Contra Costa County Emergency Medical Services

**Trauma Triage**

**ACTIVATION**

- Unmanageable airway or Traumatic arrest not meeting field determination
  - **No**
  - **Yes**

  Closest facility

**Measure vital signs and level of consciousness**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCS ≤ 13</td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td>Systolic blood pressure &lt; 90mmHg</td>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Adult respiratory rate &lt; 10 or &gt; 29 or need for ventilatory support</td>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Infant (&lt; 1 year of age) respiratory rate &lt; 20</td>
<td><strong>No</strong></td>
</tr>
</tbody>
</table>

**Assess anatomy of injury**

- All penetrating injuries to head, neck, torso, groin, pelvis, buttocks, and extremities above the elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long bone fractures
- Crushed, degloved, mangled, or pulseless extremity
- Amputation above the wrist or ankle
- Pelvic instability

**Assess mechanism of injury and evidence of high-energy impact**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult fall &gt; 20 feet</td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td>Pediatric fall &gt; 10 feet or 2-3 times height of child</td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td>High risk auto crash with &gt; 12 inches intrusion on patient side or &gt; 18 inches at any site of passenger compartment</td>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Ejection (partial or complete)</td>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Death in same passenger compartment</td>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Auto vs. pedestrian/bicyclist thrown, run over with significant impact &gt; 20mph</td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td>Any unenclosed vehicle crash &gt; 20mph (e.g. motorcycle, bicycle, ATV, etc.)</td>
<td><strong>Yes</strong></td>
</tr>
</tbody>
</table>

**Meets Destination / Call-in Criteria?**

- **Yes**

**Activation Criteria**

Contra Costa County Emergency Medical Services

**Treatment Guideline T01**

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Effective Jan. 2019
**Risk Factor Advisory**

Patients with either high energy or low energy mechanisms are more prone to serious injury if they have one or more of the following risk factors:

- Pregnancy over 20 weeks
- Communication barrier (e.g., age, language, psychiatric, or developmental issues)
- Age 55 or older
- Patient taking anticoagulants or with known bleeding disorder

<table>
<thead>
<tr>
<th>High energy mechanism</th>
<th>Low energy mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor vehicle crash</td>
<td>Low energy mechanisms should merit Base Hospital contact if symptoms, physical findings, or concern are encountered</td>
</tr>
<tr>
<td>• Estimated impact speed of &gt; 40mph</td>
<td></td>
</tr>
<tr>
<td>• Mechanical extrication required by fire department personnel</td>
<td></td>
</tr>
<tr>
<td>• Rollover with unrestrained occupant</td>
<td></td>
</tr>
<tr>
<td>Person struck by a vehicle at &lt; 20mph</td>
<td></td>
</tr>
<tr>
<td>Person ejected/fell from other object (e.g., motorcycle, horse, or ATV)</td>
<td></td>
</tr>
<tr>
<td>Blunt assault with weapon (e.g., pipe, bat, or golf club)</td>
<td></td>
</tr>
<tr>
<td>Falls &gt; 10 but &lt; 20 feet</td>
<td></td>
</tr>
</tbody>
</table>

*This list is not all-inclusive and other high energy mechanisms encountered also merit Base Hospital contact*

- Consider Base Hospital contact for destination

For situations not described above, consider Base Hospital contact if paramedic has concern that a serious injury may exist

**For situations not described above, consider Base Hospital contact if paramedic has concern that a serious injury may exist**
Pearls

- Do not let alcohol confuse the clinical picture. Alcoholics may have unrecognized injuries, particularly head bleeds.
- A complete hands-on-head-to-toe assessment is required for all trauma patients.
- Transport should be initiated within 10 minutes of ambulance arrival unless patient requires extrication.

Age Categories

- Adult Patient – Trauma patients 15 years of age and older.
- Pediatric Patients – Trauma patients under the age of 15 years.

Trauma Receiving Facilities

- Adult Trauma Centers – John Muir Medical Center – Walnut Creek is the designated trauma center for adults in Contra Costa County. In some circumstances, patients may be transported to other trauma receiving facilities. Alameda County Medical Center (Highland) and Eden Medical Center are trauma receiving facilities that, when they are the closest trauma receiving facility, may be appropriate for ground transport of trauma patients.
- Pediatric Trauma Centers – UCSF Benioff Children’s Hospital of Oakland (CHO) is the most appropriate destination for the majority of pediatric trauma patients.
- John Muir Medical Center – Walnut Creek may be an appropriate trauma receiving facility for critically injured pediatric trauma patients who are near arrest or have a very prolonged transport time. UC Davis Medical Center is also a pediatric trauma receiving facility and may be utilized when helicopter transport is involved.

Receiving Facilities – Local hospitals that are not trauma receiving facilities are destinations for patients who are triaged by the Base Hospital at the time of report as not requiring trauma center care. A trauma receiving facility may also serve as the receiving facility when it is the patient’s facility of choice.

Low Energy Mechanism Trauma

Low energy mechanism trauma may reveal significant trauma. Examples include, but are not limited to ground level or short falls, blunt assault without a weapon (e.g., closed fist), low speed motor vehicle crash, or other blunt trauma (e.g., sports injury). Symptoms or concern may include:

- Symptoms in the presence of head injury such as headache, vomiting, loss of consciousness, repetitive questioning, abnormal, or combative behavior or new onset of confusion
- Pain level greater than 5/10 related to head, neck, or torso injury
- Any concerns due to hypotension, tachycardia, or tachypnea
- Systolic BP < 110mmHg in patients 65 years of age or older
- Torso injury with tenderness of abdomen, chest/ribs or back/flank
- Suspected hip dislocation or pelvis injury

Other Definitions

Unmanageable Airway – A patient whose airway is unable to be adequately maintained with BLS or ALS maneuvers. Adult trauma patients are candidates for immediate redirection to the trauma center following airway stabilization at a non-trauma receiving facility.

Traumatic Arrest – Patients who do not qualify for field determination of death but have or develop cardiopulmonary arrest should be transported to the closest Basic ED by ground ambulance.

Exceptions:

- Patients with penetrating trauma who arrest (pulseless, apneic, or pulseless with agonal respirations) after the arrival of transport personnel should be immediately transported to a trauma center if transport time is 20 minutes or less to that facility. If no Trauma Center is available within 20 minutes, patients should be transported to the closest basic emergency department.
- If a helicopter crew is present at the time of arrest (blunt or penetrating) and the air transport can be initiated immediately, use of helicopter to transport to a trauma center is appropriate.