Santa Cruz County
Emergency Medical Services Program

Core Principals

Managing Trauma Patient Life Threats
2012

Rule #1

Major trauma patients with substantial life threats are not stabilized in the field.

- Life threatened trauma patients should receive critical prehospital 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 CO2 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 CO2 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.
- 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.

1. 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.

2. 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.