Inland Counties Emergency Medical Agency

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Serving San Bernardino, Inyo, and Mono Counties
Tom Lynch, EMS Administrator
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DATE: July 1, 2020

TO: EMS Providers - ALS, LALS, BLS, EMS Aircraft
Hospital CEOs, ED Directors, Nurse Managers and PLNs
EMS Training Institutions and Continuing Education Providers
Inyo, Mono and San Bernardino County EMCC Members
Medical Advisory Committee (MAC) Members
Systems Advisory Committee (SAC) Members

FROM: Tom Lynch, EMS Administrator; Reza Vaezazizi, MD, Medical Director

SUBJECT: **IMPLEMENTATION OF POLICIES/PROTOCOLS EFFECTIVE JULY 1, 2020**

The policies/protocols listed below are effective July 1, 2020.

ICEMA Reference Number and Name

9040R1	Trauma Triage Criteria
11020R1	Procedure - Standard Orders
12010R1	Patient Care Guidelines
14020R1	Airway Obstruction - Adult
14060R1	Altered Level of Consciousness/Seizures - Adult
14090R1	Trauma - Adult (15 years of age and older)
14160R1	Altered Level of Consciousness - Pediatric (Less than 15 years of age)
14170R1	Seizure - Pediatric (Less than 15 years of age)
14180R1	Trauma - Pediatric (Less than 15 years of age)

The enclosed policies/protocols include changes to remove redundancies, make consistent, and change axial spinal immobilization to spinal motion restriction. ICEMA Reference #14090 Trauma - Adult and ICEMA Reference #14180 Trauma - Pediatric have also been updated to reflect best practice in fluid hydration of hemorrhagic shock.

Please insert and replace the enclosed policies/protocols and the Table of Contents in the Policy and Protocol Manual with the updated documents. The ICEMA policies and protocols can also be found on ICEMA's website at www.ICEMA.net under the Policy and Protocol Manual (2020) section.

If you have any questions, please contact Loreen Gutierrez, RN, Specialty Care Coordinator, at (909) 388-5803 or via e-mail at loreen.gutierrez@cao.sbcounty.gov.

TL/RV/jlm

Enclosures

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POLICIES/PROTOCOLS CHANGES EFFECTIVE JULY 1, 2020

Reference #	Name	Changes
DELETIONS		
None		
NEW		
None		
CHANGES		
9040R1	Trauma Triage Criteria	Updated to remove redundancies and make consistent.
11020R1	Procedure - Standard Orders	Change axial spinal immobilization to spinal motion restriction.
12010R1	Patient Care Guidelines	Change axial spinal immobilization to spinal motion restriction.
14020R1	Airway Obstruction - Adult	Change axial spinal immobilization to spinal motion restriction.
14060R1	Altered Level of Consciousness/Seizures - Adult	Change axial spinal immobilization to spinal motion restriction.
14090R1	Trauma - Adult (15 years of age and older)	Updated to remove redundancies, make consistent, and update fluid hydration for hemorrhagic shock. Change axial spinal immobilization to spinal motion restriction.
14160R1	Altered Level of Consciousness - Pediatric (Less than 15 years of age)	Change axial spinal immobilization to spinal motion restriction.
14170R1	Seizure - Pediatric (Less than 15 years of age)	Change axial spinal immobilization to spinal motion restriction.
14180R1	Trauma - Pediatric (Less than 15 years of age)	Updated to remove redundancies, make consistent, and update fluid hydration for hemorrhagic shock. Change axial spinal immobilization to spinal motion restriction.

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TRAUMA TRIAGE CRITERIA

I. PURPOSE

To establish Trauma Triage Criteria that is consistent with the American College of Surgeons standards that will help identify trauma patients in the field, and based upon their injuries, direct their transport to an appropriate Trauma Center.

II. POLICY

A. Trauma Triage Criteria

Measure vitals and Level of Consciousness (LOC).

A patient shall be transported to the closest Trauma Center if any one (1) physiologic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

1. Physiologic Indicators:

- **Glasgow Coma Scale (GCS)/**
  - Adult and Pediatric
    - GCS less than or equal to 13
- **Respiratory**
  - Adult and Pediatric
    - RR less than 10 or more than 29
    - (RR less than 20 for infant less than 1 year old) or need for ventilatory support
- **Hypotension**
  - Adult
    - BP less than 90 mm Hg
    - tachycardia
  - Pediatric
    - exhibits inadequate tissue perfusion
    - abnormal vital signs (according to age)

2. Anatomic Indicators:

- **Penetrating injuries to head, neck, torso and extremities proximal to the knee or elbow**
- **Blunt chest trauma resulting in chest wall instability or deformity (e.g., flail chest or ecchymosis)**
- **Two (2) or more proximal long bone fractures (femur, humerus)**

- **Crushed, degloved, mangled or pulseless extremity**
- **Amputation proximal to the wrist or ankle**
- **Pelvic fractures**
- **Open or depressed skull fracture**
- **Paralysis**

A patient shall be transported to the closest Trauma Center if any one (1) anatomic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

If physiologic or anatomic criteria is not met, assess mechanism of injury and evidence of high-energy impact.

3. Mechanism of Injury:

- **Falls**
  - Adults: more than 20 feet (one story is equal to 10 feet)
  - Pediatric: more than 10 feet or two (2) to three (3) times the child's height
- **High-risk auto crash**
  - Intrusion, including roof: more than 12 inches occupant site
  - Ejection (partial or complete) from automobile
  - Death in the same passenger compartment
  - Vehicle telemetry data consistent with a high-risk injury
- **Auto versus pedestrian/bicyclist thrown, run over, or with significant (more than 20 mph) impact**
- **Motorcycle crash more than 20 mph**

If a patient has one or more of the following mechanisms of injury **with** any of the above physiologic or anatomic criteria transport to the closest TC.

If there are no associated physiologic or anatomic criteria meets one or more of the following mechanisms of injury, contact a Trauma base hospital for physician consultation to determine the patient destination. In some cases, a Trauma base hospital may direct a patient a non-trauma receiving hospital.

4. Age and Co-Morbid Factors:

Assess special patient or system considerations.

If the patient does not meet any of the above criteria, make Trauma base hospital contact to determine if a Trauma Center should be the destination for the following patients:

- **Older adults more than 65 years of age**
  - Risk of Injury/death increases after age 65.
  - Patient on anticoagulants and or bleeding disorders.
  - SBP less than 110 might represent shock after age 65.
  - Low impact mechanism (e.g., ground level falls might result in severe injury.
- **Children**
  - Should be triaged preferentially to pediatric capable Trauma Centers.
  - Pediatric patients 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 closest Trauma Center.
- **Burns**
  - Without other trauma mechanism triage to closest receiving hospital or burn center.
  - With trauma mechanism, triage to Trauma Center. Make Trauma base hospital contact.
- **Pregnancy more than 20 weeks**
- **EMS Provider Judgement**

B. <u>Radio Contact</u>

- If not contacted at scene, the receiving Trauma base hospital must be notified as soon as possible in order to activate the trauma team.
- If the closest receiving Trauma Center is located outside the ICEMA region, and no orders or consult is needed, contact the Trauma Center that will be receiving the patient directly.
- Contact Trauma base hospital if a patients meets Trauma Triage Criteria but is refusing transport to a Trauma Center.
- In Inyo and Mono Counties, the assigned base hospital should be contacted for consultation and destination.

C. Hospital Trauma Diversion Status

Refer to ICEMA Reference #8050 - Request for Ambulance Redirection and Hospital Diversion (San Bernardino County Only).

D. Multiple Casualty Incident (MCI)

Refer to ICEMA Reference #8080 - Medical Response to a Multiple Casualty Incident.

III. REFERENCES

Number	Name
8050	Request for Ambulance Redirection and Hospital Diversion (San Bernardino County Only)
8080	Medical Response to a Multiple Casualty Incident
9010	Continuation of Care (San Bernardino County Only)
14250	Determination of Death on Scene

12-lead Electrocardiography (EMT-P)

- ECG should be performed prior to medication administration.
- ECG should be performed on any patient whose medical history and/or presenting symptoms are consistent with acute coronary syndrome including typical or atypical chest pain, syncopal episode, prior AMI, heart disease, or other associated risk factors.

Capnography (EMT-P)

- Utilize capnography in patients with respiratory distress, respiratory failure, cardiac arrest, and critically ill patients
- Perform capnography prior to pain medication administration.
- Perform capnography after administration of Midazolam for behavioral emergencies.
- Monitor waveform, numerical value and document in ePCR.

Continuous Positive Airway Pressure Device (CPAP) - Adult (EMT-P)

- Start at lowest setting and increase slowly until patient experiences relief or until a maximum of 15 cm H_2O is reached.

External Jugular Vein Access (AEMT and EMT-P)

- Not indicated for patients eight (8) years of age and younger.
- Patient condition requires IV access and other peripheral venous access attempts are unsuccessful.

Blood Glucose Check (EMT, AEMT, and EMT-P)

- Should be assessed if the patient meets key indicators consistent with high or low blood sugar.

Intraosseous Insertion (AEMT pediatric patients only and EMT-P)

- EMT-Ps may administer Lidocaine slowly per ICEMA Reference #7040 - Medication - Standard Orders, to control infusion pain.
- Approved insertion sites:
  - Eight (8) years of age or younger (LALS and ALS):
    - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.

- Nine (9) years of age and older (ALS only):
  - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.
  - Distal Tibia - Lower end of tibia, 2 cm above the medial malleolus.
  - Humeral Head (EZ IO only).
  - Anterior distal femur, 2 cm above the patella - Base hospital contact only.

- Leave site visible and monitor for extravasation.

King Airway Device (Perilaryngeal) - Adult (AEMT and EMT-P)

- Use of King Airway device may be performed only on those patients who meet **all** of the following criteria:
  - Unresponsive, agonal respirations (less than six (6) breaths per minute) or apneic.
  - Patients 15 years or older.
  - Patients over four (4) feet in height.
- Additional considerations:
  - Medications may **not** be given via the King Airway device.
  - King Airway device should not be removed unless it becomes ineffective.

Nasogastric/Orogastric Tube (EMT-P)

- Use a water soluble lubricating jelly.
- Required for all full arrest patients.

Needle Cricothyrotomy (EMT-P)

- Absolute contraindication: Transection of the distal trachea.
- Monitor end-tidal CO_2 and wave form capnography.
- Monitor pulse oximetry.
- Contact base hospital if unable to ventilate adequately and transport immediately to the closest hospital for airway management.

Needle Thoracostomy (EMT-P)

- In blunt chest trauma consider bilateral tension pneumothorax if pulse oximetry (SpO_2) reading remains low with a patent airway or with poor respiratory compliance.

Oral Endotracheal Intubation - Adult (EMT-P)

- Oral endotracheal intubation is permitted only in patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heal of the foot.
- Monitor end-tidal CO_2 and wave form capnography.
- Monitor pulse oximetry.
- If unable to place ET after a maximum of three (3) intubation attempts (defined as placement of the laryngoscope in the mouth). If unsuccessful, continue with BLS airway management and transport to the nearest receiving hospital.
- Document verification of tube placement (auscultation, visualization, capnography).

Spinal Motion Restriction (EMT, AEMT and EMT-P)

- Should be placed if patient meets the indicators, per ICEMA Reference #15010 - Trauma - Adult (Neuro Deficits present, Spinal Tenderness present, Altered Mental status, Intoxication, or Distracting Injury).
- An AEMT and/or EMT-P may remove if placed by BLS crew and it does not meet indicators.

Synchronized Cardioversion (EMT-P)

- For anxiety prior to cardioversion, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.
- If rhythm deteriorates to v-fib, turn off the sync button and defibrillate.
- Select initial energy level setting at 100 joules or a clinically equivalent biphasic energy level per manufacture guidelines. Procedure may be repeated at 200, 300 and 360 joules or a clinically equivalent biphasic energy level per manufacture guidelines.
- With base hospital order, repeated cardioversion attempts at 360 joules or clinically equivalent biphasic energy level per manufacturer's guidelines may be attempted.

Transcutaneous Cardiac Pacing (EMT-P)

- Start at a rate of 60 and adjust output to the lowest setting to maintain capture. Assess peripheral pulses and confirm correlation with paced rhythm.
- Reassess peripheral pulses. Adjust output to compensate for loss of capture.
- Increase rate **(not to exceed 100)** to maintain adequate tissue perfusion.
- For anxiety, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.

- Contact the base hospital if rhythm persists or for continued signs of inadequate tissue perfusion.

Vagal Maneuvers (EMT-P)

- Relative contraindications for patients with hypertension, suspected STEMI, or suspected head/brain injury.
- Reassess cardiac and hemodynamic status. Document rhythm before, during and after procedure.
- If rhythm does not covert within ten (10) seconds, follow ICEMA Reference #11050 - Tachycardias - Adult.

PATIENT CARE GUIDELINES

I. PURPOSE

To establish guidelines for the minimum standard of care and transport of patients.

II. BLS INTERVENTIONS

- Obtain a thorough assessment of the following:
  - Airway, breathing and circulatory status.
  - Subjective assessment of the patient's physical condition and environment.
  - Objective assessment of the patient's physical condition and environment.
  - Vital signs (blood pressure, pulse, respiration, GCS, skin signs, etc.).
  - Prior medical history and current medications.
  - Any known medication allergies or adverse reactions to medications, food or environmental agents.
- Initiate care using the following tools as clinically indicated or available:
  - Spinal motion restriction.
  - Airway control with appropriate BLS airway adjunct.
  - Oxygen as clinically indicated.
  - Assist the patient into a physical position that achieves the best medical benefit and maximum comfort.
  - Automated External Defibrillator (AED).
  - Administer Naloxone by intranasal and/or intramuscular routes.
  - Blood glucose monitoring.
  - Consider the benefits of early transport and/or intercept with ALS personnel if clinically indicated.
- Assemble necessary equipment for ALS procedures or treatment under direction of EMT-P.
  - Cardiac monitoring.
  - IV/IO.
  - Endotracheal intubation.
- Under EMT-P supervision, assemble pre-load medications as directed (excluding controlled substances).

III. LIMITED ALS (LALS) INTERVENTIONS

- Evaluation and continuation of all initiated BLS care.
- Augment BLS assessment with an advanced assessment including, but not limited to the following:
  - Qualitative lung assessment.
  - Blood glucose monitoring.
- Augment BLS treatment measures with LALS treatments as indicated by LALS protocols.
- Initiate airway control as needed with the appropriate LALS adjunct.
- Initiate vascular access as clinically indicated.

IV. ALS INTERVENTIONS

- Evaluation and continuation of all initiated BLS and/or LALS care when indicated by patient's condition.
- Augment BLS and/or LALS assessment with clinically indicated advanced assessments including but not limited to the following:
  - Cardiac monitor and/or 12-lead ECG.
  - Capnography.
  - Blood glucose monitoring.
- Augment BLS and/or LALS treatment with advanced treatments as clinically indicated.
  - Initiate airway control using an appropriate airway adjunct to achieve adequate oxygenation and ventilation.
  - Initiate airway control only when clinically indicated for the appropriate administration of medications and/or fluids.
- Review and evaluate treatments initiated by BLS, LALS, or ALS personnel.
  - Consider discontinuing treatments not warranted by patient's clinical condition. Intermittent monitoring may be used instead of continuous monitoring when clinically indicated.

AIRWAY OBSTRUCTION - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Universal sign of distress.
- Alteration in respiratory effort and/or signs of obstruction.
- Altered level of consciousness.

II. BLS INTERVENTION

RESPONSIVE

- Assess for ability to speak or cough (e.g., “Are you choking?”).
- If unable to speak, administer abdominal thrusts (if the rescuer is unable to encircle the victim’s abdomen or the patient is in the late stages of pregnancy, utilize chest thrusts) until the obstruction is relieved or patient becomes unconscious.
- After obstruction is relieved, reassess and maintain ABC’s.
- Administer oxygen therapy; obtain oxygen saturation.
- If responsive, place in position of comfort. If uninjured but unresponsive with adequate respirations and pulse, place on side in recovery position.

UNRESPONSIVE

- Position patient supine (for suspected trauma, maintain in-line spinal motion restriction).
- Begin immediate CPR at a 30:2 ratio for two (2) minutes.
- Each time the airway is opened to ventilate, look for an object in the victim’s mouth and if found, remove it.
- If apneic and able to ventilate, provide one (1) breath every five (5) to six (6) seconds.
- Place AED on patient.

III. LIMITED ALS (LALS) INTERVENTION

UNRESPONSIVE

- If apneic and able to ventilate, establish advanced airway.
- Establish vascular access as indicated.

IV. ALS INTERVENTION

UNRESPONSIVE

- If apneic and able to ventilate, establish advanced airway.
- If obstruction persists, visualize with laryngoscope and remove visible foreign body with Magill forceps and attempt to ventilate.
- If obstruction persists and unable to ventilate, consider Needle Cricothyrotomy, refer ICEMA Reference #11020 - Procedure - Standard Orders.

V. REFERENCE

Number	Name
11020	Procedure - Standard Orders

ALTERED LEVEL OF CONSCIOUSNESS/SEIZURES - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Patient exhibiting signs/symptoms of a possible altered level of consciousness characterized by a Glasgow Coma Score of less than 15 or less than patients normal baseline.
- Suspected narcotic dependence, opiate overdose, hypoglycemia, traumatic injury, shock, toxicologic, alcoholism and assess possible cardiac causes.
- Tonic/clonic movements followed by a brief period of unconsciousness (post-ictal).
- Suspect status epilepticus for frequent or extended seizures.
- Consider carbon monoxide (CO) poisoning with any patient exposed to products of combustion.

II. BLS INTERVENTIONS

- Oxygen therapy as clinically indicated. If CO poisoning suspected, administer 100% oxygen via non-rebreather mask per ICEMA Reference #13050 - Smoke Inhalation/CO Exposure/Suspected Cyanide Toxicity.
- Position patient as tolerated. If altered gag reflex in absence of traumatic injury, place in left lateral position.
- Place patient in spinal motion restriction per ICEMA Reference #14090 - Trauma - Adult (15 years of age and older).

  Obtain and assess blood glucose level. If indicated, administer Glucose - Oral per ICEMA Reference #11010 Medication - Standard Orders.
- If suspected opiate overdose with severely decreased respiratory drive administer Naloxone per ICEMA Reference #11010 - Medication - Standard Orders.
- Assess patient for medication related reduced respiratory rate or hypotension.
- Assess and document response to therapy.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Obtain vascular access.
- Obtain and assess blood glucose level. If indicated administer:
  - Dextrose per ICEMA Reference #11010 - Medication - Standard Orders, **or**
  - If unable to establish IV, Glucagon may be given one (1) time per ICEMA Reference #11010 - Medication - Standard Orders.

- If indicated may repeat blood glucose level. Repeat Dextrose per ICEMA Reference #11010 - Medication - Standard Orders.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Place on cardiac monitor and obtain a 12-lead ECG.
- For tonic/clonic type seizure activity, administer:
  - Midazolam per ICEMA Reference #11010 - Medication - Standard Orders.
  - Assess patient for medication related reduced respiratory rate or hypotension.
- For suspected opiate overdose with severely decreased respiratory drive, administer Naloxone per ICEMA Reference #11010 - Medication - Standard Orders.
- Assess and document response to therapy.

V. REFERENCES

Number	Name
11010	Medication - Standard Orders
13050	Smoke Inhalation/CO exposure/Suspected Cyanide Toxicity
14090	Trauma - Adult (15 years of age and older)

TRAUMA - ADULT (15 years of age and older)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Any trauma patient meeting Trauma Triage Criteria requiring rapid transportation to the closest Trauma Center.
- Refer to ICEMA Reference #9040 - Trauma Triage Criteria and ICEMA Reference #9030 - Destination.
- Contact the Trauma Center as soon as possible in order to activate the trauma team.
  - ➢ If the closest Trauma Center is outside ICEMA region, and no base orders or consult is needed, EMS field personnel may contact the hospital they will be transporting the patient to.
  - ➢ In Inyo and Mono Counties, the assigned base hospital shall be contacted for determination of appropriate destination.

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

II. BLS INTERVENTIONS

- Ensure thorough initial assessment.
- Ensure patent airway, protecting cervical spine.
- Obtain oxygen saturation (if BLS equipped).
- Administer oxygen and/or ventilate as needed.
- Keep patient warm.
- For a traumatic full arrest, provide CPR, utilize the AED if indicated and transport to the closest most appropriate hospital.
- Transport to ALS intercept or to the closest receiving hospital.

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

- **Spinal Motion Restriction**: 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 motion restriction.

NOTE: The long backboard (LBB) is an extrication tool, whose purpose is to facilitate the transfer of a patient to a transport stretcher and is not intended, or appropriate for achieving spinal motion restriction. Judicious application of the LBB for purposes other than extrication necessitates that EMS field personnel ensure the benefits outweigh the risks. If a LBB is applied for any reason, patients should be removed as soon as it is safe and practical. LBB does not need to be reapplied on interfacility transfer (IFT) patients.

- **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.

- **Bleeding**:

  - Apply direct pressure and/or pressure dressing.

  - When direct pressure or pressure dressing fails, control life threatening bleeding of a severely injured extremity with the application of a tourniquet.

- **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 reevaluate 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.
- **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.
- Advanced airway (as indicated).
  - Unmanageable Airway: Transport to the closest most appropriate receiving hospital when the patient requires advanced airway and an adequate airway cannot be maintained with a BVM device.
- Establish IV access.
  - *Unstable*: If BP less than 90 mm Hg and/or signs of inadequate perfusion, start 2nd IV access.
  - *Stable*: Maintain IV if BP more than 90 mm Hg and/or signs of adequate tissue perfusion.

Blunt Trauma:

- *Unstable*: Establish IV NS administer 250 ml bolus. May repeat one (1) time to a maximum of 500 ml.
- *Stable*: Saline lock only, do not administer IV fluids.

Penetrating Trauma:

- Saline lock only, do not administer IV fluids.

Isolated Closed Head Injury:

- *Unstable:* Establish IV NS, administer 250 ml bolus. May repeat one (1) time to a maximum of 500 ml.
- *Stable*: Saline lock only, do not administer IV fluids.

- Transport to appropriate hospital.

A. **Manage Special Considerations**

- **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 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" per 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.

  - Consider cardiac etiology in older patients in cardiac arrest with low probability of mechanism of injury.

  - If the patient is not responsive to trauma-oriented resuscitation, consider medical etiology and treat accordingly.

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

IV. ALS INTERVENTIONS

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

- Advanced Airway (as indicated):

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

- Monitor ECG.

- Tranexamic Acid (TXA) administration for blunt or penetrating traumas:

  - Must be within three (3) hours of injury and must have either:

    - Signs and symptoms of hemorrhagic shock with SBP less than 99 mm Hg.
    - Significant hemorrhage with heart rate greater than or equal to 120.
    - Pediatric administration is not indicated.

  - **Blunt Trauma**:

    - For signs of hemorrhagic shock meeting inclusion criteria above, administer TXA per ICEMA Reference #11010 - Medication - Standard Orders.

  - **Penetrating Trauma**:

    - For signs of hemorrhagic shock meeting inclusion criteria above, administer TXA per ICEMA Reference #11010 - Medication - Standard Orders.

- Transport to appropriate Trauma Center.

- Insert nasogastric/orogastric tube as indicated.

A. **Manage Special Considerations**

- **Chest Trauma**: Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.

  - **Pain Relief for Acute Traumatic Injuries**:
    - Administer an appropriate analgesic per ICEMA Reference #14100 - Pain Management - Adult. Document vital signs and pain scales every five (5) minutes until arrival at destination
    - Consider Ondansetron per ICEMA Reference #11010 - Medication - Standard Orders.

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

- *Severe Blunt Force Trauma Arrest*: If indicated, pronounce on scene.

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

- If the patient does not meet the "Obvious Death Criteria" per 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.

V. REFERENCES

Number	Name
9010	Continuation of Care (San Bernardino County Only)
9030	Destination
9040	Trauma Triage Criteria
11010	Medication - Standard Orders
14050	Cardiac Arrest - Adult
14100	Pain Management - Adult
14250	Determination of Death on Scene

ALTERED LEVEL OF CONSCIOUSNESS - PEDIATRIC (Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Patient exhibits inappropriate behavior for age.
- History or observation of an Apparent Life Threatening Event (ALTE).

II. BLS INTERVENTIONS

- Assess environment and determine possible causes for illness.
- Spinal motion restriction, if clinically indicated.
- Oxygen therapy, if clinically indicated.
- Airway management, as indicated (OPA/NPA, BVM ventilation).
- Obtain and assess blood glucose level. If indicated, administer Glucose - Oral per ICEMA Reference #11010 - Medication - Standard Orders.
- If suspected narcotic overdose with severely decreased respiratory drive, administer Naloxone per ICEMA Reference #11010 - Medication - Standard Orders.
- Obtain patient temperature. Begin cooling measures if temperature is elevated or warming measures if temperature is decreased.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Obtain vascular access.
- For symptomatic hypotension with poor perfusion, consider fluid bolus of 20 ml/kg of NS not to exceed 300 ml NS.
- Obtain and assess blood glucose level. If indicated administer:
  - Dextrose per ICEMA Reference #11010 - Medication - Standard Orders.
  - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #11010 - Medication - Standard Orders if indicated.
  - If unable to establish an IV, consider Glucagon per ICEMA Reference #11010 - Medication - Standard Orders.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Establish advanced airway as indicated per ICEMA Reference #11020 - Procedure - Standard Orders.

- Place on cardiac monitor.
- Base hospital physician may order additional medication dosages and additional fluid boluses.

V. REFERENCES

Number	Name
11010	Medication - Standard Orders
11020	Procedure - Standard Orders

SEIZURE - PEDIATRIC (Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Tonic/clonic movements followed by a brief period of unconsciousness (postictal).
- Suspect status epilepticus for frequent or extended seizures.
- History of prior seizures, narcotic dependence or diabetes.
- Febrile seizures (patients under four (4) years of age).
- Traumatic injury.

II. BLS INTERVENTIONS

- Protect patient from further injury; spinal motion restriction if indicated.
- Assure and maintain airway patency after cessation of seizure, with oxygen therapy as indicated.
- Airway management as indicated (OPA/NPA, BVM ventilation).
- Obtain and assess blood glucose level. If indicated administer Glucose - Oral per ICEMA Reference #11010 Medication - Standard Orders.
- Position patient in left lateral position in absence of traumatic injury; watch for absent gag reflex.
- Remove excess clothing and begin cooling measures if patient is febrile.
- Protect patient during transport by padding appropriately.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Obtain vascular access.
- Obtain blood glucose level, if indicated administer:
  - Dextrose per ICEMA Reference #11010 - Medication - Standard Orders.
  - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #11010 - Medication - Standard Orders if indicated.
  - Glucagon per ICEMA Reference #11010 - Medication - Standard Orders, if unable to start an IV.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Establish advanced airway as clinically indicated per ICEMA Reference #11020 - Procedure - Standard Orders for patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot.
- Place on cardiac monitor if indicated.
- For tonic/clonic type seizure activity administer:
  - Midazolam per ICEMA Reference #11010 - Medication - Standard Orders.
  - Assess and document response to therapy.
  - Base hospital may order additional medication dosages or a fluid bolus.

V. REFERENCES

Number	Name
11010	Medication - Standard Orders
11020	Procedure - Standard Orders

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.

- **Blunt 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

- **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?

- **Fractures**

  - **Isolated Extremity Trauma**: Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured, e.g., dislocated shoulder, hip fracture or dislocation.

  - Administer IV NS 250 ml bolus one (1) time.

- **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 or perform a successful needle cricothyrotomy (if indicated), **then** transport to the closest receiving hospital and follow ICEMA Reference #9010 - Continuation of Care (San Bernardino Only).
- Monitor ECG.
- Insert nasogastric/orogastric tube as indicated

A. **Manage Special Considerations**

- **Blunt Chest Trauma**: Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.

- **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.
- **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 (San Bernardino County Only)
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

TRAUMA TRIAGE CRITERIA

I. PURPOSE

To establish Trauma Triage Criteria that is consistent with the American College of Surgeons standards that will help identify trauma patients in the field, and based upon their injuries, direct their transport to an appropriate Trauma Center ~~(TC)~~.

II. POLICY

A. Trauma Triage Criteria

Measure vitals and Level of Consciousness (LOC).

A patient shall be transported to the closest Trauma Center ~~(TC)~~ if any one (1) physiologic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

1. Physiologic Indicators:

- **Glasgow Coma Scale (GCS)/**
  - Adult and Pediatric
    - GCS less than or equal to 13
- **Respiratory**
  - Adult and Pediatric
    - RR less than 10 or more than 29
    - (RR less than 20 for infant less than 1 year old) or need for ventilatory support
- **Hypotension**
  - Adult
    - BP less than 90 mm Hg
    - tachycardia
  - Pediatric
    - exhibits inadequate tissue perfusion
    - abnormal vital signs (according to age)

2. Anatomic Indicators:

- **Penetrating injuries to head, neck, torso and extremities proximal to the knee or elbow**
- **Blunt chest trauma resulting in chest wall instability or deformity (e.g., flail chest or ecchymosis)**
- **Two (2) or more proximal long bone fractures (femur, humerus)**
- **Crushed, degloved, mangled or pulseless extremity**

- **Amputation proximal to the wrist or ankle**
- **Pelvic fractures**
- **Open or depressed skull fracture**
- **Paralysis**

A patient shall be transported to the closest ~~TC~~ Trauma Center if any one (1) anatomic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

If physiologic or anatomic criteria is not met, assess mechanism of injury and evidence of high-energy impact.

3. Mechanism of Injury:

- **Falls**
  - Adults: more than 20 feet (one story is equal to 10 feet)
  - Pediatric: more than 10 feet or two (2) to three (3) times the child's height
- **High-risk auto crash**
  - Intrusion, including roof: more than 12 inches occupant site
  - Ejection (partial or complete) from automobile
  - Death in the same passenger compartment
  - Vehicle telemetry data consistent with a high-risk injury
- **Auto versus pedestrian/bicyclist thrown, run over, or with significant (more than 20 mph) impact**
- **Motorcycle crash more than 20 mph**

If a patient has one or more of the following mechanisms of injury **with** any of the above physiologic or anatomic criteria transport to the closest TC.

If there are no associated physiologic or anatomic criteria meets one or more of the following mechanisms of injury, contact a Trauma base hospital for physician consultation to determine the patient destination. In some cases, a Trauma base hospital may direct a patient a non-trauma receiving hospital.

4. Age and Co-Morbid Factors:

Assess special patient or system considerations.

If the patient does not meet any of the above criteria, make Trauma base hospital contact to determine if a Trauma Center ~~TC~~ should be the destination for the following patients:

- **Older adults more than 65 years of age**
  - Risk of Injury/death increases after age 65.
  - Patient on anticoagulants and or bleeding disorders.
  - SBP less than 110 might represent shock after age 65.
  - Low impact mechanism (e.g., ground level falls might result in severe injury.
- **Children**
  - Should be triaged preferentially to pediatric capable Ttrauma Ccenters.
  - Pediatric patients 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 closest TC.
- ~~**Anti-coagulants and bleeding disorders**~~
  - ~~Patients are at high risk for rapid deterioration~~
- **Burns**
  - Without other trauma mechanism triage to closest receiving hospital or burn center.
  - With trauma mechanism, triage to Trauma Center~~TC~~. Make Trauma base hospital contact.
- **Pregnancy more than 20 weeks**
- **EMS Provider Judgement**

~~**B. Exceptions**~~

~~The patient meets Trauma Triage Criteria, but presents with the following:~~

~~**Unmanageable Airway**:~~

~~If an adequate airway cannot be maintained with a BVM device and the paramedic (EMT-P) is unable to indicate or if indicated, perform a successful needle cricothyrotomy:~~
~~Transport to the closest receiving hospital. RSI should be performed in a hospital setting and not on scene~~
~~Refer to ICEMA Reference #9010 - Continuation of Care (San Bernardino County Only) for rapid transport to the nearest TC~~

~~**Severe Blunt Force Trauma Arrest**:~~

~~Refer to ICEMA Reference #14250 - Determination of Death on Scene.~~
~~Severe blunt force trauma, pulseless, without signs of life and cardiac electrical activity less than 40 bpm)~~

~~If indicated, pronounce on scene~~

~~If patient does not meet determination of death criteria, transport to closest receiving hospital.~~

- ~~**Penetrating Trauma Arrest:**~~
  - ~~Refer to ICEMA Reference #14250 - Determination of Death on Scene.~~
    - ~~If the patient does not meet the *"Obvious Death Criteria"* in the 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.~~
  - ~~If indicated, transport to the closest receiving hospital.~~
- ~~**Burn Patients**:~~
  - ~~Burn patients meeting Trauma Triage Criteria, **transport to the closest TC.**~~
  - ~~Burn patients not meeting Trauma Triage Criteria, **transport to the closest receiving hospital or a Burn Center.**~~

~~**C. Considerations**~~

- ~~Scene time should be limited to 10 minutes under normal circumstances.~~

B~~D~~. Radio Contact

- If not contacted at scene, the receiving Trauma base hospital ~~TC~~ must be notified as soon as possible in order to activate the trauma team.
- If the closest receiving Trauma Center is located outside the ICEMA region, and no orders or consult is needed, contact the Trauma Center that will be receiving the patient directly.
- Contact Trauma base hospital if a ~~P~~patients meets~~ing~~ ~~all~~ Trauma Triage Criteria ~~(physiologic, anatomic, mechanism of injury, and/or age and co-morbid factors~~) but is refusing transport to a Trauma Center~~, a Trauma base hospital shall be contacted in the event of patient refusal of assessment, care and/or transportation.~~
- In Inyo and Mono Counties, the assigned base hospital should be contacted for consultation and destination.

C~~E~~. Hospital Trauma Diversion Status

Refer to ICEMA Reference #8050 - Request for Ambulance Redirection and Hospital Diversion (San Bernardino County).

D~~F~~. Multiple Casualty Incident (MCI)

Refer to ICEMA Reference #8080 - Medical Response to a Multiple Casualty Incident.

III. REFERENCES

Number	Name
8050	Request for Ambulance Redirection and Hospital Diversion (San Bernardino County Only)
8080	Medical Response to a Multiple Casualty Incident
9010	Continuation of Care (San Bernardino County Only)
14250	Determination of Death on Scene

12-lead Electrocardiography (EMT-P)

- ECG should be performed prior to medication administration.
- ECG should be performed on any patient whose medical history and/or presenting symptoms are consistent with acute coronary syndrome including typical or atypical chest pain, syncopal episode, prior AMI, heart disease, or other associated risk factors.

~~**Axial Spinal Immobilization (EMT, AEMT and EMT-P)**~~

- ~~Should be placed if patient meets the indicators, per ICEMA Reference #15010 - Trauma - Adult (Neuro Deficits present, Spinal Tenderness present, Altered Mental status, Intoxication, or Distracting Injury).~~
- ~~An AEMT and/or EMT-P may remove if placed by BLS crew and it does not meet indicators.~~

Capnography (EMT-P)

- Utilize capnography in patients with respiratory distress, respiratory failure, cardiac arrest, and critically ill patients
- Perform capnography prior to pain medication administration.
- Perform capnography after administration of Midazolam for behavioral emergencies.
- Monitor waveform, numerical value and document in ePCR.

Continuous Positive Airway Pressure Device (CPAP) - Adult (EMT-P)

- Start at lowest setting and increase slowly until patient experiences relief or until a maximum of 15 cm H_2O is reached.

External Jugular Vein Access (AEMT and EMT-P)

- Not indicated for patients eight (8) years of age and younger.
- Patient condition requires IV access and other peripheral venous access attempts are unsuccessful.

Blood Glucose Check (EMT, AEMT, and EMT-P)

- Should be assessed if the patient meets key indicators consistent with high or low blood sugar.

Intraosseous Insertion (AEMT pediatric patients only and EMT-P)

- EMT-Ps may administer Lidocaine slowly per ICEMA Reference #7040 - Medication - Standard Orders, to control infusion pain.

- Approved insertion sites:
  - Eight (8) years of age or younger (LALS and ALS):
    - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.
  - Nine (9) years of age and older (ALS only):
    - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.
    - Distal Tibia - Lower end of tibia, 2 cm above the medial malleolus.
    - Humeral Head (EZ IO only).
    - Anterior distal femur, 2 cm above the patella - Base hospital contact only.
- Leave site visible and monitor for extravasation.

King Airway Device (Perilaryngeal) - Adult (AEMT and EMT-P)

- Use of King Airway device may be performed only on those patients who meet **all** of the following criteria:
  - Unresponsive, agonal respirations (less than six (6) breaths per minute) or apneic.
  - Patients 15 years or older.
  - Patients over four (4) feet in height.
- Additional considerations:
  - Medications may **not** be given via the King Airway device.
  - King Airway device should not be removed unless it becomes ineffective.

Nasogastric/Orogastric Tube (EMT-P)

- Use a water soluble lubricating jelly.
- Required for all full arrest patients.

Needle Cricothyrotomy (EMT-P)

- Absolute contraindication: Transection of the distal trachea.
- Monitor end-tidal CO_2 and wave form capnography.
- Monitor pulse oximetry.
- Contact base hospital if unable to ventilate adequately and transport immediately to the closest hospital for airway management.

Needle Thoracostomy (EMT-P)

- In blunt chest trauma consider bilateral tension pneumothorax if pulse oximetry (SpO_2) reading remains low with a patent airway or with poor respiratory compliance.

Oral Endotracheal Intubation - Adult (EMT-P)

- Oral endotracheal intubation is permitted only in patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heal of the foot.
- Monitor end-tidal CO_2 and wave form capnography.
- Monitor pulse oximetry.
- If unable to place ET after a maximum of three (3) intubation attempts (defined as placement of the laryngoscope in the mouth). If unsuccessful, continue with BLS airway management and transport to the nearest receiving hospital.
- Document verification of tube placement (auscultation, visualization, capnography).

Spinal Motion Restriction (EMT, AEMT and EMT-P)

- Should be placed if patient meets the indicators, per ICEMA Reference #15010 - Trauma - Adult (Neuro Deficits present, Spinal Tenderness present, Altered Mental status, Intoxication, or Distracting Injury).
- An AEMT and/or EMT-P may remove if placed by BLS crew and it does not meet indicators.

Synchronized Cardioversion (EMT-P)

- For anxiety prior to cardioversion, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.
- If rhythm deteriorates to v-fib, turn off the sync button and defibrillate.
- Select initial energy level setting at 100 joules or a clinically equivalent biphasic energy level per manufacture guidelines. Procedure may be repeated at 200, 300 and 360 joules or a clinically equivalent biphasic energy level per manufacture guidelines.
- With base hospital order, repeated cardioversion attempts at 360 joules or clinically equivalent biphasic energy level per manufacturer's guidelines may be attempted.

Transcutaneous Cardiac Pacing (EMT-P)

- Start at a rate of 60 and adjust output to the lowest setting to maintain capture. Assess peripheral pulses and confirm correlation with paced rhythm.
- Reassess peripheral pulses. Adjust output to compensate for loss of capture.
- Increase rate **(not to exceed 100)** to maintain adequate tissue perfusion.

- For anxiety, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.
- Contact the base hospital if rhythm persists or for continued signs of inadequate tissue perfusion.

Vagal Maneuvers (EMT-P)

- Relative contraindications for patients with hypertension, suspected STEMI, or suspected head/brain injury.
- Reassess cardiac and hemodynamic status. Document rhythm before, during and after procedure.
- If rhythm does not covert within ten (10) seconds, follow ICEMA Reference #11050 - Tachycardias - Adult.

PATIENT CARE GUIDELINES

I. PURPOSE

To establish guidelines for the minimum standard of care and transport of patients.

II. BLS INTERVENTIONS

- Obtain a thorough assessment of the following:
  - Airway, breathing and circulatory status.
  - Subjective assessment of the patient's physical condition and environment.
  - Objective assessment of the patient's physical condition and environment.
  - Vital signs (blood pressure, pulse, respiration, GCS, skin signs, etc.).
  - Prior medical history and current medications.
  - Any known medication allergies or adverse reactions to medications, food or environmental agents.
- Initiate care using the following tools as clinically indicated or available:
  - Spinal motion restriction~~Axial spinal immobilization~~.
  - Airway control with appropriate BLS airway adjunct.
  - Oxygen as clinically indicated.
  - Assist the patient into a physical position that achieves the best medical benefit and maximum comfort.
  - Automated External Defibrillator (AED).
  - Administer Naloxone by intranasal and/or intramuscular routes.
  - Blood glucose monitoring.
  - Consider the benefits of early transport and/or intercept with ALS personnel if clinically indicated.
- Assemble necessary equipment for ALS procedures or treatment under direction of EMT-P.
  - Cardiac monitoring.
  - IV/IO.
  - Endotracheal intubation.
- Under EMT-P supervision, assemble pre-load medications as directed (excluding controlled substances).

III. LIMITED ALS (LALS) INTERVENTIONS

- Evaluation and continuation of all initiated BLS care.
- Augment BLS assessment with an advanced assessment including, but not limited to the following:
  - Qualitative lung assessment.
  - Blood glucose monitoring.
- Augment BLS treatment measures with LALS treatments as indicated by LALS protocols.
- Initiate airway control as needed with the appropriate LALS adjunct.
- Initiate vascular access as clinically indicated.

IV. ALS INTERVENTIONS

- Evaluation and continuation of all initiated BLS and/or LALS care when indicated by patient's condition.
- Augment BLS and/or LALS assessment with clinically indicated advanced assessments including but not limited to the following:
  - Cardiac monitor and/or 12-lead ECG.
  - Capnography.
  - Blood glucose monitoring.
- Augment BLS and/or LALS treatment with advanced treatments as clinically indicated.
  - Initiate airway control using an appropriate airway adjunct to achieve adequate oxygenation and ventilation.
  - Initiate airway control only when clinically indicated for the appropriate administration of medications and/or fluids.
- Review and evaluate treatments initiated by BLS, LALS, or ALS personnel.
  - Consider discontinuing treatments not warranted by patient's clinical condition. Intermittent monitoring may be used instead of continuous monitoring when clinically indicated.

AIRWAY OBSTRUCTION - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Universal sign of distress.
- Alteration in respiratory effort and/or signs of obstruction.
- Altered level of consciousness.

II. BLS INTERVENTION

RESPONSIVE

- Assess for ability to speak or cough (e.g., "Are you choking?").
- If unable to speak, administer abdominal thrusts (if the rescuer is unable to encircle the victim's abdomen or the patient is in the late stages of pregnancy, utilize chest thrusts) until the obstruction is relieved or patient becomes unconscious.
- After obstruction is relieved, reassess and maintain ABC's.
- Administer oxygen therapy; obtain oxygen saturation.
- If responsive, place in position of comfort. If uninjured but unresponsive with adequate respirations and pulse, place on side in recovery position.

UNRESPONSIVE

- Position patient supine (for suspected trauma, maintain in-line spinal motion restriction~~axial spinal immobilization~~).
- Begin immediate CPR at a 30:2 ratio for two (2) minutes.
- Each time the airway is opened to ventilate, look for an object in the victim's mouth and if found, remove it.
- If apneic and able to ventilate, provide one (1) breath every five (5) to six (6) seconds.
- Place AED on patient.

III. LIMITED ALS (LALS) INTERVENTION

UNRESPONSIVE

- If apneic and able to ventilate, establish advanced airway.
- Establish vascular access as indicated.

IV. ALS INTERVENTION

UNRESPONSIVE

- If apneic and able to ventilate, establish advanced airway.
- If obstruction persists, visualize with laryngoscope and remove visible foreign body with Magill forceps and attempt to ventilate.
- If obstruction persists and unable to ventilate, consider Needle Cricothyrotomy, refer ICEMA Reference #11020 - Procedure - Standard Orders.

V. REFERENCE

Number	Name
11020	Procedure - Standard Orders

ALTERED LEVEL OF CONSCIOUSNESS/SEIZURES - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Patient exhibiting signs/symptoms of a possible altered level of consciousness characterized by a Glasgow Coma Score of less than 15 or less than patients normal baseline.
- Suspected narcotic dependence, opiate overdose, hypoglycemia, traumatic injury, shock, toxicologic, alcoholism and assess possible cardiac causes.
- Tonic/clonic movements followed by a brief period of unconsciousness (post-ictal).
- Suspect status epilepticus for frequent or extended seizures.
- Consider carbon monoxide (CO) poisoning with any patient exposed to products of combustion.

II. BLS INTERVENTIONS

- Oxygen therapy as clinically indicated. If CO poisoning suspected, administer 100% oxygen via non-rebreather mask per ICEMA Reference #13050 - Smoke Inhalation/CO Exposure/Suspected Cyanide Toxicity.
- Position patient as tolerated. If altered gag reflex in absence of traumatic injury, place in left lateral position.
- Place patient in spinal motion restriction~~axial spinal stabilization~~ per ICEMA Reference #14090 - Trauma - Adult (15 years of age and older).

  Obtain and assess blood glucose level. If indicated, administer Glucose - Oral per ICEMA Reference #11010 Medication - Standard Orders.
- If suspected opiate overdose with severely decreased respiratory drive administer Naloxone per ICEMA Reference #11010 - Medication - Standard Orders.
- Assess patient for medication related reduced respiratory rate or hypotension.
- Assess and document response to therapy.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Obtain vascular access.
- Obtain and assess blood glucose level. If indicated administer:
  - Dextrose per ICEMA Reference #11010 - Medication - Standard Orders, **or**
  - If unable to establish IV, Glucagon may be given one (1) time per ICEMA Reference #11010 - Medication - Standard Orders.

- If indicated may repeat blood glucose level. Repeat Dextrose per ICEMA Reference #11010 - Medication - Standard Orders.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Place on cardiac monitor and obtain a 12-lead ECG.
- For tonic/clonic type seizure activity, administer:
  - Midazolam per ICEMA Reference #11010 - Medication - Standard Orders.
  - Assess patient for medication related reduced respiratory rate or hypotension.
- For suspected opiate overdose with severely decreased respiratory drive, administer Naloxone per ICEMA Reference #11010 - Medication - Standard Orders.
- Assess and document response to therapy.

V. REFERENCES

Number	Name
11010	Medication - Standard Orders
13050	Smoke Inhalation/CO exposure/Suspected Cyanide Toxicity
14090	Trauma - Adult (15 years of age and older)

TRAUMA - ADULT (15 years of age and older)

~~Any critical trauma patient (CTP) requires effective communication and rapid transportation to the closest trauma center. If not contacted at scene, the receiving trauma center must be notified as soon as possible in order to activate the trauma team.~~

~~In Inyo and Mono Counties, the assigned base hospital should be contacted for determination of appropriate destination.~~

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Any trauma patient meeting Trauma Triage Criteria requiring rapid transportation to the closest Trauma Center.
- Refer to ICEMA Reference #9040 - Trauma Triage Criteria and ICEMA Reference #9030 - Destination.
- Contact the Trauma Center as soon as possible in order to activate the trauma team.
  - ➢ If the closest Trauma Center is outside ICEMA region, and no base orders or consult is needed, EMS field personnel may contact the hospital they will be transporting the patient to.
  - ➢ In Inyo and Mono Counties, the assigned base hospital shall be contacted for determination of appropriate destination.

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

II. BLS INTERVENTIONS

- Ensure thorough initial assessment.
- Ensure patent airway, protecting cervical spine.
- Obtain oxygen~~O$_2$~~ saturation (if BLS equipped).
- Administer oxygen and/or ventilate as needed.
- Keep patient warm.
- For a traumatic full arrest, provide CPR, utilize the ~~an~~ AED if indicated and transport to the closest most appropriate hospital ~~may be utilized, if indicated~~.
- Transport to ALS intercept or to the closest receiving hospital.

A. Manage Special Considerations

- **Spinal Motion Restriction**~~**Axial Spinal Immobilization**~~: 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~~axial spinal immobilization~~ 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 motion restriction~~axial spinal immobilization~~.

NOTE: The long backboard (LBB) is an extrication tool, whose purpose is to facilitate the transfer of a patient to a transport stretcher and is not intended, or appropriate for achieving spinal motion restriction.~~stabilization.~~ Judicious application of the LBB for purposes other than extrication necessitates that EMS field personnel ~~healthcare providers~~ ensure the benefits outweigh the risks. If a LBB is applied for any reason, patients should be removed as soon as it is safe and practical. LBB does not need to be reapplied on interfacility transfer (IFT) patients.

- **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.

- **Bleeding**:

  - Apply direct pressure and/or pressure dressing.

  - ~~To control life-threatening bleeding of a severely injured extremity, consider application of tourniquet~~ W~~w~~hen direct pressure or pressure dressing fails, control life threatening bleeding of a severely injured extremity with the application of a tourniquet.

- **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 reevaluate 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.

~~• **Pregnancy**: Where axial spinal stabilization precaution is indicated, the board should be elevated at least 4 inches on the right side for those patients who have a large pregnant uterus, usually applies to pregnant females greater than or equal to 24 weeks of gestation.~~

~~• **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.

- Advanced airway (as indicated).

  - Unmanageable Airway: Transport to the closest most appropriate receiving hospital when the patient requires advanced airway and an adequate airway cannot be maintained with a BVM device.

~~• Apply AED.~~

- Establish IV access ~~(administer warm IV fluids when available)~~.

  - *Unstable*: If BP less than 90 mm Hg and/or signs of inadequate perfusion, start 2nd IV access.

  - *Stable*: Maintain IV if BP more than 90 mm Hg and/or signs of adequate tissue perfusion.

Blunt Trauma:

- *Unstable*: Establish IV NS administer 250 ml bolus. May repeat one (1) time to a maximum of 500 ml~~open until stable or 2000 ml maximum is infused~~.
- *Stable*: Saline lock only, do not administer IV fluids~~Maintain IV NS, TKO~~.

Penetrating Trauma:

- ~~*Unstable*: Establish IV NS, administer 500 ml bolus one (1) time.~~
- ~~*Stable*: Maintain IV NS, TKO~~. Saline lock only, do not administer IV fluids.

Isolated Closed Head Injury:

- *Unstable:* Establish IV NS, administer 250 ml bolus. May repeat one (1) time to a maximum of 500 ml.
- *Stable*: ~~Maintain IV NS, TKO~~.Saline lock only, do not administer IV fluids.

- Transport to appropriate hospital.

A. Manage Special Considerations

- **Spinal Motion Restriction~~Axial Spinal Immobilization~~**: LALS personnel should remove ~~axial spinal immobilization~~ LBB devices from patients placed in full spinal motion restriction~~axial spinal immobilization~~ precautions by first responders and BLS personnel if the patient does not meet 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 axial spinal immobilization 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.~~

  ~~NOTE: The long backboard (LBB) is an extrication tool, whose purpose is to facilitate the transfer of a patient to a transport stretcher and is not intended, or appropriate for achieving spinal stabilization. Judicious application of the LBB for purposes other than extrication necessitates that healthcare providers ensure the benefits outweigh the risks. If a LBB is applied for any reason, patients should be removed as soon as it is safe and practical. LBB does not need to be reapplied on interfacility transfer (IFT) patients.~~

- ~~**Fractures**:~~
  - ~~**Isolated Extremity Trauma**: Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured, e.g., dislocated shoulder, hip fracture or dislocation.~~

- ~~Establish IV NS, administer 250 ml bolus one (1) time.~~

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

- ~~**Traumatic Arrest**: Continue CPR as appropriate.~~

  - ~~Apply AED and follow the voice prompts.~~

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" per~~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.

  - Consider cardiac etiology in older patients in cardiac arrest with low probability of mechanism of injury.

  - If the patient is not responsive to trauma-oriented resuscitation, consider medical etiology and treat accordingly.

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

  - ~~Whenever possible, consider minimal disturbance of a potential crime scene.~~

- ~~**Base Hospital Orders**: May order additional fluid boluses.~~

IV. ALS INTERVENTIONS

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

- Advanced Airway (as indicated):

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

- Monitor ECG.

- ~~Establish IV/IO access (administer warm IV fluids when available).~~

  - ~~*Unstable:* If BP less than 90 mm Hg and/or signs of inadequate perfusion, start 2nd IV access.~~

  - ~~*Stable*: Maintain IV if BP more than 90 mm Hg and/or signs of adequate tissue perfusion.~~

- ~~For~~ Tranexamic Acid (TXA) administration for blunt or penetrating traumas~~:~~ ~~meeting inclusion and exclusion criteria below:~~

  - Must be within three (3) hours of injury and must have either:

    - Signs and symptoms of hemorrhagic shock with SBP less than 99 mmHg.

    - Significant hemorrhage with heart rate greater than or equal to 120.

    - Pediatric administration is not indicated.

~~Inclusion Criteria~~	~~Exclusion Criteria~~
~~Within three (3) hours of injury, the prehospital use of TXA should be considered for all blunt or penetrating trauma patients with signs and symptoms of hemorrhagic shock that meet **any** one (1) of the following inclusion criteria:~~ ~~Systolic blood pressure of less than 90 mm Hg at any time during patient encounter.~~ ~~Significant blood loss and a heart rate more than 120.~~ ~~Bleeding not controlled by direct pressure or tourniquet.~~	~~Any patient less than 15 years of age.~~ ~~Any patient more than three (3) hours post-injury.~~ ~~Penetrating cranial injury.~~ ~~Traumatic brain injury with brain matter exposed.~~ ~~Documented cervical cord injury with motor deficits.~~

  - ~~•~~

  - **Blunt Trauma**:

    - ~~*Unstable*: Administer IV NS until stable or 2000 ml maximum is infused.~~

    - ~~▪~~For signs of hemorrhagic shock meeting inclusion criteria above, administer TXA per ICEMA Reference #11010 - Medication - Standard Orders.

    - ~~*Stable*: Maintain IV NS, TKO.~~

  - **Penetrating Trauma**:

- ~~*Unstable*: Administer IV NS 500 ml bolus one (1) time.~~
- For signs of hemorrhagic shock meeting inclusion criteria above, administer TXA per ICEMA Reference #11010 - Medication - Standard Orders.
- ~~*Stable*: Maintain IV NS, TKO.~~

~~**Isolated Closed Head Injury**:~~

- ~~*Unstable*: Administer IV NS 250 ml bolus, may repeat to a maximum of 500 ml.~~
- ~~*Stable*: Maintain IV NS, TKO.~~

- Transport to appropriate Trauma Center ~~hospital~~.
- Insert nasogastric/orogastric tube as indicated.

A. Manage Special Considerations

- ~~**Axial Spinal Immobilization**: ALS personnel should remove axial spinal immobilization devices from patients placed in full axial spinal immobilization precautions by first responders and BLS personnel if the patient does not meet 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 axial spinal immobilization 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.~~

~~**NOTE**: The long backboard (LBB) is an extrication tool, whose purpose is to facilitate the transfer of a patient to a transport stretcher and is not intended, or appropriate for achieving spinal stabilization. Judicious application of the LBB for purposes other than extrication necessitates that healthcare providers ensure the benefits outweigh the risks. If a LBB is applied for any reason, patients should be removed as soon as it is safe and practical. LBB does not need to be reapplied on interfacility transfer (IFT) patients.~~

- **Chest Trauma**: Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.
  - **Pain Relief for Acute Traumatic Injuries**:
    - Administer an appropriate analgesic per ICEMA Reference #14100 - Pain Management - Adult. 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.~~

- ~~**Traumatic Arrest**: Continue CPR as appropriate.~~

  - ~~Treat per ICEMA Reference #14050 - Cardiac Arrest - Adult.~~

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

- *Severe Blunt Force Trauma Arrest*: If indicated, pronounce on scene.

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

- If the patient does not meet the "Obvious Death Criteria" per 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.~~

- ~~**Precautions and Comments**:~~

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

  - ~~Consider cardiac etiology in older patients in cardiac arrest with low probability of mechanism of injury.~~

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

  - ~~Whenever possible, consider minimal disturbance of a potential crime scene.~~

- ~~**Base Hospital Orders**: May order additional medications and/or fluid boluses.~~

V. REFERENCES

Number	Name
9010	Continuation of Care (San Bernardino County Only)
9030	Destination
9040	Trauma Triage Criteria
11010	Medication - Standard Orders
14050	Cardiac Arrest - Adult
14100	Pain Management - Adult
14250	Determination of Death on Scene

ALTERED LEVEL OF CONSCIOUSNESS - PEDIATRIC (Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Patient exhibits inappropriate behavior for age.
- History or observation of an Apparent Life Threatening Event (ALTE).

II. BLS INTERVENTIONS

- Assess environment and determine possible causes for illness.
- Spinal motion restriction~~Axial spinal stabilization~~, if clinically indicated.
- Oxygen therapy, if clinically indicated.
- Airway management, as indicated (OPA/NPA, BVM ventilation).
- Obtain and assess blood glucose level. If indicated, administer Glucose - Oral per ICEMA Reference #11010 - Medication - Standard Orders.
- If suspected narcotic overdose with severely decreased respiratory drive, administer Naloxone per ICEMA Reference #11010 - Medication - Standard Orders.
- Obtain patient temperature. Begin cooling measures if temperature is elevated or warming measures if temperature is decreased.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Obtain vascular access.
- For symptomatic hypotension with poor perfusion, consider fluid bolus of 20 ml/kg of NS not to exceed 300 ml NS.
- Obtain and assess blood glucose level. If indicated administer:
  - Dextrose per ICEMA Reference #11010 - Medication - Standard Orders.
  - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #11010 - Medication - Standard Orders if indicated.
  - If unable to establish an IV, consider Glucagon per ICEMA Reference #11010 - Medication - Standard Orders.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Establish advanced airway as indicated per ICEMA Reference #11020 -Procedure - Standard Orders.

- Place on cardiac monitor.
- Base hospital physician may order additional medication dosages and additional fluid boluses.

V. REFERENCES

Number	Name
11010	Medication - Standard Orders
11020	Procedure - Standard Orders

SEIZURE - PEDIATRIC (Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Tonic/clonic movements followed by a brief period of unconsciousness (postictal).
- Suspect status epilepticus for frequent or extended seizures.
- History of prior seizures, narcotic dependence or diabetes.
- Febrile seizures (patients under four (4) years of age).
- Traumatic injury.

II. BLS INTERVENTIONS

- Protect patient from further injury; spinal motion restriction~~axial spinal stabilization~~ if indicated.
- Assure and maintain airway patency after cessation of seizure, with oxygen therapy as indicated.
- Airway management as indicated (OPA/NPA, BVM ventilation).
- Obtain and assess blood glucose level. If indicated administer Glucose - Oral per ICEMA Reference #11010 Medication - Standard Orders.
- Position patient in left lateral position in absence of traumatic injury; watch for absent gag reflex.
- Remove excess clothing and begin cooling measures if patient is febrile.
- Protect patient during transport by padding appropriately.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Obtain vascular access.
- Obtain blood glucose level, if indicated administer:
  - Dextrose per ICEMA Reference #11010 - Medication - Standard Orders.
  - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #11010 - Medication - Standard Orders if indicated.
  - Glucagon per ICEMA Reference #11010 - Medication - Standard Orders, if unable to start an IV.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Establish advanced airway as clinically indicated per ICEMA Reference #11020 - Procedure - Standard Orders for patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot.
- Place on cardiac monitor if indicated.
- For tonic/clonic type seizure activity administer:
  - Midazolam per ICEMA Reference #11010 - Medication - Standard Orders.
  - Assess and document response to therapy.
  - Base hospital may order additional medication dosages or a fluid bolus.

V. REFERENCES

Number	Name
11010	Medication - Standard Orders
11020	Procedure - Standard Orders

TRAUMA - PEDIATRIC (Less than 15 years of age)

~~Any critical trauma patient (CTP) requires effective communication and rapid transportation to the closest trauma center. If not contacted at scene, the receiving trauma center must be notified as soon as possible in order to activate the trauma team.~~

~~Inyo and Mono Counties do not have trauma center designations and the assigned base hospital should be contacted for determination of appropriate destination.~~

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. Manage Special Considerations

- **Spinal Motion Restriction**~~**Axial Spinal Immobilization**~~: 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~~axial spinal immobilization~~ 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~~Axial Spinal Immobilization~~ 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.

- **Blunt 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, ~~T~~transport to the closest most appropriate receiving hospital ~~when the patient requires an advance airway. An adequate airway cannot be maintained with a BVM device.~~

- ~~Apply AED.~~

- 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. ~~May repeat one (1) time.~~

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

    Saline lock only, do not administer IV fluids. ~~Maintain IV NS rate at TKO.~~

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

A. Manage Special Considerations

- **Spinal Motion Restriction ~~Axial Spinal Immobilization~~**: LALS personnel should remove LBB~~axial spinal immobilization~~ devices from patients placed in full spinal motion restriction~~axial spinal immobilization~~ 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?

~~➢ Consider maintaining spinal alignment on the gurney, or using axial spinal immobilization 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 long board.~~

- ~~**Axial Spinal Immobilization 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.~~

- **Fractures**

  ➢ **Isolated Extremity Trauma**: Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured, e.g., dislocated shoulder, hip fracture or dislocation.

  ➢ Administer IV NS 250 ml bolus one (1) time.

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

- ~~**Traumatic Arrest**: Continue CPR as appropriate.~~

  ~~➢ Apply AED and follow the instructions.~~

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.
- ~~Whenever possible, consider minimal disturbance of a potential crime scene.~~

• ~~**Base Hospital Orders**: May order additional fluid boluses.~~

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 or perform a successful needle cricothyrotomy (if indicated), **then** transport to the closest receiving hospital and follow ICEMA Reference #9010 - Continuation of Care (San Bernardino Only).

• Monitor ECG.

• ~~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/IO, may repeat one (1) time.~~

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

  ~~Maintain IV NS rate at TKO.~~

• ~~Transport to Trauma Center: Pediatric patients identified as CTP will be transported to a pediatric trauma hospital when there is less than a 20 minute difference in transport time to the pediatric trauma hospital versus the closest trauma hospital.~~

• Insert nasogastric/orogastric tube as indicated

A. Manage Special Considerations

• ~~**Axial Spinal Immobilization**: ALS personnel should remove axial spinal immobilization devices from patients placed in full axial spinal immobilization 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?~~

- ~~Consider maintaining spinal alignment on the gurney, or using axial spinal immobilization 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 long board.~~

- ~~**Axial Spinal Immobilization 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~~.

- **Blunt Chest Trauma**: Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.

- **Fractures**

  - ~~**Isolated Extremity Trauma**: Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured - e.g. dislocated shoulder, hip fracture or dislocation.~~

  - **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.

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

- ~~**Traumatic Arrest**: Continue CPR as appropriate.~~

  - ~~Treat per ICEMA Reference #14150 - Cardiac Arrest - Pediatric.~~

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.

- ~~**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**.~~

  - ~~Whenever possible, consider minimal disturbance of a potential crime scene.~~

- ~~**Base Hospital Orders**: May order additional medications and/or fluid boluses.~~

V. REFERENCES

Number	Name
9010	Continuation of Care (San Bernardino County Only)
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