

EVIDENCE-BASED PRACTICE RECOMMENDATIONS

An Evidence-Based Approach To Managing Injuries Of The Pelvis And Hip In The Emergency Department

Fiechtl JF, Gibbs MA. December 2010, Volume 12; Number 12

This issue of Emergency Medicine Practice discusses management of several common hip and pelvis injuries. For a more detailed discussion of this topic, including figures and tables, clinical pathways, and other considerations not noted here, please see the complete issue on the EB Medicine website at www.ebmedicine.net/topics.

Key Points	Comments
Any pelvic ring disruption can be associated with life-threatening hemorrhage.	The most common source of bleeding—and unfortunately the most difficult to control—is venous bleeding. A venous source is identified in 80% to 90% of cases. ³¹ Several case series have illustrated the need for blood transfusions in these patients: 38.5% of hospitalized trauma patients with pelvic fractures required transfusion, as did 34% of trauma patients with isolated pelvis and acetabulum fractures in another case series. ^{6,32}
Not every trauma patient requires a pelvic radiograph. Two recent studies showed plain radiographs had poor sensitivity to detect fractures (64% and 78% respectively) and resulted in no management changes ^{17,18} ; however, an important point to consider with these studies is that every patient underwent computed tomography (CT) scanning, which did guide treatment.	Duane et al suggested that pelvic radiographs might be unnecessary in patients who have a GCS > 13; have no complaints of pain in the abdomen, back, hip, or groin; and experience no tenderness in these areas or over bony landmarks. After following these patients clinically, the authors reported that the protocol had 100% sensitivity and that 273 pelvic radiographs were avoided. ²⁰
Pelvic ring disruptions with hemodynamic instability require “wrapping” and emergent trauma/orthopedic consultation. Stabilize and transfer patients expeditiously to your regional trauma center.	In a recent systematic review designed to assess the effectiveness and complications of external pelvic compression in patients with unstable pelvic fractures, the authors concluded that this maneuver has 3 advantages: (1) it provides effective biomechanical stabilization to the disrupted pelvic ring, (2) it reduces blood loss, and (3) it is not associated with life-threatening or limb-threatening complications. ⁴⁰
Posterior hip dislocations represent 90% of all hip dislocations. Significant force is required to dislocate a hip; treat these patients as major trauma patients.	Reduction should be performed within 6 hours to lessen the likelihood of avascular necrosis, permanent nerve palsy, and posttraumatic arthritis. The likelihood of complications greatly increases as the length of time the hip remains dislocated increases. ^{52,53} In the event of neurovascular compromise, reduction should be expedited.
Become familiar with the various hip reduction techniques; become an expert at 2 or 3 methods. Multiple attempts at closed reduction should be avoided.	Overall, the success rates for closed reductions are between 85% and 98%. ⁵⁵ In a more recent systematic review evaluating hip reduction for dislocations and femoral head fractures, the success rate was 84.3%. ⁵⁶

See reverse side for reference citations.

REFERENCES

These references are excerpted from the original manuscript. For additional references and information on this topic, see the full text article at ebmedicine.net.

6. Dente CJ, Feliciano DV, Rozycki GS, et al. The outcome of open pelvic fractures in the modern era. *Am J Surg*. 2005;190:830-835. **(Case series; 44 patients)**
17. Obaid AK, Barleben A, Porral D, et al. Utility of plain film pelvic radiographs in blunt trauma patients in the emergency department. *Am Surg*. 2006;72:951-954. **(Case series; 174 patients)**
18. Kessel B, Sevi R, Jeroukhimov I, et al. Is routine portable pelvic x-ray in stable multiple trauma patients always justified in a high technology era? *Injury*. 2007;38:559-663. **(Case series; 129 patients)**
20. Duane TM, Tan BB, Golay D, et al. Blunt trauma and the role of routine pelvic radiographs: a prospective analysis. *J Trauma*. 2002;53:463-468. **(Prospective series; 520 patients)**
31. Gansslen A, Giannoudis P, Pape HC. Hemorrhage in pelvic fracture: who needs angiography? *Curr Opin Crit Care*. 2003;9:515-523. **(Review article)**
32. Magnussen RA, Tressler MA, Obremsky WT, et al. Predicting blood loss in isolated pelvic and acetabular high-energy trauma. *J Orthop Trauma*. 2007;21:603-607. **(Case series; 382 patients)**
40. Spanjersberg WR, Knops SP, Schep NW, et al. Effectiveness and complications of pelvic circumferential compression devices in patients with unstable pelvic fractures: a systematic review of the literature. *Injury*. 2009;40:1031-1035. **(Systematic review)**
52. Brooks RA, Ribbans WJ. Diagnosis and imaging studies of traumatic hip dislocation in the adult. *Clin Orthop Rel Res*. 2000;377:15-23. **(Review article)**
53. Yang EC, Cornwall R. Initial treatment of traumatic hip dislocation in the adult. *Clin Orthop Rel Res*. 2000;377:24-31. **(Review article)**
55. Tornetta P, Hamid MR. Hip dislocations: current treatment regimens. *J Am Acad Orthop Surg*. 1997;5:27-36. **(Review article)**
56. Giannoudis PV, Kontakis G, Christoforakis Z, et al. Management, complications and clinical results of femoral head fractures. *Injury*. 2009;40:1245-1251. **(Systematic review)**

CLINICAL RECOMMENDATIONS

Designed for use in every-day practice

Use The Evidence-Based Practice Recommendations On The Reverse Side For:

- Discussions with colleagues
- Developing hospital guidelines
- Posting on your bulletin board
- Preparing for the boards
- Storing in your hospital's library
- Teaching residents and medical students

Emergency Medicine Practice subscribers: Are you taking advantage of all your subscription benefits? Visit your free online account at www.ebmedicine.net to search archives, browse clinical resources, take free CME tests, and more.

Not a subscriber to Emergency Medicine Practice? As a subscriber, you'll benefit from evidence-based, clinically relevant, eminently usable diagnostic and treatment recommendations for everyday practice. Plus, you'll receive up to 192 *AMA PRA Category 1 Credits™*; 192 ACEP Category 1 credits; 192 AAFP Prescribed credits; and 192 AOA category 2B CME credits and full online access to our one-of-a-kind online database. Visit www.ebmedicine.net/subscribe or call 1-800-249-5770 to learn more today.

Questions, comments, suggestions?

To write a letter to the editor, email: JagodaMD@ebmedicine.net

For all other questions, contact EB Medicine:

Phone: 1-800-249-5770 or 678-366-7933

Fax: 1-770-500-1316

Address: 5550 Triangle Parkway, Suite 150 / Norcross, GA 30092