (0.3mg) epinephrine 1:1000 IM. This may be repeated for one additional dose in 10 -15 minutes if remains in respiratory distress or hypotension (SBP less than 90)
- If systolic blood pressure is less 90mmHg or a drop in systolic BP greater than 20 mmHg from patient's baseline or a Mean Arterial Pressure (MAP) of less than 65 mmHg, initiate a fluid crystalloid solution (0.9% sodium chloride) challenge (250mL in 5 minutes) and may repeat q 5 minutes to maximum of 1 litre if chest remains clear on auscultation



Patient Description/Population:

- Patients who present with a recent history of exposure to a probable allergen and demonstrate signs and symptoms of a severe life-threatening anaphylactic reaction.

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

Administering a substance by injection or inhalation – IV Insertion Certificate
- IO Certificate

Performing a procedure below the dermis
Putting an instrument beyond the larynx

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

- The patient must have a history of exposure to a probable allergen.
- Each intervention will be explained to the patient and/or family and verbal consent will be obtained.

Contraindications to the implementation of the Directive:

Patient refuses therapy – no consent.
Allergy to Epinephrine
Allergy to Diphenhydramine

Documentation requirements:

- Implementation of the Medical Directive must be documented on the chart under physician orders
- Vital signs pre and q15 to 30 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:

ORNGE. Medical Directives and Standing Orders. Environmental-Anaphylaxis. May 2007 Pg. 115-116.

Ontario Provincial Primary Care Paramedic Medical Directives – Anaphylaxis Medical Directive. Waterloo Region, Ontario, Canada. Base Hospital Program Jan 1, 2007 pg. 14.

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

Lakeridge Heath Corporation. Medical Directive - Treatment of Anaphylaxis during Hemodialysis or Iron Infusion. Nephrology Services. 2005.

Appendix A: LAB REFERENCES

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

MEDICAL DIRECTIVE REFERENCES

1. Garrard, C, Young, D. Suboptimal care of patients before admission to an Intensive care us caused by a failure to appreciate or supply the ABCs of life support. BJM 1998; 316:1841-1842.

2. Buist MD, Jarmolowski E, Burton PR, et al. Recognizing clinical instability in hospital patients before cardiac arrest or unplanned admission to intensive care: a pilot study in a tertiary care hospital Med J. Aust. 1999; 171:22-25.

3. Berwick, DM. Redesigning hospital care. JAMA. 2006; 295:324-327.

4. Hillman K, Chen J, Cretikos M, et al. Introduction of the medical emergency team (MET) system: a cluster-randomized controlled trial. Lancet. 2005; 365:2091-2097.

5. Bellomo R, Goldstein D, Uchino, S et al. A prospective before and after trial of a medical emergency team. Med J Aust. 2003; 179:283-287.

6. Bellomo R, Goldstein D, Uchino, S et al. Prospective controlled trial of effect of a medical emergency team on postoperative morbidity and mortality rates. Crit Care Med. 2004; 32:916-921.

7. Buist MD, Moore GE, Bernard SA, et al. Effects of a medical emergency team on reduction of incidence of and mortality from unexpected cardiac arrests in hospital: a preliminary study. BMJ. 2002; 324:387-390.

8. Kenward G, Castle N, Hodgetts, T, et al. Evaluation of a medical emergency team one year after implementation. Resuscitation. 2004: 61:257-263.

9. DeVita MA, Braithwaite RS, Mahidhara R, et al. Use of medical emergency team responses to reduce hospital cardiopulmonary arrests. Qual Saf Health Care. 2004; 13:251-254.

10. Jolley J, Bendyk H, Holaday B, Lombardozzi KA, et al. Rapid Response Teams: do they make a difference? Dimens Crit Care Nurs. 2007; 35:2076-2082.

11. Jones D, Opdam H, Egi M, et al. Long term effect of a medical emergency team on mortality in a teaching hospital. Resuscitation. 2007; 74:235-241.

12. Sebat, F et al. Designing, Implementing and Enhancing a Rapid Response System. Society of Crit Care Med. 2009; 1-217.

13. London Health Sciences, Ontario Canada. UWO Program in Critical Care Document. Educational Objectives for the Critical Care Outreach Teams July 2009. Pg. 1-4.

14. Gentofte Hospital. Full-scale simulation training of MET and staff from general ward. June 14, 2009.

15. Bell M et al. Prevalence and sensitivity of MET – criteria in a Scandinavian University Hospital. Resuscitation 2006; 70:66-73.

16. Aneman A et al. The ERC Guidelines for Resuscitation 2005 and the Medical Emergency Team. Scand J Trauma Resusc Emerg Med. 2006; 14:74-77.

17. Bengtsson A et al. Medical emergency team implementation: experiences from the Karolinska University Hospital. Solna, Sweden. 2006.

18. Credit Valley Hospital, Ontario Canada. RACE Team – Preliminary Diagnostics and Interventions. Jan. 2007.

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

20. Faculty of Medicine, Liverpool Health Science, Liverpool, Australia. Medical Emergency Team, 2005, pg. 1-3.

21. North York General Hospital, Toronto, Canada. Adult Cardiac Arrest Medical Directives. Oct. 2005 pg. 1-7.

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

23. The Canadian Society of Respiratory Therapists (CSRT). CSRT-Advocacy – Rapid Response Teams /Medical Emergency Teams. April 2005.

24. Trillium Health Centre, Toronto, Ontario, Canada. Assessment and Medical Inpatient by Medical Emergency Team. June 8, 2006. Pg. 1-4.

25. McFarlan S, Hensley, S. Implementation and outcomes of a Rapid Response Team. J Nurs Care Qual. 2007, Vol 22; 4:307-313.

26. Jackson M. Rapid Response Teams; what does the RRT bring? Bingham and Women's Hospital, Boston MA. USA. 2005.

27. Anderson N, Sutton A, et al. Lessons from the Field "ICU without Walls". The Calgary Health Regions ICU Outreach Team. Alberta Canada. June 2004.

28. Hamilton Health Sciences Corporation. Critical Care Response Team: Master Medical Directives. Ontario. Canada. 2003.

29. Lakeridge Health Corporation. Medical Directive - Adult Intubation by Registered Respiratory Therapists. Ontario, Canada, Oct 2009.

30. Lougheed D et al. Canadian Respiratory Guidelines. Recommendations for the Management of Asthma, Children (6 years and older) and Adults. Can Respir J 2010. Vol. 17(1).