

## Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of identifying preoperative predictors of obtaining a CSI after lumbar decompression surgery, 2) Discuss, in small groups, preoperative patient and surgical characteristics that predispose patients to not achieving a CSI after lumbar decompression, 3) Identify an effective treatment strategy for lumbar decompression surgery.

## Introduction

Previous studies have reported the importance of obtaining a clinically significant improvement (CSI) after lumbar surgery. However, a comprehensive understanding of preoperative predictors for achieving a CSI after lumbar decompression does not exist.

## Methods

The medical records of patients who received a lumbar decompression for any indication were retrospectively reviewed to identify patient medical and surgical characteristics. A blinded reviewer assessed radiographs for each patient to examine sagittal alignment following decompression. Multivariable logistic regression was used to model the achievement of a CSI based on a EQ-5D MCID value of 0.100.

## Results

A total of 157 patients fit the inclusion criteria; 64 (41%) exceeded the MCID value of 0.100 1 year postoperatively. Statistically significant independent predictors of not obtaining a CSI included a lower preoperative EQ-5D score (OR=37925.3) and a higher preoperative PHQ-9 score (OR=1.1). Patients who achieved a CSI at 1 year also had higher EQ-5D Health State and PDQ Functional scores.

## Conclusions

This study is the first to use a combination of medical, surgical and postoperative sagittal balance variables as determinants for the achievement of a CSI after lumbar decompression. Lower preoperative quality of life scores and higher preoperative depression scores independently predicted a failure to achieve a CSI 1 year postoperatively. The awareness of these predictors may allow for better patient selection and surgical approach to decrease the probability of acquiring a poor outcome postoperatively.