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Deaconess REGIONAL TRAUMA CENTER

Management and Stabilization of Pelvic Fractures

Purpose: To provide a guideline for establishing early pelvic stability, diagnosis and management of injuries

Guidelines:

A. Perform initial resuscitation, diagnostic evaluation, and management of the trauma patient with pelvic fractures following ATLS protocols
   a. Pelvic fracture as the primary source of hemodynamic instability should be differentiated from other life-threatening injuries (i.e. hemopneumothorax, hemoperitoneum, or cardiac tamponade)
   b. Initial workup in the trauma bay should include a chest x-ray, pelvic x-ray, and FAST exam in delineating the source of shock
      i. Pelvic film may be omitted if the trauma patient is stable and/or going expeditiously to the CT scanner
   c. CT scan is reserved for hemodynamically stable patients with inconclusive plain radiographs or to better define fracture patterns

B. Stable Fracture Patterns
   a. Minimally displaced pubic rami fracture(s)
   b. Non/minimally displaced sacral ala fracture(s)
   c. Isolated iliac wing fracture(s) not disrupting pelvic ring integrity
   d. Avulsion fracture(s) at muscle insertions

C. Unstable Fracture Patterns
   a. >2.5cm symphysis diastasis
   b. Displaced pubic rami fracture(s)
   c. > 1cm SI joint widening
   d. > 1cm displacement sacral fracture(s)
   e. Fracture-dislocation SI joint complex
   f. Hemipelvis migration
      i. Sciatic notch usually level with 2nd neural foramen

D. Management
   a. Pelvic bleeding often controlled with immediate reduction of pelvic volume, stabilization of pelvic hematoma, and apposition of cancellous surfaces
   b. Pelvic binder for initial emergency stabilization of pelvic fractures to help prevent blood loss during initial resuscitation and aid in pain control

i. The pelvic binder is a temporary measure until definitive treatment can be accomplished
ii. Must be applied by Trauma Team, ED Physician, or Orthopedic Surgeon
iii. Application time and date should be documented on the binder and in EMR
iv. Stat portable x-ray will be obtained after placement
v. If pelvic binder becomes dislodged, RN must monitor BP and pulse every 15 minutes and contact the physician who placed the device
vi. RN can only remove the pelvic binder with an order from the Orthopedic Surgeon or the attending Trauma Surgeon
vii. The tightening/stabilizing is only done by the attending Trauma Surgeon or the Orthopedic Surgeon
viii. The pelvic binder should be removed within 24 hours

E. External fixation of unstable pelvic disruptions should precede laparotomy in majority of cases
   a. Exception: identified intra-abdominal exsanguination with patient in extremis

F. Angiography/Embolization
   a. Refer to Vascular Intervention Guideline.
      i. When possible, embolization of pelvic vessels for hemorrhage control should be selective rather than proximal due to high risk of gluteal necrosis and wound complications for posterior pelvic surgical approaches

G. Open pelvic wounds communicating with perineum, rectum, vagina, or buttocks (i.e. risk of fecal contamination) consider diverting colostomy

H. Definitive pelvic fixation may be delayed until patient is hemodynamically stable, pelvic-related hemorrhage has been controlled, and extent of pelvic injury pattern is fully understood

I. Retrograde Urethrogram
   a. Should be considered for all cases of gross hematuria, and pelvic fractures where disruption of the urethra is suspected

References:

- Practice Management Guidelines for Hemorrhage in Pelvic Fracture. Eastern Association for the Surgery of Trauma (EAST), 2001.
- Initial Management of Pelvic Fractures: Pelvic Fracture Management Algorithm. American College of Surgeons, Subcommittee on Publications / Committee on Trauma, 1997.
- Orthopaedic Knowledge Update: Trauma 2. American Academy of Orthopaedic Surgeons / Orthopaedic Trauma Association, 2000.
- Mosby's Nursing Skills: Splinting: Pelvic, 2009.
- Pelvic Injury Symposium. Orthopaedic Trauma Association, 2000.