General Trauma Care

FIELD TREATMENT GUIDELINE T-01

INDICATION

- Treatment of adult or pediatric patients presenting with a trauma related chief complaint

BLS

- Ensure scene safety for crews and bystanders.
- Exercise body substance isolation measures and use appropriate personal protective equipment (PPE).
- Evaluate any environmental hazards.
- Determine number of patients.
- Determine need for additional resources.
- Determine mechanism of injury.
- Determine patient's level of consciousness, ABCs/(CAB in cardiac arrest), vital signs, and chief complaint/symptoms.
- Maintain an open airway with **Airway/Respiratory Management BP-01.**
- At a minimum, monitor and document vital signs every 15 minutes on stable patients and every 5 minutes for patients with critical conditions.
- If indicated, determine if a valid POLST order or DNR verification form is in place, and act accordingly.
- If patient is in cardiac arrest, refer to **Traumatic Arrest T-02**.
- If indicated, administer supplemental oxygen using the appropriate delivery device.
    - Oxygen should be administered in the presence of hypoxemia, dyspnea, shock, or SpO2 <94%. Avoid hyperoxygenation.
- Perform necessary BLS Interventions:
    - Splinting, **Spinal Motion Restriction BP-05**, and **Pelvic Binder BP-07**.
    - Control bleeding through the use of direct pressure, elevation, pressure dressings, and if necessary, **Major Hemorrhage Control T-03**.
- Patients with potentially life-threatening injuries should be prepared for early transport to appropriate destination. Limit on scene time to **less than 10 minutes** when possible.

Obtain:

- History and Physical Exam of current event.
- Past medical history.
- Medications.
- Allergies.
- Perform full secondary assessment if time appropriate.

- Consider use of pulse oximetry.
- Ensure ALS response as appropriate.

ALS

If indicated:

- Perform necessary ALS Interventions:
  - **Endotracheal Intubation AP-01**
  - **Needle Thoracostomy AP-05** when providers suspect a tension pneumothorax.
  - Patients with potentially critical conditions should receive 2 large bore IVs or;
    - If unable to obtain IV access, **Intraosseous Infusion AP-08.**
  - Patients exhibiting signs and symptoms consistent with shock or who are hemodynamically compromised, should receive a **Fluid Challenge AP-09.**
  - **Tranexamic Acid**, per **Major Hemorrhage Control T-03.**
  - **Pain Management AP-13**.
  - **Sedation AP-14**.
  - Administer medications in accordance with the specified Field Treatment Guideline.
- Obtain additional field diagnostic testing if appropriate and time permits:
  - Apply the cardiac monitor, blood glucose, temperature, carbon monoxide level, and stroke scale.
  - **12-Lead ECG BP-03**.
  - **Waveform Capnography AP-12**.
- Patients with potentially life-threatening injuries should be prepared for early transport to appropriate destination. Limit on scene time to **less than 10 minutes** when possible.
  - Transport to the nearest appropriate treatment facility as defined in Napa County EMS Agency **Administrative Policy 501, Patient Destination**.
  - Decisions to use lights and sirens should be based on the immediate trauma/surgical needs of the patient.
  - Notification to the receiving facility should occur as early as possible.

KEY CONCEPTS

- If indicated, activate EMS aircraft early.
- Contact the base hospital for on-line medical control for all treatment outside of standing orders.
- EMS crews should not administer interventions that require on-going medical assessment if a patient is not being transported to a receiving facility. For example, giving IV narcotics to a patient who intends to refuse transport
- EMS personnel are not authorized to remove barbed electrodes from a stun gun or taser device. These patients should be transported to the closest appropriate medical facility for additional evaluation and treatment.

Traumatic Arrest

FIELD TREATMENT GUIDELINE T-02

INDICATION	• Patient presenting in respiratory/cardiac arrest that is suspected to be caused by trauma.

BLS	• Initiate CPR.
	• Follow **General Trauma Care T-01**.
	• If indicated, follow Napa County EMS Agency **Administrative Policy 115, Determination of Death**.
	• If indicated:
	  ◦ Perform necessary BLS Interventions:
	  ▪ Initiate use of automated external defibrillator (AED).
	  ▪ Control bleeding through the use of direct pressure, elevation, pressure dressings, and if necessary, **Major Hemorrhage Control T-03**.
	  ▪ **Spinal Motion Restriction BP-05**, and **Pelvic Binder BP-07**.

ALS	If indicated:
	• Perform necessary ALS Interventions:
	  ◦ **Endotracheal Intubation AP-01**.
	  ◦ **Needle Thoracostomy AP-05**.
	  ◦ Initiate intravenous therapy and/or **Intraosseous Infusion AP-08** and **Fluid Challenge AP-09** according to hemodynamic stability.
	• Treat rhythm according to appropriate cardiac arrest field treatment guideline.

KEY CONCEPTS	• The use of mechanical compression device is not indicated in traumatic arrest patients. • Patients in cardiac arrest secondary to a traumatic arrest should be prepared for early transport to appropriate destination. Limit on scene time to **less than 10 minutes** when possible. • Whenever possible, the only treatment that should be performed prior to initiating transport should be CPR, defibrillation, spinal motion restriction, BLS/ALS airway management, and needle thoracostomy. • Advanced Cardiac Life Support therapy should not be performed prior to transport. • In cases of 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.

Crush Syndrome

FIELD TREATMENT GUIDELINE T-04

INDICATION

- Significant extremity or torso entrapment (usually > 1 hour duration). Symptoms include pain, paresthesia, paralysis, pallor and pulselessness.

BLS

- Follow **General Trauma Care T-01**.

ALS

- Administer **Fluid Challenge AP-09**.
- **Sodium Bicarbonate**:
  - *Adult*: 1mEq/kg IV/IO, MAX total dose of 100mEq.
  - *Pediatric*: IV/IO; base order required for repeat dosing. Administer according to PediaTape weight calculation and **Pediatric Medication Reference Cards**.
- **Albuterol**:
  - *Adult*: 5 mg in 6 mL in NS. May repeat as clinically indicated.
  - *Pediatric*: Nebulized; repeat as clinically indicated. Administer according to PediaTape weight calculation and **Pediatric Medication Reference Cards**.
- Additional **Sodium Bicarbonate**:
  - Give just prior to release from entrapment
  - *Adult*: 1mEq/kg IV/IO, MAX total dose of 100mEq.
  - *Pediatric*: IV/IO; Administer according to PediaTape weight calculation and **Pediatric Medication Reference Cards**.
- **BASE HOSPITAL ORDERS**
  - **Calcium Chloride**:
    - *Adult*: 1 gm IV/IO, slow push.
    - *Pediatric*: **Not locally indicated.**

KEY CONCEPTS

- Sodium Bicarbonate and Calcium Chloride should not be administered concurrently. Use a separate IV line or flush IV line with saline between administrations.
- Continuous cardiac monitoring is critical. If signs of peaked T-Waves, widening of QRS or arrhythmia contact BASE for further direction.
- During transport, or at a time that will not prolong on scene time, **12-Lead ECG BP-03**.

Burns

FIELD TREATMENT GUIDELINE T-05

INDICATION	• Burns caused by heat, electrical, radiation, friction or chemicals.

BLS	• Follow **General Trauma Care T-01**.
	• Stop burning process:
	  ◦ Remove contact with agent, unless adhered to skin.
	  ◦ Flush with water to stop burning process or to decontaminate skin.
	• Remove restrictive clothing and jewelry that is not adhered to patient.
	• Protect the burned area with sterile dressings or sheets.
	  ◦ Burns <10% total body surface area may be kept wet with saline moistened dressings.
	  ◦ Burns >10% total body surface area should only use dry dressing to avoid hypothermia. Cover patient with sterile burn sheet and blanket to prevent loss of body heat.
	• Elevate burned body parts 30° if possible.

ALS	• All specific ALS treatment is identified in **General Trauma Care T-01**. • For suspected exposure to Cyanide or CO, **Smoke Inhalation / Carbon Monoxide Monitoring & Cyanide Toxicity M-10**.

KEY CONCEPTS	• Direct transport to a Burn Center is preferred for major burns. Burn injuries that should be referred to a burn center include:
	  ◦ Partial thickness burns greater than 10% total body surface area (TBSA).
	  ◦ Burns that involve the face, hands, feet, genitalia, perineum, or major joints.
	  ◦ Third degree burns in any age group.
	  ◦ Electrical burns, including lightning injury.
	  ◦ Chemical burns.
	  ◦ Inhalation injury.
	  ◦ Burn injury in patients with preexisting medical disorders that could complicate management, prolongs recovery, or affects mortality.
	  ◦ Any patient with burns and concomitant trauma (such as fractures) in which the burn injury poses the greatest risk of morbidity or morality. In such cases, the patient may be initially stabilized in a trauma center before being transferred to a burn unit. Base Hospital consultation will be necessary in such situations.
	• Use the “Rule of Nines” to estimate TBSA.

"RULE OF NINES"