

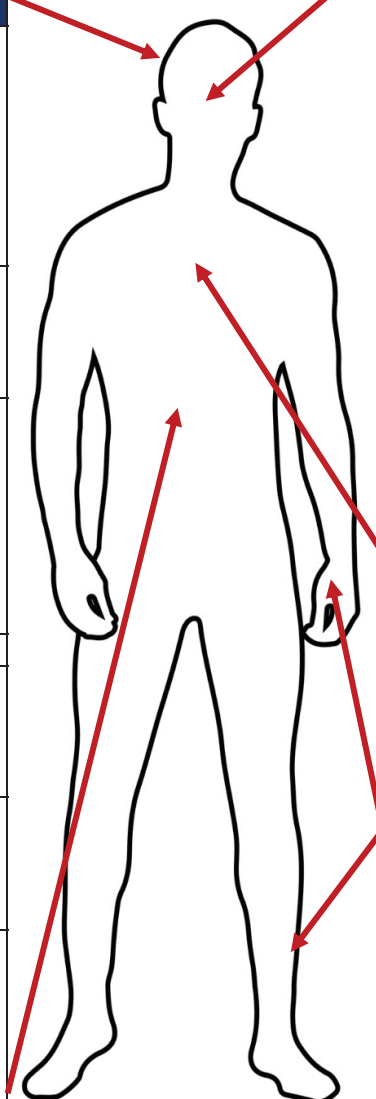
TRAUMATIC INJURIES

INCLUSION Criteria: Patients with suspected traumatic injuries

EXCLUSION Criteria: Patients in traumatic [Cardiac Arrest](#)

OTHER GUIDELINES TO CONSIDER: [Airway Management](#), [Altered Mental Status](#), [Cardiac Arrest](#), [Difficulty Breathing](#), [Hemorrhage Control](#), [Hypotension or Shock](#), [Pain Management](#)

EMR	<ul style="list-style-type: none"> • Universal Care – Trauma Management • Perform Primary Survey <ul style="list-style-type: none"> ○ Circulation: <ul style="list-style-type: none"> ▪ Control external hemorrhage <ul style="list-style-type: none"> • Hemorrhage Control • See Hypotension or Shock ○ Airway: <ul style="list-style-type: none"> ▪ Assess for patency and open the airway as indicated ▪ Consider Spinal Motion Restriction ▪ Airway Management ○ Breathing: <ul style="list-style-type: none"> ▪ Titrate Oxygen to lowest level to maintain Pulse Oximetry at 93% or greater ▪ If respirations ineffective, support ventilation with Bag Valve Mask (BVM) Ventilation ▪ Cover open chest wounds with occlusive dressing and secure on 3 sides ○ Disability: <ul style="list-style-type: none"> ▪ Evaluate baseline neurological function; ability to follow commands ▪ Evaluate patient responsiveness: Glasgow Coma Scale, AVPU ○ Expose: <ul style="list-style-type: none"> ▪ Rapid Trauma Survey and evaluation of entire body, including the back ▪ Keep patient warm; prevent hypothermia • Perform Secondary Survey <ul style="list-style-type: none"> ○ Splinting of extremity injuries as indicated ○ Follow specific injury management guidelines as detailed in diagram • Taser –Conducted Electrical Weapon (CEW) <ul style="list-style-type: none"> ○ Consider removal of the CEW at the request of Law Enforcement, provided removal from location of dart puncture zone is not contraindicated, see Taser –Conducted Electrical Weapon (CEW) • Consider Destination Determination for trauma
EMT	<ul style="list-style-type: none"> • Consider Cardiac Monitoring • Consider Waveform Capnography
AEMT	<ul style="list-style-type: none"> • Consider IV/IO Access <ul style="list-style-type: none"> ○ 2 large bore sites preferred if major trauma • Administer Fluid Bolus – IV/IO in cases of trauma with suspected significant hemorrhage and a systolic blood pressure (SBP) less than 90 mmHg (or below the age-appropriate lower limit of normal), or when signs or symptoms of shock are present; see Hypotension or Shock
INT	<ul style="list-style-type: none"> • For persistent hypotension or signs of shock not responding to fluid resuscitation, see Hypotension or Shock
PARA	<ul style="list-style-type: none"> • Traumatic hemorrhage – in patients > 18 years old with major trauma and clinical evidence of marked blood loss, internal or external, AND injury occurred < 3 hours prior AND HR > 110 or SBP < 90 mmHg consider, if available, Tranexamic Acid (TXA)
NOTES	

EMR	EMT	AEMT	INT	PARA
			EYE INJURIES	
			<ul style="list-style-type: none"> • Chemical Splash/Burn <ul style="list-style-type: none"> ○ Thoroughly and continuously irrigate affected eye(s) using copious amounts of saline instilled through IV tubing or any other means ○ Start irrigation as soon as possible & continue during transport 	
			<ul style="list-style-type: none"> ○ Consider Nitrous Oxide for pain control if no evidence of penetrating injury ○ Consider Tetracaine 1-2 drops in each affected eye for pain control if not an open globe injury 	
			<ul style="list-style-type: none"> • Penetrating Injury/Ruptured Globe <ul style="list-style-type: none"> ○ Observe for signs of penetration: peaked pupil, excessive edema of conjunctiva, subconjunctival hemorrhage, blood in anterior chamber (hyphemia) or foreign body/impaled object ○ Do NOT remove impaled objects ○ Do NOT irrigate eye ○ Avoid all pressure on injured eye ○ May patch injured eye or both eyes based on patient tolerance ○ Elevate head of bed 45 	
			<ul style="list-style-type: none"> • Administer anti-emetic medications per Nausea or Vomiting guideline, even if not nauseated 	
			CHEST INJURIES	
			<ul style="list-style-type: none"> • Stabilize impaled foreign bodies • If evidence of open OR sucking chest wound, apply occlusive dressing or chest seal 	
			<ul style="list-style-type: none"> • Initiate Cardiac Monitoring 	
			<ul style="list-style-type: none"> • If evidence of tension pneumothorax (↓ breath sounds (unilateral), hypotension, tachycardia, hypoxia, respiratory distress, JVD, tracheal deviation) perform Needle Decompression 	
			EXTREMITY INJURIES	
			<ul style="list-style-type: none"> • Control bleeding per Hemorrhage Control, or Tourniquet-Intentional if severe, uncontrolled bleeding • Splinting as indicated with consideration for realigning angulated fractures when appropriate and repeat assessment of distal neurovascular exam after splinting • Apply sterile dressing over open fractures • Partial Amputation <ul style="list-style-type: none"> ○ Splint partial amputated parts in anatomic position, if possible ○ Apply moist sterile dressing over injury • Complete Amputation <ul style="list-style-type: none"> ○ Cover stump with moist sterile dressing ○ Cover amputated part with moist, sterile dressing and store in sealed, plastic bag on ice • Transport amputated part with patient 	
HEAD & NECK INJURIES				
<ul style="list-style-type: none"> • Spinal Motion Restriction as indicated • Prevent further neurologic injury <ul style="list-style-type: none"> ○ Support oxygenation & ventilation <ul style="list-style-type: none"> ▪ Avoid Hypoxemia <ul style="list-style-type: none"> • Maintain SpO2 93% - 98% ▪ Avoid hyperventilation <ul style="list-style-type: none"> • Maintain EtCO2 35 – 45 mmHg ○ Nasal airways are contraindicated in patients with significant facial trauma 				
<ul style="list-style-type: none"> ○ If unable to follow commands, prevent hypotension- IV/IO Fluid Bolus 20 mL/kg (all ages) to maintain SBP at: <ul style="list-style-type: none"> ▪ Age ≥ 15 years: 110 mmHg ▪ Age < 15 years: Age appropriate 				
<ul style="list-style-type: none"> ○ Elevate head of bed 30° (head injury) while maintaining alignment of neck/torso unless hypotensive • If ↑ intracranial pressure (SBP > 200 mmHg, bradycardia, abnormal respiratory pattern, unresponsive, and/or pupillary changes) <ul style="list-style-type: none"> ○ Provide BVM Ventilations <ul style="list-style-type: none"> ▪ Avoid hyperventilation ○ Maintain EtCO2 35-45 mmHg 				
<ul style="list-style-type: none"> ○ Consider Pain Management 				
<ul style="list-style-type: none"> ○ Consider Sedation or Pain Management ○ If unable to maintain SpO2 > 90% with supplemental O2 and BVM Ventilations, consider Medication Assisted Airway Management (MAAM) 				
<ul style="list-style-type: none"> • Avoid the “H-Bombs” of Traumatic Brain Injury <ul style="list-style-type: none"> ○ Hypoxia ○ Hypotension ○ Hypoglycemia ○ Hyperventilation 				
<ul style="list-style-type: none"> • Basilar Skull Fracture <ul style="list-style-type: none"> ○ Monitor for periorbital ecchymosis (Raccoon Eyes), bruising over the mastoid process (Battle Sign) and/or bloody or clear (CSF) drainage from nose and/or ears <ul style="list-style-type: none"> ▪ If CSF drainage present from nose or ear, apply a 4X4 to collect drainage. Do Not attempt to stop drainage and do NOT place anything into nose or ear. 				
ABDOMINAL/PELVIC INJURIES				
<ul style="list-style-type: none"> • Stabilize impaled foreign bodies • Evisceration – cover with saline moistened gauze • Pelvic Binder as indicated for unstable pelvis and Hypotension or Shock 				

PROLONGED CRUSH INJURIES				
<ul style="list-style-type: none"> • Do NOT tourniquet extremity to prevent release of toxins • Support airway and breathing; crush injuries to the chest are a significant source of respiratory failure and death • Support oxygenation & ventilation <ul style="list-style-type: none"> ○ Oxygen to maintain SpO2 93% - 98% ○ BVM Ventilations, as needed to maintain EtCO2 35 – 45 mmHg ○ Consider Airway Management 				
<ul style="list-style-type: none"> • Initiate Cardiac Monitoring 				
<ul style="list-style-type: none"> • Initiate IV/IO Access whenever possible prior to extrication • IV/IO Fluid Bolus 0.9% NS at 1000 mL/hour for 2 hours; start during extrication or as soon as possible after extrication 				
<ul style="list-style-type: none"> • Upon release of trapped extremity: <ul style="list-style-type: none"> ○ Monitor ECG for signs of hyperkalemia (peaked T-waves, widened QRS) ○ If evidence of hyperkalemia, see Hyperkalemia guideline 				