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Treatment Guidelines for Orthopedic Injuries

Purpose:

To establish a unified guideline for orthopedic coverage and response for orthopedic trauma care and treatment for specific orthopedic injuries (std 5.20)

Orthopedic On Call & Response:

A. Orthopedic Surgeons shall provide 24/7/365 on-call coverage to provide consults and/or immediate orthopedic evaluation and care of trauma patients upon request. In the rare case that the orthopedic surgeon does not respond, a request for assistance may be made to the current orthopedic liaison serving on the Trauma Peer Review Committee. (std 4.11)

B. The on-call orthopedic surgeon must be at patient bedside within 30 minutes of request for any the following types of injuries and be involvement in clinical decision making for the care of these patients (std 5.21)

    1. Hemodynamically unstable patients secondary to pelvic fractures
    2. Suspected extremity compartment syndrome
    3. Fractures/Dislocations with risk of avascular necrosis (e.g., femoral head or talus)
    4. Vascular compromise related to a fracture or dislocation
    5. Trauma Surgeon discretion

C. In the event of mass casualty and the orthopedic trauma capabilities become overwhelmed, the orthopedic surgeon on duty, or on call will be responsible for notifying their partners to respond as needed, if available. Once the on duty or on call trauma surgeon, or designee arrives, that surgeon is responsible for directing and triaging patients for the OR. This process will include reviewing all disaster triage “reds” with the ED Physician, the Charge Nurse, or whoever oversees the mass causality triage process at that point. They will determine who goes to the OR suite first, second, third and so forth. The on-call trauma surgeon is also responsible for directing the additional responding trauma and orthopedic surgeons on where the need is, and when they should go to the OR. (std 2.3, 4.11)

Treatment Guidelines For Specific Orthopedic Injuries:

A. Pelvic ring injuries with hemodynamic instability

1. Implementation of Advanced Trauma Life Support (ATLS) assessment by ED Provider and/or Trauma Surgeon with stabilization of patient.
2. Should perform FAST exam
3. Consultation with on-call Orthopedic Surgeon with 30-minute response time when requested by the ED Provider and/or Trauma Surgeon
4. Application of pelvic binder if indicated for fracture stabilization
5. Resuscitation of patient with blood products as needed (consider Massive Transfusion Protocol)
6. Consider utilization of ROTEM to guide transfusion needs
7. Consider CT or CTA of abdomen and pelvis with caution as ongoing bleeding may result in cardiac decompensation and rapid need to abort and transport to OR
8. Consider Transfer for patients determined to need Pelvic angio-embolization with interventional radiologist for active pelvic blush
9. Exploratory laparotomy with pelvic packing to promote tamponade of venous bleeding as determined by the on-call Trauma Surgeon
10. Transfer of patient to a higher level of care for definitive fixation of pelvic fracture once patient is resuscitated and stabilized

B. Long bone fractures in patients with multiple traumatic injuries

1. Implementation of ATLS assessment by ED Provider and/or Trauma Surgeon with stabilization of patient
2. Consider FAST exam
3. Consultation with on-call Orthopedic Surgeon
4. Consider damage control surgery for chest or abdominal injuries with life-threatening bleeding and transfer to higher level of care
5. Once patient is resuscitated and stabilized, consider transfer or operative fixation of long bone fractures to be done as soon as possible
6. If admitting patient, Trauma Surgeon, Orthopedic Surgeon and other specialties should collaborate to determine procedure priorities and time-line of care

C. Open extremity fractures

1. Intravenous prophylactic antibiotic administration within 1 hour of arrival to the facility
2. Tetanus prophylaxis & analgesia as needed

3. Reduction of extremity by ED Provider and/or Orthopedic Surgeon if applicable
4. Cover open wounds with sterile dressings and apply splints as appropriate
5. Patient to OR with Orthopedic Surgeon within 24 hours of arrival for operative irrigation and debridement
6. Performing early wound closure (e.g. sutures, staples, adhesive) lowers risk of infection for smaller wounds
7. Time to wound coverage for open fractures will be dependent on risk of infection and availability of donor tissue or skin substitutes. A goal of <10 days has shown to significantly reduce the rates of infection

D. Hip Fractures in geriatric patients re guidelines

1. Assess and treat pain within 30 min of arrival
2. Admission to hospital by Orthopedic Surgeon with Hospitalist consult
    a. May admit to Hospitalist if injury not operable but in need of medical care
    b. May admit to Hospitalist if patient is Comfort Care only.
3. Consider CT Pelvis rather than isolated CT hip in order to identify other occult injury in geriatric patients at higher risk for occult injury
4. Medical clearance and stabilization of patient prior to anesthesia
5. NPO 8 hours for solid foods and NPO 2 hours for clear liquids prior to fixation. (see Preoperative Orders -Policy Stat forms)
6. Goal of operative fixation by Orthopedic Surgeon within 48 hours of injury
7. For patients on anticoagulants
    a. Hold anticoagulants
    b. Provide anticoagulant reversal if deemed necessary by Orthopedic Surgeon or Hospitalist
8. Hospitalist consultation to prevent delirium in the geriatric patient
9. VTE prophylaxis (see Orthopaedic VTE Prophylaxis Algorithm)

References:

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