TRAUMA - PEDIATRIC (Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Any pediatric trauma patient less than 15 years of age meeting trauma triage criteria requiring rapid transportation to the closest pediatric trauma center.

- Refer to ICEMA Reference #9040 - Trauma Triage Criteria and ICEMA Reference #9030 - Destination.
- Contact the receiving pediatric trauma center as soon as possible in order to activate the pediatric trauma team.
  - Inyo and Mono Counties contact the assigned base hospital for determination of appropriate destination.

NOTE: EMS field personnel are not authorized to evaluate patients with suspected concussion for the purpose of return to play clearance.

II. BLS INTERVENTIONS

- Ensure thorough initial assessment.
- Ensure patient airway, protecting cervical spine.
- Oxygen and/or ventilate as needed, O_2 saturation (if BLS equipped).
- Keep patient warm and reassure.
- For a traumatic full arrest, an AED may be utilized, if indicated.
- Transport to ALS intercept or to the closest receiving hospital.

A. <u>Manage Special Considerations</u>

- **Spinal Motion Restriction**: Using age appropriate assessments, if the patient meet(s) any of the following indicators using the acronym (NSAID):

  N-euro Deficit(s) present?
  S-pinal Tenderness present?
  A-ltered Mental Status?
  I-ntoxication?
  D-istracting Injury?

  - Consider maintaining spinal alignment on the gurney, or using spinal motion restriction on an awake, alert and cooperative patient, without the use of a rigid spine board.
  - Penetrating trauma without any NSAID indicators are not candidates for spinal immobilization using spine board.

- **Spinal Motion Restriction with use of a Rigid Spine Board**: If the use of a rigid, spine board is indicated, and the level of the patient's head is greater than that of the torso, use approved pediatric spine board with a head drop or arrange padding on the board so that the ears line up with the shoulders and keep the entire lower spine and pelvis in line with the cervical spine and parallel to the board.

- **Abdominal Trauma**: Cover eviscerated organs with saline dampened gauze. Do not attempt to replace organs into the abdominal cavity.

- **Amputations**: Control bleeding. Rinse amputated part gently with sterile irrigation saline to remove loose debris/gross contamination. Place amputated part in dry, sterile gauze and in a plastic bag surrounded by ice (if available). Prevent direct contact with ice. Document in the narrative who the amputated part was given to.

  - **Partial amputation**: Splint in anatomic position and elevate the extremity.

- **Chest Trauma**: If a wound is present, cover it with an occlusive dressing. If the patient's ventilations are being assisted, dress wound loosely, (do not seal). Continuously re-evaluate patient for the development of tension pneumothorax.

- **Flail Chest**: Stabilize chest, observe for tension pneumothorax. Consider assisted ventilations.

- **Fractures**: Immobilize above and below the injury. Apply splint to injury in position found except:

  - **Femur**: Apply traction splint if indicated.

  - **Grossly angulated long bone with distal neurovascular compromise**: Apply gentle unidirectional traction to improve circulation.

  - **Check and document distal pulse before and after positioning**.

- **Genital Injuries**: Cover genitalia with saline soaked gauze. If necessary, apply direct pressure to control bleeding. Treat amputations the same as extremity amputations.

- **Head and Neck Trauma**: Place brain injured patients in reverse Trendelenburg (elevate the head of the backboard 15 - 20 degrees), if the patient exhibits no signs of shock.

  - **Eye**: Whenever possible protect an injured eye with a rigid dressing, cup or eye shield. Do not attempt to replace a partially torn globe - stabilize it in place with sterile saline soaked gauze. Cover uninjured eye.

  - **Avulsed Tooth**: Collect teeth, place in moist, sterile saline gauze and place in a plastic bag.

- **Impaled Object**: Immobilize and leave in place. Remove object if it interferes with CPR, or if the object is impaled in the face, cheek or neck and is compromising ventilations.

- **Traumatic Arrest**: CPR if indicated. May utilize an AED if indicated.

- **Determination of Death on Scene**: Refer to ICEMA Reference #14250 - Determination of Death on Scene.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform identified BLS interventions and additional LALS interventions.

  - Unmanageable Airway: When an adequate airway cannot be maintained by a BVM device, transport to the closest most appropriate receiving hospital.

- IV Access (warm IV fluids when available).

  - *Unstable:* Vital signs (age appropriate) and/or signs of inadequate tissue perfusion, start 2nd IV access.

    Administer 20 ml/kg NS bolus IV.

  - *Stable*: Vital signs (age appropriate) and/or signs of adequate tissue perfusion.

    Saline lock only, do not administer IV fluids.

- Transport to appropriate hospital. Pediatric patients identified as CTP will be transported to a Pediatric Trauma Center when there is less than a 20 minute difference in transport time to the Pediatric Trauma Center versus the closes Trauma Center.

A. Manage Special Considerations

- Consider Push Dose Epi for persistent shock due to trauma where cardiac arrest is imminent, per ICEMA Reference #11010 - Medication - Standard Orders

- **Spinal Motion Restriction** : LALS personnel should remove LBB devices from patients placed in full spinal motion restriction precautions by first responders and BLS personnel if the patient does not meet any of the following indicators while considering age-appropriate assessments when using the acronym (NSAID):

  N-euro Deficit(s) present?
  S-pinal Tenderness present?
  A-ltered Mental Status?
  I-ntoxication?
  D-istracting Injury?

- **Impaled Object**: Remove object upon trauma base hospital physician order, if indicated.

B. **Determination of Death on Scene**: Refer to ICEMA Reference #14250 - Determination of Death on Scene.

- *Severe Blunt Force Trauma Arrest*: If indicated, transport to the closest receiving hospital.

- *Penetrating Trauma Arrest*: If indicated, transport to the closest receiving hospital.

- If the patient does not meet the "Obvious Death Criteria" in ICEMA Reference #14250 - Determination of Death on Scene, contact the Trauma base hospital for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.

- Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without trauma base hospital contact.

- **Precautions and Comments**:

  - Electrical injuries that result in cardiac arrest shall be treated as medical arrests.

  - Confirm low blood sugar in children and treat as indicated with altered level of consciousness.

  - Suspect child maltreatment when physical findings are inconsistent with the history. Remember reporting requirements for suspected child maltreatment.

  - Unsafe scene may warrant transport despite low potential for survival.

IV. ALS INTERVENTIONS

- Perform identified BLS and LALS interventions and the additional ALS interventions.

- Establish advanced airway as indicated per ICEMA Reference #11020 -Procedure - Standard Orders.

  - Unmanageable Airway: If an adequate airway cannot be maintained with a BVM device; **and** the paramedic is unable to intubate, insert SGA or perform a successful needle cricothyrotomy (if indicated), **then** transport to the closest receiving hospital and follow ICEMA Reference #9010 - Continuation of Care.

- Establish IV/IO Access (warm IV fluids when available).

  - *Unstable:* Vital signs (age appropriate) and/or signs of inadequate tissue perfusion, start 2nd IV access.

    Administer 20 ml/kg NS bolus IV.

  - *Stable*: Vital signs (age appropriate) and/or signs of adequate tissue perfusion.

    Saline lock only, do not administer IV fluids.

- Monitor ECG.

- Insert nasogastric/orogastric tube as indicated.

A. **Manage Special Considerations**

- As a temporary method for chest decompression, in the management of suspected tension pneumothorax, perform needle thoracostomy.
    - ***Clinical Indications:***
        - *Patients with hypotension (SBP less than 90), clinical signs of shock, and at least one of the following signs:*
            - *Jugular vein distention.*
            - *Tracheal deviation away from the side of the injury (often a late sign).*
            - *Absent or decreased breath sounds on the affected side.*
            - *Increased resistance when ventilating a patient*
- The midaxillary line at the 5th intercostal space is the preferred site.
- Consider bilateral needle thoracostomy if no improvement or in traumatic cardiac arrest.
- **Fractures**
    - **Pain Relief**:
        - Fentanyl per ICEMA Reference #11010 - Medication - Standard Orders.
        - For patients four (4) years old and older, consider Ondansetron per ICEMA Reference #11010 - Medication - Standard Orders.
- **Pain Relief for Acute Traumatic Injuries**:
    - Administer an appropriate analgesic per ICEMA Reference #14100 - Pain Management. Document vital signs and pain scales every five (5) minutes until arrival at destination.
    - Consider Ondansetron per ICEMA Reference #11010 - Medication - Standard Orders
- **Impaled Object**: Remove object upon Trauma base hospital physician order, if indicated.

B. **Determination of Death on Scene**: Refer to ICEMA Reference #14250 - Determination of Death on Scene.

- *Severe Blunt Force Trauma Arrest*: If indicated, transport to the closest receiving hospital.
- *Penetrating Trauma Arrest*: If indicated, transport to the closest receiving hospital.
- If the patient does not meet the “Obvious Death Criteria” in ICEMA Reference #14250 - Determination of Death on Scene, contact the Trauma base hospital for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma with documented asystole in at least

two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.

- Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without Trauma base hospital contact.

V. REFERENCES

Number	Name
9010	Continuation of Care
9030	Destination
9040	Trauma Triage Criteria
11010	Medication - Standard Orders
11020	Procedure - Standard Orders
14150	Cardiac Arrest - Pediatric (Less than 15 years of age)
14250	Determination of Death on Scene
14100	Pain Management