Traumatic Arrest

For cardiac arrest with penetrating or blunt traumatic mechanism. NOT for trauma sustained after cardiac arrest, use primary impression Cardiac Arrest – Non- traumatic

History
- Evidence of trauma or blood loss
- Events leading to arrest
- Estimated downtime

Signs and Symptoms
- Unresponsive
- Apneic
- Pulseless

Differential
- Tension pneumothorax
- Cardiac tamponade
- Hypovolemic shock
- Spinal shock
- Traumatic brain injury

E **Has a paramedic, EMT, designated first responder, or public safety officer found injuries incompatible with life, including one or more of the following conditions:**
- **Decapitation**
- **Incineration**
- **Rigor Mortis**
- **Decomposition**
- **Apnea with destruction and/or separation of the body from the heart, brain, liver, or lungs**
- **Multi-casualty incidents (MCIs) where triage principles preclude the initiation or continuation of resuscitation**

Yes → Do not begin resuscitation

No

Does the patient meet all of the following criteria?
- Pulseless
- Apneic
- No other signs of life, including purposeful movement or pupillary response
- Asystole or PEA < 40bpm
- Physical signs of trauma or blood loss

Yes → Do not begin resuscitation

No → First medical contact to trauma center time < 20 min.?

Yes

E
- Control hemorrhaging **Apply tourniquet for uncontrolled hemorrhage**
- **Begin continuous chest compressions Push hard (> 2 inches) and fast (110/min) *Use metronome to ensure proper rate* Change compressors every 2 minutes (Limit changes/pulse checks to < 5 seconds)**
- High flow oxygen via BVM
- Immediate transport to trauma center

P
- If suspected thoracic trauma, bilateral pleural decompression
- If shockable rhythm, defibrillate

Notify receiving facility. Consider Base Hospital for medical direction

No

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- Control hemorrhaging **Apply tourniquet for uncontrolled hemorrhage**
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P
- If suspected thoracic trauma, bilateral pleural decompression
- If shockable rhythm, defibrillate

Asystole or PEA < 40bpm *and* $EtCO_2$ < 20 after 15 min.? → Yes → Terminate resuscitation

No → **Notify receiving facility. Consider Base Hospital for medical direction**

AT ANY TIME

Return of spontaneous circulation

Multi-System Trauma

Tourniquet use should not be delayed until a patient is in shock or is clearly exsanguinating. It should be applied early and can be used safely without risk of patient injury. Do not wait; apply often and tighten if needed.

The use of epinephrine in traumatic arrest is not indicated (see pearls).

Adult and Pediatric Trauma Treatment Protocols

Traumatic Arrest

For cardiac arrest with penetrating or blunt traumatic mechanism. NOT for trauma sustained after cardiac arrest, use primary impression Cardiac Arrest – Non- traumatic

Pearls

- Prevention and reversal of hypothermia associated with shock from severe traumatic injury is critical. Apply blankets early and consider activation of heater in the patient compartment of the ambulance.
- Traumatic arrest due to hypovolemia does not occur immediately after traumatic events. Traumatic arrest patients will experience maximal catecholamine release and vasoconstriction for a short period after the onset of cardiac arrest. Thus, epinephrine administration may worsen tissue perfusion. The use of epinephrine in traumatic arrest has not been associated with 1-month survival.
- Patients who do not qualify for field determination of death but have or develop cardiopulmonary arrest should be transported to the closest trauma center.