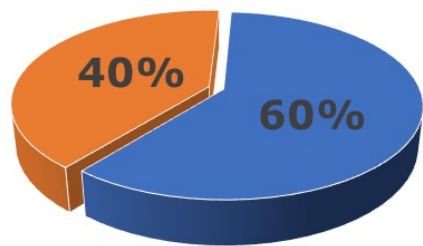


## Introduction

Adjacent segment degeneration is a long term complication after posterior lumbar spine arthrodesis. The use of minimally invasive transforaminal lumbar interbody fusion (MI-TLIF) may result in decreasing the percentage of symptomatic adjacent segment disease (ASD) due to preservation of the posterior column supporting anatomy.

### Sex Percentage



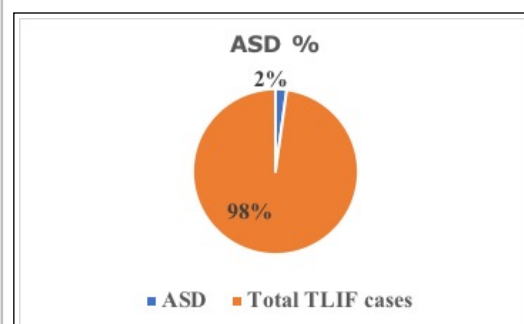
■ Female ■ Male

## Methods

A retrospective chart review was performed to determine the rates of degeneration at the adjacent segment related to the site of a posterior lumbar fusion. The selection criteria included the cases that required surgical interference due to debilitating back pain or leg pain.

Four hundred and three patients who had undergone posterior lumbar arthrodesis from 2011 to 2017 were included in this study, of which 242(60%) were females and 161(40%) were males.

Age ranged from 43 to 77 years old, average 67.5 years. Follow up ranged from 1 to 6 years. The radiological analysis was done pre-operative and at last follow up time. Radiological diagnosis based on the positive Modic changes in the disc space with debilitating low back pain and/or leg pain of the related nerve root.



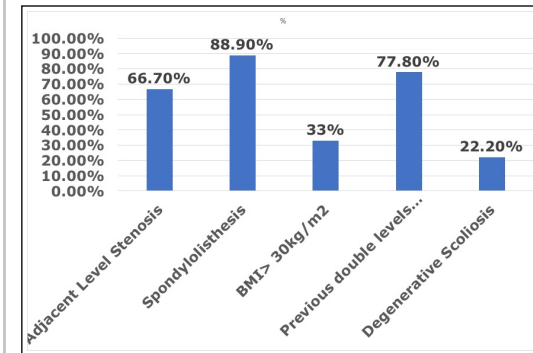
■ ASD ■ Total TLIF cases

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## Results

Nine (2.2%) cases of the 403 patients had evidence of symptomatic degeneration at the adjacent levels that required an additional surgery.

All nine cases were females (100%). 97.8% of cases has symptomatic adjacent level disease at 6 years follow up time. 66.7% of cases had adjacent level stenosis, 88.9% had spondylolisthesis of which 62% had previous double



77.8% of the ASD cases had previous double level lumbar surgery of which L4-5 + L5-S1 levels constituted 66.7% and only 2 cases (22.2%) had degenerative scoliosis.

## Conclusions

TLIF surgery has a low adjacent segment disease percentage probably due to the preservation of the posterior column anatomy that leads to maintenance of good spine stabilization.

For additional information please contact:

Mick Perez-Cruet MD, MSc  
 Professor of Neurosurgery  
 William Beaumont School of  
 Medicine  
 Oakland University, USA  
 perezcruet@yahoo.com