

**GUIDELINES FOR THE ASSESSMENT AND TRANSPORT FOR THE
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.

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.)

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

B. Ground Transportation Guidelines

Patients should be transported to the nearest appropriate facility if any of the following exists:

- 1. Airway is unstable and cannot be controlled/managed by conventional methods**
- 2. Potential for unstable airway, i.e., facial/upper torso burn)**
- 3. Blunt trauma arrest (no pulses or respirations)**
- 4. Patient does NOT meet criteria for a trauma patient as defined above.**

***** Pre-arrival notification of receiving facility is essential !*****

C. Air Medical Transportation

- 1. General principles**
 - a. Prolonged delays at the scene waiting for air medical transport should be avoided. If air medical transportation is unavailable (e.g., weather conditions), patient should be transported by ground guidelines as listed above.**
 - b. Air transport if dispatched to the scene should be diverted to the hospital if the patient appeared appropriate for air transport but the decision was made to transport to the nearest facility (non-trauma center) in the interim.**
 - c. Air Medical Programs share the responsibility to educate EMS units and facilities on appropriate triage. They should also institute an active utilization and quality review program that provides feedback to EMS units.**
 - d. Patients with uncontrolled ABC's should be taken to the closest appropriate facility (24-hour emergency department) if that can be achieved prior to the arrival of air medical transport.**
 - e. Traumatic cardiac arrest due to blunt trauma is not appropriate for air transport.**
- 2. Reasons to Consider a Call for Air Transport:**
 - a. Prolonged extrication**
 - b. Multiple victims/trauma patients**

- c. **Time/distance factors:**
If the transportation time to a trauma center by ground is greater than 30 minutes AND the transport time by ground to the nearest trauma center is greater than the total transport time* to a trauma center by helicopter. *Total transport time includes any time at scene waiting for helicopter and transport time to trauma center.

- e. **In the rural environment, immediate transfer with severely traumatized patients by air medical transport may be appropriate and should be encouraged if it does not significantly delay intervention for immediate life-threatening 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 year	170
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)

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