Traumatic Cardiac Arrest and Peri-Arrest Administrative Guideline

Peri-arrest trauma patient
OR
EMS-witnessed cardiac arrest due to trauma
OR
Trauma patient not meeting criteria for termination per **Dead on Scene AG**

Medical cardiac arrest suspected by low mechanism of injury:
- low speed MVC
- hanging
- drowning/asphyxia

Proceed with **OHCA AG**

Withold compressions and simultaneously perform Life-Saving Interventions.

Life Saving Interventions (On-scene preferred)

- Control massive hemorrhage
  - Direct pressure/tourniquet for external hemorrhage
  - Pelvic binder for suspected pelvic fracture
- Provide high flow oxygenation and if needed provide assisted ventilation (igel or BVM preferred)
- 2 large bore IV/proximal IO access
- Volume replacement (max 40 cc/kg or 2L for adults)
- Consider bilateral chest decompression

Consider withdrawal of efforts per **Dead on Scene AG** if no signs of life after Life Saving Interventions

Initiate transport to nearest Level I trauma center

P	Administer TXA when en route to the trauma center if enough resources. If pulseless start or resume compressions
	Adults≥14 years: Administer **TXA 2g** IV/IO SIVP (over at least 2 min) if shock index >1 Peds <14 years: Administer **TXA 30 mg/kg** SIVP (over at least 2 min) for patients with shock (SBP < 70 + 2 x age) Administer **NS/LR fluid bolus** to keep SBP >70 mmHg Max fluid 40 cc/kg (2L for adult)

Education and Pearls

The initial cardiac rhythm for most patients in survivable traumatic cardiac arrest is pulseless electrical activity (PEA). This rhythm in traumatic cardiac arrest usually represents a very low output state caused by an obstruction (e.g. pneumothorax, pericardial tamponade) or hypovolemia (blood loss anemia), rather than a true "cardiac" arrest.

In cardiac arrest caused by hypovolemia, cardiac tamponade, or tension pneumothorax, c*hest compressions are unlikely to be effective.* Subsequently, chest compressions take a lower priority than the immediate treatment of reversible causes (e.g. needle decompression, airway management, controlling hemorrhage, etc.). Performing chest compressions cannot only impair and hinder the performance of life saving interventions in trauma patients, they can - in some patients - cause significant harm; in a patient with extensive chest or rib injuries, for example, chest compressions may cause direct injury to underlying organs.

In cardiac arrest due to trauma, hemorrhage control, the restoration of circulating blood volume, opening the airway, and relieving suspected tension pneumothorax should take priority over conventional cardiopulmonary resuscitation (CPR) (i.e. external chest compressions, defibrillation, and adrenaline) unless a medical cause for cardiac arrest is reasonably suspected to have preceded the traumatic event.

This guideline is for trauma patients that are about to lose pulses or have lost pulses in front of EMS. It does not apply to those patients who would meet the criteria for termination based on the Dead on Scene AG.