

Region I EMS Trauma Triage Protocols

Approved by the State EMS Board - November 20, 2002

Amended by the State EMS Board – December 17, 2003

Region I RPAB Chair - Philip Oblinger, MD

These protocols supercede OAC 4765-14-01, 4765-14-02, 4765-14-05

ADULT TRAUMA PATIENT

I. Evaluation of the Adult Trauma Patient - *Any of these constitute a "trauma patient"*

A. PHYSIOLOGIC CRITERIA

1. Significant signs of shock accompanied by:
 - a. Pulse > 120 or blood pressure < 90 (geriatric patients may be in shock with a BP >90)
2. Airway or Breathing Difficulties
 - a. Respiratory rate of <10 or >30
 - b. Intubated patient
3. Neurologic Considerations
 - a. Evidence of Head Injury
 1. Glasgow coma scale < 13 or equal to
 2. Alteration in LOC during examination or thereafter; LOC > than 5 min.
 3. Failure to localize pain.
 - b. Suspected spinal cord injury (paralysis due to an acute injury; sensory loss)

B. ANATOMIC CRITERIA

1. Penetrating trauma (to the head, chest or abdomen, neck and extremities proximal to knee or elbow)
2. Injuries to the extremities where the following physical findings are present:
 - a. Amputations proximal to the wrist or ankle
 - b. Visible crush injury
 - c. Fractures of two or more proximal long bones
 - d. Evidence of neurovascular compromise
3. Tension pneumothorax which is relieved (an unrelieved tension pneumothorax would fit the definition of an unstable ABC)

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4. Injuries to the head, neck, or torso where the following physical findings are present:
 - a. Visible crush injury
 - b. Abdominal tenderness, distention, or seat belt sign
 - c. Pelvic fracture
 - d. Flail chest
5. Signs or symptoms of spinal cord injury.
6. Burn injury >10% TBSA and potential for other associated traumatic injuries

C. OTHER CRITERIA/CONSIDERATIONS WHICH ALONE DO NOT CONSTITUTE A TRAUMA PATIENT

1. Significant Mechanisms of Injury Should Prompt a High Index of Suspicion
2. Age >60 Should Prompt a High Index of Suspicion

II. Transportation of the Adult Trauma Patient

A. Ground Transportation Guidelines - Time Considerations

1. 30 minutes or less from a Trauma Center ➡ TRAUMA CENTER (excluding uncontrolled airway or traumatic CPR)
2. Greater than 30 minutes to a trauma center ➡ nearest appropriate facility

PEDIATRIC TRAUMA PATIENT (<16 YEARS OF AGE)

I. Evaluation of the Pediatric Trauma Patient

A. PHYSIOLOGIC CRITERIA

1. Significant signs of shock (weak pulses, pallor) accompanied by:
 - a. Tachycardia (Table 2) or bradycardia (Table 3)
 - b. Hypotension (Table 4)
2. Airway/Breathing difficulties
 - a. Intubated patient
 - b. Tachypnea (see table 1)
 - c. Stridor
 - d. Hoarse voice or difficulty speaking
 - e. Significant grunting, retractions
 - f. Cyanosis or need for supplemental oxygen
3. Neurologic considerations

- a. Evidence of Head Injury
 - 1. Glasgow Coma Scale \leq or equal to 13
 - 2. Alteration in LOC during examination or thereafter; LOC > than 5 min.
 - 3. Failure to localize pain
- b. Suspected Spinal Cord Injury (paralysis or alteration in sensation)

B. ANATOMIC CRITERIA

- 1. Penetrating trauma (to the head, chest or abdomen, neck and extremities proximal to knee or elbow)
- 2. Injuries to the extremities where the following physical findings are present:
 - a. Amputations proximal to the wrist or ankle
 - b. Visible crush injury
 - c. Fractures of two or more proximal long bones
 - d. Evidence of neurovascular compromise
- 3. Tension pneumothorax which is relieved (an unrelieved tension pneumothorax would fit the definition of an unstable ABC).
- 4. Injuries to the head, neck, or torso where the following physical findings are present:
 - a. Visible crush injury
 - b. Abdominal tenderness, distention, or seat belt sign
 - c. Pelvic Fracture
 - d. Flail Chest
- 5. Signs or symptoms of spinal cord injury.
- 6. Burn injury \geq 10% TBSA and potential for other associated traumatic injuries.

Table 1: Maximum Acceptable Respiratory Rates by Age

Age	Respiratory Rate (resp/min)
<6months	50
6 months to 6 years	40
>6 years	30

Table 2: Maximum Acceptable Heart Rates by Age

AGE	Heart Rate (bpm)
<6 months	180
6 months-1	170

year	
1 year-2 years	150
3-7 years	140
8-11 years	130
12-16	120

Table 3: Bradycardia

AGE	Heart Rate (bpm)
Infant:	80
Child:	70
Adolescent:	60

Therapy should be reserved for the patient, who is symptomatic, as manifested by signs or symptoms of decreased blood flow to end organs.

Table 4: Min. Acceptable Systolic Blood Pressure by Age

AGE	Systolic Blood Pressure
<1 month	60 mmHg
1 month to 1 year	70 mmHg
>1 year	70+(Age in years x 2)

C. OTHER CRITERIA/CONSIDERATIONS FOR THE PEDIATRIC TRAUMA PATIENT WHICH ALONE DO NOT CONSTITUTE A TRAUMA PATIENT:

1. Significant Mechanism of Injury Should Prompt a High Index of Suspicion and should be considered in the evaluation. Mechanisms particularly dangerous for pediatric patients include:
 - a. Improperly restrained child in MVC (airbag injuries included)
 - b. ATV crashes
2. Special Situations that may require the resources of a pediatric trauma center:
 - a. Congenital defects
 - b. Chronic respiratory illness
 - c. Diabetes
 - d. Bleeding disorder or anticoagulants
 - e. Immunosuppressed patients (i.e., patients with cancer, organ transplant patients, etc.)

TRANSPORTATION

II. Transportation of the Pediatric Trauma Patient:

A. Ground Transportation Guidelines - Time Considerations

1. 30 minutes or less from a Pediatric Trauma Center ► Pediatric Trauma Center (excluding uncontrolled airway or traumatic arrest)
2. Greater than 30 minutes to a Pediatric Trauma Center ► nearest appropriate facility

Addendum to Region I EMS Trauma Triage Protocol

Approved by the State Board of Emergency Medical Services, December 17, 2003

Exceptions to mandatory transport

- (A) Emergency medical service personnel shall transport a trauma victim, as defined in section 4765.01 of the Revised Code and this chapter, directly to an adult or pediatric trauma center that is qualified to provide appropriate adult or pediatric care, unless one or more of the following exceptions apply:
- (1) It is medically necessary to transport the victim to another hospital for initial assessment and stabilization before transfer to an adult or pediatric trauma center;
 - a) **Patients should be transported to the nearest appropriate facility if any of the following exists:**
 - i) **Airway is unstable and cannot be controlled/managed by conventional methods**
 - ii) **Potential for unstable airway, i.e., facial/upper torso burn)**
 - iii) **Blunt trauma arrest (no pulses or respirations)**
 - (2) It is unsafe or medically inappropriate to transport the victim directly to an adult or pediatric trauma center due to adverse weather or ground conditions or excessive transport time.
 - a) **Ground Transportation**
 - i) **30 minutes or less from a Trauma Center ➡ TRAUMA CENTER (excluding uncontrolled airway or traumatic CPR)**
 - ii) **Greater than 30 minutes to a trauma center ➡ nearest appropriate facility**
 - (3) Transporting the victim to an adult or pediatric trauma center would cause a shortage of local emergency medical service resources;
 - (4) No appropriate adult or pediatric trauma center is able to receive and provide adult or pediatric trauma care to the trauma victim without undue delay;
 - (5) Before transport of a patient begins, the patient requests to be taken to a particular hospital that is not a trauma center or, if the patient is less than eighteen years of age or is not able to communicate, such a request is made by an adult member of the patient's family or a legal representative of the patient.