MEMORANDUM

Date: September 1, 2017

To: S-SV EMS Region EMS System Participants

From: Michelle Moss, S-SV EMS Specialty Systems Coordinator

Re: S-SV EMS Trauma System Updates/Reminders

The following updates/reminders are being provided to all EMS system participants in the S-SV EMS region as a result of recent trauma system changes and our ongoing review of trauma system performance.

As of September 9, 2017, Shasta Regional Medical Center will no longer be designated as a Trauma Center. After this date, Mercy Medical Center Redding will be the only Trauma Center in Shasta County (see facility trauma level chart below).

Designated Trauma Centers Located Within The S-SV EMS Region					
Facility	**Level I**	**Level II**	**Level III**	**Level IV**	**Helipad**
Enloe Medical Center		X			X
Fairchild Medical Center				X	X
Mercy Medical Center Mt. Shasta			X		X
Mercy Medical Center Redding		X			X
Rideout Regional Medical Center			X		X
St. Elizabeth Community Hospital			X		X
Sutter Roseville Medical Center		X			X
Designated Trauma Centers Located Outside The S-SV EMS Region					
Facility	**Level I**	**Level II**	**Level III**	**Level IV**	**Helipad**
Kaiser South Sacramento (Sac.)		X			X
Mercy San Juan Medical Center (Sac.)		X			X
UC Davis Medical Center (Sac.)	X				X
Renown Regional Medical Center (NV)		X			X
Providence Medical Center (OR)			X		X
Rogue Regional Medical Center (OR)			X		X
Sky Lakes Medical Center (OR)			X		X

In evaluating trauma system performance, we have identified opportunities for improvement in compliance with communication and consultation related to trauma patient destination as described in S-SV EMS Policy 860 (attached). Following is a review of the procedures that shall be followed when determining the most appropriate destination for patients meeting trauma triage criteria.

- **Trauma Patient Destination Procedures:**

  - Trauma centers shall utilize EMResource to communicate any unavailable trauma related services (trauma/anesthesia, orthopedics, neurology, radiology, helipad, etc.) to EMS system participants.
  - EMS providers shall have a mechanism in place to inform on-duty EMS personnel of any trauma related service deficiencies that may impact trauma patient destination decisions.
  - Trauma centers should consider availability of trauma related services in determining the most appropriate destination for EMS trauma patients.
  - Trauma patients with an unmanageable airway shall be transported to the closest hospital, even if that hospital is not a designated trauma center.
  - Destination of adult patients meeting anatomic and/or physiologic trauma triage criterial shall be determined as follows:
    - If a level I or II trauma center is the closest designated trauma center to the incident, the patient shall be transported directly to that trauma center.
    - If a level III trauma center is the closet designated trauma center to the incident, contact that trauma center for destination consultation.

      This contact shall occur prior to patient transport (except in the event of communication failure), and should routinely be accomplished by ground EMS personnel prior to the arrival of EMS aircraft (in the event that an EMS aircraft is being considered/utilized for patient transport). When contacting the level III trauma center, EMS personnel should clearly state that they are requesting consultation for trauma patient destination. Due to the time sensitive nature of these types of patients, both prehospital and hospital personnel should use concise communication, and this consultation should routinely take less than 2 minutes.
  - Destination of pediatric patients meeting anatomic and/or physiologic trauma triage criteria shall be determined as follows:
    - Transport directly to a pediatric trauma center (UC Davis Medical Center) if the transport time by ground or air is ≤ 45 minutes.
    - If EMS personnel believe that the patient is too unstable for direct ground or air transport to a pediatric trauma center, they shall contact the closest trauma center for destination consultation.
    - If ground or air transport time to a pediatric trauma center is > 45 minutes, follow the adult trauma patient destination criteria indicated above.

- Destination of adult and pediatric patients meeting mechanism of injury trauma triage criteria shall be determined as follows:
  - If transport time to a trauma center is ≤ 45 minutes, contact the closest trauma center for destination consultation.

    This contact shall occur prior to patient transport (except in the event of communication failure), and should routinely be accomplished by ground EMS personnel prior to the arrival of EMS aircraft (in the event that an EMS aircraft is being considered/utilized for patient transport). When contacting the level III trauma center, EMS personnel should clearly state that they are requesting consultation for trauma patient destination. Due to the time sensitive nature of these type of patients, both prehospital and hospital personnel should use concise communication, and this consultation should routinely take less than 2 minutes.

    If a trauma center is the closest receiving hospital to the incident and the patient is not requesting transport to an alternate facility, destination consultation is not required and the patient should be transported directly to that trauma center.
  - If transport time to a trauma center is > 45 minutes, contact the closest base/modified base hospital for destination consultation.

    This contact shall occur prior to patient transport (except in the event of communication failure), and should routinely be accomplished by ground EMS personnel prior to the arrival of EMS aircraft (in the event that an EMS aircraft is being considered/utilized for patient transport). When contacting the base/modified base hospital, EMS personnel should clearly state that they are requesting consultation for trauma patient destination.
  - If the patient meets special considerations trauma triage criteria only, prehospital personnel shall contact the closest base/modified base hospital for destination consultation when they believe that transport to a trauma center may be in the patient's best interest.

    This contact shall occur prior to patient transport (except in the event of communication failure), and should routinely be accomplished by ground EMS personnel prior to the arrival of EMS aircraft (in the event that an EMS aircraft is being considered/utilized for patient transport). When contacting the base/modified base hospital, ***EMS personnel should clearly state that they are requesting consultation for trauma patient destination****.*

Sierra – Sacramento Valley EMS Agency Program Policy			
Trauma Triage Criteria			
	Effective: 12/01/2016	Next Review: 07/2019	**860**
	Approval: Troy M. Falck, MD – Medical Director		SIGNATURE ON FILE
	Approval: Victoria Pinette – Executive Director		SIGNATURE ON FILE

PURPOSE:

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

AUTHORITY:

A. California Health and Safety Code, Division 2.5; Chapter 6, Article 2.5, § 1798.160.

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

C. 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'.

PRINCIPLES:

Patients meeting trauma triage criteria should be transported as soon as possible. On scene procedures should be limited to triage, patient assessment, airway management, control of external hemorrhage, and immobilization. Additional interventions should be completed enroute with the exception of those incidents requiring prolonged extrication.

TRAUMA CENTER LEVELS:

A. **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.

B. **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.

C. **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.

D. **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.

E. **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.

TRAUMA TRIAGE CRITERIA:

A. **Physiologic Trauma Triage Criteria (one or more of the following):**

1. Respiratory rate < 10 or > 29 breaths per minute (< 20 in infants < 1 year of age), or need for ventilatory support.

2. Glasgow Coma Score (GCS) ≤ 13.

3. Systolic Blood Pressure < 90.

B. **Anatomic Trauma Triage Criteria (one or more of the following):**

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, mangled, or pulseless extremity.

8. Open or depressed skull fracture.

C. **Mechanism of Injury Trauma Triage Criteria (one or more of the following):**

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

- Ejections (partial or complete) from automobile.

- Death in the same passenger compartment.
- 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 three (3) times their height.

6. Other high energy impact.

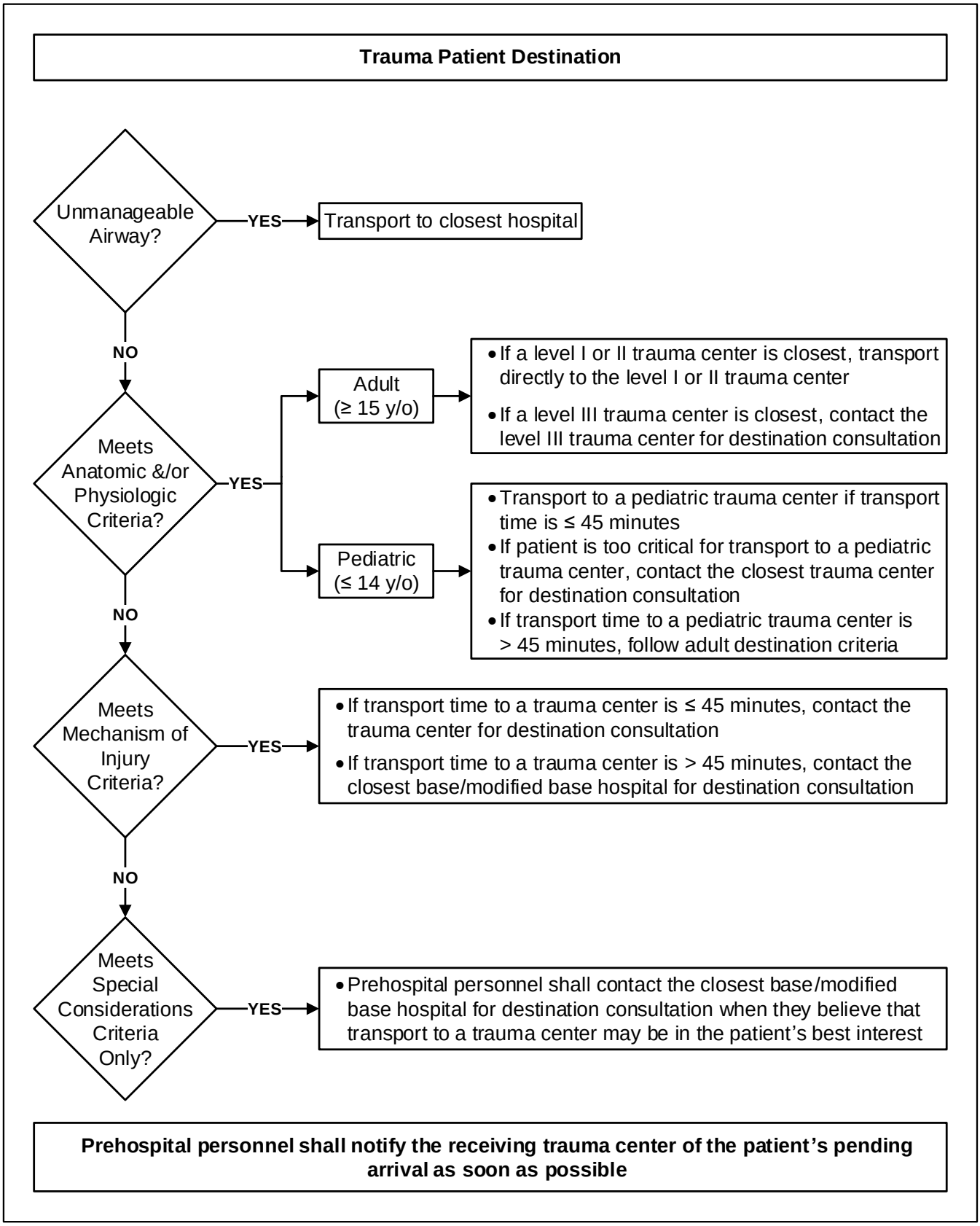
D. **Special Considerations Trauma Triage Criteria (any of the following):**

1. Adults ≥ 65 years of age:

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

2. Current patient use of anticoagulation or antiplatelet medication, or history of bleeding disorder.

3. Pregnancy > 20 weeks.


Trauma Patient Destination
Unmanageable Airway?
YES
Transport to closest hospital
NO
Meets Anatomic &/or Physiologic Criteria?
YES
Adult (≥ 15 y/o)
• If a level I or II trauma center is closest, transport directly to the level I or II trauma center
• If a level III trauma center is closest, contact the level III trauma center for destination consultation
Pediatric (≤ 14 y/o)
• Transport to a pediatric trauma center if transport time is ≤ 45 minutes
• If patient is too critical for transport to a pediatric trauma center, contact the closest trauma center for destination consultation
• If transport time to a pediatric trauma center is > 45 minutes, follow adult destination criteria
NO
Meets Mechanism of Injury Criteria?
YES
• If transport time to a trauma center is ≤ 45 minutes, contact the trauma center for destination consultation
• If transport time to a trauma center is > 45 minutes, contact the closest base/modified base hospital for destination consultation
NO
Meets Special Considerations Criteria Only?
YES
• Prehospital personnel shall contact the closest base/modified base hospital for destination consultation when they believe that transport to a trauma center may be in the patient's best interest
Prehospital personnel shall notify the receiving trauma center of the patient's pending arrival as soon as possible

TRAUMA REGISTRY:

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

GLASGOW COMA SCALE (GCS):

Adult GCS			
Points	**Eye Opening Response**	**Verbal Response**	**Motor Response**
6			Obeys Commands
5		Oriented & converses	Localizes pain
4	Opens spontaneously	Disoriented & converses	Flexion withdrawal
3	Opens to verbal stimuli	Inappropriate words	Flexion abnormal (decorticate)
2	Opens to painful stimuli	Incomprehensible sounds	Extension (decerebrate)
1	No response	No response	No response

Pediatric GCS			
Points	**Eye Opening Response**	**Verbal Response**	**Motor Response**
6			Normal spontaneous movement
5		Cries appropriate/coos/babbles	Withdraws to touch
4	Opens spontaneously	Irritable cry	Withdraws to pain
3	Opens to verbal stimuli	Inappropriate crying/screaming	Flexion abnormal (decorticate)
2	Opens to painful stimuli	Grunts	Extension (decerebrate)
1	No response	No response	No response

CROSS REFERENCES:

A. Patient Destination (505).

B. Hospital Capabilities (505-A).

C. Multiple Casualty Incidents (837).