


|   |  |                     |          |
|---|--|---------------------|----------|
|  | <b>COUNTY OF SACRAMENTO</b><br>EMERGENCY MEDICAL SERVICES AGENCY | Document #          | 8032.02  |
|   | <u>PROGRAM DOCUMENT:</u><br><b>Traumatic Cardiac Arrest</b>      | Initial Date:       | 06/22/21 |
|   |  | Last Approval Date: | 03/10/22 |
|   |  | Effective Date:     | 05/01/24 |
|   |  | Next Review Date:   | 03/01/25 |

\_\_\_\_\_  
 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 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. 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 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 the arrest, treat it as a non-traumatic arrest.

**Policy:**

| BLS   |
|---|
| 1. Treat immediate threats to life<br>2. External hemorrhage control per PD# 8065 - Hemorrhage Control. <a href="#">Apply tourniquets as necessary.</a><br>3. Airway and Breathing: Clear airway when indicated; place OPA and BVM ventilation.<br>4. <del>Chest Compressions: Chest compressions should be performed, when possible, without delaying transport or other treatments.</del> <a href="#">Chest compressions/high-quality CPR for any rhythm other than Asystole. Automatic compression devices shall not be used as they will delay transport.</a> |

5. Expedite transport to the closest Trauma Center.

**ALS**

- ~~1. Optimize Oxygenation/Ventilation~~
    - ~~• Advanced airway as needed per policy.~~
    - ~~• Advanced airway placement shall be confirmed with an 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 two (2) large-bore IV or IO access.~~
    - ~~• 1 Liter normal saline bolus simultaneously via each IV/IO.~~
    - ~~• Utilize a pressure bag for rapid fluid administration.~~
    - ~~• Reassess lung sounds after each Liter.~~
    - ~~• Repeat IV fluid during arrest until SBP > 90 or a maximum of 4 liters is administered.~~
  - ~~4. Treat Cardiovascular Collapse~~
    - ~~• High-quality CPR.~~
    - ~~• ECG monitoring and appropriate defibrillation per PD# 8031 – Non-Traumatic Cardiac Arrest.~~
1. Continue transport with BLS airway if adequate ventilation/chest rise is achieved. Advanced airway as needed per policy.
  2. Correct potential obstructive shock – maintain a high index of suspicion for tension pneumothorax. Bilateral needle thoracostomy per PD# 8015 – Trauma.
  3. Obtain large-bore IV or IO access. Give 1 liter of Normal Saline bolus by pressure bag infusion.
  4. Cardiac monitoring – defibrillate shockable rhythms.

**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.
- B. Intravenous (IV) or Intraosseous (IO) fluids should be placed wide open with pressure bags.
- C. 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 ≥ 90 mmHg or palpable peripheral pulses.

**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 – Non-Traumatic Cardiac Arrest  
PD# 8044 – Spinal Motion Restrictions  
PD# 8065 – Hemorrhage Control

