

Clinical records gathered from 2006 to 2013 were retrospectively reviewed identifying 300 patients who underwent single or multi-level lateral interbody fusions as a stand alone procedure, with lateral plating, percutaneous pedicle, or transfacet screws. All complications encountered were analyzed (Figure 1).

300 patients (126 males and 174 females; mean age of 58) underwent XLIF fusions with a total of 415 levels performed over a 7-year period. The overall complication rate was 11%. There were 6 asymptomatic vertebral body fractures that did not require treatment. 5 cases (1.7%) required reoperation due to failure of indirect decompression for either canal (2) or foraminal stenosis (3). There were 5 cases of chronic leg dysesthesias and 5 cases of L4 palsy, which resolved spontaneously. 4 of 300 cases (1.3%) were aborted due to pervasive EMG responses during approach to the L4-5 intervertebral disc space. 2 cases (1.5%) resulted in pseudoarthrosis. 2 postoperative incisional hernias occurred. There was one case of bowel perforation requiring surgical repair. One case of psoas hematoma presenting with iliopsoas weakness that resolved completely after placement of a percutaneous drain. One patient suffered bilateral iliac vein lacerations requiring an emergent laparotomy and repair. There were no infections.

Complication	Number
VB Fracture	6
Reoperation	5
L4 Palsy	5
Chronic Leg Dyesthesia	5
Aborted Approach	4
Pseudoarthrosis	2
Postoperative Hernia	2
Bowel Perforation	1
Iliac Vein Perforation	1
Psoas Hematoma	1

Figure 1: 32 complications in 300 patients noted. The most common included asymptomatic VB fractures, transient L4 palsy, and chronic leg dysesthesia.

XLIF is a minimally invasive technique that results in a relatively low but significant incidence of complications. The greatest risk in accordance with other published reports is that of nerve injury, predominantly at L4-5 (2-3). Injury to the abdominal viscera or vasculature, although rare, is associated with significant morbidity.

By the conclusion of this session, participants should be able to: 1) Describe the importance of minimizing operative complications related to lateral approach of the lumbar spine, 2) Discuss, in small groups, the types of complications associated with XLIF technique, and 3) Identify an effective treatment plan for preventing complications while performing XLIF technique.

1. Ozgur BM, Aryan HE, Pimenta L, et al. Extreme lateral interbody fusion (XLIF): a novel surgical technique for anterior lumbar interbody fusion. *Spine J*. 2006; 26:435-43.
2. Cummock MD, Vanni S, Levi AD, et al. An analysis of postoperative thigh symptoms after minimally invasive transposas lumbar interbody fusion. *J Neurosurg Spine*. 2011; 15:11-19.
3. Rodgers WB, Gerber EJ, Patterson J. Intraoperative and early postoperative complications in extreme lateral interbody fusion: an analysis of 600 cases. *Spine (Phila Pa 1976)*. 2011; 36:26-32.