

Trauma Clinical Guideline Trauma Team Activation Criteria

The Trauma Medical Directors and Program Managers Workgroup is an open forum for designated trauma services in Washington State to share ideas and concerns about providing trauma care. The workgroup meets regularly to encourage communication among services and to share best practices and information to improve quality of care. On occasion, at the request of the Emergency Medical Services and Trauma Care Steering Committee, the group discusses the value of specific clinical management guidelines for trauma care.

The Washington State Department of Health distributes the Full Trauma Team Activation Criteria Guideline on behalf of the Emergency Medical Services and Trauma Care Steering Committee to assist trauma care services with developing their trauma patient care guidelines. Toward this goal the workgroup has categorized the type of guideline, the sponsoring organization, how it was developed, and whether it has been tested or validated. It is hoped that this information will assist the physician in evaluating the content of this guideline and its potential benefits for their practice or any particular patient.

The Department of Health does not mandate the use of this guideline. The department recognizes the varying resources of different services and that approaches that work for one trauma service may not be suitable for others. The decision to use this guideline depends on the independent medical judgment of the physician. We recommend that trauma services and physicians who choose to use this guideline consult with the department or American College of Surgeons Committee on Trauma regularly for any updates to its content. The department appreciates receiving any information regarding practitioners' experiences with this guideline. Please direct comments to 360-236-2874.

This is a trauma assessment and management guideline. It was adapted from research in journal articles and professional literature. The workgroup reviewed the guideline, sought input from trauma care physicians throughout Washington State, and used that input to make changes. The guideline was then endorsed by the Emergency Medical Services and Trauma Care Steering Committee and by the Department of Health Office of Community Health Systems. This guideline has not been tested or validated.

Washington State Department of Health
Office of Community Health Systems
111 Israel Road S.E.
Olympia, WA 98504-7853
Phone 360-236-2800

Trauma Team Activation Criteria Guideline

Full Trauma Team Activation refers to automatic activation of the entire trauma team, including the general-trauma surgeon, based on predefined criteria.

Modified Trauma Team Activation allows for initial activation of a portion of the trauma team (usually excluding the general-trauma surgeon) with subsequent activation of the full team if necessary.

Objective:

This guideline defines the **minimum** patient criteria for full or modified trauma team activation. Additional criteria may need to be added based on local hospital resources.

Full Trauma Team Activation (FTTA)

- Hemodynamic instability at any time in the field or emergency department (ED) with injury mechanism; Systolic blood pressure (SBP) less than 90mmHg for age more than 5 years or below minimum SBP for age less than 5 years, see [Table 1](#). Established by second measurement in rapid succession, infants and children with HR less than 60 beats per minute
- Glasgow Coma Scale (GCS) less than nine or AVPU (responsive to pain or unresponsive) with torso and/or extremity trauma
- Penetrating injury to the neck, chest, abdomen, pelvis or groin
- Difficult or unsecured airway in field or emergency department (ED) (includes failed attempts at field intubation, all patients transported with airway rescue devices (King/laryngeal mask airway LMA), all patients with field or outside hospital cricothyrotomy or the anticipated need for surgical airway
- Obvious major vascular injury (active arterial hemorrhage, expanding hematoma)
- All pediatric trauma patients age less than 5 years requiring intubation in the field or ED
- Any trauma patient requiring blood product transfusion to maintain vital signs
- Mass casualty: more than three major trauma patients expected simultaneously
- Patient not meeting criteria but ED physician is concerned or additional resources needed

Full Trauma Team Members:

- ED physician
- General surgeon
- Anesthesiologist-certified registered nurse anesthetist (CRNA)
- Trauma-ED registered nurse
- Laboratory
- Radiology

Full Trauma Team Activation – Pediatric

Patients less than 14 years meeting full trauma team activation criteria.

Pediatric full trauma team – include all FTTA personnel with the addition of one of the following when available:

- Pediatric surgeon
- Pediatric emergency medicine physician
- Pediatrician

Full Trauma Team Activation – OB

Any pregnant patient (gestational age greater than 20 weeks) who meets full trauma team activation criteria.

OB full trauma team – include all FTTA personnel with the addition of one of the following when available:

- Obstetrician
- Pediatrician

Modified Trauma Team Activation (MTTA)

- All injuries to the extremities with pulse deficit
- Trauma patients with altered mental status (i.e. head injury or intoxication) who require diagnostic evaluation of the abdomen
- Burns associated with trauma
- Two or more proximal long bone fractures
- Amputation proximal to ankle or wrist
- Unstable pelvis with possible fracture
- Multiple (three or more) rib fractures, flail chest, hemo or pneumothorax
- Severe mechanism of injury: motor vehicle crash (MVC) with ejection, death of occupant in vehicle, intrusion greater than 12 inches into patient compartment or greater than 18 inches in any compartment, adult falls greater than 20 feet, child (less than 15 years old) fall greater than 10 feet or two to three times the height, auto vs. pedestrian or bicycle with significant impact, motorcycle crash (MCC) greater than 20 miles per hour (mph) or with separation of rider from motorcycle
- All pediatric non-accidental trauma (NAT)

Modified Trauma Team Includes:

- ED physician
- ED registered nurse (RN)
- Respiratory therapist (RT)
- Radiology
- Laboratory

Modified Trauma Team Activation – Pediatric

Any patient less than 14 years meeting MTTA criteria consider pediatrician presence or consult.

Modified Trauma Team Activation - OB

Pregnancy greater than 20 weeks gestation (fundus at umbilicus if gestational age unknown), except extremity or soft tissue injury not requiring admission

Table 1. Reference Vital Signs for Pediatric Patients ≤ 5 years of age:

Color	Gray	Pink	Red	Purple	Yellow	White	Blue
Approximate weight (kg)	5	6	8	10	13	16	20
Approximate Age	0-2 mo	4 mo	8 mo	1 yr	2 yr	4 yr	5-6yr
Minimum SBP (mmHg)	50	70	70	70	70	75	80
Heart rate (beats/min)	100 -160	100-160	100-160	90-150	90-150	80-140	70-120

Reference

- American College of Surgeons. Resources for the Optimal care of the Injured Patient: (2014). Chicago, IL.
- Cherry, R., King, T., Carney, D., Bryant, P., & Cooney, R. (n.d.). (2007). Trauma Team Activation and the Impact on Mortality. The Journal of Trauma: Injury, Infection, and Critical Care, 63(2), 326-330.
- Falcone et al. (2012). A Multicenter Prospective Analysis Of Pediatric Trauma Activation Criteria Routinely Used In Addition To The Six Criteria Of The American College Of Surgeons. The Journal of Trauma and Acute Surgery, 73(2), 377-384.
- Feliciano, D., Mattox, K., Moore, E., Trauma (6th ed.). (2008). New York: McGraw Hill.
- Greene, W., Robinson, L., Rizzo, A., Sakran, J., Hendershot, K., Moore, A., ... Fakhry, S. (2007). Pregnancy is Not a Sufficient Indicator for Trauma Team Activation. The Journal of Trauma: Injury, Infection, and Critical Care, 63(3), 550-555.
- [Guidelines for Field Triage of Injured Patients Recommendations of the National Expert Panel on Field Triage](#), 2011. (2012). MMWR Recommendations & Reports, 61(1), 1-21.
- Harborview Medical Center. Trauma Team Activation Algorithm. (2014).
- Trauma Nurse Core Course Provider Manual (7th ed.). (2014). Des Plaines: Emergency Nurses Association.
- [Washington State Department of Health Pre-hospital Trauma Triage Tool](#)

Figure 1. **Trauma Team Activation**

