CLINICAL PRACTICE GUIDELINE: Trauma Team Activation Criteria

STANDARD:

In Level I and II trauma centers, the highest level of activation requires the response of the full trauma team within 15 minutes of arrival of the patient, and the criteria should include physiologic criteria and some or several of the anatomic criteria (CD 5–14). The limited response criteria may include some anatomic criteria, as well as high-risk mechanisms of injury.

DEFINITIONS: The trauma team is activated in the Emergency Department prior to or at patient arrival. There are 3 priority categories in which the trauma team can be activated: Level 1/Geriatric Level 1, Level 2 or Consult. In general, patients who meet Level I or II activation criteria should be evaluated in the Emergency Department. There are limited circumstances for a direct admit to prompt a trauma consult in the inpatient setting.

GUIDELINES:

## Adult Trauma Code Criteria

### Level I Trauma Criteria – Ages 15 - 69

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
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<tbody>
<tr>
<td><strong>Airway</strong></td>
<td>• Patient intubated at the scene</td>
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<td>• Intubated patients transferred from an outside hospital with a spontaneous respiratory rate &lt; 8 or &gt; 15</td>
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<td></td>
<td>• Airway compromise or high risk of impending airway compromise such as:</td>
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<td></td>
<td>o Significant intra-oral/airway bleeding</td>
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<td></td>
<td>o Inhalation injury with respiratory compromise</td>
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<tr>
<td></td>
<td>o Facial burns (3rd degree)</td>
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<td></td>
<td>o Vomiting with altered mental status/combative behavior</td>
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<tr>
<td><strong>Breathing</strong></td>
<td>• Respiratory arrest</td>
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<td></td>
<td>• Respiratory rate &lt; 8 or &gt; 30</td>
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<tr>
<td><strong>Circulation</strong></td>
<td>• Confirmed blood pressure less than 90 mm Hg at any time</td>
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<td></td>
<td>• HR &gt; 120</td>
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<tr>
<td><strong>Neurological</strong></td>
<td>• Coma Scale score less than 9 (at any point) with mechanism attributed to trauma</td>
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<tr>
<td></td>
<td>• Open or depressed skull fracture</td>
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<tr>
<td></td>
<td>• Spinal cord injury</td>
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<tr>
<td><strong>Anatomic Diagnosis</strong></td>
<td>Penetrating trauma (including gunshot wounds, stab wounds, impalements, etc.) to head, neck, torso, or groin (unless obvious or known superficial injury)</td>
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<td></td>
<td>• Partial or complete amputation of major limb (not isolated hand/finger injury)</td>
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# Level I Trauma Criteria (continued)

## Pregnant Trauma Patients
>23 weeks (Fundus palpable at or above umbilicus) Meeting Level I or Level II criteria

## Burns
- Any burn patient who also meets level I criteria

Transfer patients from other hospitals receiving blood or vasopressors to maintain vital signs

Emergency physician’s discretion

**May upgrade any level per ED Physician Discretion**

## Geriatric Level I Trauma Criteria – Age >70

### Airway
- Intubated patients transferred from the scene - OR - Patients who have respiratory compromise or are in need of an emergent airway Includes intubated patients who are transferred from another facility with ongoing respiratory compromise (does not include patients intubated at another facility who are now stable from a respiratory standpoint)
- Airway compromise or high risk of impending airway compromise such as:
  - Significant intra-oral/airway bleeding
  - Inhalation injury with respiratory compromise
  - Facial burns (3rd degree)
  - Vomiting with altered mental status/combative behavior

### Breathing
- Ongoing respiratory compromise
- Respiratory Arrest
- Respiratory rate < 8 or > 15

### Circulation
- SBP < 110
- HR < 60 or > 100

### Neurological
- Open or depressed skull fracture
- Coma Scale score less than 9 (at any point) with mechanism attributed to trauma

### Anatomic
- Penetrating trauma (including gunshot wounds, stab wounds, impalements, etc.) to head, neck, torso, or groin (unless obvious or known superficial injury)
- Partial or complete amputation of major limb (not isolated hand/finger injury)

### Mechanism
- High risk MVC (death of another occupant, intrusion of 12 inches in passenger compartment)

**May upgrade any level per ED physician discretion**
## Level II Trauma Criteria – Ages ≥ 15

**Trauma Patients who meet any of the following and do not meet any Level I Criteria:**

### Airway
- Intubated patients transferred from an outside hospital with a spontaneous respiratory rate < 9 or > 14

### Mechanism
- Fall from height > 20 ft
- Auto vs. pedestrian/bicyclist thrown, run over, or with significant impact > 20 mph
- Motorcycle, ATV or snowmobile crash > 20 mph

### Neurological
- GCS between 10 and 13

### Anatomic
- Suspected or actual unstable pelvis without hypotension
- 2 or more proximal long bone fractures (humerus or femur)
- Open long bone fracture (humerus or femur)
- Severe maxillofacial trauma

### Burns
- Burns with greater than or equal to 20% TBSA

**May upgrade any level per ED Physician Discretion**
**Level III Trauma Criteria (Consult) – Ages ≥ 15**

**Trauma Patients with any of the following and who do not meet Level I or Level II:**

- Any patient who has injuries involving more than one body system that require admission for management
- Prolonged extrication time, > 20 minutes
- Patient with traumatic mechanism of injury with intracranial, intrathoracic, intraabdominal or pelvic injuries that require admission to any service.
- Patient over 70 years of age with traumatic mechanism of injury who requires admission for management of their injuries
- High risk MVC (death of another occupant, intrusion of 12 inches in passenger compartment, ejected from another vehicle, rollover)
- Fall in patient with current use of anticoagulants who requires admission for management of their injuries

**May upgrade any level per ED Physician discretion**

**Trauma Team Consults for Direct Admits – Ages ≥ 15**

**Direct admit trauma team consult triggers:**

- Patient complains of pain/provider suspicious for an injury
- Patients meeting Level I, Level II, or Level III/Trauma Consult Criteria*

*Patients meeting Level I or II criteria should be evaluated in the ED and have a trauma activation called, but if they get to the inpatient area and meet any level, call a trauma consult
<table>
<thead>
<tr>
<th>Trauma Activation Level</th>
<th>Team Members</th>
<th>Response Times for team members responding from outside of the ED</th>
</tr>
</thead>
</table>
| Level 1                 | 1) Trauma Attending Physician  
2) Chief Trauma Resident (PGHY 3,4, or 5)  
3) Trauma Resident (PGY 1 or 2)  
4) Emergency Medicine Attending  
5) Emergency Medicine Resident  
6) ED Scribe RN  
7) 2 ED Trauma RNs  
8) Radiology Technologist  
9) Respiratory Therapist  
10) Chaplain  
11) Social Worker  
12) Administrative Supervisor  
If consulted must respond within 30 minutes:  
1) Neurosurgery  
2) Orthopedic Surgeon | Trauma attending must arrive within 15 minutes of patient arrival; if trauma activation occurs after patient arrival, must arrive within 15 minutes of activation |
| Level 2                 | 1) Chief trauma resident (PGY 4 or 5) OR Trauma Attending Physician  
2) Trauma Resident (PGY 3)  
3) Trauma Resident (PGY 1)  
4) Emergency Medicine Attending  
5) ED Scribe RN  
6) ED Trauma RN  
7) ED HCT, LPN, or additional ED trauma RN  
8) Radiology Technologist  
9) Respiratory Therapists  
10) Chaplain  
11) Social Worker  
If consulted must respond within 30 minutes:  
1) Neurosurgery  
2) Orthopedic Surgeon | Trauma attending or PGY 4 or 5 must arrive within 15 minutes of patient arrival; if trauma activation occurs after patient arrival, must arrive within 15 minutes of activation. Attending trauma surgeon must evaluate the patient within 4 hours for ICU admissions and 8 hours for floor admissions. |
| Consult                 | 1) Trauma resident (PGY3)  
2) EM Physicians, ED nurses and staff as assigned | 30 minutes by consult resident |

**MONITORING PERFORMANCE IN PI PROGRAM**

For Level I, II, and III trauma centers, it is expected that the trauma surgeon be in the emergency department on patient arrival, with adequate notification from the field. For Level I and II trauma centers, the maximum acceptable response time is 15 minutes. Response time will be tracked from patient arrival rather than from notification or activation. An 80 percent attendance threshold must be met for the highest-level activations (CD 2–8).
- Timeliness is monitored in report card and select case reviews
- ISS > 15 with no activation is reviewed
- All NSA (non-surgical admits) reviewed

REFERENCES:
