

Post-Mobilization Radiographs for Stable Pelvic Ring Injuries: When Is Enough, Enough?

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Purpose: Recent literature has demonstrated the limited utility of obtaining routine in-hospital post-mobilization radiographs in lateral compression (LC)1 pelvic ring injuries (AO/OTA 61B) unless patients cannot mobilize. The literature does not address whether this specific cohort of conservatively treated, stability-proven pelvic ring injuries require clinical radiographs after discharge. The purpose of this study was to determine how many of these specific pelvic fractures displaced late and proceeded to operation. We predicted that most pelvic fractures that are determined to be stable in the initial post-mobilization films will not end up displacing and requiring surgical fixation.

Methods: All patients presenting to our Level-I academic trauma center over a 10-year period (2008-2018) were reviewed for the following criteria: pelvic fractures treated conservatively, with stable post-mobilization films, and who returned to clinic with outpatient radiographs. This yielded 219 unique patients. Patient characteristics (age, comorbidities, tobacco use, body mass index [BMI]), Young-Burgess classification, mechanism of injury, weight-bearing status, length of follow-up and number of clinic visits, and number of outpatient radiographic images were collected. The primary outcome was late operation after a trial of nonoperative management.

Results: Zero patients received late operation for displacement after a trial of nonoperative management highlighted by post-mobilization films in the inpatient setting over the past decade. The patients included 123 females and 96 males. Mean clinic follow-up was 20.3 weeks (range, 1.4- 134.7, SD [standard deviation] 27.6) post injury. Patients received a mean of 6.4 radiographs (range, 1-22, SD 4.3) in outpatient follow-up. 185 fractures (84.5%) were classified as LC1 injuries and 12 (5.5%) were classified as LC2 fractures. 21 (9.6%) had no associated rami fractures, 151 (68.9%) had unilateral rami fractures, and 46 (21.0%) had bilateral rami fractures.

Conclusion: Pelvis fractures that have received in-hospital mobilization, and demonstrated stability via post-mobilization radiographs, likely do not require significant post-discharge radiographic follow-up. The lack of conversion to late treatment suggests that we can reduce patients' radiation exposure by minimizing follow-up radiography. A future pathway with minimization of post-mobilization films and clinical radiographs is likely possible for stable, low-acuity pelvic ring injuries.