

**Lumbopelvic Fixation in the Treatment of Spinopelvic Dissociation: Union, Complications and Neurologic Outcomes of a 20-Year Case Series**

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**Purpose:** Spinopelvic dissociation is a rare injury characterized by acute discontinuity of the spine from the pelvis and often presents with significant instability, neurologic injury, and traumatized posterior soft tissues. In patients with significant displacement, neurologic compromise, and/or inadequate pathways for percutaneous fixation, open lumbopelvic fixation may be indicated. Previous literature has reported reliable union and maintenance of alignment with a significant incidence of wound complication. We sought to review the outcomes following lumbopelvic fixation over a 20-year period at our busy Level I trauma center.

**Methods:** We reviewed all cases spinopelvic dissociation over a 20-year period and isolated patients who underwent open lumbopelvic fixation. We collected demographic data, associated injuries, pre- and postoperative neurologic status, pre- and postoperative kyphosis, and classified all injuries using the Roy-Camille and AO schema. Minimum follow-up was 3 months. Outcomes were collected through chart review and included radiographic and clinical union, incidence of hardware or wound complication, and need for reoperation. Patients who underwent adjunctive percutaneous fixation were also included.

**Results:** We identified 44 cases of spinopelvic dissociation treated with open lumbopelvic fixation from an initial cohort of 156 patients with U-, H-, Y-, or lambda-type sacral fractures. From this cohort, 33 patients fulfilled inclusion criteria with a mean follow-up of 399 days. Ten patients from this cohort were repaired with a combination of percutaneous iliosacral and open lumbopelvic techniques. The average preoperative kyphosis in this cohort was 25° and the average postoperative kyphosis was 23°. 17 patients (51%) had a documented neurologic deficit preoperatively and 7 (21%) were unknown or unable to be assessed. In patients presenting with bowel or bladder dysfunction (n = 10), all underwent laminectomy at the time of surgery and 3 patients (30%) continued to have dysfunction at last follow-up. There were 4 cases (12%) of surgical site infection and 3 (8%) wound complications treated without surgery. Three patients required hardware removal secondary to a painful implant. All cases went on to union.

**Conclusion:** This is the largest reported series of spinopelvic discontinuity repaired using open lumbopelvic fixation in the literature. We found open lumbopelvic fixation yielded a high union rate without any cases of hardware failure or pseudoarthrosis. Approximately one in five patients had a wound complication, with the majority of these being surgical site infections. Bowel and bladder dysfunction at presentation was common and 70% of cases had resolution at final follow-up when treated with decompression and stable fixation.