

## **POLICY #153: TRAUMA PATIENT TRIAGE AND DESTINATION**

### I. PURPOSE

- A. To establish guidelines for EMS personnel to identify and transport “significantly injured” patients who could benefit from the rapid response and specialized services of a trauma center.

### II. SCOPE

- A. This policy applies to both adult and pediatric injured patients, unless stated otherwise.

### III. PROCEDURE

#### A. Trauma Activation Criteria

1. “STEP 1 or STEP 2 TRAUMA ALERT” - Patient meeting any one of the Physiologic (Step 1) and/or Anatomic criteria (Step 2) following a traumatic event shall be designated a “TRAUMA ALERT” and transported to the closest trauma center. The target off-scene time should be 10 minutes or less for transport personnel.
2. “STEP 3 TRAUMA CONSULTATION” - Patient meeting (Step 3) Mechanism of Injury - contact with the County of San Luis Obispo (SLO) Trauma Center for patient destination. The target off-scene time should be 10 minutes or less for transport personnel.
3. “STEP 4 TRAUMA CONSULTATION”- Shall be made with the SLO Trauma Center to determine destination when the paramedic identifies a significantly injured patient that DOES NOT meet the Step 1 (Physiologic), Step 2 (Anatomic) or Step 3 (Mechanism of Injury) criteria but meets one or more of the special patient or system considerations.

#### B. Trauma Patient Criteria

Patients meeting any one of the Physiologic and/or Anatomic criteria following a traumatic event shall be a “TRAUMA ALERT” and transported to the closest trauma center. Patient meeting Mechanism of Injury and/or Special Patient/System Considerations shall be a TRAUMA CONSULT and contact the County of San Luis Obispo (SLO) Trauma Center for patient destination.

#### C. Closest Trauma Center

1. The closest Trauma Center for patients being transported within San Luis Obispo County will be defined as follows:

- a. A unit on scene of a call that is located within San Luis Obispo County south of El Campo Rd should proceed to Marian Regional Medical Center.
- b. A unit on scene of a call that is located within San Luis Obispo County north of El Campo Rd should proceed to Sierra Vista Regional Medical Center.
- c. In any other area west or east of El Campo Rd, crews should exercise discretion in determining which trauma center is closest or fastest for patient transport.
- d. Discretion in all cases should include abnormal traffic patterns, congestion, or other travel factors affecting transport to the closest and fastest Trauma Center.

### 1. **STEP 1 (Physiologic Criteria)**

**The target off-scene time should be 10 minutes or less for transport personnel**

- a. *Adult* injured patients meeting any one of the following criteria:
  1. Glasgow Coma Scale  $\leq 13$  (based on patient history and attributed to injury)
  2. Systolic blood pressure  $< 90$  mmHg
  3. Respiratory rate  $< 10$  or  $> 29$  breaths per minute
- b. *Pediatric* injured patients ( $\leq 34$  Kg) meeting any one of the following criteria:
  1. Glasgow Coma Scale  $\leq 13$  (based on patient history and attributed to injury)
  2. Evidence of poor perfusion – color, temperature, etc.
  3. Respiratory rate
    - $> 60$  breaths per minute or respiratory distress
    - $< 20$  breaths per minute in infants  $< 1$  year
  4. Heart rate
    - $\leq 5$  years ( $< 22$  Kg) heart rate  $< 80$  beats per minute or  $> 180$  beats per minute
    - $\geq 6$  years (23-34 Kg) heart rate  $< 60$  beats per minute or  $> 160$  beats per minute
  5. Blood pressure
    - Newborn ( $< 1$  month) systolic blood pressure  $< 60$  mmHg
    - Infant (1 month - 1 year) systolic blood pressure  $< 70$  mmHg
    - Child (1 year - 10 years) systolic blood pressure  $< 70$  mmHg + 2X age in years
    - Child (11-14 years) systolic blood pressure  $< 90$  mmHg

## 2. **STEP 2 (Anatomic Criteria)**

**The target off-scene time should be 10 minutes or less for transport personnel**

Injured patients meeting any one of the following criteria:

- a. All significant penetrating injuries to head, neck, torso and extremities proximal to knee or elbow
- b. Chest wall instability or deformity (e.g. flail chest)
- c. Two proximal long bone fractures (above the elbows and or knees)
- d. Mangled, degloved or pulseless extremity
- e. Open or depressed skull fracture
- f. Paralysis
- g. Pelvic injury with high-risk mechanism of injury (motor vehicle collisions, auto vs. pedestrian accidents, motorcycle collisions, falls from heights)

## 3. **STEP 3 (Mechanism of Injury Criteria)**

**The target off-scene time should be 10 minutes or less for transport personnel**

Injured patients meeting any one of the following criteria:

- a. Falls
  1. Adults: >20 feet (one story is equal to 10 feet)
  2. Pediatric ( $\leq 34\text{kg}$ ) : >10 feet or  $\geq$  two times the height of the child
- b. High-risk auto crash:
  1. Passenger Space Intrusion (PSI) of space: >12 inches occupant patient site; or >18 inches anywhere within the passenger space
  2. Ejection (partial or complete) from automobile
  3. Death in same passenger compartment
- c. Auto vs. pedestrian/bicyclist thrown, run over, or with significant impact (>20 mph)
- d. Motorcycle or unenclosed transport vehicle crash (>20 mph)

## 4. **STEP 4 (Special Patient or System Considerations)**

Age and co-morbid considerations.

- a. EMS provider judgment
- b. Age greater than 65
  1. SBP <110 mmHg may represent shock
- c. Pediatric ( $\leq 34\text{kg}$ )

- d. Pregnancy > 20 weeks
- e. Anticoagulation therapy (excluding aspirin) or other bleeding disorders with head injury (excluding minor injuries)
- f. Burns with trauma mechanism

Note:

A TRAUMA CONSULT is not required for ground level/low impact falls with GCS  $\geq$  14 or when the GCS is normal for patient

C. Contact the Trauma Center

Contact the receiving trauma center early and immediately upon determining the patient meets trauma patient triage criteria with a "TRAUMA ALERT" or "TRAUMA CONSULTATION"

1. "TRAUMA ALERT"

A "TRAUMA ALERT" is initiated when an injured patient meets any one of the Step 1 (Physiologic) or Step 2 (Anatomic) Criteria. Consider early notification to the intended receiving Trauma Center, from the scene when possible

- a. EMS personnel should provide a "TRAUMA ALERT" early and from the scene when possible to assist in early activation of the trauma team and determination of patient destination.
- b. ALS personnel must contact the trauma center with the TRAUMA ALERT.
- c. A "TRAUMA ALERT" report should include the following:
  1. "TRAUMA ALERT" meeting trauma triage step criteria "x"
  2. Unit and medic #
  3. ETA to trauma center
  4. Report on individual patient (MIVT format):
    - Age and sex
    - Mechanism of injury
    - Injury and complaints
    - Vital signs including GCS
    - Treatment
    - Include specific triage findings or considerations that identify the patient as meeting TRAUMA ALERT criteria.

2. "TRAUMA CONSULTATION"

"TRAUMA CONSULTATION" with a SLO trauma center should be obtained to determine trauma patient destination when Step 3 (mechanism(s) of injury) criteria or Step 4 (special considerations) are present and Step 1 (physiologic) and Step 2 (anatomic) criteria are NOT met.

- a. Only ALS personnel may request a “TRAUMA CONSULTATION” for patient destination
  - b. A “TRAUMA CONSULTATION” report should include the following:
    1. “TRAUMA CONSULTATION” meeting trauma triage step criteria “x”
    2. Unit and medic #
    3. ETA to trauma center and ETA to closest ED (When the trauma center is the closest facility include in the radio contact information notifying them they are the closest receiving facility)
    4. Report on the individual patient: (MIVT format)
      - Patient age and sex
      - Mechanism of injury and scene
      - Injury and complaints
      - Vital signs including GCS
      - Treatment and response
      - Include specific findings or considerations that identify the patient as meeting TRAUMA CONSULTATION criteria
  - c. Paramedic Concerns
3. The Trauma center, when not receiving the patient, shall notify the receiving hospital of the incoming patient and provide that hospital with the prehospital care patient information.
  4. When practical, a brief updated report should be given to the trauma center Hospital and include any significant changes in route in vital signs, GCS, physical findings, symptoms or treatments.
- D. Exceptions to Direct Transport to a Trauma Center
- Trauma patients will be transported to the closest ED in the following situations:
1. Patient condition necessitates transport to the closest ED, such as the following:
    - a. Unmanageable airway (intubation attempts are unsuccessful and an adequate airway cannot be maintained with BVM or other device)
    - b. Uncontrollable bleeding with rapidly deteriorating vital signs
    - c. Traumatic cardiac arrest – see EMS Agency Prehospital Determination of Death/Do Not Resuscitate (DNR) End of Life Care Policy #125.
  2. SLO Trauma Center destination order
  3. Patient refusal - see EMS Agency Patient Refusal of Treatment and/or Transport Policy #203.
  4. Trauma center is on complete diversion – see EMS Agency Hospital Diversion Policy #154: Hospital Diversion.

- E. The utilization of EMS helicopter for the response and transport of trauma patients must be in accordance with Policy #155: EMS Helicopter Operations.

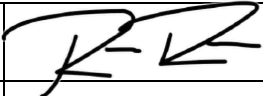

IV. AUTHORITY

- California Health and Safety Code, Division 2.5
- California Code of Regulations, Title 22, Division 9

V. ATTACHMENTS

- A. Trauma Triage Matrix

Approvals:

|                              |  |
|------------------------------|--|
| EMS Agency, Administrator    |   |
| EMS Agency, Medical Director |  |

**Trauma Triage Decision Scheme**  
Patients meeting one or more criteria activates

1

- Criteria Adult Physiologic – TARGET DEPART SCENE ≤ 10 MIN**
- Glasgow Coma Scale ≤ 13
  - Systolic blood pressure <90 mmHg
  - Respiratory rate <10 or > 29 breathe per minute
- Pediatric Physiologic Criteria**
- Glasgow Coma Scale ≤ 13
  - Evidence of poor perfusion – color, temperature, etc.
  - Respiratory Rate
    - > 60/min or respiratory distress/apnea
    - < 20/min in infants < 1 yr
  - Heart Rate
    - ≤ 5 yrs (<22 kg) < 80 or > 180/min
    - ≥ 6 yrs ( 23-34 kg) < 60 or > 160/min
  - Blood Pressure
    - Newborn (<1 month) SBP < 60mmHg
    - Infant (1mo to 1 yr) SBP <70 mmHg
    - Child (1yr to 10 yrs) SBP < 70mmHg + 2X age in yrs
    - Child (11 to 14 yrs) SBP < 90 mmHg



Assess for anatomic injury

2

- Anatomic Criteria – TARGET DEPART SCENE ≤ 10 MIN**
- All penetrating injuries to head, neck, torso, and extremities proximal to the elbow or knee
  - Chest wall instability or deformity (i.e. flail chest)
  - Two long bone fractures – proximal to elbow or knee
  - Mangled, degloved or pulseless extremity
  - Open or depressed skull fracture
  - Paralysis
  - Pelvic injury with high-risk mechanism of injury



Assess for mechanism

3

- Mechanism of Injury – TARGET DEPART SCENE ≤ 10 MIN**
- Falls
    - Adults - > 20 feet (one story equals 10 feet)
    - Children - > 10 feet or two times their height
  - High risk auto crash
    - Intrusion of passenger compartment space > 12 inches occupant site or > 18 inches any site including the roof/floor
    - Ejection (partial or complete) from automobile
    - Death in the same vehicle
  - Auto vs pedestrian/bicycle thrown, run over, or with significant impact (> 20 mph)
  - Motorcycle or unenclosed transport vehicle crash > 20 mph



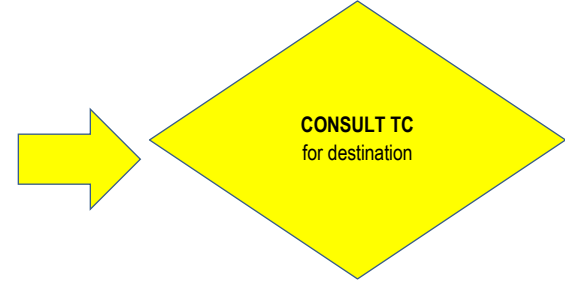
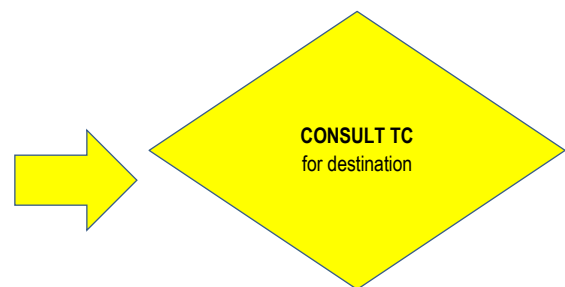
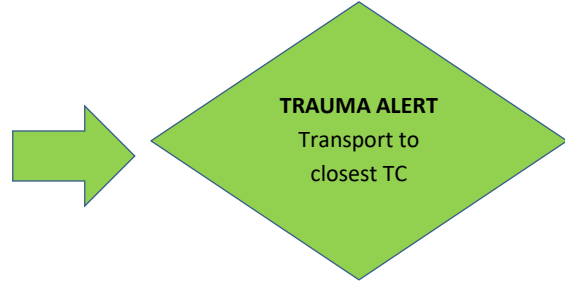
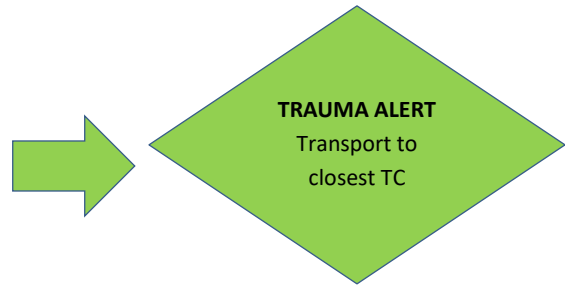
Assess for special considerations

4

- Special Patient and System Considerations (\*)**
- EMS provider judgement
  - Age > 65 yrs or < 14 yrs
  - Anticoagulants therapy (excluding ASA) or other bleeding disorders with head injury (excluding minor injuries)
  - Pregnancy > 20 weeks
  - Burns with traumatic mechanism
- (\*) Trauma Consult is not required for ground level/low impact falls with a GCS ≥ 14 (or GCS is normal for patient) – follow SLO County Destination Policy # 151



Follow SLO County Destination Policy #151



- Contact TC and transport to closest ED with
- Unmanageable airway
  - Uncontrolled bleeding
  - Traumatic arrest