

Joint Trauma System



Pelvic Fracture Care

Part of the Joint Trauma System (JTS) Clinical Practice Guideline (CPG) Training Series



Purpose



This CPG provides a brief review for the stabilization and treatment of pelvic fractures sustained in combat casualties.

Presentation is based on the [JTS Pelvic Fracture Care CPG, 15 Mar 2017 \(ID: 34\)](#). It is a high-level review. Please refer to the complete CPG for detailed instructions. Information contained in this presentation is only a guideline and not a substitute for clinical judgment.

Agenda

- Summary
- Background
- Evaluation
- Treatment
- Performance Improvement (PI) Monitoring
- References
- Appendices
- Contributors

Summary

- Pelvic fractures are primarily stabilized with external fixation or using sheets/pelvic binders centered over the greater trochanters.
- Pelvic fractures may require surgical intervention to control ongoing hemorrhage.

Background



Pelvic fractures in the combat environment tend to be more complex, more difficult to classify, and more commonly open than in civilian trauma.

- Often associated with other severe injuries.
- Death often a result of acute blood loss and associated injuries.

Background

Pelvic fractures can be a complex challenge as sharp spikes of bone from the fracture can lacerate surrounding soft tissues and cause bleeding.

- Most common sources of bleeding:
 - ❑ Fracture surfaces
 - ❑ Retroperitoneal venous plexus
 - ❑ Gluteal artery
- Damage possible to hollow viscera, L5 nerve root, and lumbar plexus.

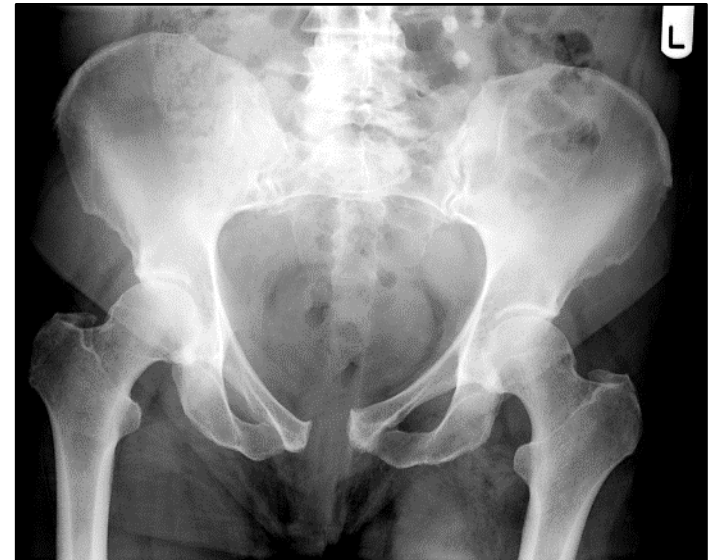


Open pelvic fracture with traumatic amputation of right lower extremity. Open Pelvic fractures common with dismounted complex blast injury.

Evaluation

Evaluation begins with complete trauma evaluation and assessment of hemodynamic stability.

- Evaluate all possible sources of bleeding.
- A thorough examination of the pelvis and perineum is required as part of this examination.



Open book pelvic fracture

Treatment

- For all pelvic fractures, initial stabilization is done with whatever means available.
 - Options include:
 - Pelvic Binder
 - Sheet/Fabric
 - Pelvic external fixation
 - Bean or sand bags
 - If unable to determine pelvic fracture stabilization, stabilize with sheet or binder.
 - Taping knees and ankles together can minimize additional rotational movement.
- Pelvic binders (all varieties) are correctly placed by centering over the greater trochanter of the femur.



Pelvic fracture from blunt mechanism stabilized with sheet. Note taping of knees and ankles.

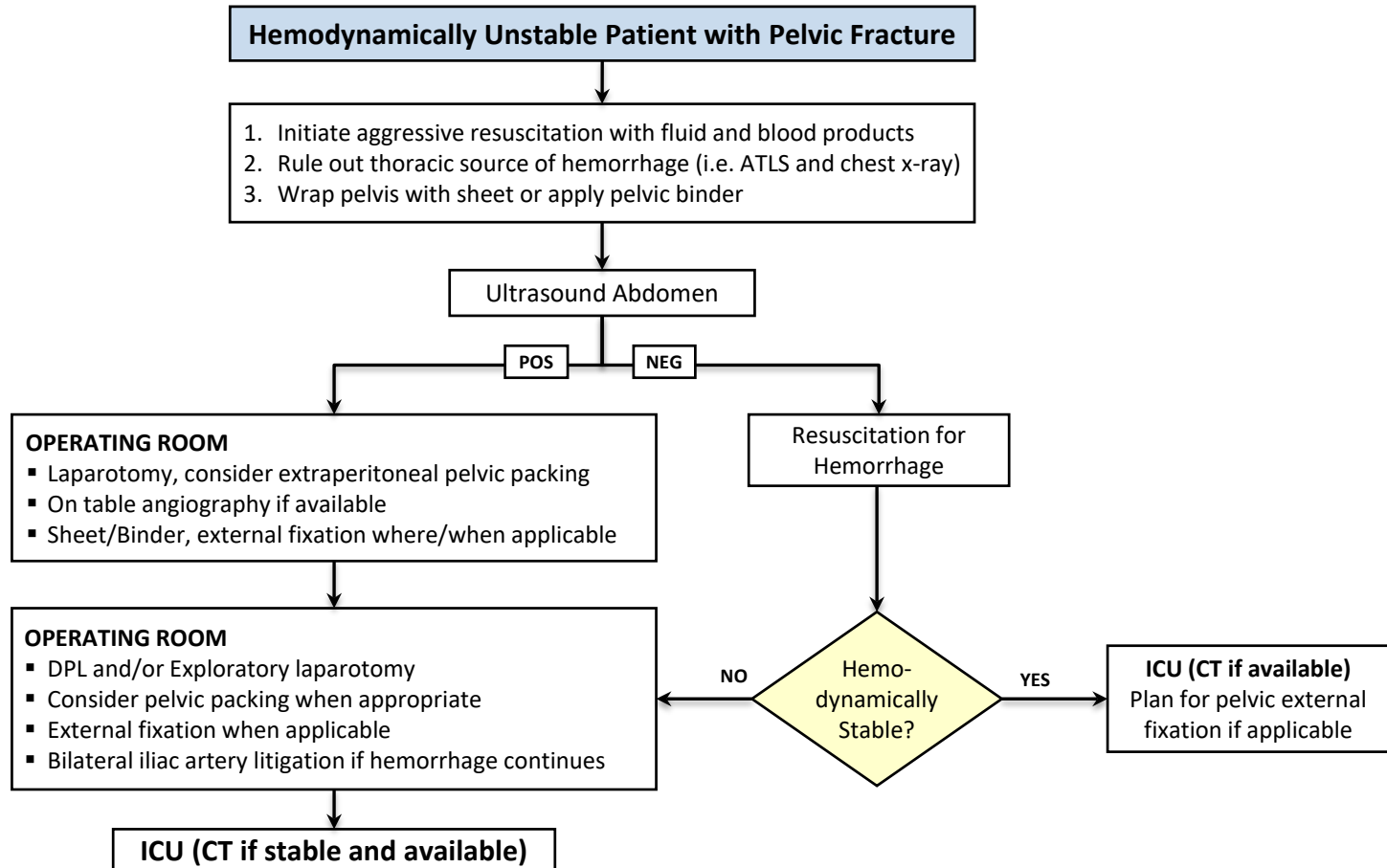
Treatment

- Venous bleeding is most common from blunt pelvic fractures and can be controlled with a pelvic binder.
 - ❑ 70% of hemorrhage from blunt trauma is venous.
 - ❑ Generally controllable with maneuvers that reduce pelvic volume and stabilize pelvis.
- Less commonly, arterial bleeding is present and often requires procedural interventions including:
 - ❑ Embolization.
 - ❑ Pelvic packing.
 - ❑ Bilateral internal artery ligation.

Treatment

- If requiring procedural intervention, temporary aortic occlusion may help control life-threatening hemorrhage.
- Given the rare availability of endovascular embolization in the deployed setting, pelvic packing is considered the next best option.
 - Performed preferably through suprapubic incision.
 - Avoid intraabdominal approach unless required for other injuries.
- Bilateral internal iliac artery ligation is considered a last resort.

Treatment





PI Monitoring

■ Intent (Expected Outcomes)

- At forward locations with providers who lack the expertise and resources for accurate placement of external pelvic fixation, pelvic stabilization is performed using sheets or binders centered over the greater trochanters.
- In patients with pelvic fractures who have negative focused assessment with sonography in trauma (FAST) exam but remain unstable despite adequate resuscitation, diagnostic peritoneal lavage (DPL) and/or exploratory laparotomy is performed.

■ Performance/Adherence Measures

- When expertise and resources were lacking at forward locations, pelvic stabilization was performed using sheets or binders.
- In patients with pelvic fractures who had negative FAST exam but continued hemodynamic instability despite adequate resuscitation, DPL and/or exploratory laparotomy was performed.

■ Data Source

- Patient Record
- Department of Defense Trauma Registry



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Appendices



- **Appendix A:** Pelvic Fracture Clinical Pathway
- **Appendix B:** Additional Information Regarding Off-label Uses in CPGs

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