Sacramento County Emergency Medical Services

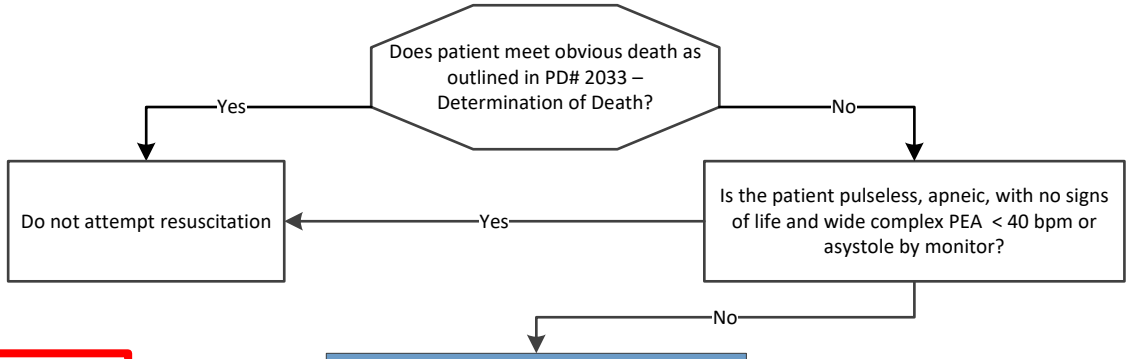
Traumatic Cardiac Arrest

EMS Medical Director: Signature on File
EMS Administrator: Signature on File

History
- Events leading to arrest
- Estimated downtime
- Past medical history
- Medications
- DNR, POLST or living will

Signs and Symptoms
- Pulseless
- Apneic or agonal respirations

Differential
- Hypovolemia
- Cardiac tamponade
- Hypothermia
- Hypoxia
- Tension pneumothorax



Traumatic cardiac arrest patients undergoing resuscitation shall be transported as quickly as possible to a Trauma Center

Return of spontaneous circulation
Any traumatic cardiac arrest patient who has a Return of Spontaneous Circulation (ROSC) during any part of the resuscitation and who is transported shall be transported to a Trauma Center.

		Treat immediate threats to life
E		External hemorrhage control per PD# 8065 - Hemorrhage Control. Apply tourniquets as necessary.
E		Airway and Breathing: Clear airway when indicated; place OPA and BVM ventilation.
E		Chest compressions/high-quality CPR ~~for any rhythm other than Wide Complex PEA < 40 bpm or Asystole.~~
E		The use of a Mechanical CPR Device should be omitted if it will cause a delay in transport.
A	P	Continue transport with BLS airway if adequate ventilation/chest rise is achieved. Advanced airway as needed per policy.
A	P	Correct potential obstructive shock – maintain a high index of suspicion for tension pneumothorax. Bilateral needle thoracostomy
A	P	Obtain large-bore IV or IO access. Give 1 liter of Normal Saline bolus by pressure bag infusion.
A	P	Cardiac monitoring – defibrillate shockable rhythms.

Cross Reference:
- PD# 8065 – Hemorrhage Control
- PD# 8031 – Non-Traumatic Cardiac Arrest
- PD# 2033 – Determination of Death
- PD# 2085 – Do Not Resuscitate
- PD# 8020 – Respiratory Distress - Airway Management
- PD# 8024 – Cardiac Dysrhythmias
- PD# 8044 – Spinal Motion Restrictions
- PD# 8015 – Trauma.

Reversible Causes

Hypovolemia
Hypoxia
Hydrogen ion (acidosis)
Hypothermia
Hypo/Hyperkalemia
Hypoglycemia
Tension pneumothorax
Tamponade (cardiac)
Toxins
Thrombosis (pulmonary)(PE)
Thrombosis (coronary)(MI)

- **Treat reversible causes**
- **Do not administer Epinephrine**
- **If suspected Medical Arrest follow PD# 8031– NonTraumatic Cardiac Arrest**

Notify receiving facility. Contact Base Hospital for medical direction

Traumatic Cardiac Arrest

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Traumatic Cardiac Arrest

- The pathophysiology of traumatic cardiac arrest differs from medical cardiac arrest and is primarily due to one or a combination of factors: hypovolemia, obstruction of blood flow, and hypoxia.
- The initial cardiac rhythm for most patients in survivable traumatic cardiac arrest is pulseless electrical activity (PEA). Traumatic cardiac arrest PEA is most often a very low output state due to hypovolemia.
- Traumatic cardiac arrest patients undergoing resuscitation shall be transported as quickly as possible to the hospital.
- Patients with trauma in cardiac arrest who, by prehospital presentation, may have suffered a medical event before trauma shall undergo medical cardiac arrest resuscitation per Policy# 8031 - Cardiac Arrest, with attention and appropriate management to emergent trauma needs (hemorrhage control, pneumothorax decompression as indicated, and orthopedic immobilization as indicated)
- There is no evidence-based medical support for the use of medications in traumatic cardiac arrest. In traumatic arrest, Epinephrine and Amiodarone are NOT indicated in traumatic cardiac arrest. If there is any doubt as to the cause of the arrest, treat it as a non-traumatic arrest.

Post Resuscitation Considerations:

- Any traumatic cardiac arrest patient who has a Return of Spontaneous Circulation (ROSC) during any part of the resuscitation and who is transported shall be transported to a Trauma Center.
- Intravenous (IV) or Intraosseous (IO) fluids should be placed wide open with pressure bags.
- If a palpable pulse becomes present:

1. Re-assess for and control external hemorrhage.
2. Administer TXA as indicated per PD# 8065 – Hemorrhage Control.
3. Titrate normal saline to SBP ≥ 80 mmHg or palpable peripheral pulses.
4. Consider pre-hospital blood if available.
5. External warming.

Note: Epinephrine shall not be given in the setting of traumatic arrest.

Notes:

- Efforts should be directed at high quality and continuous chest compressions with limited interruptions and early defibrillation when indicated.
- SURVIVAL FROM PEA OR ASYSTOLE is based on identifying and correcting the CAUSE: consider a broad differential diagnosis with early and aggressive treatment of possible causes.
- Potential association of PEA with hypoxia may exist, so placing an effective BLS airway with oxygenation early may provide benefit.
- Return of spontaneous circulation after Asystole/PEA requires continued search for underlying cause of cardiac arrest.
- Treatment of hypoxia and hypotension are important after resuscitation from Asystole/PEA.
- Discussion with the Base Hospital can be a valuable tool in developing a differential diagnosis and identifying possible treatment options.

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