

Oral Presentation

# Minimally Invasive versus Open Thoracolumbar Surgery for Lumbar Spinal Stenosis in Patients with Diabetes: A CSORN Study

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## Introduction

This study was aimed at comparing outcomes of minimally invasive (MIS) versus OPEN surgery for lumbar spinal stenosis (LSS) in patients with diabetes.

## Methodology

This retrospective cohort study included patients with diabetes who underwent spinal decompression alone or with fusion for LSS within the Canadian Spine Outcomes and Research Network (CSORN) database. Outcomes of MIS and OPEN approaches were compared for two cohorts: (i) patients with diabetes who underwent decompression alone ( $N = 116$ ; MIS,  $n = 58$ , OPEN,  $n = 58$ ) and (ii) patients with diabetes who underwent decompression with fusion ( $N = 108$ ; MIS,  $n = 54$ , OPEN,  $n = 54$ ). Mixed measures analyses of covariance compared modified Oswestry Disability Index (mODI) and back and leg pain at one-year post operation. The number of patients meeting minimum clinically important difference (MCID) or minimum pain/disability at one year were compared.

## Result

MIS approaches had less blood loss (decompression alone difference 99.66 mL,  $p = 0.002$ ; with fusion difference 244.23,  $p < 0.001$ ) and shorter LOS (decompression alone difference 1.15 days,  $p = 0.008$ ; with fusion difference 1.23 days,  $p = 0.026$ ). MIS compared to OPEN decompression with fusion had less patients experience an adverse event (difference, 13 patients,  $p = 0.007$ ). The MIS decompression with fusion group had lower one-year mODI (difference, 14.25,  $p < 0.001$ ) and back pain (difference, 1.64,  $p = 0.002$ ) compared to OPEN. More patients in the MIS decompression with fusion group exceeded MCID at one year for mODI (MIS 75.9% vs OPEN 53.7%,  $p = 0.028$ ) and back pain (MIS 85.2% vs OPEN 70.4%,  $p = 0.017$ ).

## Conclusion

MIS approaches were associated with more favorable outcomes for patients with diabetes undergoing decompression with fusion for LSS.

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