

**Unstable Pelvic Ring Injuries: How Soon Can Patients Safely Bear Weight?**

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**Purpose:** Surgical intervention for pelvic ring injuries attempts to restore pelvic ring alignment and stability while allowing for patient mobilization. Patients are often instructed to follow modified weight-bearing protocols for a period of time following surgery. The aim of this study was to determine the effect the time of restricted weight bearing had on final alignment and union of unstable pelvic ring injuries.

**Methods:** A retrospective review was performed to identify all patients with operatively treated unstable pelvic ring injuries over 10 years. Patient charts were reviewed to determine injury mechanism, fracture pattern (Young-Burgess classification), fixation construct, and postoperative weight-bearing protocols. Postoperative complications were noted including: implant failure, revision surgery, and malunion (5 mm of displacement of the hemipelvis or pubic symphysis in a nonanatomic position). Patients were included in the study if they had a 6-month follow-up with documented pelvic radiographs. Patients with associated injuries prohibiting postoperative mobilization were excluded. Patients were stratified into early ( $\leq 8$  weeks) and late ( $> 8$  weeks) time to full weight-bearing groups.

**Results:** We identified 286 patients meeting our inclusion criteria with mean age was 39.9 years and average follow-up of 1.2 years (range, 0.5-9 years). There were 132 and 154 patients in the early and late weight-bearing groups respectively. There were 142 lateral compression type (LC)-1, 48 LC-2, 23 LC-3, 10 anterior posterior compression (APC)-1, 45 APC-2, 8 APC-3 injuries, and 8 vertical shear injuries. Complications included: 18 implant failures, 16 malunions, and 13 patients who required revision operations. There were 17 (13%) complications in the early weight-bearing group as compared to 30 complications (19%) in the late weight-bearing group ( $P = 0.24$ ). Irrespective of time to weight bearing, APC-2, LC-3, and any LC fracture pattern with associated bilateral rim fractures were noted to have higher complication rates ( $P = 0.007, 0.03, 0.024$ , respectively) than the rest of the cohort.

**Conclusion:** We were unable to demonstrate a difference in implant failure, malunion, or early loss of reduction between operatively treated pelvic ring injuries allowed to weight-bear as tolerated before 8 weeks compared to those who remained on protected weight bearing for any time greater than 8 weeks. These data may provide information to support early weight-bearing protocols in pelvic ring injuries.