

# Multiple Trauma

## History

- Time and mechanism of injury
- Damage to structure or vehicle
- Location in structure or vehicle
- Others injured or dead
- Speed and details of MVC
- Restraints / protective equipment
- Past medical history
- Medications

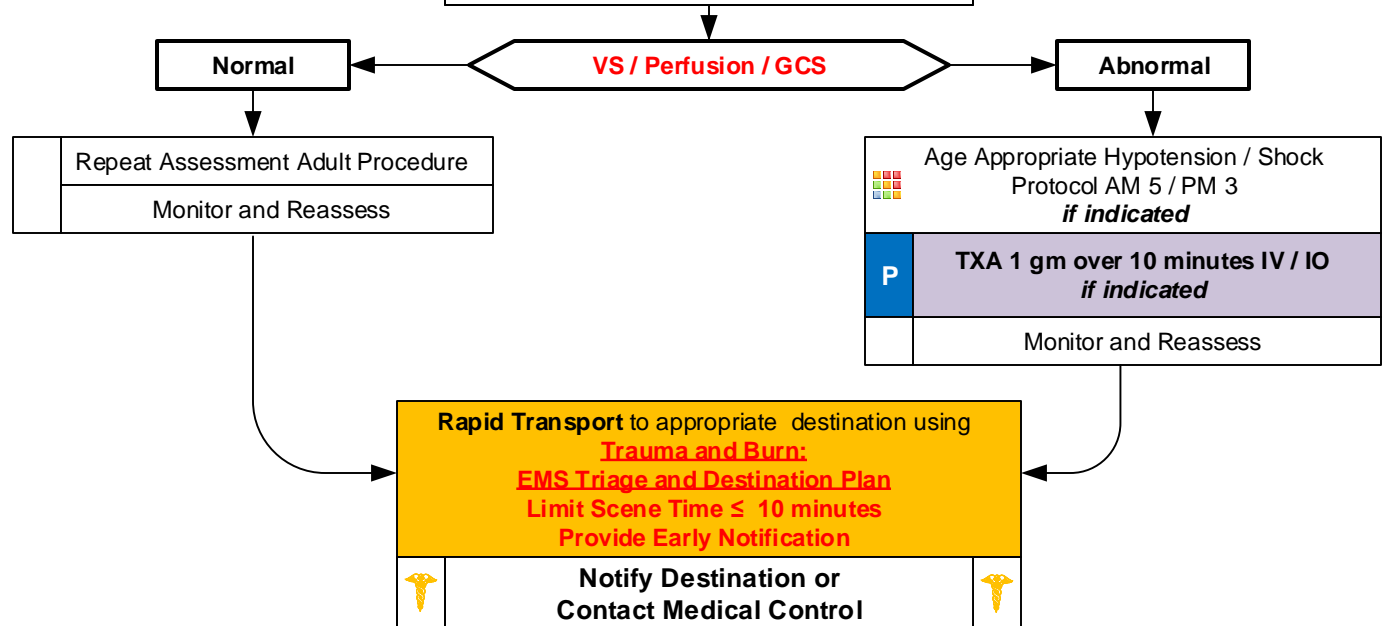
## Signs and Symptoms

- Pain, swelling
- Deformity, lesions, bleeding
- Altered mental status or unconscious
- Hypotension or shock
- Arrest

## Differential (Life threatening)

- Chest: Tension pneumothorax  
Flail chest  
Pericardial tamponade  
Open chest wound  
Hemothorax
- Intra-abdominal bleeding
- Pelvis / Femur fracture
- Spine fracture / Cord injury
- Head injury (see Head Trauma)
- Extremity fracture / Dislocation
- HEENT (Airway obstruction)
- Hypothermia

	Age Appropriate Airway Protocol(s) AR 1, 2, 3, 5, 6 <b>if indicated</b>
	Control External Hemorrhage Consider Pelvic Binding Splint Suspected Fractures
<b>P</b>	Chest Decompression-Needle Procedure <b>if indicated</b>
	<b>Obtain and Record GCS</b>
<b>A</b>	IV / IO Procedure
<b>P</b>	Cardiac Monitor
	Head Injury Protocol TB 5 <b>if indicated</b>
	Altered Mental Status Protocol UP 4 <b>if indicated</b>
	Spinal Motion Restriction Procedure / Protocol TB 8 <b>if indicated</b>
	Pain Control Protocol UP 11 <b>if indicated</b>



# Multiple Trauma

## Pearls

- **Recommended Exam:** Mental Status, Skin, HEENT, Heart, Lung, Abdomen, Extremities, Back, Neuro
- **Items in Red Text are key performance measures used in the EMS Acute Trauma Care Toolkit**
- **Transport Destination is chosen based on the EMS System Trauma Plan with EMS pre-arrival notification.**
- **Scene times should not be delayed for procedures. These should be performed en route when possible.**  
Rapid transport of the unstable trauma patient to the appropriate facility is the goal.
- **Control external hemorrhage and prevent hypothermia by keeping patient warm.**
- **Consider Chest Decompression with signs of shock and injury to torso and evidence of tension pneumothorax.**
- **Trauma Triad of Death:**  
Metabolic acidosis / Coagulopathy / Hypothermia  
Appropriate resuscitation measures and keeping patient warm regardless of ambient temperature helps to mitigate metabolic acidosis, coagulopathy, and hypothermia.
- **Bag valve mask is an acceptable method of managing the airway if pulse oximetry can be maintained  $\geq 90\%$**
- **Tranexamic Acid (TXA):**  
Agencies utilizing TXA must have approval from your T-RAC.
- **Trauma in Pregnancy:**  
Providing optimal care for the mother = optimal care for the fetus. After 20 weeks gestation (fundus at or above umbilicus) transport patient on left side with 10 – 20° of elevation.
- **Pediatric Trauma:**  
Age specific blood pressure 0 – 28 days > 60 mmHg, 1 month - 1 year > 70 mmHg, 1 - 10 years > 70 + (2 x age)mmHg and 11 years and older > 90 mmHg.
- **Geriatric Trauma:**  
Evaluate with a high index of suspicion.  
Often occult injuries are more difficult to recognize and patients can decompensate unexpectedly with little warning.  
Risk of death with trauma increases after age 55.  
SBP < 110 may represent shock / poor perfusion in patients over age 65.  
Low impact mechanisms, such as ground level falls might result in severe injury especially in age over 65.
- See Regional Trauma Guidelines when declaring Trauma Activation.
- Severe bleeding from an extremity not rapidly controlled with direct pressure may necessitate the application of a tourniquet.
- Maintain high-index of suspicion for domestic violence or abuse, pediatric non-accidental trauma, or geriatric abuse.