

**Abstract: 175**

**Prospective, Non-randomized, Multi-center Clinical Evaluation of Extreme Lateral Interbody Fusion (XLIF) in the Treatment of Adult Scoliosis**

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**Introduction:** Surgical intervention in adult scoliosis has traditionally been by large open anterior and/or posterior procedures, with often unacceptable morbidity and risks to elderly comorbid patients. Minimally invasive treatment of adult scoliosis can be achieved with the XLIF approach.

**Methods:** A prospective, non-randomized, multi-center IRB-approved evaluation of XLIF in adult scoliosis is ongoing at 17 sites across the US. Clinical and radiographic data is collected prospectively at the pre-op, surgery, post-op, 6-week, 3-month, 6-month, 12-month and 24-month visits for XLIF patients over 45 years of age with degenerative scoliosis of least 10°.

**Results:** 107 patients (mean age: 68.4 years, range: 45-87 years; 72.9% female) with back pain (15.4%), radicular pain (1.9%), or both (82.7%) underwent XLIF procedures at 344 levels from T12-L5 (mean: 3.21 levels, range: 1-6 levels); with posterior fixation (72.0%), lateral fixation (4.7%), other fixation (4.7%), and standalone (18.7%). Posterior fusion was staged in 16.5%. Additional direct decompression was performed in 47.3%. The mean operative time was 178 minutes/patient or 58 minutes/level. Estimated blood loss was a mode of 50-100 mL. Mean length of stay was 2.92 days-unstaged (median: 2), 8.13 days-staged (median: 8), and 3.82 days-overall (median: 3). There were 13 surgical complications in 10 patients. Mean back and leg pain VAS improved from 7.3 and 6.2 to 3.7 and 2.4 at 12-months, respectively. Mean ODI improved from 48.2% to 26.6% at 12-months. SRS-22 scores improved from 2.7 to 4.3 at 12-months. Scoliosis curvature was corrected from 24.3° to 16.1° at 12-months. Lordosis was maintained from pre-op to 12-months.

**Conclusions:** This is the first prospective, multi-center evaluation of a minimally invasive lateral approach in the treatment of adult scoliosis. Clinical improvement is significant and well-maintained over time. XLIF allows for less invasive surgical treatment of patients who may have been previously considered too high risk for surgery. Longer-term outcomes and maintenance of radiographic correction is forthcoming.