

# WEST MICHIGAN REGIONAL PROTOCOL

## TRAUMA PROTOCOL

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**Purpose:** To provide the process for assessment and management of the trauma patient.

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### I. Assessment Information

- A. History:
  - 1. Current History: mechanism of injury is an important observation.
- B. Specific Objective Findings:
  - 1. Scene is evaluated secured to protect rescuers and victims.
  - 2. Crime Scenes - preserve evidence.
  - 3. Vital Signs
    - a. Airway or breathing difficulties
    - b. Pulses, capillary refill, blood pressure when able, skin
    - c. Level of consciousness
  - 4. Triage categories:
    - a. Life-threatening. Priority I (RED)
    - b. Potentially life-threatening Priority II (YELLOW)
    - c. Non-life-threatening Priority III (GREEN)
    - d. Dead on Scene (BLACK)
  - 5. Prompt transport to definitive treatment is the goal of prehospital trauma care (Goal: Scene time of 10 minutes or less for Priority I patients).
  - 6. If amputated part or severe crushing injury, also see Amputated Parts Protocol.
  - 7. If trauma arrest, also see appropriate cardiac arrest protocol.

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### II. Management

- A. Stabilize spinal column while opening the airway, determine level of consciousness.
- B. Evaluate and maintain the airway, provide oxygenation and support ventilation as needed.
  - 1. Maintain in-line manual stabilization during all airway procedures.
  - 2. Hyperventilate the severe head injured patient with decreasing level of consciousness, also in the presence of shock, at the rate of 20 (vents/min).
- C. Evaluate and maintain adequate perfusion.
  - 1. Control major bleeding.
    - a. Direct pressure, elevation, use of pressure points.
    - b. Tourniquets may be considered as a last resort.
- D. Provide continuous spinal immobilization per procedure.
- E. For obvious unstable pelvic fracture or bilateral femur fractures, apply PASG as a splint.

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### F. Transport Decision and Critical Interventions

- 1. Priority I (Load and Go):
  - a. Criteria for Priority I - see Adult and Pediatric criteria in Appendix A.
  - b. There are certain situations that require immediate intervention. When indicated, critical interventions should be performed at the earliest opportunity. Critical interventions may include:
    - 1) Rapid extrication
    - 2) Spinal immobilization including adequate strapping to the backboard.
    - 3) Advanced airway procedures
    - 4) Decompression of tension pneumothorax (contact medical control)
    - 5) Seal sucking chest wound (tension pneumothorax may be a complication).
    - 6) Hand-stabilize flail chest

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- 7) Stabilize protruding foreign body from head, neck, chest, or abdomen.
  - 8) Begin CPR.
  - c. Notify hospital of Priority I trauma, worst injuries, and ETA, at the earliest possible time.
  - d. **IMMEDIATE TRANSPORT! Goal: less than 10-minute on-scene time.**
  - e. Obtain vascular access.
    - 1) **2 Large Bore IVs of Normal Saline**
      - a) Administer 300ml fluid bolus with repeat as needed, titrating to signs of adequate perfusion (Peds: 20 ml/kg initially).
  - f. Contact receiving hospital at the time of departure from the scene
    - 1) Give ETA, nature of incident, number of patients and priorities.
    - 2) Include additional information as available.
  - g. Monitor EKG.
  - h. Complete secondary survey.
  - i. Apply dressings or splints as required.
    - 1) Limbs with penetrating trauma should be splinted
  - j. Monitor for change in condition.
2. Priority II:
- a. Criteria for Priority II
    - 1) Potentially life-threatening injuries based on mechanism of injury or assessment without significant vital signs alterations.
  - b. Transport in timely fashion (Goal: < 20 minutes on-scene).
  - c. Obtain vascular access.
  - d. Monitor EKG
  - e. Complete secondary survey, preferably enroute.
    - 1) If tender or distended abdomen, pelvic instability, or femur fracture found, consider re-prioritization.
  - f. Apply dressings or splints as required.
  - g. Monitor for change in condition.
  - h. Contact the receiving hospital at the time of departure, or earlier as indicated.
3. Priority III (Non-life-threatening injuries):
- a. No potentially life or limb threatening injury.
  - b. Complete secondary survey.
  - c. Apply dressings and splints as required.
  - d. Transport in timely fashion.
  - e. Monitor for change in condition.
  - f. Provide information to receiving hospital at the time of departure or earlier as indicated.

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**APPENDIX A**

**Adult Triage Criteria**

<b>Category</b>	<b>BLUE</b>	<b>RED</b>
Age	≥ 55	
Airway	R.R. ≥ 30/min	Airway assistance
Circulation	H.R. > 120 SBP > 90	Lack of radial pulse SBP < 90 with ↑ HR
Motor Response	BMR <sup>1</sup> = 5	BMR ≤ 4 or neurologic deficit
Fracture proximal to wrist/ankle	Single Fx site due to MVC or fall > 10 feet	Multiple fractures
Soft tissue	Tissue loss <sup>2</sup> or GSW to extremities	Amputation <sup>3</sup> or 2 <sup>o</sup> /3 <sup>o</sup> burns to < 15% TBSA or any penetrating injury to the head, neck or torso <sup>4</sup>
Mechanism of injury	Ejection from vehicle or deformed steering wheel <sup>5</sup>	

**Pediatric Triage Criteria**

<b>Category</b>	<b>Green</b>	<b>Blue</b>	<b>Red</b>
Size	> 10 kg (22+bs)	< 10 kg (<22 lbs)	
Airway	Normal Non-invasive support		Assisted
Level of consciousness	Awake	Amnesia or any history of altered LOC	Altered mental status or paralysis or suspected spinal cord injury
Circulation	Good peripheral pulses; SBP > 90	Carotid or femoral pulses; SBP 50-90	Weak or no pulses; SBP < 50
Fracture proximal to wrist/ankle	None	Single closed fracture anywhere	Open long bone Fx or multiple Fx sites
Skin	No visible soft tissue injury Contusion or abrasion		Major tissue disruption <sup>1</sup> or amputation <sup>2</sup> or 2 <sup>o</sup> or 3 <sup>o</sup> burn to > 10% TBSA or any penetrating injury to the head, neck or torso

**Priority 1 = any patient with ONE RED or TWO BLUE criteria**

<sup>1</sup> Best Motor Response in GCS

<sup>2</sup> Degloving injury, major flap avulsion, or any major tissue disruption

<sup>3</sup> Amputations proximal to the wrist/ankle

<sup>4</sup> Excluding superficial wounds in which the depth of the wound can easily be determined

<sup>5</sup> Only applies to the driver of the vehicle

