



| <b>TRAUMA PATIENT CARE</b>  |                  |
|---|------------------|
| <b>Adult</b>  | <b>Pediatric</b> |
| <b>Purpose</b>  |                  |
| <p>To identify trauma patients who are at the greatest risk for serious injury and determine the most appropriate destination.</p> <ul style="list-style-type: none"> <li>• Trauma Centers improve outcomes for patients with significant traumatic injuries. Patients with significant traumatic injuries requiring an operating room within the first 4 hours benefit from being transported immediately to an appropriate trauma center.</li> <li>• Level I and Level II trauma centers are able to provide emergent neurosurgical interventions. Patients requiring neurosurgical interventions should go directly to a level I or level II trauma center.</li> <li>• Mechanism of Injury (MOI) does not directly indicate trauma criteria. MOI plus physical signs and symptoms indicate a high suspicion of critical injuries requiring a Level I or Level II Trauma Center.</li> </ul> |                  |
| <b>Physiological Criteria (Level I, II)</b>   |                  |
| <ul style="list-style-type: none"> <li>• Hypotension – Systolic Blood Pressure &lt; 90 mmHg</li> <li>• Sustained tachycardia – Heart Rate &gt; 120 beats per minute</li> <li>• Respiratory Rate &lt; 10 or &gt; 29 breaths per minute</li> <li>• Altered Mental Status – Glasgow Coma Scale (GCS) &lt; 14</li> </ul>  |                  |
| <b>Neurosurgical Criteria (Level I, II)</b>   |                  |
| <ul style="list-style-type: none"> <li>• Penetrating trauma to head, excluding facial injuries</li> <li>• Suspected open or depressed skull fracture</li> <li>• Paralysis</li> <li>• GCS &lt; 12</li> </ul>   |                  |
| <b>Anatomical Criteria (Level I, II)</b>  |                  |
| <ul style="list-style-type: none"> <li>• Penetrating injury to neck, torso, buttock, groin, or extremities proximal to knee or elbow</li> <li>• Flail chest</li> <li>• 2 or more proximal long bone fractures</li> <li>• Crushed, de-gloved, or mangled extremity (excluding digits)</li> <li>• Amputation proximal to wrist and ankle</li> <li>• Pelvic instability or crepitus with a possible fracture from major trauma</li> </ul>  |                  |
| <b>Mechanism of Injury Criteria (Level I, II, III)</b>  |                  |
| <ul style="list-style-type: none"> <li>• Intrusion into the passenger compartment: occupant side &gt; 12 inches, any side &gt; 18 inches</li> <li>• Death of a patient in the same compartment</li> <li>• Vehicle striking pedestrian or bicyclist with speed at impact &gt; 20 MPH or involving torso run over</li> <li>• Motorcycle crash with estimated speed of ≥ 20 MPH with a stationary object</li> <li>• Ejection from vehicle (partial or complete)</li> <li>• When available, vehicle telemetry data is consistent with high risk of injury</li> </ul>  |                  |



# Yolo County Emergency Medical Services Agency

## Protocols

Revised Date: September 1, 2018

| Adult   | Pediatric  |
|---|--|
| <b>Special Considerations</b>   |  |
| <p>Patients with either high energy or low energy mechanism are more prone to serious injury if they have one or more of the following risk factors:</p> <ul style="list-style-type: none"> <li>• Patients 55 years or older</li> <li>• Anticoagulant use or bleeding disorder</li> <li>• Time sensitive extremity injury</li> <li>• End stage renal disease requiring dialysis</li> <li>• Pregnant patients &gt; 20 weeks</li> </ul> <p>These patients may have injuries that exceed the capabilities of the receiving hospital and should be considered for transport to a trauma center. <b>Contact Closest Trauma Hospital Physician if there is any concern about appropriate destination.</b></p> |  |
| <b>BLS</b>  |  |
| <p>Open and position the airway<br/>           Airway Adjuncts: OPA/NPA as needed to control the airway<br/>           O<sub>2</sub>, titrate SpO<sub>2</sub> to ≥ 94%<br/>           If GCS is ≤ 8, ventilate patient with 100% O<sub>2</sub><br/>           SMR if indicated<br/>           Identify and treat life threatening conditions<br/>           Control external bleeding<br/>           Prevent hypothermia<br/>           Treat suspected shock</p>   |  |
| <b>ALS</b>  |  |
| Cardiac Monitor, Waveform EtCO <sub>2</sub> , Vascular Access   |  |
| <p><b>Fluid Bolus NS 250 mL IV/IO</b></p> <ul style="list-style-type: none"> <li>• Titrate SBP ≥ 90 mmHg</li> </ul> <p>Initiate second large bore IV</p>  | <p style="text-align: center;"><u>If poor perfusion or suspected shock</u></p> <p><b>Fluid Bolus NS 20 mL/kg IV/IO</b></p> <ul style="list-style-type: none"> <li>• Titrate to age appropriate SBP</li> </ul> <p>Initiate second large bore IV</p> |



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### Consider

- Consider advanced airway if GCS is  $\leq 8$  and BLS airway is ineffective
- IV/IO access should be initiated en route
- Consider pain management
- **Pregnant patients** meeting criteria should be taken to a **Trauma Center** with **obstetric** services.
- Air ambulances should only be used when they offer a measurable advantage to ground transport. Air ambulances may benefit patients injured in locations distant from a trauma center, and/or those in need of immediate procedures available to a Flight Nurse but outside the scope of practice of Paramedics.
- Patients with an uncontrolled airway may be considered for transport to the closest hospital.
- For trauma meeting burn criteria - refer to burn triage criteria
- This policy does not apply to Multi-Casualty Incidents

### Direction

- If patient meets trauma triage criteria transport to a designated Trauma Receiving Center
- Contact the Trauma Center and advise them of a "**TRAUMA ALERT**" (preferably from the scene)
- On scene time should be  $\leq 10$  minutes
- Contact the closest Trauma Center Physician for additional treatment or **transport decisions**
- When in doubt, transport to the closest Trauma Center