**Background**

Patients in hemorrhagic shock due to pelvic fractures present complex clinical problems; therefore, it is important that a protocol be instituted to minimize potential errors through proper identification and treatment of these patients.

Pelvic fractures will be evaluated for pattern classification to describe fracture type and severity. The Young-Burgess Classification will be used. Below are specific patterns (APC-2, APC-3, LC-3, and VS) that require specific attention and are indications for Pelvic Binder placement immediately after recognition of the fracture pattern:

- Any “open book” pelvic fracture with a wide pubic symphysis

![Diagram of pelvic fractures](image)

- “Windswept” pelvic fracture

![Diagram of pelvic fractures](image)

Proper Pelvic Binder placement is over greater trochanters.
PELVIC FRACURE PROTOCOL

1. Initial Management
   a. Per ATLS protocols, AP Pelvis radiograph is obtained
   b. Apply Pelvic Binder for fractures identified above and/or shock (SBP<90)
   c. Consult Orthopaedic Trauma
      i. Skeletal traction often required for vertical shear patterns (placed in ER)
   d. XR (inlet & outlet views) and CT pelvis

2. Hemodynamically Unstable Pelvic Fracture Patients
   a. Consider IR for pelvic angiography, especially for patients with arterial extravasation on
      CT abd/pelvis
   b. Consider pre-peritoneal pelvic packing
      i. External fixation or pelvic binder applied
      ii. If pelvic hematoma not found, consider other bleeding source

3. Fracture Treatment
   a. Non-operative care for LC-1 and APC-1 pelvic fracture patterns
   b. LC-2 and APC-2 require manipulation under anesthesia and likely fixation after an open
      or closed reduction
   c. All other patterns will likely require operative treatment
   d. Operative treatment goal timing is within 72 hours, or when medically cleared. These
      types of surgical cases require several hours to complete, and often these patients have
      multiple orthopaedic injuries requiring several trips to the operating room; therefore, an
      orthopaedic trauma on call OR is essential.

4. Miscellaneous
   a. The orthopaedic trauma service will provide care for all pelvic fractures. Need for
      transferring such patients for these fractures is not anticipated.
   b. Since patients ages 15 years and older are skeletally mature, they will be treated
      orthopedically as adults.
   c. Binder removal protocol: the ortho trauma service will be responsible for removing the
      pelvic binder or communicating to the trauma team when it is appropriate to do so.
      Anticipate binder removal between 24 and 48 hours. They should rarely be left on more
      than 48 hours (factors for prolonged use are fracture severity/displacement and
      hypotension at presentation). When binders are removed, the patient needs to be
      monitored for hypotension and need for binder replacement (due to venous plexus
      bleeding that can only be controlled with the binder).
References:

