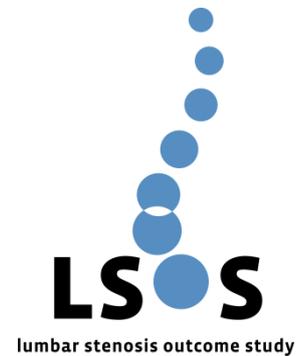


## Abstract

# The impact of obesity on the outcome of decompression surgery in degenerative lumbar spinal canal stenosis: A Swiss prospective cohort multicenter study



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### Purpose

To examine whether obese patients benefit after decompression surgery for degenerative lumbar spinal canal stenosis (DLSS). Lumbar decompression surgery has been shown to improve quality of life in lumbar spinal canal stenosis. However, this remains a matter of debate in the existing literature concerning the obese population. This is a prospective, multicenter cohort study including eight medical centers in the metropolitan area of Zurich, Switzerland.

### Methods/Materials

Eight centers participated in the LSOS study. Baseline patient characteristics and outcomes were analyzed at 6 months and 12 months follow-up with the Spinal Stenosis Measure (SSM), the Numeric Rating Scale (NRS), Feeling Thermometer (FT), the EQ-5D-EL and the Roland and Morris Disability scale (RMDS). Body mass index (BMI) was classified into three categories according to WHO. Odds ratios for meaningful clinical important difference (MCIDs) in SSM were estimated for different BMI categories.

### Results

Of the 656 patients in the LSOS database as of end of October 2014, one hundred and eighty-six patients met the inclusion criteria. Fifty-seven had a BMI <25 (underweight and normal weight group), seventy-eight had a BMI between 25 - 29.9 (pre-obesity group) and 51 patients had a BMI ≥30 (obese group). We found for the primary outcome that in obese patients 35 % reached MCID in SSM at six months, and 45% at 12 months. The estimated odds ratios for MCID in the obese group were 0.68 (0.31-1.49) at 6 months and 0.84 (0.39-1.79) at 12 months in a logistic regression model adjusting for levels of laminectomy. In the secondary outcome SSM, NRS, FT and RMDQ showed statistically significant mean improvements in the 6 and 12 months follow-up.

### Conclusion

Obese patients can expect clinical improvement after lumbar decompression for symptomatic DLSS, but the percentage of patients with MCID is lower than in the group of patients with under-, normal and pre-obese weight at 6 and 12 months.