



## INDICATIONS

• Cardiac arrest due to nontraumatic causes

### WARNINGS

- Health care directive prohibiting cardiopulmonary resuscitation (CPR), chest compressions, or cardioversion
- Obvious signs of death <sup>13</sup>
- For provider with primary (PCP) work scope refer to CO2
- For trauma arrest refer to F02.1

#### NOTES

1. Paramedics with the basic (EMR) work scope must consult on line medical support (OLMS) at the Virtual Emergency Care & Transport Resource Service (VECTRS) for all cardiac arrest victims (regardless of age or rhythm).

Management of the cardiac arrest patient is complex. Deciding to transport a patient without ROSC versus discontinuing resuscitation at the scene depends on many factors.

When an automated external defibrillator (AED) indicates that "no shock is advised", the patient might still have persisting organized electrical activity (ventricular tachycardia, or VT) or even a viable underlying rhythm (pulseless electrical activity, or PEA). Further interventions, which may be available in a hospital, may be life-saving but only if they are rapidly available.

While high-speed transport with no realistic hope of survival involves a significant risk to paramedics and the public, in some cases, transporting and deferring the decision about futility to another health care professional may be in the best interests of the patient's family and providers.

Sometimes the wish to be an organ donation has been previously expressed by the decedent, and is still a consideration when the patient has been pulseless for only a short time.

- 2. Airway maneuvers are considered aerosol-generating medical procedures (AGMP). Chest compressions and defibrillation are not. Appropriate personnel protective equipment (PPE) is required (A09).
- 3. Always maintain personal safety when performing cardiopulmonary resuscitation (CPR). Minimize pauses in chest compressions and limit all interruptions to ten seconds or less. It is safe to continue chest compression while the AED is charging. Consider use of the AutoPulse with nontraumatic cardiac arrest.
- 4. It may be difficult to exclude opioid toxicity in the arrest victim. Administer naloxone with any known or suspected medication overdose or ingestion of any illicit substance.
- 5. For patients less than 8 years of age or 25 kilograms weight use pediatric pads. If the patient's age is unknown, use visible signs of puberty to differentiate a child from an adolescent. If pediatric pads are not available, use adult pads but ensure separation by at least 2.5 cm (consider antero-posterior placement).

When using an automated external defibrillator (AED) in a patient with an implanted cardioverter-defibrillator (ICD) or pacemaker, place the electrodes at least 8 centimeters (3 inches) away from the pulse generator.

- 6. Perform 3 cycles of "CPR / analyze (shock if advised)" on scene.
- 7. While uncommon as a primary cause of cardiac arrest, hypoglycemia may develop or be a complicating factor and must be excluded in all cases.
- 8. If a return of spontaneous circulation (ROSC) is achieved within 3 cycles, begin post-ROSC care and transport. Call the Virtual Emergency Care & Transport Resource Service (VECTRS) and consult with on line medical support (OLMS) as soon as possible. VECTRS / OLMS may advise you to transport to an alternate destination for post-ROSC management or helicopter EMS intercept.
- 9. If ROSC is not achieved after 3 cycles it is unlikely that further treatment at the scene will be successful. Advanced interventions may be available at the closest emergency department (ED) or nursing station (NS), but will only be effective if they can be implemented as soon as possible. When estimating the time to the closest ED or NS include the time required for scene egress, as well as patient loading and unloading.
  - a. If the time to the closest ED or NS is 30 minutes or less, immediately initiate transport there.
  - b. If the time to the closest ED or NS is 30 minutes or greater, immediately prepare to transport and call VECTRS / OLMS as soon as possible.
- 10. Hyperventilation may reduce blood flow to the brain, which can worsen neurological outcome.
- 11. Provide supplemental oxygen to achieve an oxyhemoglobin saturation (SpO2) of 92% to 98% in adults and adolescents, and 94% to 99% in infants and children.
- 12. Paramedics will provide appropriate pre-arrival notification to receiving ED staff.
- 13. Prior death can be reliably concluded by finding evidence of a significant time lapse from the cessation of circulation, or the recognition of injuries incompatible with survival. Evidence of significant time lapse includes dependent lividity, rigor mortis, generalized tissue decomposition, putrefaction, and torso freezing (such that the chest cannot be compressed). Injuries incompatible with life include decapitation, incineration, transection of the thorax or abdomen, substantial destruction of vital organs (heart, lungs, brain), or separation of vital organs from the body.

#### LINKS

- A01 Standard Clinical Approach
- A07 VECTRS / OLMS
- A09 Aerosol Generating Medical Procedures
- C02 Advanced Cardiac Arrest
- E11 Hypoglycemia
- F02.1 Basic Trauma Arrest
- M11 Naloxone

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# VERSION CHANGES (refer to X03 for change tracking)

• Revised flow chart for ease of use & simplified notes for greater clarity

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