SIERRA-SACRAMENTO VALLEY EMS AGENCY
PROGRAM POLICY

REFERENCE NO. 860

SUBJECT: TRAUMA TRIAGE CRITERIA

PURPOSE:

To identify those patients who are at greatest risk for severe injury and determine the most appropriate facility to transport persons with different injury types and severities.

AUTHORITY:

California Health & Safety Code, Division 2.5; Chapter 6, Article 2.5, Section 1798.160 et seq.

California Code of Regulations, Title 22, Division 9, Chapter 7

Centers for Disease Control and Prevention 'Morbidity and Mortality Weekly Report' (MMWR), Recommendations and Reports, January 13, 2012 / Vol. 61 / No. RR-01, 'Guidelines for Field Triage of Injured Patients, Recommendation of the National Expert Panel on Field Triage, 2011':
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6101a1.htm?s_cid=rr6101a1_w

PRINCIPLES:

The trauma triage criteria indicate high-risk factors for serious traumatic injuries. Trauma patients meeting triage criteria should be transported as soon as possible, and time on scene should be limited. Procedures at the scene should be limited to triage, patient assessment, airway management, control of external hemorrhage and appropriate immobilization. Additional interventions should be completed en route with the exception of those incidents requiring prolonged extrication.

TRAUMA CENTER LEVELS

Level I: A Level I Trauma Center has the greatest amount of resources and personnel for care of the injured patient. Typically, it is also a tertiary medical care facility that provides leadership in patient care, education and research for trauma, including prevention programs.

Level II: A Level II Trauma Center offers similar resources as a Level I facility, differing only by the lack of research activities for a Level I designation.

Level I and II Pediatric: Level I and II Pediatric Trauma Centers focus specifically on pediatric trauma patients. Level I Pediatric Trauma Centers require some additional pediatric specialties and are research and teaching facilities.

Level III: A Level III Trauma Center is capable of assessment, resuscitation and emergency surgery, if warranted. Injured patients are stabilized before transfer, if indicated, to a facility with a higher level of care according to pre-existing arrangements.

Level IV: A Level IV Trauma center is capable of providing 24-hour physician coverage, resuscitation and stabilization to injured patients before they are transferred, if indicated.

PATIENT DESTINATION:

A. Patients with an unmanageable airway shall be transported to the closest receiving hospital for airway stabilization.

B. For any patient who is found to meet at least one of the Anatomic or Physiologic Trauma Triage Criteria:

1. If the time closest designated Trauma Center is a Level I or Level II Trauma Center, transport directly to the Level I or Level II Trauma Center.

2. If the time closest designated trauma center is a Level III Trauma Center, contact the Level III Trauma Center for a destination decision.

C. If a trauma patient meets Mechanism of Injury Trauma Criteria only, with or without meeting any of the Special Considerations Criteria, prehospital personnel shall contact the closest base/modified base hospital for a destination decision.

D. If a trauma patient meets the Special Considerations Criteria only, without meeting any of the Anatomic, Physiologic or Mechanism of Injury trauma triage criteria, contact with the closest base/modified base hospital shall be made for a destination decision when prehospital personnel determine that transport to a trauma center may be in the best interest of the patient.

E. The use of EMS aircraft for transport of trauma patients should provide a clinically significant reduction in arrival time to the most appropriate designated trauma center. If the total time for air transport exceeds the ground ambulance arrival time, air transport may not be indicated.

F. Pediatric Trauma Patient Destination

1. When ground ambulance or EMS aircraft (if utilized) transport times do not exceed 45 minutes, all children ≤ 14 years of age who meet Anatomic and/or

Physiologic Trauma Triage Criteria should be transported directly to a designated pediatric trauma center.

2. If a pediatric patient meets criteria for direct transport to a designated pediatric trauma center, but the patient's condition is so critical that any additional transport time may jeopardize the patient's life, the patient shall be transported to the closest designated trauma center.

G. Prehospital personnel shall notify the designated receiving trauma center of the patient's pending arrival as soon as possible.

TRAUMA TRIAGE CRITERIA:

A. **Physiologic Criteria**:

1. Respiratory Rate < 10 or > 29 breaths per minute (<20 in infant aged <1 year) or need for ventilatory support, or

2. Glasgow Coma Score ≤ 13, or

3. Systolic Blood Pressure < 90

B. **Anatomic Criteria:**

1. All penetrating injuries to the head, neck, chest, torso, and extremities proximal to the elbow or knee

2. Chest wall instability or deformity (e.g. flail chest)

3. Two or more proximal long-bone fractures

4. Paralysis

5. Pelvic fractures

6. Amputation proximal to wrist or ankle

7. Crushed, degloved or mangled or pulseless extremity

8. Open or depressed skull fracture

C. **Mechanism of Injury Criteria:**

1. High-risk auto crash (one or more of the following):

   a. Ejections (partial or complete) from automobile

   b. Death in the same passenger compartment

c. Intrusion, including roof: > 12 inches at occupant site or > 18 inches at any site

2. Non-Automotive crash > 20 mph including, but not limited to: motorcycle, ATV, go-cart, bicycle, skateboard, watercraft and aircraft

3. Auto vs Pedestrian / Bicycle: thrown, run over, or with significant (> 20 mph) impact

4. Adults who fall > 20 feet

5. Children who fall > 10 feet or two to three times the height of the child

6. Other high energy impact

D. **Special Considerations**

1. Age:

a. Adults > 55 years of age

- SBP <110 might represent shock after 65 years of age
- Low impact mechanism (e.g. ground level falls) might result in severe injury.

b. Children ≤ 14 years of age

- Children should be triaged to pediatric capable trauma centers when possible

2. Anticoagulation or bleeding disorders

- Patients with head injury are at high risk for rapid deterioration

3. Burns:

a. With trauma mechanism: Triage to trauma center

b. Without trauma mechanism: Triage to burn facility

4. Pregnancy > 20 weeks

5. EMS provider judgment in conjunction with medical control

TRAUMA REGISTRY:

All hospitals receiving trauma patients from the S-SV EMS Region shall supply data to the S-SV EMS Trauma Registry.

GLASGOW COMA SCALE (GCS): Adult & Pediatric Combined GCS

Note: Modifications for age appropriate response for infant/young child are typed in bold print.

GLASGOW COMA SCORE		
EYE OPENING RESPONSE	**BEST VERBAL RESPONSE**	**BEST MOTOR RESPONSE**
4 pts = Open spontaneously	5 pts = Oriented & converses Appropriate words and phrases **Cries appropriately, coos, babbles**	6 pts = Obeys commands **Normal spontaneous movement**
3 pts = To verbal stimuli **To speech, to shout**	4 pts = Disoriented & converses **Irritable cry**	5 pts = Localizes pain **Withdraws to touch**
2 pts = To painful stimuli	3 pts = Inappropriate words **Inappropriate crying/screaming**	4 pts = Flexion withdrawal **Withdraws to pain**
1 pt = No response	2 pts = Incomprehensible sounds/words **Grunts**	3 pts = Flexion abnormal (decorticate)
	1 pt = No response	2 pts = Extension (decerebrate)
		1 pt = No response
Risk of injury is high with GCS < 14 COMA is defined by GCS ≤ 8 Any patient with a GCS ≤ 8, consider intubation and hyperventilate at 20 to 24 breaths per minute to reduce cerebral swelling.		