

Cardiac Arrest Hypothermia Protocol

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Preamble

Cardiac arrest can result due to a drop in the body's core temperature. Severe hypothermia is associated with marked depression of cerebral blood flow and oxygen requirement, reduced cardiac output, and decreased blood pressure. The victim's pulses and respiratory efforts may be difficult to detect. Definitive management of severely hypothermic patients requires emergent medical care in a suitable health care facility. Transportation of victims is required as soon as possible.

Requirements

1. Fully licensed Technician-Paramedic
2. Certification in tracheal intubation or one of the double-lumen airways protocols by the Medical Director.
3. Certification in cardiac arrest – hypothermia protocol by the Medical Director.
4. Certification in the other “cardiac arrest” protocols as determined by the Medical Director.
5. Current certification as an advanced cardiac life support provider.

Indications

1. Patient with cardiac arrest and vital signs absent, secondary to or in conjunction with suspected hypothermia.
 - oral and tympanic temperatures are not reliable to assess patients with hypothermia

Contraindications

1. Patient less than 16 years of age.

Procedure

1. Perform patient assessment and record vital signs.
 - check respiratory rate and carotid pulse for at least 30 – 45 seconds
2. Assess that patient meets criteria for this protocol.
3. Initiate and continue cardiopulmonary resuscitation (CPR).
4. Attach cardiac monitor.
5. If rhythm is ventricular fibrillation or pulseless ventricular tachycardia, defibrillate at 360 J(or biphasic equivalent as per manufacturer).
6. If equipped with SAED, apply 1 shock if advised.
7. If a perfusing rhythm returns and there is a palpable pulse or spontaneous respirations after one shock, intubate (using endotracheal tube or double-lumen airway) and ventilate only if unable to maintain the airway and ventilate adequately.
 - warmed, humidified oxygen should be used, if possible
8. Intubate (using endotracheal tube or double-lumen airway) and ventilate if ventricular fibrillation or pulseless ventricular tachycardia persists despite one shock, or if the presenting rhythm is asystole or pulseless electrical activity.
 - warmed, humidified oxygen should be used, if possible
9. Initiate transport.
 - avoid rough movement of the patient
 - warm the inside of the ambulance to prevent further heat loss
10. If the patient's clothing is wet, remove clothing to prevent further heat loss.
11. Cover patient with blankets to prevent further heat loss.
 - do not apply external rewarming devices
12. Establish a large bore intravenous of normal saline, TKVO.
 - intravenous should be established en route
 - intravenous fluids should warm, if possible
13. Reassess rhythm and pulse after each intervention.
14. Notify the receiving facility of patient's current condition, any changes in condition, and estimated time of arrival.

Documentation Requirements

The following information must be documented on the patient care report form:

1. Patient's presenting signs and symptoms, including vital signs.
2. Indications for protocol use.
3. All cardiac rhythm strips.
4. Repeat assessment and vital signs, as indicated.
5. Changes from baseline, if any, that occur during treatment or transport.
6. Signature and license number of EMS personnel performing any transfer of function skills.

Certification Requirements

1. Attend in-depth classes and lectures on static and dynamic rhythm interpretation.
2. Attend in-depth classes and lectures on environmental emergencies that include hypothermia and resuscitation of hypothermic patients.
3. Demonstrate competency during practical scenarios incorporating variations of the cardiac arrest – adult hypothermia protocol.
4. Pass a written examination.
5. Pass practical scenarios incorporating variations of the cardiac arrest – adult hypothermia protocol.
6. Certification is by the Medical Director.

Recertification Requirements

1. Review class and recertification is done every 12 months.
2. A record will be kept to document all cases where this protocol is used.
3. Advanced cardiac life support provider certification must be kept current.

Decertification

1. Decertification is at the discretion of the Medical Director or the Provincial Medical Director, Emergency Medical Services, Manitoba Health& Healthy Living.

Quality Assurance Requirements

1. Appropriate quality assurance policies must be in place. The Medical Director or designate must review all instances where this protocol is used. As a minimum, the following must be assessed:
 - i) appropriateness of implementation
 - ii) adherence to protocol
 - iii) any deviation from the protocol
 - iv) corrective measures taken, if indicated
2. Yearly statistics for protocol use compiled and forwarded to Emergency Medical Services, Manitoba Health& Healthy Living.