

## **Guideline: TRAUMA ACTIVATION, ADULT**

Updated: August 25, 2022

### **Clinical guideline summary**

**PATIENT POPULATION AND DIAGNOSIS:** Adult Trauma Activation Criteria: Age > 18 years,

**APPLICABLE TO:** Spectrum Health Butterworth

**BRIEF DESCRIPTION:** Formally designate the process of activating a trauma response.

**OVERSIGHT TEAM LEADER(S):** Dr. Patricia Pentiak

**OWNING EXPERT IMPROVEMENT TEAM (EIT):** N/A

**MANAGING CLINICAL PRACTICE COUNCIL (CPC):** Acute Health

**CPC APPROVAL DATE:** 9/27/22

**LAST REVISED:** 8/25/22

**FOR MORE INFORMATION, CONTACT:** Patricia Pentiak

# Clinical pathways clinical approach

## TREATMENT AND MANAGEMENT:

### Adult Trauma Activation Criteria: Age $\geq$ 18 years

#### Trauma 1 Activation criteria:

- Glasgow Coma Score  $\leq$ 12
- Presence of paralysis or loss of sensation
- Confirmed hypotension  $<$ 90 systolic at any time in adults
- Pulse of  $>$  130 or  $<$  50 mph
- Intubated or assisted ventilation
- Respiratory distress with rate  $<$  10 or  $>$  29 in adults
- Transfer patient from referring hospital requiring blood for vital sign support or with persistent hypotension/tachycardia
- Penetrating injury to head, neck, torso, or proximal limb
- Burns associated with multi-system trauma
- Partial or complete amputation proximal to wrist and ankles
- Utilization of a tourniquet
- Discretion of ED physician or nurse

#### Trauma 2 Activation criteria:

##### Does not meet any Level 1 criteria but meets below:

- Altered mental status – GCS 13-14
- Isolated penetrating injury to distal limb
- Two or more proximal long bone fractures
- Pregnancy greater than 20 weeks with significant trauma (notify OB staff prior to arrival)
- Ejection (partial or complete) from vehicle
- Death of occupant in same passenger compartment
- Auto vs. pedestrian/bicyclist or auto vs. bike/motorcycle
- Falls  $>$  10 feet (or twice patient's height)
- Discretion of ED physician or nurse

Transfer Patients with above MOI without hemodynamic or neurological compromise will have consultation or Trauma 2 status determined by the trauma surgeon.

#### Trauma 2 Geriatric Activation criteria: Age $\geq$ 65 years in addition to above level 2

- SBP  $\leq$  110 (if  $<$ 90 see Trauma 1 criteria)
- Ground Level Fall within 24 hours WITH Suspected Brain Injury AND Altered GCS from baseline. (have index of suspicion for patients on anticoagulant – excluding ASA)
- Ground Level Fall within 24 hours WITH Evidence of Chest Trauma (rib pain, concern for rib fractures)
- Exclude hip fracture patients for GLF activations.

Transfer Patients with above MOI without hemodynamic or neurological compromise will have consultation or Trauma 2 status determined by the trauma surgeon.

Adult Activation Criteria algorithm: [see addendum A & B](#)

Pediatric Trauma Activation Criteria: [see Pediatric Trauma Activation Guideline](#)

#### Trauma “Evaluation” Criteria:

##### Does not meet Trauma 1 or Trauma 2 criteria

- Transferred trauma patients from an outside hospital (OSH) where an initial ED work up has been performed with trauma diagnoses identified but the patient requires a timely head to toe **assessment and evaluation for admission** by the trauma team at the BW Level I Trauma Center.
- Patients  $>$  55 years of age

- Medical co-morbidities or on anticoagulation therapy
- Presence of altering substances
- Discretion of ED physician, nurse

### **Trauma Team Activation Procedure for Trauma 1 & 2:**

- EMS notification of trauma patient will follow established EMS guideline with notification by phone or EMTracks system based on acuity level. Bed Traffic Control (BTC) nurse will take EMS report and activate the trauma team based on activation criteria or in consultation with ED attending or trauma surgeon.
- The trauma team is to respond as quickly as possible to the bedside (see required response times by activation level below)
- Team will proceed to the trauma bay and badge in, to document arrival time. The ED nurse will chart in the trauma narrator the time team is page, team arrival time, and trauma surgeon arrival time and name.
- Trauma Time Out will be done and documented to confirm team members were present for hand off report.
- CT Scan personnel will hold a room for a Trauma I activation to ensure rapid access to patient assessment.
- Trauma 2 patient will receive priority status for imaging studies. The ED secretary will call CT staff to confirm their awareness of the trauma patient and timing to CT scanner.

[See addendum C](#) for list of team members for Trauma I and II activations

### **Transfer from Referring Hospital:**

- Spectrum Health Transfer Center is to be utilized to provide structured process for communication with the trauma surgeon, and regional providers for trauma patients transfer to Spectrum Health Butterworth (SHBW)
- Spectrum Health Transfer Center will perfect serve the on-duty trauma surgeon to speak directly with the referring facility provider. The trauma surgeon will determine the activation level based on the above activation criteria and referring facility patient report. The Transfer Center nurse will document key information in the conversation and the requested activation level in the Transfer Center Epic note.

### **Request for Neurosurgical response within 30 minutes of notification**

The following criteria was established by the neurosurgery department and trauma service for requiring a neurosurgical team member at the bedside within 30 minutes of notification:

- Abnormal head CT with localizing signs of obtundation
- Penetrating head injury with altered level of conscious
- Neurological deficit as a result of potential spinal cord injury

The neurosurgical APP will be perfect served by the trauma team with notification. The Neurosurgical APP will contact the neurosurgeon. The trauma surgeon can perfect serve the neurosurgeon whenever there is a need to communicate directly.

### **Request for Orthopaedic surgical response within 30 minutes of notification**

The following criteria was established by the trauma orthopaedic surgery department and trauma service for requiring an orthopaedic surgery team member at the bedside within 30 minutes of notification.

- Pulseless extremity with orthopaedic injury
- Mangled extremity with compromise
- Complex pelvic fractures with hemodynamic instability

The orthopaedic surgery resident will be perfect served by the trauma team with notification. The orthopaedic surgery resident will contact the orthopaedic surgeon. The trauma surgeon can perfect serve the orthopaedic surgeon whenever there is a need to communicate directly.

### **Pediatric Trauma 1 Activation procedure at SHBW:**

Adult trauma surgeon will respond to Pediatric Trauma 1 Activations unless contacted by the on-call pediatric trauma surgeon confirming that they would be meeting the patient in the trauma bay.

**Adult Response Times:****Trauma I activation response:**

The goal for the trauma team is to be at the bedside prior to patient arrival. The trauma surgeon must be present within 15 minutes of patient arrival.

**Trauma 2 Trauma activation response:**

Trauma team must report to the bedside upon notification to ensure presence on patient arrival. The trauma surgeon must be at the bedside within 30 minutes of patient arrival.

**Trauma “Evaluation” response:**

Trauma evaluation should be initiated for patients that do not meet Trauma I & II criteria but need a more immediate trauma team involvement. Early recognition of these patients will assist in timely admission for traumatic injuries. Transfer patients that do not meet Trauma 1 or 2 criteria should be consider for a trauma evaluation to confirm injuries and stability after transport.

The trauma surgeon evaluation should be completed with time documented **within 2-3 hours** of arrival.

**Trauma Consult:**

Any patient with a traumatic mechanism of injury that does not meet the above criteria but the ED provider or other admitting service request trauma service to examine the patient for admission to a non-surgical service or discharge from the ED.

**Activation Level Changes:**

Upgrading activation level:

- Any trauma patient may be upgraded to a Trauma I or Trauma 2 at any time after arrival based on updated EMS information or change in the clinical presentation that require resources to the bedside.

Downgrading activation level:

- Downgrading of activations is discouraged. If the patient was inappropriately activated, then the activation can be cancelled but there must be physician documentation in the chart explaining the downgrade or cancellation of the activation level.

**Trauma Direct Admit In-patient to In-patient:**

- Trauma patients in need of admission to SHBW that are being transferred from a referring hospital in-patient unit may be a direct admit to a SHBW in-patient unit. Spectrum Health Transfer Center must be involved in the coordination of the transfer from the referring hospital. Patients transferred from a referring hospital emergency department that meet Trauma 1 or Trauma 2 criteria need to be evaluated in the SHBW emergency department with appropriate activation response and not made a direct admit.

**Triage:**

Triage decisions should be documented by the attending physician making the activation level decision. Over-triage, under-triage, response times, and other performance improvement (PI) measures will be reviewed according to the American College of Surgeons recommendations and the Spectrum Health Trauma Service PI Plan.

**Additional Notes:**

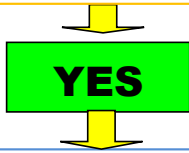
- Trauma I & 2 activation patient should be evaluated in the trauma bay. Every effort should be made to expedite the patient being moved to an inpatient unit, operating room, or IR versus to another location in the ED.
- Trauma 1 and 2 activation patients that have admission orders to the ICU must be moved as quickly as possible to the ICU from the trauma bay. If the patient needs to be moved to an ED mod bed then a member of the trauma team must stay with the patient until moved to the ICU.
- Bed request orders should be placed as soon as possible to avoid lengthy ED dwell times.
- If the patient has sustained a burn, notify the burn team and place a consult.

**Addendum A**  
**Adult Trauma age < 65 years**  
**Activation Criteria (Trauma 1 & 2)**

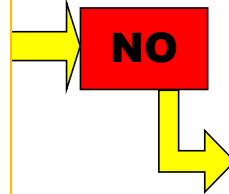
**Trauma 1 Criteria:**

- Glasgow Coma Scale.....≤12
- Presence of paralysis or loss of sensation
- Systolic Blood Pressure.....< 90 mmHg
- Pulse.....>130 or <50 bpm
- Respiratory distress <10 or >29, intubated or assisted ventilation
- Regional transfer requiring blood or with persistent hypotension / tachycardia
- Penetrating injuries to head, neck, torso, or proximal limb
- Burn associated with multi-system trauma
- Partial or complete amputation proximal to wrist or ankle
- **Utilization of a Tourniquet**
- Deterioration of previously stable patient

**\*\*\* Discretion of ED Physician or Nurse \*\*\***



**Page Trauma 1:**  
**Example: Adult Trauma**  
**Location: BW**  
**Level 1**  
**ETA: 0700**  
**Other: age, high speed crash, ETT, hypotensive**



**Page Trauma 2:**  
**Example: Adult Trauma**  
**Location: BW**  
**Level 2**  
**ETA: 0700**  
**Other: age, MVC, ejected with multi long bone fxs**

**Trauma 2 Criteria:**

- Altered GCS 13-14
- Isolated penetrating injury to distal limb
- Two or more proximal long bone fractures
- Pregnancy > 20 weeks with significant trauma (OB Charge Nurse 352-9982)
- Evaluate for evidence of mechanism of injury & high-energy impact:  
 High-Risk auto crash:  
 Ejection (partial or complete) from vehicle  
 Death in same passenger compartment
- Auto vs pedestrian/bicyclist or auto vs. bike / motorcycle
- Fall: > 10 feet (or twice patient's height)
- **Transfer patient** that meet above mechanism of injury criteria, is without hemodynamic or neurologic compromise, and the trauma surgeon has discussed the patient with regional referring physician; the trauma surgeon will determine if the patient should be transferred as a trauma consult or be paged as Trauma 2 Activation.

**\*\*\* Discretion of ED Physician or Nurse \*\*\***



**Other Criteria that may be used to consider Trauma Service Evaluation:**

- Medical co-morbidities or on anticoagulation therapy
- Presence of altering substances
- Transfer Patients that do not meet Level I or II activation criteria but requires admission
- Discretion of ED physician or nurse

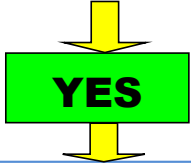
Revised 10/28/2020

**Addendum B**  
**Geriatric Trauma age ≥ 65 years**  
**Activation Criteria (Trauma 1 & 2)**

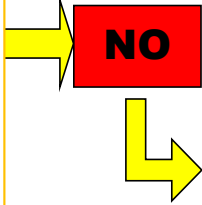
**Trauma 1 Criteria:**

- Glasgow Coma Scale.....≤12
- Presence of paralysis or loss of sensation
- Systolic Blood Pressure.....< 90 mmHg
- Pulse.....>130 or <50 bpm
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- Regional transfer requiring blood or with persistent hypotension / tachycardia
- Penetrating injuries to head, neck, torso, or proximal limb
- Burn associated with multi-system trauma
- Partial or complete amputation proximal to wrist or ankle
- **Utilization of a Tourniquet**
- Deterioration of previously stable patient

\*\*\* Discretion of ED Physician or Nurse \*\*\*



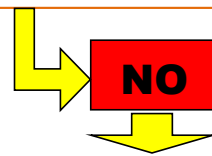
**Page Trauma 1**



**Page Trauma 2:**

**Trauma 2 Criteria:**

- Altered GCS 13-14
  - **SBP ≤ 110 (if <90 see Trauma 1 criteria)**
  - Isolated penetrating injury to distal limb
  - Two or more proximal long bone fractures
  - Fall: > 10 feet (or twice patient's height)
  - High-Risk auto crash:
    - Ejection (partial or complete) from vehicle
    - Death in same passenger compartment
  - Auto vs pedestrian/bicyclist or auto vs. bike / motorcycle
- **Ground Level Fall within 24 hours WITH Suspected Brain Injury AND Altered GCS** from baseline (Have high index of suspicion for patients on anticoagulant – excluding Aspirin)
- **Ground Level Fall within 24 hours WITH Evidence of Chest Trauma (rib pain, concern for rib fx)**
- EXCLUDE HIP FRACTURE PATIENTS for GLF Activations**
- **Transfer patient** with above MOI without hemodynamic or neurological compromise will have consultation or trauma 2 status determined by the trauma surgeon.
- \*\*\* Discretion of ED Physician or Nurse \*\*\*

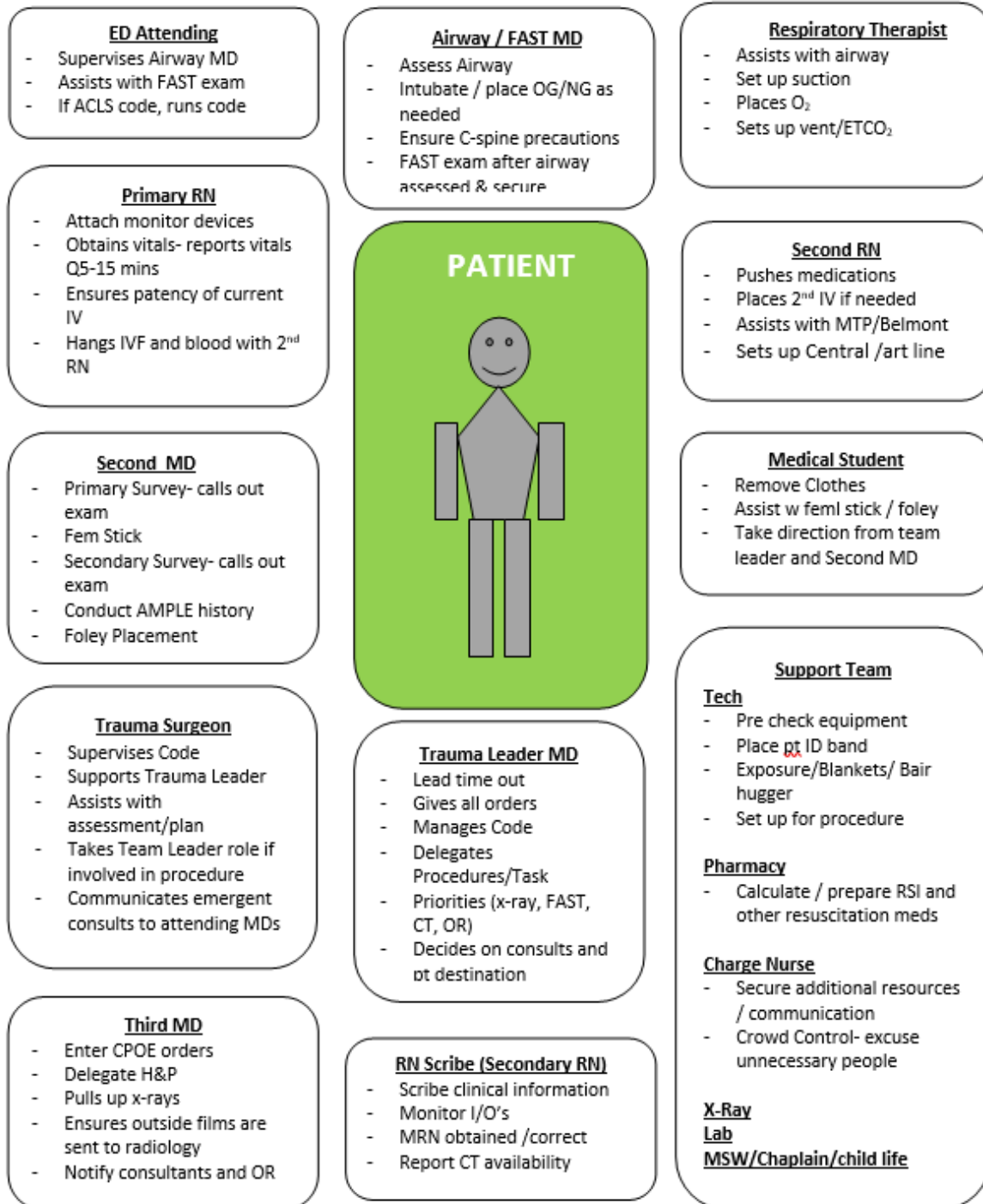


**Other Criteria that may be used to consider Trauma Service Evaluation:**

- Presence of altering substances
- Transfer Patients that do not meet Trauma I or II activation criteria but requires admission
- Discretion of ED physician or nurse

Revised 7.3.19

## Addendum C Trauma Code Team Roles



## References:

1. American College of Surgeons Committee on Trauma (2014). *Resources for the Optimal Care of the Injured Patient*. Chicago, IL, American College of Surgeons