

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

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 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 and Amiodarone are **NOT** indicated in ~~PEA or asystole~~ traumatic cardiac arrest. 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 PD# 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 as needed per policy
  - Advanced airway placement shall be confirmed with ETCO<sub>2</sub> 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 two (2) large-bore IV or IO access
  - 1 Liter normal saline bolus simultaneously via each IV/IO
  - Utilize pressure bag for rapid fluid administration
  - Reassess lung sounds after each Liter
  - Repeat IV fluid during arrest until SBP>90 or 4 liters or maximum of 4 liters administered
4. Treat Cardiovascular Collapse
  - High-quality CPR
  - ECG monitoring and appropriate defibrillation per PD# 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 P# 8065 – Hemorrhage Control
  - Titrate normal saline to SBP ≥ 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# 8020 – Respiratory Distress - Airway Management  
PD# 8024 – Cardiac Dysrhythmias  
PD# 8026 – Respiratory Distress  
PD# 8031 – Cardiac Arrest  
PD# 8044 – Spinal Motion Restrictions  
PD# 8065 – Hemorrhage Control

