

Created: May 2016
Reviewed: October 2023
Revised: October 2023

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.

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 or replaced with external fixation ≤ 4 hours unless continued resuscitation is required
 - ii. Excludes isolated pubic rami fractures
 - b. Suspected extremity compartment syndrome
 - c. Fractures/dislocations with risk of avascular necrosis
 - i. Femoral head fracture
 - ii. Talus fracture
 - 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*