Resuscitation Initiation and Termination

RESUSCITATION EFFORTS SHOULD BE WITHHELD UNDER THE FOLLOWING CIRCUMSTANCES:

- **Valid Do Not Resuscitate:** Refer to Do Not Resuscitate (DNR) & Clinician Orders (COLST) Protocol 8.9.
- **Scene Safety**: The physical environment is not safe for providers.
- **Dead on Arrival (DOA)**: A person is presumed dead on arrival when all five "Signs of Death" are present **AND** at least one associated "Factor of Death" is present.

Signs of Death (All five signs of death must be present)

- Unresponsiveness.
- Apnea.
- Absence of palpable pulses at carotid, radial, and femoral sites.
- Unresponsive pupils.
- Absence of heart sounds.

E/A/P

Factors of Death (At least one associated factor of death must be present)

- Damage or destruction of the body incompatible with life, such as, but not limited to:
  - ✓ Decapitation.
  - ✓ Decomposition.
  - ✓ Deforming brain injury.
  - ✓ Incineration or extensive full thickness burns.
- Lividity/Rigor mortis of any degree.
- Major blunt or penetrating trauma.
- Body frozen solid—unable to perform chest compressions.

SUDDEN UNEXPLAINED INFANT DEATH (SUID)

- An infant <**12** months who is apneic, asystolic (no heartbeat or umbilical cord pulse), and exhibiting lividity and/or rigor mortis may be presumed dead.

NEONATE

- A neonate who is apneic, asystolic, and exhibits either neonatal **maceration** (softening or degeneration of the tissues after death in utero) or **anencephaly** (absence of a major portion of the brain, skull, and scalp) may be presumed dead.

Contact **Medical Direction** if gestational age is less than 22 weeks and neonate shows signs of obvious **immaturity** (translucent and gelatinous skin, lack of fingernails, fused eyelids).

Patients with ventricular assist devices (VAD) should almost never be pronounced dead at the scene, see Implantable Ventricular Assist Devices (VAD) Policy 8.11.

Policy Continues

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Policy Continued

RESUSCITATION MAY BE STOPPED UNDER THE FOLLOWING CIRCUMSTANCES:

- When the patient regains pulse/respirations. See Post Resuscitative Care Protocol – Adult 3.4A, Post Resuscitative Care Protocol -- Pediatric 3.4P, Cardiac Arrest Protocol -- Adult 3.2A or Cardiac Arrest Protocol – Pediatric 3.2P.
- The physical environment becomes unsafe for providers.
- The exhaustion of EMS providers.

TERMINATION OF RESUSCITATION (TOR) RULE (ADULTS ONLY):

1) Arrest not witnessed by emergency medical services personnel.
2) NO return of spontaneous circulation after 20 minutes of either BLS alone or combined BLS and ALS in the absence of hypothermia.
3) No shock was delivered or advised by the AED.

- If **ALL** criteria are present, contact **Medical Direction** to consider termination of resuscitation.
- If **ANY** criteria are missing, contact **Medical Direction** to consider termination of resuscitation **OR** continued resuscitation and transport.
- If ROSC, continue resuscitation and transport **AND** contact **Medical Direction**.
- Notify law enforcement if terminating resuscitation.

2nd and 3rd bullets revised 4/9/2020

E/A

- Contact **Medical Direction** to consider Termination of Resuscitation for any of the following:
  - Arrest witnessed by EMS personnel, if patient has NO return of spontaneous circulation after 20 minutes of either BLS alone or combined BLS and ALS in the absence of hypothermia **AND** no shocks were delivered or advised; or
  - Extrication is prolonged (>20 minutes) with no resuscitation possible during extrication (hypothermia is an exception); or
  - If extenuating circumstances or questions.
- Hypothermic patients without contraindications to CPR should have continued CPR and should not be considered for TOR until the core temperature has been rewarmed to 32°C (90°F) with no ROSC. (See Hypothermia (Environmental) Protocol – Adult & Pediatric 2.10.)
- Cardiac arrests should generally be managed on scene until return of spontaneous circulation, decision to cease resuscitation, or criteria is met for transport to hospital as indicated by Termination of Resuscitation (TOR) Rule. If transport is initiated, resuscitation must be continued until arrival at the receiving hospital.
- May continue resuscitation and transport if conditions on scene are NOT amenable to cessation of resuscitation.

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- Contact **Medical Direction** to consider Termination of Resuscitation for the non-hypothermic patient unresponsive to advanced cardiac life support with a non-shockable rhythm after 20 minutes of resuscitation and $ETCO_2 \leq 10$ mmHg.
- For narrow-complex PEA with a rate above 40 or refractory and recurrent ventricular fibrillation/ventricular tachycardia, consider continuation of resuscitation and transport.
  - May consider termination of resuscitation if > 60 minutes from time of dispatch.
  - Confirm cardiac standstill with point-of-care ultrasound, if available and trained.

Policy Continues

Resuscitation Initiation and Termination

Policy Continued

DETERMINING DEATH IN THE FIELD

When efforts to resuscitate are not initiated or are terminated under the above provisions, EMS providers shall:

- Document time that death is pronounced.
- Notify law enforcement, who will alert Medical Examiner.
- Consider possibility of a crime scene and restrict access.
- Any decision to move the body must be made in collaboration with law enforcement and the medical examiner.
- Leave any resuscitation adjuncts such as advanced airway devices, IV/IO access devices, electrode pads, etc., in place.
- Inform family on scene of patient's death and offer to contact family, friends, clergy, or other support systems.

E/A/P

The above requirements apply to situations in which law enforcement or the medical examiner may take jurisdiction. Law enforcement and the medical examiner are not required to take jurisdiction of hospice or other patients who are known to have been terminally ill from natural causes or congenital anomaly, and death was imminent and expected. Where law enforcement is not involved, EMS providers may provide appropriate assistance to families or other caregivers.

MASS CASUALTY INCIDENT (MCI)

- See Mass/Multiple Casualty Triage Protocol 9.1.

DOCUMENTATION

- Complete a patient care record (SIREN) in all cases. If available, include ECG rhythm strips and code summary with the patient care report.
- Document special orders including DNR, on-line Medical Direction, etc.
- MCI conditions may require a triage tag in addition to an abbreviated PCR.
- Record any special circumstances or events that might impact patient care or forensic issues.

- Prolonging resuscitation efforts, beyond 20 minutes, without a return of spontaneous circulation is usually futile, unless cardiac arrest is compounded by hypothermia or submersion in cold water.
- EMS providers are not required to transport every victim of cardiac arrest to a hospital. Unless special circumstances are present, it is expected that most resuscitations will be performed on-scene until the return of spontaneous circulation or a decision to cease resuscitation efforts is made based on the criteria listed. Transportation with continuing CPR is justified if hypothermia is present or suspected. Current AHA guidelines state: "cessation of efforts in the out-of-hospital setting…should be standard practice."
- An ETCO2 level of 10 mmHg or less measured 20 minutes after the initiation of advanced cardiac life support accurately predicts death in patients with cardiac arrest.