# Does MIS Surgery llow for Shorter Constructs in the Surgical Treatment of ASD?



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#### Introduction

INTRODUCTION Length of construct can potentially increase risks in adult spinal deformity (ASD) surgery. The objective of this study was to examine the effect of the number of fusion levels on surgical outcomes in a group of patients with similar ASD comparing MIS to OPEN approaches.

### Methods

METHODS Two large multicenter ASD databases were queried for MIS and OPEN patients with minimum 2-year follow-up. Patients were propensity matched for max Cobb, pelvic incidence-lumbar lordosis (PI-LL), and baseline ODI. Independent T-test and chi square were used for analysis.

# Results

**RESULTS 84 patients were** matched in each group. There were no statistical differences in baseline demographics or preoperative radiographic parameters (table 1). OPEN patients on avg had 10.1 levels fused while MIS 4.8 levels (p<0.001). MIS patients had significantly more interbody fusions (IBF; 3.6 MIS and 2.4 OPEN, p<0.001). Length of stay was significantly less for MIS (6.7 v 9.7 days; p=0.003). Both groups showed significant HRQOL improvement from baseline, with no differences between MIS and OPEN.

## Conclusions

CONCLUSION When treating mild to moderate ASD, MIS techniques achieve similar clinical and radiographic results with the exception of PI-LL correction. Additional benefits include shorter construct, decreased blood loss, and length of stay. Longer follow up is required to assess fusion and durability of the MIS techniques.

# Learning Objectives

Two multicenter databases, one involving minimally invasive (MIS) and other OPEN surgeries for Adult spinal deformity (ASD) were propensity matched for clinical and radiographic parameters with a minimum 2 year follow-up, to examine the effect of the number of fusion levels on surgical outcomes. MIS Techniques might potentially decrease construct length, fusion levels, reoperation rates, blood loss and length of stay without affecting the clinical and radiographic outcomes when compared to a similar ASD patients treated with OPEN techniques.