

Base Hospital Contact: Required for patients who meet Trauma Center criteria or guidelines. ❶
Notify the receiving Trauma Center as soon as possible for all patient transports.

1. Immediately control major bleeding (*MCG 1370*)
Apply tourniquet prn
2. Assess airway and initiate basic and/or advanced airway maneuvers prn (*MCG 1302*) ❷
3. For traumatic arrest, treat per *TP 1243, Traumatic Arrest*
4. Provide spinal motion restriction (SMR) if indicated (*MCG 1360*)
For alert patients, logroll off the backboard (if used during extrication) and onto gurney prior to transport ❸
5. Administer **Oxygen** prn (*MCG 1302*)
High flow Oxygen 15 L/min for all patients with shock or with suspected traumatic brain injury
6. If patient has an Unmanageable Airway (*MCG 1302*):
Initiate immediate transport to MAR and **CONTACT BASE** en route
7. For anticipated prolonged extrication (> 30 minutes)
Consider activating the Hospital Emergency Response Team (HERT), *Ref. 817*
8. For crush injury, treat in conjunction with *TP 1242, Crush Injury/Syndrome*
9. Initiate cardiac monitoring prn (*MCG 1308*)
10. Establish vascular access prn (*MCG 1375*)
11. Apply blanket to keep patient warm
12. Consider medical condition preceding accident and refer to appropriate treatment protocol prn ❹

MULTI-SYSTEM TRAUMA

13. Perform needle thoracostomy for suspected tension pneumothorax (*MCG 1335*)
14. For an open or sucking chest wound, cover with a commercially available vented chest seal or vented (3-sided) occlusive dressing ❺
15. For poor perfusion (*MCG 1355*) with hypotension:
Normal Saline 250mL IV/IO rapid infusion ❻
CONTACT BASE to discuss further fluid resuscitation
16. For patients within 3 hours of injury and one or more of the following:
Systolic blood pressure (SBP) <90 mmHg, OR
Heart Rate > SBP, OR
Uncontrolled external hemorrhage (*MCG 1370*)

Tranexamic Acid (TXA) 1 gram in 50-100mL Normal Saline IV/IO, infuse over 10 minutes ⑦

17. Cover eviscerated organs with a moist non-adhering dressing

18. For pain management prn ([MCG 1345](#))

Fentanyl 50mcg (1mL) slow IV/IO push or IM/IN

Morphine 4mg (1mL) slow IV/IO push or IM

Ketorolac is contraindicated for multi-system trauma

CONTACT BASE for additional pain management:

May repeat as above up to maximum total dose Fentanyl 250mcg or Morphine 20mg

19. For nausea or vomiting: ⑧

Ondansetron 4mg ODT/IV/IM, may repeat x1 in 15 min prn

ISOLATED HEAD INJURY

20. Administer **high flow Oxygen 15 L/min** for all patients with suspected traumatic brain injury ⑨
Continually assess patient's airway and ventilation status, assist prn ⑩

21. For SBP ≤ 90mmHg:

Normal Saline 1L IV/IO rapid infusion⑪

Reassess after each 250 mL increment for evidence of volume overload (pulmonary edema);
stop infusion if pulmonary edema develops

CONTACT BASE for persistent poor perfusion ([MCG 1355](#)) after **Normal Saline 1L**

22. For nausea or vomiting: ⑦

Ondansetron 4mg ODT/IV/IM, may repeat x1 in 15 min prn

23. Transport with head of gurney elevated to 30 degrees when possible⑫

24. If patient develops seizure activity, treat in conjunction with [TP 1231, Seizure](#)

25. For pain management prn ([MCG 1345](#))

For an alert and oriented patient with GCS 15:

Fentanyl 50mcg (1mL) slow IV/IO push or IM/IN

Morphine 4mg (1mL) slow IV/IO push or IM

Ketorolac is contraindicated for head injury

CONTACT BASE for additional pain management or for initial orders if patient not alert and oriented with GCS 15

May provide or repeat as above up to maximum total dose Fentanyl 250mcg or Morphine 20mg

ISOLATED EXTREMITY INJURY

26. For pain management prn ([MCG 1345](#))
27. For poor perfusion ([MCG 1355](#)):
Normal Saline 1L IV/IO rapid infusion
Reassess after each 250 mL increment for evidence of volume overload (pulmonary edema);
stop infusion if pulmonary edema develops
CONTACT BASE for persistent poor perfusion to obtain order for additional **Normal Saline 1L IV/IO**
28. For patients within 3 hours of injury with uncontrolled extremity hemorrhage despite pressure and tourniquets ([MCG 1370](#))
Tranexamic Acid (TXA) 1 gram in 50-100mL Normal Saline IV/IO, infuse over 10 minutes ⑦
29. Splint and dress injuries prn
For distal extremity fractures with poor neurovascular status distal to injury – realign and stabilize extremity
Mid-shaft femur – apply traction splint per manufacturer guidelines¹³
All other fractures/dislocations – splint in position of comfort
For amputations – rinse off debris (do not manually debride), wrap with saline-moistened sterile gauze and ace wrap, then apply a splint for potential underlying fracture¹⁴

SPECIAL CONSIDERATIONS

- ❶ For patients requiring transport to a Trauma Center per [Ref. 506](#), contact the receiving Trauma Center for Base Medical Direction and notification. If the Base Hospital is contacted and the Base redirects transport to a Trauma Center, Base personnel will notify the Trauma Center.
- ❷ Transport should be prioritized over advanced airway placement unless BMV is ineffective. Advanced airway may be placed during transport; supraglottic airway is preferred unless contraindicated. Paramedics should use judgment based on patient characteristics, circumstances, and skill level when selecting the advanced airway modality.
- ❸ A backboard is not required for spinal motion restriction (SMR) and may cause harm as well as increased pain. Patients should not be transported on a backboard for the purpose of SMR. If a backboard is used for extrication, patients who are alert should then be logrolled onto the gurney prior to transport. The backboard may be used during patient transport for splinting of multiple simultaneous extremity fractures or to assist in maneuvering the unconscious patient. In all cases, the backboard should be removed immediately if causing respiratory compromise.
- ❹ Traumatic events may be due to a medical emergency, particularly single-vehicle accidents and unexplained falls.
- ❺ Placement of a vented dressing can prevent conversion of an open pneumothorax to a tension pneumothorax. However, tension pneumothorax may still develop in the presence of a vented dressing and should be treated with needle thoracostomy. Furthermore, needle thoracostomy in a patient with evidence of tension pneumothorax should not be delayed for placement of dressing.
- ❻ Aggressive fluid resuscitation increases vascular pressure and dilutes clotting factors, which may increase internal bleeding.
 - In patients with blunt trauma and poor perfusion: administer fluids to target SBP \geq 90mmHg.
 - In patients with penetrating trauma and poor perfusion: administer fluids to target SBP \geq 70mmHg if patient has normal mental status (permissive hypotension). Patients with ALOC or SBP $<$ 70mmHg should receive fluids until their mental status and SBP improve.
 - In patients with possible traumatic brain injury: permissive hypotension is contraindicated and SBP should be maintained \geq 90mmHg.
- ❼ In patients meeting an indication for TXA, administer fluid resuscitation with normal saline and TXA concurrently.
- ❽ Vomiting should be prevented and/or immediately treated in patients with head injury, since it increases intra-cranial pressure and can compromise the patient's airway.
- ❾ Traumatic brain injury presents with altered mental status after head injury. Any hypoxic episode, even brief, is associated with worse patient outcome for patients with traumatic brain injury.
- ❿ Hyperventilation reduces blood flow to the brain by reducing CO₂ and is associated with worse outcomes in severe head injuries. Ventilate to maintain an ET-CO₂ in the range 35-45mmHg.
- ⓫ Any hypotension increases mortality in patients with traumatic brain injury. Normal Saline should be initiated to maintain SBP \geq 90mmHg at all times but can be withheld if the blood pressure is elevated.

- ⑫ A head-elevated position at about 30 degrees reduces intra-cranial pressure and improves respiratory status. Patients in a cervical collar may have their head elevated if there is no concern for thoracic or lumbar spine injury. Reverse Trendelenburg is another option for patients that cannot be seated. Patients who are hypotensive should be maintained supine unless airway compromise requires repositioning.
- ⑬ Open femur fracture is not a contraindication to apply the traction splint. If the bone is protruding and there is gross contamination, wash with saline prior to applying the splint.
- ⑭ If the amputated part is available, similar care should be taken to rinse off any gross debris, wrap the part with saline-moistened sterile gauze, seal in plastic and place indirectly on ice after wrapping; do not submerge in water or place directly on ice. Transport the amputated part with the patient and leave it with hospital staff.