Proposed changes to TECC Guidelines for Hypocalcemia in traumatic resuscitation

FIRST CARE PROVIDER

No changes

FIRST RECEIVERS WITH A DUTY TO ACT

No changes

ALS/BLS PROVIDERS

Indirect Threat Care / Warm Zone

7. **Shock Management/Fluid Resuscitation:**
   a. Assess for developing hemorrhagic shock
      i. Altered mental status (in the absence of head injury) and weak or absent peripheral pulses are the best austere field indicators of shock.
      ii. If equipment available, assess for abnormal vital signs (e.g. systolic blood pressure (SBP) <90mmHg with/without heart rate >100 bpm) or a shock index >1 (HR/SBP)
   b. If not in hemorrhagic shock:
      i. Patient may drink if conscious, can swallow, and there is a confirmed delay in evacuation to care.
      ii. No IV fluids necessary but consider intravascular access with saline lock.
   c. If hemorrhagic shock is present:
      i. Resuscitate using permissive hypotension in the non-head injured patient. Administer IV fluid bolus (per agency protocol) to a goal of improving mental status, radial pulses, or, if available, measured SBP>80mmHg. Repeat bolus once after 30 minutes if still in shock.
         - Infuse 1G calcium Chloride/Gluconate in 100mL bag of NS bolus.
         - ~~If blood products are available and able to be transfused under local protocols, resuscitate with plasma and packed red blood cells (PRBCs) in a 1:1 ratio.~~
   d. In a patient who has altered mental status due to suspected or confirmed traumatic brain injury, avoid any hypotension.
      i. Resuscitate aggressively with fluid boluses to a goal of improving

mental status, strong peripheral pulses or, if monitoring is available, maintain measured SBP>90-100 mmHg.

ii. Position patient with head elevated 30 degrees if possible.

e. Prioritize for rapid evacuation any patient with traumatic brain injury or any patient, especially those with penetrating torso injury, that is displaying signs of shock.

Evacuation Care / Cold Zone

6. **Shock Management / Fluid resuscitation:**
   a. Reassess for hemorrhagic shock (altered mental status in the absence of brain injury, weak or absent peripheral pulses, and/or change in pulse character). In this phase, BP monitoring should be available. If so, maintain target systolic BP above 80-90mmHg.
   b. Establish intravenous or intraosseous access if not performed in Indirect Threat Care / Warm Zone phase.
   c. Management of resuscitation as in Indirect Threat Care / Warm Zone with the following additions:
      i. If in hemorrhagic shock and blood products are not available or not approved under scope of practice/local protocols, fluid resuscitate as in ITC/ Warm Zone.
      ii. If in hemorrhagic shock and blood products are available with an appropriate provider scope of practice under an approved medical protocol:
         - Resuscitate with plasma and packed red blood cells (PRBCs) in a 1:1 ratio, or if appropriate training, testing and protocols are in place, initiate transfusion of fresh whole blood through one line with a fluid warmer.
         - Infuse 1G calcium chloride/gluconate in 100mL bag of NS bolus if not already done.
         - Continue resuscitation as needed to maintain target BP or clinical improvement.
   d. In a patient who has altered mental status due to suspected or confirmed traumatic brain injury, avoid any hypotension.
      i. Resuscitate aggressively with fluid boluses to a goal of improving mental status, strong peripheral pulses or, if available, maintain measured SBP>90-100 mmHg.
      ii. Position patient with head elevated 30 degrees if possible.