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Deaconess REGIONAL TRAUMA CENTER

Management of Severe Musculoskeletal Injuries

Purpose: Provide a guideline for identifying orthopedic emergencies, establishing early diagnosis and management of orthopedic injuries with interventions such as timely washout for open fractures; timely administration of antibiotics for open fractures; and timely intervention of operative stabilization of stabilization of femur fractures.

Definition: Hemodynamically unstable is defined as two out of the three:

- Confirmed BP < 90 (SBP < 90 x 2)
- HR > 100
- RR > 30

Guidelines:

A. Orthopedic emergencies constitute an emergent consult to an Orthopedic Surgeon.
   a. The Orthopedic Surgeon or Orthopedic Advance Practice Provider must respond to physically assess the patient **within 30 minutes** after the consult is received
   b. After business hours, the Trauma Surgeon must call emergent consults directly to the Orthopedic Surgeon

B. Orthopedic Emergency Criteria
   a. Hemodynamically unstable pelvic fractures with pelvic ring instability
      i. Pelvic binder should be removed within 24 hours
      ii. Excludes isolated pubic rami fractures
   b. Suspected extremity compartment syndrome
   c. Fractures/dislocations with risk of avascular necrosis
      i. Femoral head dislocation
         1. If reduced, this is no longer an emergency
      ii. Talus fracture (dislocation of the subtalar joint between talus and calcaneus)
         1. If reduced, this is no longer an emergency
   d. Vascular compromise related to a fracture or dislocation
   e. Trauma Surgeon discretion

C. Timeliness of Washout for Open Fractures
    a. Open fractures should be explored and washed out in the OR within 24 hours of arrival by an Orthopedic Surgeon
        i. Excludes simple hand fractures and GSW associated with open fractures that do not require operative fixation

D. Timeliness of Antibiotic Administration for Open Fractures
    a. Intravenous antibiotic infusion should be given to the patient with an open fracture within 60 minutes of arrival to the Emergency Department
        i. Includes but is not limited to femur, tibia, fibula, humerus, radius or ulna

E. Timeliness of Operative Stabilization of Long Bone Fractures
    a. Long bone fractures should be stabilized as early as possible considering the patient's clinical condition
    b. Femur fractures
        i. Excludes femoral neck or intertrochanteric fractures
        ii. Open Reduction Internal Fixation (ORIF) or external fixation to be completed within 24 hours of arrival

F. A traumatologist is available to care for severe pelvic and acetabular fractures
    a. In the event the traumatologist is unavailable, the patient may be transferred to a higher level of care
    b. Patients requiring spine/pelvic fixation may require transfer to a higher level of care
    c. See *Transfer of the Trauma Patient from Deaconess* guideline

References:

- American College of Surgeons (ACS). *Resources for Optimal Care of the Injured Patient* (2022).
- ACS TQIP and OTA. (2014). *Best Practices in the Management of Orthopaedic Trauma.*
- Deaconess Trauma Guideline *Transfer from Deaconess*
- *Advanced Trauma Life Support*