

Pennsylvania Emergency Health Services Council
Medical Advisory Committee Position Statement
Standard Guide: Desisting from and
Ceasing Prehospital Resuscitation

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- I. **Purpose:** This statement provides a broad general guide on the advisability and content of policies regarding withholding or ceasing resuscitation by EMS personnel in the field.
- II. **Definitions:**
 - A. **DNR:** Do Not Attempt Resuscitation (the acronym **DNR** is used because of its widespread use)
 - B. **C-R:** Cease Resuscitation Attempts
- III. **Authority and Intent:**
 - A. This statement is purely advisory.
 - B. This statement serves as a guide to EMS agencies or EMS Councils that wish to develop their own policies.
 - C. Individual EMS medical command facilities and Pennsylvania's EMS are encouraged to develop policies that reflect local needs.
 - D. The Medical Advisory Committee does not wish to establish model DNR or C-R policies, because such documents might be mistaken as authoritative. Instead, this statement is a guide providing only a broad outline of what DNR or C-R policies might include.
 - E. The Medical Advisory Committee recognizes that establishing model policies is a legitimate function of the Pennsylvania EMS Medical Director, and encourage the State EMS Medical Director to deal with such issues.
- IV. **Background:**
 - A. ***Existing DNR and C-R policies***

Some individual EMS systems already have protocols for ceasing resuscitation in the field (e.g., Pittsburgh EMS), and at least two Pennsylvania EMS councils (EMMCO East and Southern Alleghenies) have developed regional C-R protocols which have been forwarded to the PEHSC Medical Advisory Committee for review. This request for review and endorsement of EMS Council policies was the direct prompt to this statement by the Medical Advisory Committee.
 - B. ***Living Wills***
 1. The Pennsylvania ***Advance Directive for Health Care*** law, Act 24 of 1992, allows "living wills" in Pennsylvania. Important points about this law relevant to EMS are:

- a) EMS personnel can honor a living will, only if confronted with what appears to be a valid living will, and only if the command physician orders them to follow it.
- b) Even for EMS personnel, living wills under this law only apply if the patient is
 - (1) diagnosed by two physicians as terminally ill or in a permanent state of unconsciousness, or
 - (2) declared legally incompetent
- c) These living wills do not apply to a patient who has a sudden and unexpected cardiac arrest, and therefore are of limited if any application to EMS, except when family or nursing home staff mistakenly, or in a panic, call EMS for a person with a living will who is dying at home, or at a nursing home.

C. *Basic Principles*

- 1. ACLS has limited if any effectiveness in resuscitating those dying of noncardiac causes (occasionally, those with pulmonary embolism; otherwise, almost no effect)
- 2. Value of DNR status to those with chronic illness
- 3. Role of the state in protecting against foul play
- 4. DNR principles
 - a) DNR orders only apply within an institution (i.e., hospital or nursing home), unless a state has a statewide DNR program (which Pennsylvania does not).
 - b) However, when a patient has an acute, life-threatening event, and family or family physician are not immediately available, institutional policies may be of use to EMS providers.
 - c) And, when treating a patient in a nursing home prior to transport, prehospital providers should observe the nursing home's DNR orders – and should generally contact medical command to see if the prehospital providers should continue to observe this status during transport.
 - d) DNR orders may vary from a simple “no-code” to very specific orders about which procedures are to be performed and which are not to be performed. Examples include:
 - (1) CPR (yes/no)
 - (2) Intubation (yes/no)
 - (3) IV medications (yes/no)
 - (4) IV fluids (yes/no)
 - (5) Transport to acute-care hospital for severe problems (yes/no)

- (6) Comfort care only (pain medications, but no food, fluid or other medications)
- e) Occasionally, family or nursing home staff may panic, or may simply feel unable to observe the patient's expressed wishes and let the patient die, and thus call EMS. Sometimes, only one or two of the friends or family will call EMS whereas the remainder at the scene expected the patient to die without EMS being called.
- f) **Example:** *a patient with terminal cancer has been sent home to die with family. The family physician is aware of this, and has counseled the family in detail about what to expect. When the comatose patient's breathing starts faltering, one family member panics and dials 9-1-1. When prehospital providers arrive, members of the family are crying and screaming at each other, most are demanding the prehospital providers leave the (now just-deceased) patient alone, and one family member is insisting that the patient is still breathing, denying that he is dead, and insisting they try to resuscitate him. Prehospital providers realize that CPR and ACLS will most likely be useless in such a situation, but also realize the psychological needs of at least one family member, and contact medical command for advice.*
- g) Prehospital providers may be presented with compelling documents, such as an institutional DNR order or terminally-ill patient with a living will.
 - (1) If those at the scene who called for EMS vouch for the document's validity, yet ask prehospital providers to attempt resuscitation, the patient's legally expressed wishes should rule.
 - (2) Prehospital providers must see, and should make copies of, any documents that led them to forgo resuscitation attempts.
 - (3) **Example:** *prehospital providers are called to a nursing home for a 90-year-old resident who has a decreased level of consciousness. On arrival, they find him unresponsive but breathing well and with a good airway and stable blood pressure. The nurse at the nursing home assures the prehospital personnel "he's a no-code, it's in here" and hands them a 2-inch-thick stack of photocopied documentation. On arrival at the ED, the patient goes into agonal respirations, and as the prehospital personnel and emergency physician go over the records and the patient takes his last breath, they note large block letters on the front "NO CODE STATUS AVAILABLE." On a quick review of the other material, the only note*

about DNR status is a nursing note from today that says “doctor and patient to address code status tomorrow.” A nurse in the ED remembers that he had been fully functional before his hip fracture and his transfer to the nursing home for a six-week rehabilitation admission – but she also remembers discussing DNR status with him in detail his hip-fracture admission, and that he wanted no CPR or intubation if he were to suddenly become critically ill.

- (4) If family, friends or nursing home staff at the scene challenge the validity of the DNR order or living will documents, and prehospital providers are unable to adequately determine the validity of the conflicting claims in the time allowed, they should attempt resuscitation. Once conflicting claims about the validity of the living will or DNR order can be resolved, usually in the ED, appropriate action can be taken at that time.
- (5) **Example:** *prehospital providers were called to a nursing home. The patient was having agonal respirations, and the nurse was unsure of the patient’s code status. The paramedic intubated the patient and contacted medical command after finding what appeared to be a valid institutional DNR order, specifically stating “no intubation.” The medical command physician told the paramedic to leave the tube in, continue ventilations and bring to the hospital, where the patient had been admitted several times – and obtained the patient’s old hospital records. On review, the patient’s orders at the nursing home, and during the last two admissions, clearly stated that the patient did not want to be intubated. Though neither the family doctor nor the family could be located, the emergency physician extubated the patient and let the patient die. Extubating a patient is morally and ethically the same as not intubating in the first place, so the patient’s wishes were observed as soon as they could be reliably determined.**

V. **Ceasing Resuscitation (C-R):**

A. C-R policies

* Examples are taken from actual cases in Pennsylvania or neighboring states. They are unusual cases, but ones specifically selected to highlight certain principles.

1. C-R policies may guide medical command physicians and EMS personnel in how they are generally expected to deal with potential cease-resuscitation situations.
2. C-R policies may also provide protocols for EMS personnel to follow if it seems appropriate to cease resuscitation, but are unable to contact a medical command physician for on-line medical command.
3. Either type of policy may be of benefit; a policy covering both eventualities is best.
4. Those designing C-R policies should not only consider the terminally ill patient, but also rare (but ethically and emotionally difficult) situations where continued resuscitation attempts may be inappropriate, including traumatic arrest and situations where prehospital providers cannot contact medical command.
5. **Example:** An EMS Council sets up a DNR and C-R policy that provides guidance only for medical command physicians; it requires that prehospital providers contact medical command in a situation where ceasing resuscitation might be appropriate, but gives little guidance to the prehospital personnel about what to do if they cannot contact medical command. Local EMS personnel respond to a patient entrapped by a leg in a crevice about 200 feet into a cave, and cave rescue personnel have been working for about 24 hours to release the patient. Due to lack of room in the cave passage, ALS equipment is still at an ambulance near the surface, and it takes about fifteen minutes to bring anything to the patient. From the patient's side, prehospital personnel cannot contact their medical command. The patient seizes and loses all vital signs.
6. **Example:** while climbing at an area about a mile from the nearest road or helicopter landing zone, a man falls approximately 100 feet off a cliff. He impacts on his chest, and when EMS personnel arrive, his companions are performing CPR, saying that he stopped breathing about 30 minutes before EMS arrival. The local mountain rescue team members, who responded with the EMS service, estimates that it will take four hours to get him to the ambulance, and that it's impossible to attempt CPR during such an evacuation without great risk to the safety of the evacuation team. The prehospital providers start intubation and try without success to start an IV while contacting medical command.

B. *Inclusion Criteria*

1. C-R policies should generally provide ***inclusion*** criteria, i.e., minimum requirements to consider ceasing resuscitation.
2. Examples might include, but are not limited to:
 - a) Age > 18
 - b) EKG monitoring shows, in at least two leads, asystole.

C. ***Exclusion Criteria***

1. C-R policies should generally provide ***exclusion*** criteria, i.e., situations in which extended attempts at resuscitation are generally appropriate, and may result in a save.
2. Examples of such situations include, but are not limited to:
 - a) hypothermia
 - b) near-drowning
 - c) lightning strike
 - d) electrocution
 - e) drug overdose
 - f) avalanche burial

D. ***Resuscitation Attempts***

1. C-R policies should generally specify the minimum attempts at resuscitation that will be provided whenever EMS personnel attempt resuscitation.
 - a) Generally, on the order of half an hour of resuscitation attempts are in order, provided there are no signs of successful resuscitation.
 - b) In order to be considered a valid resuscitation attempt, the time may be best calculated from when the patient's is assured by either good airway control and artificial ventilation, or an endotracheal tube placed and confirmed by an accepted method.
 - c) Some situations (e.g., nonsurvivable injury, risk to rescuers, new information about DNR status after resuscitation started) may make a command physician desire to direct EMS personnel to stop resuscitation after less than half an hour, and C-R policies should generally recognize this command physician prerogative.
2. C-R policies should generally deal with partial resuscitation (signs of life):
 - a) Patients who show signs of partial resuscitation (pulse independent of external cardiac compression, blood pressure, spontaneous respiration, or signs of conscious response) should generally receive longer resuscitation attempts.
 - b) Regardless of whether there were any signs of life early on, after (on the order of) thirty minutes of standard ACLS, further resuscitation attempts are likely useless.

E. ***Length of Time Before ACLS***

1. C-R policies should deal with situations where a patient has been receiving basic CPR prior to the arrival of ALS
2. If a patient has been receiving basic CPR for more than (on the order of) half an hour before ACLS arrives, resuscitation is unlikely.

VI. **Do Not Attempt Resuscitate (DNR) Policies**

A. ***Background***

1. Pennsylvania law does not provide much in the way of legal guidance for EMS personnel deciding whether to resuscitate a patient or not (see above). However, in reality, EMS personnel often are requested to determine whether the body in front of them is a corpse to be handled by the police or coroner or a potentially salvageable patient. The lack of legal guidance should not prevent EMS agency and regional medical directors from doing their best to provide guidance in such situations.
2. There are a few signs that can be uniformly be equated with nonsurvivability:
 - a) decapitation
 - b) transection of the torso
 - c) patient is frozen so hard that the chest can't be compressed
 - d) patient's rectal temperature is very cold, and the same as the environment
 - e) well-progressed decomposition (but see below).
3. There are several presumptive signs of death that may be of use to EMS personnel, but no one by itself is reliable.
 - a) ***Rigor Mortis***: postmortem rigidity is well-known, but similar rigidity is commonly observed in hypothermic but semiconscious patients.
 - b) ***Dependent Lividity***: dependent lividity is common in corpses, but also is found along with pressure necrosis and frostbite in some patients exposed to the elements for a long time.
 - c) ***Decomposition***: odors of decomposition are common, but anyone who has worked with in an urban EMS system can attest to the remarkable capacity of live humans to emit both strong and foul odors despite the ability of the body in question to walk, if not in a straight line. And, many a live patient is brought to the Emergency Department with maggots in an infected wound (indeed, in some elderly patients, the maggots keeping the wound clean are responsible for their survival).
 - d) ***Lack of Presumptive Signs of Life***: hypothermia can mimic death, in that pulses may not be palpable, respirations undetectable, with dilated unreactive pupils and no signs of consciousness; nonetheless such severely hypothermic patients have occasionally been resuscitated with full neurological recovery.

B. ***Case-by-case Management***

1. A general principle taught in many EMS courses is "when in doubt, resuscitate." This is a reasonable rule, but may result in unfortunate survivals -- when a terminal patient is expecting to die but is "saved" only to become a neurological cripple to linger on in pain and at great expense to the family. Therefore, a policy on DNR status should do its best to meet patient wishes without undue risk of inappropriate death. A policy should consider the following cases, and generally provide that the EMS personnel contact a command physician for advice when needed.
 - a) In the case of a patient with a known terminal illness, family may present EMS personnel with what appears to be a valid advanced directive (living will) (see above) yet one or more of the family, in contradiction to the patient's legal wishes, and in considerable emotional distress, may request that the EMS personnel begin resuscitation.
 - b) One hears of cases (probably mostly apocryphal) in which a patient is being poisoned by family, which then secures a forged living will to prevent EMS personnel, when called by another family member, from initiating resuscitation.
 - c) Sometimes, EMS personnel may not be sure whether a patient is hypothermic or dead.

VII. **Social Environment**

- A. EMS personnel may find themselves in situations where ethical or social concerns may make ceasing resuscitation, or deciding not to resuscitate a patient, difficult. Examples might include:
 1. Resuscitation in a crowded public place
 2. Resuscitation with family present in denial about their relative's death
- B. C-R and DNR policies should ideally recognize the possibility of such situations and allow EMS personnel some flexibility in applying the policy.
- C. C-R and DNR policies should provide guidance on notifying the coroner and arrangements for a physician to pronounce the patient.

VIII. **Resources**

In addition to the section on *Medicolegal Aspects of CPR & ECC* found at the back of the AHA Advanced Cardiac Life Support manual, and the Pennsylvania *Advance Directive for Health Care* law, Act 24 of 1992, the following reference may be of use to those writing C-R or DNR policies:

- The standard AHA statements on CPR and ACLS.^{1, 2}
- Editorial about stopping ACLS efforts in the field.³
- Position statements about stopping CPR (even basic CPR) in the field when away from the road.^{4, 5}

- Classic reference on need for rapid CPR and rapid ACLS, and time to BCLS and ACLS vs. survivability.⁶
- Statement on the uselessness of CPR in the wilderness.⁷
- Reference about survivability after cold-water near-drowning.⁸
- Reference on CPR in the pulseless hypothermic patient.⁹
- Reference on the dangers of CPR causing ventricular fibrillation in a "pulseless" but still-alive hypothermic patient.¹⁰
- Reference that shows CPR in profound hypothermia is effective.¹¹
- Reference from National Association of EMS Physicians on applying CPR in backcountry situations.⁴
- Good general reference on CPR in hypothermia.¹²
- Reference that argues not to start CPR on patients less than 28 degrees C.¹³
- An excellent review of near-drowning and survival.¹⁴
- A report of 66-minute cold-water submersion survival.¹⁵
- A caution that the figures about survival from cold-water submersion aren't likely as good as we think.¹⁶
- A good reference on avalanche survival chances.¹⁷
- Another reference on avalanche survival.¹⁸
- A semi-definitive reference on lightning strikes.¹⁹
- Study of what will predict useless resuscitation.²⁰
- Another like the above.²¹
- A report of the success (or lack thereof) of CPR in the elderly.²²
- Another report on age vs. survival.²³
- Another about survivability and age.²⁴
- Pediatric study.²⁵
- Article about trauma arrest survival.²⁶

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