Tidewater EMS (TEMS) Regional Trauma Triage Performance Improvement Plan – 2021

Vision

To develop an inclusive system, incorporating healthcare facilities, transportation, human resources, communications, and other identified components, that get the right patient to the right hospital in the shortest amount of time possible while maximizing resources. Thus improving the delivery of EMS and decreasing mortality, hospitalization, disability and morbidity in the TEMS region.

TEMS Information

The TEMS Region – Includes information regarding the layout, demographics and weather
Trauma Committee Membership – Includes purpose, roles, responsibilities and membership
Hospital Capabilities by Region – Includes easily identified, STEMI receiving hospitals

Goals

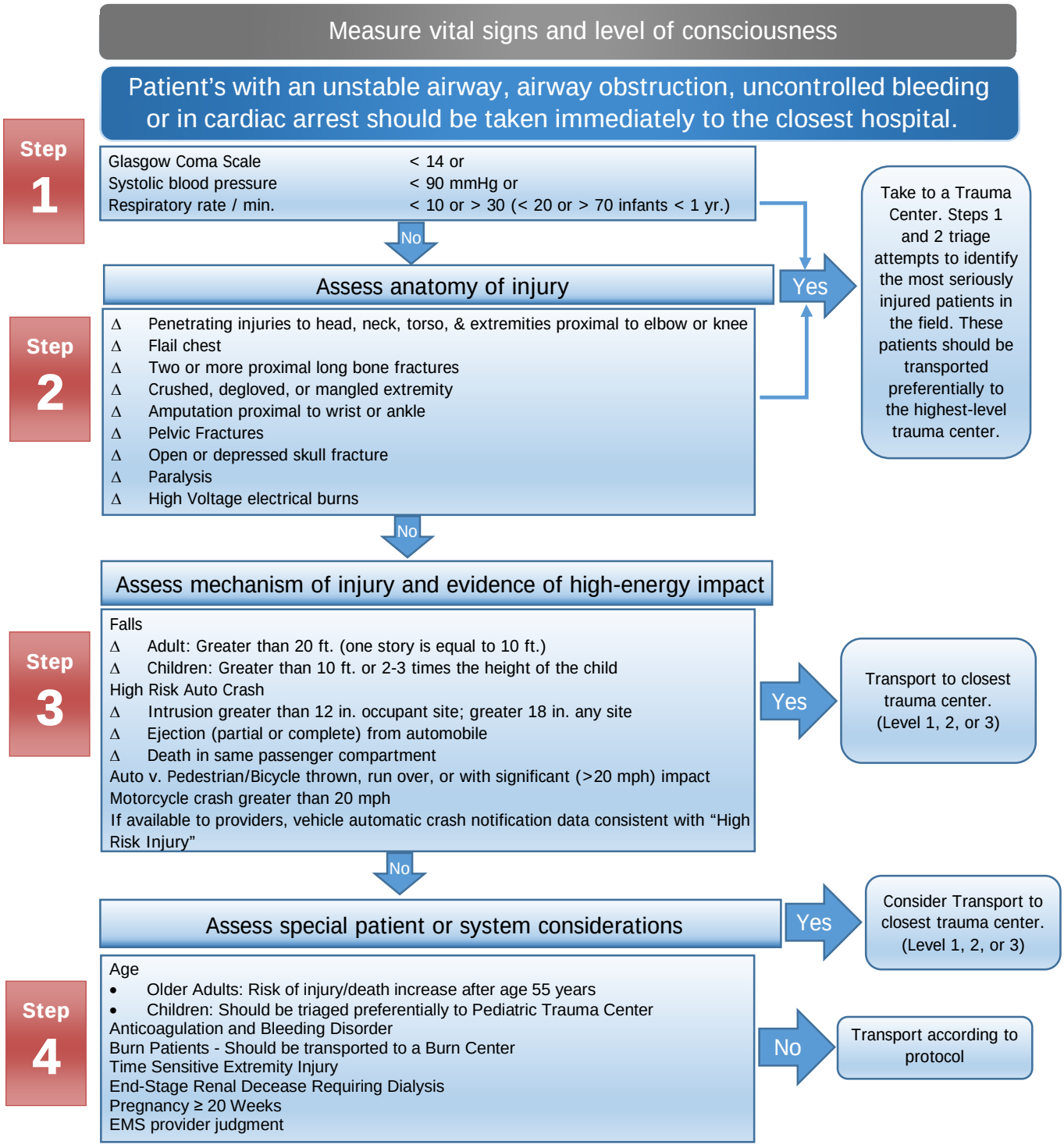
Trauma patient recognition and triage is a two-tiered system including:

1. Initial triage in the prehospital setting (using the Field Trauma Triage Decision Scheme and Pre-Hospital Trauma Triage Criteria), and
2. Secondary triage at all hospitals (including possible transfer to another hospital based on the Inter-Hospital Transfer criteria)

Within compliance with the Code of Virginia and EMS Regulations, this plan:

- Δ Establishes a uniform set of criteria for identifying and providing quality care for pre-hospital and inter-facility trauma patients
- Δ Geography, hospital capabilities, air medical services, local EMS resources and others guide how and to where the identified trauma patient will be transported or transferred
- Δ Promotes rapid access for pediatric and adult trauma patients to appropriate, organized trauma care through accepted criteria and coordinated ground/air pre-hospital transport
- Δ Conducting, promoting, and encouraging programs of education and training designed to upgrade the knowledge and skills of healthcare providers involved in trauma care (follow EMTALA and HIPAA laws)
- Δ Supports transferring any Pediatric Trauma Score ≤6 to a Designated Trauma Center
- Δ Educate public that any family member or bystander can initiate help by calling 911 and assured to receive guidance from trained emergency medical dispatchers, with a focus on maintaining a viable airway, bleeding control, spinal immobilization, and the prevention of shock
- Δ First responders and emergency medical personnel provides prompt on-scene treatment and stabilization in accordance with medical protocols (on-scene <15 minutes)
- Δ Patients are transported to the closest, most appropriate, emergency department/trauma center
- Δ Patient receives continuing care and rehabilitation to provide the highest chance at a complete recovery in the shortest time frame possible
- Δ For patients with burn injuries, follow the Burns protocol and the Burn Chart: Adult or Burn Chart: Pediatric protocol to determine percentage of body affected
- Δ Follow Prehospital Trauma Triage Criteria protocol to determine appropriate care for each patient
- Δ Refer to Tourniquet Application protocol, when applicable
- Δ During Mass Casualty Incidents, reference the Hampton Roads MCI Response Guide regarding patient distribution
- Δ Designates the Trauma PI Committee responsible for managing the execution

Action Plan: Field Triage Decision Scheme



*Pre-hospital providers should transfer trauma patients with uncontrolled airway, uncontrolled hemorrhage, or if there is CPR in progress to the closest hospital for stabilization and transfer.

Inter-hospital Criteria for Transfer of a Trauma Patient to a Designated Trauma Center

Inter-hospital transfer to trauma center requires a physician to physician consult. The referring and receiving physician may use the following criteria for determination of that transfer:

	Adult	Pediatric (<15 y/o)
Respiratory	Δ Bilateral thoracic injuries Δ Significant unilateral injuries in >55 y/o Δ (e.g. pneumothorax, hemo-pneumothorax, pulmonary contusion, >5 rib fractures). Δ Significant unilateral injuries in patients with pre-existing cardiac and/or respiratory disease Δ Respiratory compromise requiring intubation. Δ Flail chest	Δ Bilateral thoracic injuries Δ Significant unilateral injuries in patients with pre-existing cardiac and/or respiratory disease Δ Flail chest
CNS	Δ Unable to follow commands Δ Open skull fracture Δ Extra-axial hemorrhage on CT, or any intracranial blood Δ Paralysis Δ Focal neurological deficits Δ GCS ≤ 13	Δ Open skull fracture Δ Extra-axial hemorrhage on CT Δ Focal neurological deficits
Cardiovascular	Δ Hemodynamic instability as determined by the treating physician Δ Persistent hypotension Δ Systolic B/P (<100) without immediate availability of surgical team	
Injuries	Δ Any penetrating injury to the head, neck, torso or extremities proximal to the elbow or knee without a surgical team immediately available, where the physician in charge feels treatment of injuries would exceed capabilities of the medical center Δ The combination of trauma with burns. Δ Significant abdominal to thoracic injuries in patients where the physician in charge feels treatment of injuries would exceed capabilities of the medical center	Δ Any penetrating injury to the head, neck, chest abdomen or extremities proximal to the knee or elbows without a surgical team immediately available Δ Combination of trauma with burn injuries Δ Any injury or combination of injuries where the physician in charge feels treatment of the injuries would exceed the capabilities of the medical center
Special Considerations	Trauma in pregnancy, age >55, pediatric, bariatric, special needs individuals	Pediatric Trauma Score ≤6

Pediatric Trauma Score Determination

Component	+2	+1	-1
Size	Child/Adolescent, >20kg (44lbs)	Toddler, 11-20kg	Infant, <10kg (22lb)
Airway	Normal	Assisted O2, mask, cannula	Intubated, ETT, King, LMA, Crike
Consciousness	Awake	Obtunded; loss of consciousness	Coma; Unresponsiveness
Systolic BP	Greater than 90mm/Hg; good peripheral pulses, perfusion	51-90 mm/Hg; peripheral pulses, pulses palpable	<50 mm/Hg; weak peripheral or no pulses
Fracture	None seen or suspected	Single closed fracture anywhere	Open, multiple fractures
Cutaneous	No visible injuries	Contusion, abrasion, lacerations less than 7 cm through fascia	Tissue loss, any GSW, or stabbing through fascia

Best Practices

- Notify the hospital with a radio report as quickly as possible to ensure their preparedness and increase the ease of turnover
- Transport patients with unmanageable airway problems **or** uncontrolled hemorrhage to the **closest** hospital emergency department
- **Traumatic cardiac arrest with <u>any</u> electrical cardiac activity:** Transport to designated trauma center if transport time is less than 10 minutes' difference from the closest hospital
- Consider transport to a Level 1 Trauma Center for **patients with critical burns.** (e.g. Sentara Norfolk General, or MCV Medical Center)
- Consider Transport of Pediatric Patients (patients that are less than 15 years of age) with critical burns to a Level 1 Pediatric Trauma Center (Children's Hospital of the King's Daughters)
- Pregnant patients (Greater than 20 weeks) that do not meet the trauma criteria should be transported to closest OB/GYN facility
- Consider contacting medical control to address concerns about patient care, appropriate receiving facility, or air transport decisions
- When providing a pediatric trauma radio report include the corresponding Broselow Tape color associated with the patient size
- When giving the patient and patient care report to the Trauma Team in the Trauma Bay, ensure that the most important information which includes the following is given to the team within 20 seconds:
  - Age and sex
  - Injuries noted and changes with patient during transport (include condition and vitals)
  - Intervention(s) and patients' response to the intervention(s)
- Agencies operating within a 30-minute ground transport time of a trauma center should maintain on-scene times of <15 minutes and document any delay, establish early contact to alert trauma center staff, and can request air ambulance transport without Medical Control authorization
- Air ambulance transport should not delay the patient's arrival at the hospital
- Scenes located outside a 30-minute ground transport time and air transport is on delay or unavailable should transport all trauma patients to the closest hospital. The provider should limit on-scene times to <15 minutes, establish early contact to receiving hospital because the facility may divert patient to a trauma center en-route or expedite transfer after arrival

Evaluation Criteria

- Δ On scene times below 15 minutes
- Δ Needle/Chest decompressions: how often performed and % with patient improvement
- Δ Traumatic cardiac arrest: total cases and % needing chest decompression
- Δ Transport destinations: % going to level 1, 2, 3 Trauma centers
  - o Track OMD/Diversion/Over triaged
- Δ Spinal Immobilization needed vs. used

Definitions

Non-Trauma Center Hospital – Provide prompt assessment, resuscitation, stabilization, and arrange for the transfer of the patient to a facility that can provide definitive trauma care.

Trauma Level I – Level I trauma centers have an organized trauma response and are required to provide definitive care for every aspect of injury, from prevention through rehabilitation. These facilities must have adequate depth of resources and personnel with the capability of providing leadership, education, research and system planning.

Trauma Level I Pediatric – Pediatric trauma centers have an organized trauma response and are required to provide definitive care for every aspect of injury, from prevention through rehabilitation for pediatric patients (less than 15 years of age). These facilities must have adequate depth of resources and personnel with the capability of providing leadership, education, research and system planning.

Trauma Level II – Expected to provide definitive care, regardless of the severity of injury. The specialty requirements may be fulfilled by on call staff that is promptly available to the patient. Due to some limited resources, Level II centers may have to transfer more complex injuries to a Level I center. Level II centers should also take on responsibility for education and system leadership within their region.

Trauma Level III – Provides prompt assessment, resuscitation, stabilization, emergency operations and arrange for the transfer of the patient to a facility that can provide definitive trauma care. Level III should take on responsibility for education and system leadership within their region.

Trauma Victim – A person who has acquired serious injuries and/or wounds brought on by either an outside force or an outside energy. These injuries and/or wounds may affect one or more body systems by blunt, penetrating or burn injuries. These injuries may be life altering, life threatening, or ultimately fatal wounds.

Document History

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