

	COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY	Document #	8032.01
	<u>PROGRAM DOCUMENT:</u> Traumatic Cardiac Arrest	Initial Date:	06/22/21
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 Signature on File
 EMS Medical Director

 Signature on File
 EMS Administrator

Purpose:

- A. To serve as the treatment standard for treating **traumatic** cardiac arrest patients.

Authority:

- A. California Health and Safety Code, Division 2.5
- B. California Code of Regulations, Title 22, Division 9

Protocol:

- A. The pathophysiology of traumatic cardiac arrest differs from medical cardiac arrest and is primarily due to one of or a combination of factors: hypovolemia, obstruction of blood flow, and hypoxia.
- B. 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.
- C. Because the etiology of traumatic cardiac arrest is different from medical cardiac arrest, traumatic cardiac arrest patients undergoing resuscitation shall be transported as quickly as possible to the hospital.
- D. 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)
- E. There is no evidence based medical support for the use of medications in traumatic cardiac arrest. In traumatic arrest, epinephrine is not indicated in PEA or asystole. Epinephrine will not correct arrest caused by a tension pneumothorax, cardiac tamponade, or hemorrhagic shock. If there is any doubt as to the cause of arrest, treat as a non-traumatic arrest.

Policy:

BLS
1. Treat immediate threats to life 2. External hemorrhage control per Policy# 8065 (Hemorrhage Control) 3. Airway and Breathing: Clear airway when indicated, place OPA, BVM ventilations 4. Chest Compressions: Chest compressions should be performed when possible without delaying transport or other treatments

ALS

1. Optimize Oxygenation/Ventilation
 - Advanced airway per policy
 - Advanced airway placement shall be confirmed with ETCO₂ detection device or waveform Capnography
2. Correct potential obstructive shock - Maintain high Index of suspicion for tension pneumothorax, Bilateral needle thoracostomy per PD# 8015 (Trauma)
3. Treat potential exsanguination
 - Obtain bilateral large-bore IV or IO access
 - 1 L normal saline bolus simultaneously via each IV/IO
 - Utilize pressure bag for rapid fluid administration
 - Repeat IVF during arrest until SBP>90 or 4 liters
4. Treat Cardiovascular Collapse
 - High-quality CPR
 - ECG monitoring and appropriate defibrillation per Policy 8031 (Cardiac Arrest)
 - ~~There is no role for Epinephrine or vasoactive medications in TCA (No Medications)~~

Post Resuscitation Considerations:

- A. 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.
 1. ~~Any other Cardiac Arrest patient who is transported shall be transported to the time closest hospital.~~
- B. Intravenous (IV) or Intraosseous (IO) fluids should be placed **wide open with pressure bags**.
- C. If palpable pulse becomes present:
 - Re-assess for and control external hemorrhage
 - Administer TXA as indicated per Policy# 8065 (Hemorrhage Control)
 - Titrate normal saline to SBP \geq 90 mmHg or palpable peripheral pulses

~~Termination of Resuscitation Considerations:~~

- A. ~~If transportation has not yet been started, consider termination of resuscitation efforts after twenty (20) minutes of Advanced Life Support (ALS) care if BOTH of the following are present:~~
 1. ~~Pulseless, apneic, or agonal, or apneustic respirations with no signs of life (non-reactive pupils, no response to pain, no spontaneous movement).~~
 2. ~~Asystole, or wide complex PEA with HR < 40 bpm.~~

Cross Reference:

PD# 2033 – Determination of Death
PD# 2085 – Do Not Resuscitate
PD# 8015 – Trauma
PD# 8024 - Cardiac Dysrhythmias
PD# 8026 - Respiratory Distress
PD# 8031 - Cardiac Arrest
PD# 8044 – Spinal Motion Restrictions
PD# 8065 - Hemorrhage Control