

Reference 808

Core Principles: Managing Trauma

Rev: 2/18

- Rule #1 Major trauma patients with substantial life threats are not stabilized in the field.
- Life threatened trauma patients should receive critical pre-hospital interventions necessary to preserve life, and then be transported expeditiously to the closest, most appropriate, receiving facility, by any transport means necessary.
- Rule #2 If the field intervention is not critical for managing an immediate life threat, then it should not be done on scene.
- Rule #3 Uncontrolled post-traumatic bleeding is the leading cause of potentially preventable death among trauma patients. This is followed by loss of airway patency and unrecognized/untreated chest wall injuries.
- Rule #4 Provide adequate airway control and ventilation; avoid hyperventilation.
- Normoventilation of trauma patients should be the rule in most instances for those trauma patients receiving ventilation. Low CO<sub>2</sub> levels reduce survival rates in most trauma patients.
  - Critical trauma patients should, when possible, receive both capnographic and oxygen saturation monitoring, particularly when they are being ventilated.
  - Patients with signs of brain herniation (decorticate or decerebrate posturing and/or an asymmetric or non-reactive (blown) pupil) may be modestly hyperventilated (20 breaths/minute in adults) with end-tidal CO<sub>2</sub> levels maintained between 30-35 mmHg.
- Rule #5 Open chest wall injuries should be sealed, symptomatic tension pneumothoracies decompressed.
- Rule #6 Major external hemorrhage should be aggressively controlled using any combination of direct pressure, pressure bandages, and hemostatic gauze.
- The severity of bleeding will dictate the bleeding control intervention.
  - Elevating extremities or pinching arterial pressure points to reduce extremity hemorrhage is not effective.
  - Large, gaping wounds should be cleared of pooled blood and packed with dressings, and tightly secured. Direct pressure should also be applied.
- Rule #7 Tourniquets should be used to treat life threatening extremity hemorrhage.
- Patients with injuries requiring tourniqueting often have time dependent, complex vascular injuries and may benefit from the level of care only available at a trauma center.

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- Tourniquets may also cause permanent nerve and other soft tissue damage. The risk of incurring this permanent damage must be weighed against the benefits of tourniquet application before a tourniquet is applied.

Rule #8

In most cases, fluid resuscitation should be titrated to maintain a systolic blood pressure of 90 mmHg – 100mmHg.

- The concept of low-volume fluid resuscitation avoids the adverse effects of early aggressive resuscitation while maintaining a level of tissue perfusion that, although likely lower than normal, is adequate for short periods.
- Hypotension in the presence of TBI is a very ominous sign. Trauma patients with TBI should be treated with IV fluids to maintain a blood pressure of at least 100 mmHg systolic.

Rule #9

Reduce heat loss as much as possible, and maintain normothermia.

- Hypothermia, defined as a core body temperature below 95°F, is associated with poor outcomes in critical trauma patients.

Rule #10

Be vigilant about ruling out medical causes for traumatic events.

- Trauma patients can have coexistent hypoglycemia, drug overdose, medical cardiac arrest, seizures with a medical etiology. It is critical that altered vital signs and mentation be explored to rule out medical causes for traumatic events.

Rule #11

Caring for the patient's heart and soul can be as important as managing his or her injuries.

- Numerous studies suggest that trauma patients activate their will to live and their intrinsic resilience when they emotionally connect, however briefly, with their care providers.
- Responders should encourage patients, should communicate their care plan with patients, and should maintain close contact with them throughout evaluation, extrication, treatment, and transport.

Rule #12

Accurate communication and documentation are critical when managing trauma patients.



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