

PELVIC FRACTURE CARE

PELVIC FRACTURE IN COMBAT

- Increasing in frequency
 - IEDs/DISM ops/high energy weapons
- 71% open pelvic fracture (50% mortality)
- AP compression Fx > Lat compression Fx
 - ↑ procedural hemorrhage control req.
- Assoc LE amputation (63%) Bilat AKA (39%)

4 TENETS OF PELVIC FRACTURE MGMT

1. Resuscitate w/whole blood/balanced components
2. Stabilize bony pelvis
3. ID source of hemorrhage: include chest/Abd/rectum/genitalia
4. Hemorrhage control

TEMPORARY PELVIC STABILIZATION

Pelvic Binder/Compression Sheet

- 70% of hemorrhage venous--only fills available space—**pelvic binder reduces volume/aid clot formation**
- Binder or compression sheet between greater and lesser trochanters/buckle over pubis → Primary survey
 - Taping knees and ankles together can minimize external rotation/improve pelvic reduction
- Add Pelvic X-ray to primary survey--binder temp released if possible (13% of AP compression FXs missed)
 - Pressure ulcers as soon as 3-4 hrs/ skin checks q 12 hrs/ definitive fixation w/in 24 hrs

Unstable Pelvic FX → Whole Blood → OR

Positive FAST

- Laparotomy/hemorrhage control
- Preperitoneal packing via separate incision
- Pelvic stabilization (ex fix or pelvic binder)

Negative FAST

- Preperitoneal packing
- Pelvic stabilization (ex fix or pelvic binder)
- Consider REBOA if resourced

HEMORRHAGE CONTROL

Preperitoneal packing (PPP) – Lap Pads along pelvic ring to tamponade venous and bony bleeding

Indications

- SBP < 90 despite binder+ transfusion
- +FAST w/ pelvic hematoma
- Unstable after exlap/hemorrhage control
- Unstable pelvic fx in austere environment
- Separate procedure from Ex-Lap

Steps

- Lower midline incision/divide linea alba
- Leave peritoneum INTACT/evac any hematoma
- 3-4 rolled packs each side of space of Retzius
- Deep in pelvic/compress iliac veins/venous plexus.
- Close skin or fascia over packs

Stabilize Pelvis at same time (Binder/Ex Fix)/Continue Resuscitation/Remove Packs in OR in 24-48hrs

- Angio Embolization (AE) can be considered if continued bleeding despite PPP and properly resourced
- Internal Iliac (Hypogastric) Artery Ligation if AE not available, but risks gluteal muscle necrosis

EXTERNAL FIXATION OF PELVIS (Iliac Crest Technique)

Anatomy

- Two fingerbreadths posterior to ASIS
- Dissect soft tissues to expose inner/outer table
- 2nd pin posterior to that

Pearls/Pitfalls

- Aim towards contralateral greater trochanter
- Rest pin along inner table to demarcate slope
- Achieve closed reduction prior to tightening

METRICS

- ✓ Hemodynamically unstable patients (SBP < 100, or 110 in patients with suspected traumatic brain injury, or HR > 100) with a pelvic ring injury, received pelvic stabilization with appropriately placed sheets or binders.
- ✓ Patients with pelvic fracture and a positive FAST who remain hemodynamically unstable after blood resuscitation, undergo hemorrhage control procedure (exploratory laparotomy, preperitoneal packing, external fixation or pelvic binder at minimum) at the same level of care where diagnosed.
- ✓ Patients with unstable pelvic fracture and a negative FAST who remain hemodynamically unstable after pelvic binder placement and blood resuscitation, undergo hemorrhage control procedure (external fixation and preperitoneal packing or interventional radiology angioembolization, if capability available) at the same level of care where diagnosed.



This information is pulled from the evidence-based Joint Trauma System (JTS) Pelvic Fracture Care Clinical Practice Guideline (CPG). JTS CPGs can be found at the [JTS CPG website](#) or the [JTS Deployed Medicine site](#).