

ACS TQIP: Orthopedic Best Practices in the Management of Orthopedic Trauma

Open Fractures:

- Antibiotics within 1 hr of presentation
 - Gustilo Type I or II: 1st generation cephalosporin
 - Gustilo Type III: 1st generation cephalosporin + gram negative coverage
 - Severe contamination and/or impaired vascularity: add penicillin
 - Antibiotics should end 24-72 hrs after procedure.
- Irrigation and debridement within 24 hours in the operating room
- Whenever possible, skin should be closed at the time of initial debridement
- Soft tissue coverage should be completed within 7 days of injury

Mangled Extremity:

- Injury to 3 of 4 major components of a limb (bone, soft tissue, nerve, blood supply)
- Priority: “Life over limb”
- Limb salvage should be attempted only when there is a reasonable expectation that the limb is salvageable
- Consider: Age, comorbidity, functional status, occupation, patient preference, self-efficacy/social support
- Consider: Extent of soft tissue injury, fracture pattern, level of vascular injury, warm ischemia time, anatomic status of the nerve, status of ipsilateral foot
- Limb salvage and amputation are associated with similar morbidity rates and quality of life
- Decision for limb salvage should be a multidisciplinary process and include the patient

Compartment Syndrome:

- A high index of suspicion for all patients with extremity injuries
- Irreversible tissue damage occurs 6 hours after impaired perfusion
- Evaluation should occur every 1-2 hours in a 24-48 hour time period
- Reliable clinical exam: Pain out of proportion to exam, pain with passive stretch of the involved compartment, paresthesias of the nerves running through the compartments.
- Unreliable or unobtainable exam: Measure compartment pressures.
- If diastolic blood pressure (-) compartment pressure \leq 30 mmHg = fasciotomy
- Long skin and fascial incisions to release all compartments; leave open at end of case.

Pelvic fractures associated with hemorrhage:

- Hemodynamically stable patients with pelvic fractures should get a CT A/P
- Patients with contrast extravasation should undergo angiography and potential embolization
 - Selective embolization is preferred over non-selective embolization
- Hemodynamically unstable patients with pelvic fractures should have a pelvic binder placed
- Early activation of MTP
- Angiography is unavailable: pre-peritoneal packing and or external fixation
- High risk for DVT and PE: Early initiation of DVT prophylaxis

Geriatric Hip Fractures:

- Early consultation for co-morbidity management
- Peri-operative regional anesthesia
- Surgery within 48 hours
- Surgical reduction and fixation or reconstruction
- Multimodal analgesia, VTE prophylaxis, nutritional supplementation, osteoporosis screening, early PT and rehabilitation

Pediatric supracondylar humerus fractures

- High index of suspicion for nerve injuries, vascular injuries and ipsilateral radius fractures
- Non-operative or operative management
- When a vascular injury is present, immediate closed reduction is indicated

Rehabilitation

- A multidisciplinary rehabilitation team
- Initial evaluation as soon after admission as possible