

Open Pelvic Fracture Due to Crush Injury

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A 56-year-old man in hemorrhagic shock after being crushed at an industrial work-site had an open pelvic fracture involving the right sacrum and an unstable right hemipelvis (image A) as well as bilateral tibial fractures, a right femur fracture, and a nearly circumferential rectal laceration. The patient was placed in a pelvic binder and given cefazolin and gentamicin. Both internal iliac arteries were then embolized, and external fixation of the pelvis, exploratory laparotomy with diverting colostomy, and bilateral external fixation of the tibias were performed. Several days later, the patient underwent internal fixation of the anterior and posterior pelvis (image B). The patient continues to recover.

Pelvic fractures account for 3% of skeletal injuries and are associated with severe trauma such as that caused by a car striking a pedestrian, a motor vehicle collision, or a fall from higher than 15 feet.^{1,2} Good outcomes have been reported in open fracture cases with early recognition and treatment, including control of acute hemorrhage, fracture stabilization, sepsis prevention, and early diverting

colostomies when appropriate.³ A small percentage of pelvic fractures require embolization, but when performed early in the treatment course, it can be up to 100% effective.⁴ Mortality rates associated with open fractures have been reported to be between 5% and 58%.^{2,3} (doi:10.7556/jaoa.2014.182)

References

- Demetriades D, Karaiskakis M, Toutouzas K, Alo K, Velmahos G, Chan L. Pelvic fractures: epidemiology and predictors of associated abdominal injuries and outcomes. *J Am Coll Surg*. 2002;195(1):1-10.
- Dente CJ, Feliciano DV, Rozycki GS, et al. The outcome of open pelvic fractures in the modern era. *Am J Surg*. 2005;190(6):830-835. doi:10.1016/j.amjsurg.2005.05.050.
- Cannada LK, Taylor RM, Reddix R, Mullis B, Moghadamian E, Erickson M; Southeastern Fracture Consortium. The Jones-Powell classification of open pelvic fractures: a multicenter study evaluating mortality rates. *J Trauma Acute Care Surg*. 2013;74(3):901-906. doi:10.1097/TA.0b013e3182827496.
- Agolini SF, Shah K, Jaffe J, Newcomb J, Rhodes M, Reed JF III. Arterial embolization is a rapid and effective technique for controlling pelvic fracture hemorrhage. *J Trauma*. 1997;43(3):395-399.

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