

UAMS MEDICAL CENTER
ACS SERVICES MANUAL

SUBJECT: Trauma Activation Criteria
UPDATED: 12/2018, 12/2020, 01/2023

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EFFECTIVE: 01/05/2023

RECOMMENDATION(S): Kyle J. Kalkwarf, MD
CONCURRENCE(S): Trauma Faculty & Randy Maddox, MD

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PURPOSE:

To identify patients with actual or potential serious injuries based on physiological changes, altered anatomy, mechanism of injury, and risk factors. A three-tier response to trauma maximizes appropriate resource utilization while assuring timely, organized, and proper care.

Access to the System

Trauma patients typically enter the system in one of three ways:

- Helicopter (Helo)
- Paramedic/EMT Ambulance (EMS)
- Privately Owned Vehicle (POV)

DEFINITIONS:

Trauma Triage: Trauma Triage is an estimation of injury severity used to align patient needs with available resources.

Level 1 (Life Threatening): A Level of Trauma evaluation for a patient who meets the mechanism of injury criteria with unstable vital signs or potentially life-threatening injuries.

Level 2 (Potentially Life Threatening): A Level of Trauma evaluation for a patient who meets the mechanism of injury criteria with stable vital signs pre-hospital and upon arrival.

Level 3 (No obvious life-threatening injuries): A Level of Trauma evaluation for a patient who does not meet criteria for a Level 1 or 2 activation, with stable vital signs and no apparent life-threatening injuries.

Trauma Team Leader: The trauma surgery or emergency department senior resident assigned to lead the care team for the individual patient resuscitation.

PROCEDURES:

- 1) **All patients presenting with potential injury will be screened based on Trauma Team Activation Criteria.**
 - a) If presenting via Helo or EMS, the ED charge nurse or ED attending will provide this screening.
 - b) If presenting via POV, the ED triage nurse will provide this screen and consult with the ED charge nurse or the ED attending as needed.

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2) The screener will determine the level of activation based on the following criteria.

a) Level 1 Activation Criteria (SCENE)

- i. Penetrating injury to the Neck, Chest, Abdomen, or Extremities proximal to the elbow/knee
- ii. Signs of Shock
 - a. $HR > SBP$ (Shock Index)
 - b. $SBP < 90$ mmHg reported at any time
 - c. Absent carotid, femoral, or radial pulse
 - d. For children < 10 years = $SBP < 70 + 2 * age$
- iii. Severe uncontrolled hemorrhage or transfer patients receiving blood products or more than a liter of crystalloid to treat signs of shock
- iv. Intubated in the field
- v. Unable to intubate or airway compromise (including blunt neck injury with evidence of potential airway injury)
- vi. Emergency surgical airway placed at the scene or the referring hospital Neurological injury with $GCS < 9$ without sedation
- vii. Major vascular injuries, including significant crush or amputation proximal to the elbow or knee or need for pre-hospital tourniquet application
- viii. Suspected spinal cord injury from the scene or not stabilized at referring hospital
- ix. Major impalement to the torso
- x. Open or unstable pelvic fracture
- xi. Pregnancy with > 20 weeks' gestation, if other activation criteria of Level 2 or greater
- xii. Trauma Code
- xiii. Emergency Department Physician discretion

b) Level 1 Activation Criteria (TRANSFER)

- i. Hemodynamic instability-requiring blood transfusion, pressors, or > 1 liter of crystalloid to maintain $SBP > 90$ mmHg ($> 70 + 2 * age$ if < 10 years)
- ii. $HR > SBP$
- iii. Penetrating Thoracoabdominal Trauma
- iv. Respiratory compromised with lack of a definitive airway
- v. Intubated patients transferred from another facility
- vi. Acute decompensation enroute
- vii. Attending Physician/Charge RN discretion

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- c) Level 2 Activation Criteria (SCENE)
 - i. Penetrating Injury to Extremity distal to elbow or knee
 - ii. Flail Chest or multiple rib fractures
 - iii. Burns:
 - a. >20% BSA of Grade 2 or 3
 - b. Any signs of inhalation injury
 - iv. Neurologic injury with GCS > 9 or < 14
 - v. Skull fracture: open or depressed
 - vi. Long bone fractures: 2 or more (ulna & radius or tibia & fibula = 1 long bone)
 - vii. Extremity trauma with loss of a distal pulse or sensation
 - viii. Severe maxillofacial injury with stable airway
 - ix. Near drowning
 - x. Trauma patient currently on anticoagulants (not including aspirin) with external signs of a supraclavicular injury
 - xi. Trauma patient >65 years with HR >90 or SBP <110
 - xii. Pregnancy with >20 weeks gestation without another Level 2 criteria present
 - xiii. Major MVC: ejection from the vehicle, extrication > 20 minutes, death of an occupant in the same vehicle, or impact speed > 50 mph
 - xiv. Pedestrian struck by a vehicle or motor-bike > 10 mph
 - xv. Falls > 20 feet
 - xvi. Motorcycle crash/ATV > 20 mph or with separation of rider from bike
 - xvii. Plane or glider crash
 - xviii. Trauma patient with a seatbelt sign
 - xix. Emergency physician discretion

- d) Level 2 Activation Criteria (TRANSFER)
 - i) Must meet all the following criteria:
 - (1) Transfer with multiple system trauma or CHI
 - (2) Less than 12 hours after the injury
 - (3) Hemodynamically stable
 - ii) MD/Charge RN Discretion

- e) Level 3 Activation Criteria (SCENE)
 - i) MVC with rollover or intrusion into passenger compartment > 12 inches
 - ii) Hanging (without evidence of airway compromise or injury)

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- iii) Patient > 65 years of age
- iv) Stable pelvic fractures not meeting higher activation criteria
- v) Single-system injury with a high index of suspicion based on mechanism
- vi) Traumatic injury with hypothermia (< 35°C) or hyperthermia (> 39°C)
- vii) Any other trauma-related injury where two or more systems are involved that does not meet a higher activation criterion
- viii) Emergency physician discretion

f) Level 3 Activation Criteria (TRANSFER)

- i) Not meeting Level 1 or Level 2 activation criteria
- ii) Single-system trauma, excluding transfer for ENT, ophthalmology, or hand
- iii) Emergency physician discretion

3) Activation of the Trauma Team

- a) The goal of pre-arrival activation is to have the trauma team in a position ready to receive the patient upon arrival. For this to enhance patient care, there must be sufficient time for the team to make their way to the ED, assemble and make assignments before patient arrival.
- b) Upon determination of activation criteria for the patient by the screener, the trauma team will be activated through the paging system under the following instances based on the timing of advanced notification:
 - i) The ETA is < 15 minutes – the screener will activate immediately.
 - ii) The ETA is > 15 minutes – the screener will send a heads-up notification with a projected ETA. A REPEAT PAGE will be sent when ETA is 15 minutes.
 - iii) The ETA is unknown and will be treated the same as (ii) above with a repeat page once a more established ETA is known.
- c) Trauma Page Information: The following information will be included on trauma pages
 - i) Level of Activation and Heads-Up Notification vs. Activation
 - ii) Brief mechanism of injury or actual identified injury (e.g., GSW Chest, MVC, Open Femur Fracture)
 - iii) Systolic BP, HR, GCS
 - iv) Mode of arrival (e.g., Helicopter, Ground, POV/Triage)
 - v) ETA
 - vi) Trauma band number, if available