

Determination of Death in the Prehospital Setting

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PURPOSE

The purpose of this procedure is to establish guidelines for the withholding or termination of resuscitation efforts by Boston EMS personnel in the setting of Prehospital cardiopulmonary arrest.

DEFINITIONS

EMS First Responder: For the purposes of this policy refers to a person who has, at a minimum, successfully completed a course in emergency medical care approved by OEMS pursuant to MGL Chapter 111 § 201 and 105 CMR 170.000, and who provides first responder service in association with Boston EMS.

EMS Personnel: For the purposes of this policy refers collectively to Emergency Medical Technicians and EMS first responders.

Lividity: redness caused by blood pooling in the dependent parts of the body that is generally seen fifteen to thirty minutes after death. When the body is appropriately examined, there is a clear demarcation of pooled blood within the body.

Putrefaction: Decomposition or decay of tissue. The skin surface (not only in isolated areas) is bloated or ruptured, with sloughing of soft tissue and the odor of decaying flesh.

Rigor Mortis: muscular rigidity following death which affects all muscles at the same time, but which is generally first detectable in the short muscles. Determination of rigor mortis should include immobility of major joints (e.g. jaw, shoulders, elbows, hips, or knees).

POLICY

CPR shall be initiated whenever the patient is found to be unresponsive, apneic, and pulseless unless there is a contraindication as described in this policy and procedure. If any doubt exists as to the existence of vital signs or any of the conditions described herein, EMS personnel should begin resuscitation efforts.

PROCEDURE

1. Emergency Medical Dispatch. EMT-Telecommunicators shall make every effort to provide appropriate pre-arrival instructions to all non-medically trained callers reporting a medical emergency. In the case of suspected cardiac arrest, the EMT-Telecommunicators should not ask the caller if they wish to perform CPR, but shall offer instructions until the caller refuses to perform CPR.
2. Exceptions to Initiation of Resuscitation

EMS personnel should declare an apparent death and withhold resuscitation efforts when the patient is found to be in cardiac arrest (pulseless & apneic) and one of the following conditions exists:

- 2.1. Current, valid DNR verified per the Comfort Care Protocol.
 - 2.2. Trauma incompatible with survival such as cardiac arrest documented at first EMS evaluation when such condition is the result of significant blunt or penetrating trauma and the arrest is obviously due to such trauma, EXCEPT in the specific case of arrest due to penetrating chest trauma and short transport time to definitive care (interval from estimated time of injury to arrival at hospital would be 15 minutes or less).
 - 2.3. Body condition clearly indicating biological death such as decomposition of body tissue and/or putrefaction.
 - 2.4. Post mortem dependent lividity and / or rigor. Assessment and documentation also includes:
 - Respirations are absent for at least 30 seconds and;
 - Carotid pulse is absent for at least 30 seconds and;
 - Lung sounds auscultated by stethoscope bilaterally are absent for at least 30 seconds and;
 - Both pupils, if assessable, are non-reactive to light.
 - 2.5. Declared mass-casualty incident where triage principles or limited resources preclude the initiation of CPR.
 - 2.6. Resuscitation efforts could reasonably pose a danger to the health and/or safety of the rescuers.
3. Termination of Resuscitation
- 3.1. EMS personnel arriving at the scene of a cardiac arrest in which resuscitative efforts have been initiated should cease resuscitative efforts at any time when an "Exception to Initiation of Resuscitation" as identified in Section 2 above is determined to be present.
 - 3.2. Advanced Life Support (EMT-P) personnel should make a determination of death and terminate resuscitation efforts in a pulseless and apneic adult patient meeting the following criteria:
 - There is no evidence or suspicion of hypothermia; the patient is not visibly pregnant; there is no reversible cause of the arrest evident; and
 - Indicated standard ACLS measures have been successfully undertaken (including for example effective airway support, intravenous/intraosseous access, medications, transcutaneous pacing, and rhythm monitoring) and the patient is in asystole or pulseless electrical activity (PEA), and remains so persistently, unresponsive to resuscitative efforts, for at least twenty (20) minutes while resuscitative efforts continue; and
 - An on-line medical control physician has given an order to terminate resuscitative efforts.

4. Special Considerations

- 4.1. Prior to deciding whether to withhold resuscitation efforts, or to discontinue such efforts, logistical factors should also be considered, such as collapse in a public place, family wishes, and the safety of the crew and public.
- 4.2. Consideration must be given to initiate and/or continue resuscitation efforts in the case of short transport time; pediatric patients; victim of hypothermia, overdose, lightning strike; or organ donor who otherwise may meet the criteria for declaration.
- 4.3. Cardiopulmonary arrest patients who have sustained trauma, but the mechanism of injury does not correlate with the clinical condition, thus suggesting either a case of commotio-cordis (blunt, non-penetrating chest impact that causes arrhythmia) or an underlying primary medical arrest followed by a traumatic incident should have standard (medical) resuscitation efforts initiated.
- 4.4. Determination of non-viability is especially challenging in the pediatric population. It can be difficult to determine pulselessness in a poorly perfusing or hypothermic child, especially in children under 5 years of age. A critically ill child may have marked peripheral cyanosis and cold extremities. Mottling, for example, can be confused for dependent lividity in the young child.

In very young children (age 5 years old or less), resuscitation should be initiated unless the child has absent vital signs and injuries clearly incompatible with life (decapitation, transection, 100% BSA incineration or decomposition), or has a valid DNR/MOLST. In children not meeting these criteria, it is more appropriate to initiate resuscitation and obtain further physiological data, such as cardiac and EtCO₂ monitoring.

If an ALS assessment yields asystole on the monitor in the presence of other indicators of non-viability such as dependent lividity and/or rigor mortis of the extremities, withholding resuscitation may be authorized by ALS after consultation with an on-line medical control physician. Should an operational decision be made to transport a non-viable child, ALS will accompany the patient and make appropriate pre-arrival notifications regarding the circumstances to the receiving facility.

5. Documentation

- 5.1. If not already on scene, a police unit shall be requested to the scene. EMS Personnel should make every reasonable effort to secure the scene of a sudden death until the arrival of the appropriate police agency.
- 5.2. It is the responsibility of Boston EMS to document all reported cases of sudden death reported through the City of Boston Operations Center. Documentation shall include a complete Patient Care Report (PCR) including all pertinent times, incident number, and the time of declaration noted. Documentation shall clearly include criteria for withholding or terminating resuscitation efforts. Whenever possible, the PCR shall include readily available information about the deceased including past medical history and medications. Under no circumstances shall members search through clothing or property of the victim in an effort to obtain

this information. The PCR shall document the position of the body in relation to its environment, clothing and the condition of clothing, and any visible jewelry or personal effects. The PCR shall also document the source of information regarding the deceased and pertinent observations of the Boston EMS personnel on scene.

- 5.3. Supplemental reports shall also be completed (Exposure Report, Suspected Child Abuse/Neglect Form- 51-A, etc.) as indicated.
 - 5.4. Whenever resuscitation efforts are discontinued in the field, all intravenous catheter(s), endotracheal tube, and electrodes shall be left in place unless removal is authorized by the Medical Examiner. An ECG strip confirming either asystole or pulseless electrical activity in two leads shall be attached to the patient care report.
 - 5.5. The Boston EMS member responsible for completing the PCR shall notify the Office of the Chief Medical Examiner (617- 267-6767) of the death whenever possible. If a telephone is not readily available, the police officer shall be responsible for making said notification. A copy of the Patient Care Report shall be made available electronically to the police..
 - 5.6. When the death has occurred at a licensed health care facility such as nursing home, chronic care facility, or tertiary hospital and the patient has been under a physician's care, a police response is generally not necessary so long as the medical staff is willing to accept responsibility for the patient. However, if there is any evidence to suggest foul play, unusual circumstance, or there is no medical staff on scene willing to accept responsibility for the patient, the case should be treated as any other out of hospital declaration and the police department and Office of the Chief Medical Examiner notified.
 - 5.7. To the extent possible, the on-scene providers and family of the victim should have access to resources such as clergy, crisis workers, and social workers.
6. Public View / Fire Scenes / Transportation
 - 6.1. A body found in public view shall be covered with a yellow disposable blanket or clean sheet with minimum disruption to the scene or body.
 - 6.2. In the case of a fatality at a fire scene, the body should remain in the fire building unless it interferes with firefighting operations. At the discretion of the Fire Incident Commander, Boston EMS personnel may enter the fire building once it is declared safe to do so to confirm the patient meets the criteria for non-resuscitation.
 - 6.3. Should the body need to be removed from the fire building, it should be removed from the building in a body bag. If the body is removed from the scene and placed in public view, it should be covered with a yellow disposable blanket or clean sheet with minimum disruption to the scene or body.
 - 6.4. Under the direction and request of the Police Department Incident Commander (or Fire Incident Commander in the case of a fire-related fatality) and in conjunction with a BEMS Supervisor, the body may be moved out of public view

to either a police prisoner transport wagon, Fire Investigation Unit vehicle, or as a last resort, to a Boston EMS unit and held until transportation to the morgue can be arranged.

- 6.5. In special circumstances, a non-viable patient may be transported by ambulance when it is in the interest of public health and / or safety to do so (105 CMR 170.365), or when a delay on scene may reasonably pose a danger to the EMS crew or be socially unacceptable. This may occur after a patient has been placed in the rear of an ambulance and it is determined that the patient is non-viable and resuscitation efforts are withheld, or in cases where ongoing resuscitation efforts are terminated in accordance with section 3 and 4 above. In such cases, resuscitative efforts may be withheld while the victim is transported to the closest appropriate emergency room to be pronounced. The body should be covered with a sheet and transported in as discrete and dignified a manner as possible, and the receiving hospital notified in advance.