

Initial Date: 12/18/2015 Revised Date: 12/16/2022

### *Michigan* TRAUMA AND ENVIRONMENTAL ADULT/PEDIATRIC TRAUMA TRIAGE

Section 2-1

### Adult/Pediatric Trauma Triage

## PURPOSE

The goal of any trauma patient assessment and transportation guideline is to facilitate delivery of the patient to the most appropriate level of care in the most expeditious manner.

Exception to these triage guidelines is made for trauma patients requiring airway intervention that cannot be accomplished by pre-hospital personnel. These patients will be transported to closest appropriate hospital to allow for airway management, resuscitation and immediate transfer for definitive care as indicated.

- I. Assess Patient According to National Guideline for the Field Triage of Injured Patients A. **RED CRITERIA** – High Risk for Serious Injury - Include the Following
  - 1. Injury Patterns
    - a. Penetrating injuries to head, neck, torso, and proximal extremities
    - b. Skull deformity, suspected skull fracture
    - c. Suspected spinal injury with new motor or sensory loss
    - d. Chest wall instability, deformity, or suspected flail chest
    - e. Suspected pelvic fracture
    - f. Suspected fracture of two or more proximal long bones
    - g. Crushed, degloved, mangled, or pulseless extremity
    - h. Amputation proximal to wrist or ankle
    - i. Active bleeding requiring a tourniquet or wound packing with continuous pressure
  - 2. Mental Status & Vital Signs
    - a. All Patients
      - i. Unable to follow commands (motor GCS < 6)
      - ii. RR < 10 or > 29 breaths/min
      - iii. Respiratory distress or need for respiratory support
      - iv. Room-air pulse oximetry < 90%
    - b. Age 0-9 Years
      - i. SBP < 70mm Hg + (2 x age in years)
    - c. Age 10-64 years
      - i. SBP < 90 mmHg or
      - ii. HR > SBP
    - d. Age ≥ 65 Years
      - i. SBP < 110 mmHg or
      - ii. HR > SBP
  - B. Patients meeting any one of the **above RED CRITERIA** should be transported to a Level 1 or Level 2 trauma center, with the following age group guidance:
    - 1. Adult (15 years of age or older) In order of preference of destination
      - a. Level 1 or Level 2 Trauma Center within 45 minutes. (If Level 1 or Level 2 Trauma Center is not possible within 45 minutes by ground transport from scene – consider air medical.)
      - b. Level 3 Trauma Center within 45 minutes



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- c. Level 4 Trauma Center within 45 minutes
- 2. Pediatrics (14 years of age or younger) In order of preference of destination
  - a. Pediatric Level 1 or Pediatric Level 2 Trauma Center if within 45 minutes
  - b. Level 1 or Level 2 Trauma Center within 45 minutes (If NEITHER a Level 1 or Level 2 Pediatric Trauma Center NOR Level 1 or Level 2 Trauma Center is possible by ground transport from scene – consider air medical.)
  - c. Level 3 Trauma Center within 45 minutes
  - d. Level 4 Trauma Center within 45 minutes.
- II. **YELLOW CRITERIA** Moderate Risk for Serious Injury Include the Following
  - A. Mechanism of Injury
    - 1. High-Risk Auto Crash
      - a. Partial or complete ejection
      - b. Significant intrusion (including roof)
        - i. >12 inches occupant site OR
        - ii. >18 inches any site OR
        - iii. Need for extrication for entrapped patient
      - c. Death in passenger compartment
      - d. Child (age 0-9 years) unrestrained or in unsecured child safety seat
      - e. Vehicle telemetry data consistent with severe injury
    - 2. Rider separated from transport vehicle with significant impact (e.g., motorcycle, ATV, horse, etc.)
    - 3. Pedestrian/bicycle rider thrown, run over, or with significant impact
    - 4. Fall from height > 10 feet
  - B. EMS Judgement
    - 1. Consider risk factors, including
      - a. Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact
      - b. Anticoagulant use
      - c. Suspicion of child abuse
      - d. Special, high-resource healthcare needs
      - e. Pregnancy > 20 weeks
      - f. Burns in conjunction with trauma
      - g. Children should be triaged preferentially to pediatric capable centers
    - 2. If concerned, transport to a trauma center
  - C. Patients meeting any one of the **YELLOW CRITERIA** WHO DO **NOT** MEET **RED CRITERIA** should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highestlevel trauma center per local MCA and trauma policies)



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## National Guideline for the Field Triage of Injured Patients RED CRITERIA

### High Risk for Serious Injury

Injury Pattern	Mental Status & Vital Signs
<ul> <li>Penetrating injuries to head, neck, torso, and proximal structures</li> <li>Skull deformity, suspected skull fracture</li> <li>Suspected spinal injury with new motor or sensory loss</li> <li>Chest wall instability, deformity, or suspected flail chest</li> <li>Suspected pelvic fracture</li> <li>Suspected fracture of two or more proximal long bones</li> <li>Crushed, degloved, mangled, or pulseless extremity</li> <li>Amputation proximal to wrist or ankle</li> <li>Active bleeding requiring a tourniquet or wound packing with continuous pressure</li> </ul>	All Patients • Unable to follow commands (motor GCS < 6) • RR < 10 or > 29 breaths/min • Respiratory distress or need for respiratory support • Room-air pulse oximetry < 90% Age 0–9 years • SBP < 70mm Hg + (2 x age in years) Age 10–64 years • SBP < 90 mmHg or • HR > SBP Age $\ge$ 65 years • SBP < 110 mmHg or • HR > SBP

# Patients meeting any one of the above RED criteria should be transported to a Level 1 or Level 2 trauma center.

RED CRITERIA Adult (15 years of age or older) Order of destination choices

1. Level 1 or Level 2 Trauma Center within 45 minutes.

\*If Level 1 or Level 2 Trauma Center is not possible within 45 minutes by ground transport from scene – consider air medical.

- 2. Level 3 Trauma Center within 45 minutes
- 3. Level 4 Trauma Center within 45 minutes.

**RED CRITERIA Pediatrics** (14 years of age or younger) Order of destination choices

- 1. Pediatric Level 1 or Pediatric Level 2 Trauma Center if within 45 minutes
- Level 1 or Level 2 Trauma Center within 45 minutes
   \*If Level 1 or Level 2 Pediatric Trauma Center NOR Level 1 or Level 2 Trauma Center is possible by ground transport from scene – consider air medical.
- 3. Level 3 Trauma Center within 45 minutes
- 4. Level 4 Trauma Center within 45 minutes



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# YELLOW CRITERIA

### Moderate Risk for Serious Injury

<ul> <li>High-Risk Auto Crash         <ul> <li>Partial or complete ejection</li> <li>Significant intrusion (including roof)</li> <li>&gt;12 inches occupant site OB</li> </ul> </li> <li>Consider risk factors, including:         <ul> <li>Low-level falls in young children (age &lt; 5 years) or older adults (age &gt; 65 years) with significant head impact</li> </ul> </li> </ul>	Mechanism of Injury	EMS Judgement
<ul> <li>&gt;18 inches any site OR</li> <li>Need for extrication for entrapped patient</li> <li>Death in passenger compartment</li> <li>Child (age 0–9 years) unrestrained or in unsecured child safety seat</li> <li>Vehicle telemetry data consistent with severe injury</li> <li>Rider separated from transport vehicle with significant impact (e.g., motorcycle, ATV, horse, etc.)</li> <li>Pedestrian/bicycle rider thrown, run over, or with significant impact</li> </ul>	<ul> <li>Partial or complete ejection</li> <li>Significant intrusion (including roof)         <ul> <li>&gt;12 inches occupant site OR</li> <li>&gt;18 inches any site OR</li> <li>Need for extrication for entrapped patient</li> <li>Death in passenger compartment</li> <li>Child (age 0–9 years) unrestrained or in unsecured child safety seat</li> <li>Vehicle telemetry data consistent with severe injury</li> </ul> </li> <li>Rider separated from transport vehicle with significant impact (e.g., motorcycle, ATV, horse, etc.)</li> <li>Pedestrian/bicycle rider thrown, run over, or with</li> </ul>	<ul> <li>Low-level falls in young children (age &lt; 5 years) or older adults (age &gt; 65 years) with significant head impact</li> <li>Anticoagulant use</li> <li>Suspicion of child abuse</li> <li>Special, high-resource healthcare needs</li> <li>Pregnancy &gt; 20 weeks</li> <li>Burns in conjunction with trauma</li> <li>Children should be triaged preferentially to pediatric capable centers</li> </ul>

• Fall from height > 10 feet (all ages)

Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highestlevel trauma center per local MCA and trauma policies)

### NOTES

1. Medical Control may be contacted to determine the appropriate destination when indicated.

2. High risk pelvic fracture does not include isolated hip fractures without significant mechanism