

# Outcomes of lumbar spinal surgery in patients older than 65 years old- Does Minimally Invasive Surgery

make a difference?

Olawale Sulaiman MD PhD FRCS(C); Edison Valle MD; Teresa O'Keefe Arrington BA  
Ochsner Health System

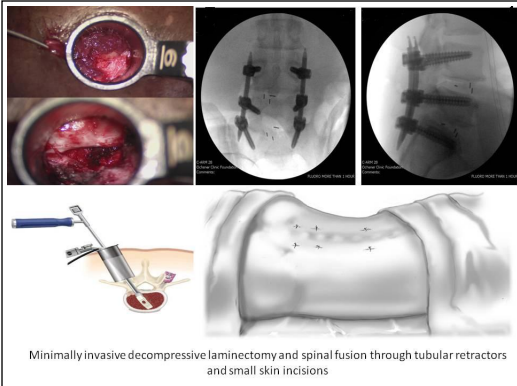


## Introduction

The benefits of spinal surgery are questionable in the elderly population (1). The advantages of minimally invasive surgery to conventional open approaches make MIS spine surgery particularly appropriate for older patients with multiple comorbidities but its potential benefits have never been reported in patients over 65 years old.

## Methods

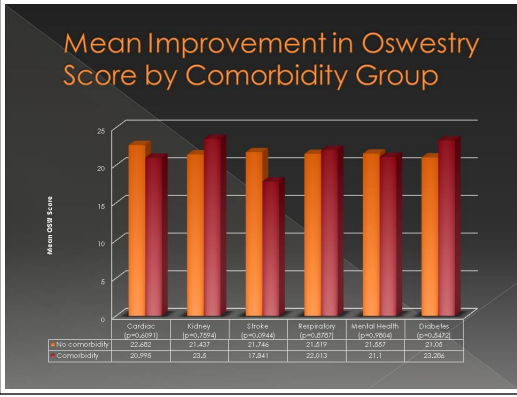
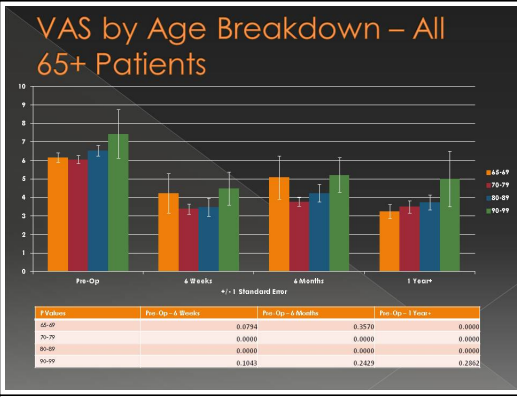
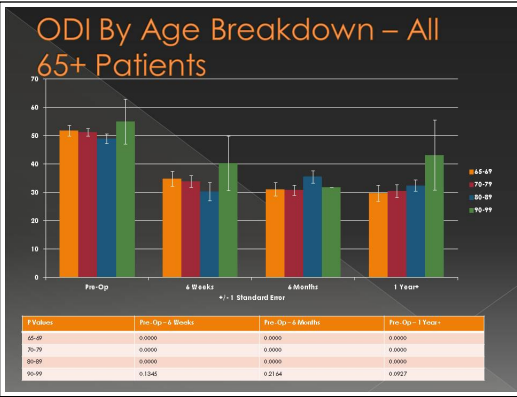
Review of patient database for type of surgery (fusion v non-fusion), age at surgery, pre-op BMI, estimated blood loss, length of hospital stay, peri-operative complications, and patient reported Oswestry Disability Index (ODI) and Visual Analog Scales (VAS). These outcomes are reported at pre-op, 6 weeks, 6 months, and 1 year+ post-operative terms. We used the paired t-test and the two sample t-test with equal variances is performed to determine means, standard errors, and p-values for statistical significance. Subgroup age-based analysis was also performed.



## Results

There were 183 patients in the group. 80 males and 103 females. Age range was from 65-95 years. Average EBL and LOS were 128.38 and 2.52 respectively. Compared to their preoperative scores, all patients reported significant improvements in their ODI and VAS both in the fusion (LIF, XLIF, DLIF) and non-fusion (laminectomy, foraminotomy, microdiscectomy, synovial cyst) surgical categories at all follow-up intervals (ODI pre-op vs 1+years post-op- ODI 51.2 vs 30.9; VAS 6.2 vs 3.5 fusions.) In the non-fusion group, patients showed significant ODI improvement at all ages and follow-up intervals (pre-op 51.7 vs 1 year 29.7.) In the fusion group, patients showed significant improvement in the ODI in the 65-69 and 70-79 groups. VAS was significant in all groups except 90-99.

Demographics	Fusions	Non-Fusions
Total Cases	78	105
Sex:		
Male	25	55
Female	53	50
Average Age	73.34615	74.09524
Avg Pre-Op BMI	30.03	29.77
Spinal Levels:		
L1-L2	4	2
L2-L3	11	14
L3-L4	22	39
L4-L5	49	45
L5-S1	15	11



## Conclusions

All patients in our study have significant improvement in their quality of life (based ODI) except those older than 90 years old where the functional benefit of MIS spine fusion is diminished.

## Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of providing viable surgical options for patients 65+ years of age. 2) Discuss, in small groups, clinical effectiveness of minimally invasive spine surgeries in patients over 65 years old; 3) Identify an effective treatment option for geriatric patients experiencing lumbar spine pain.

## References

- Epstein NE. Spine surgery in geriatric patients: Sometimes unnecessary, too much, or too little (2011). Surg Neurol Int. 2:188. doi: 10.4103/2152-7806.91408.
- Wu WJ1, Liang Y, Zhang XK, Cao P, Zheng T (2012). Complications and clinical outcomes of minimally invasive transforaminal lumbar interbody fusion for the treatment of one- or two-level degenerative disc diseases of the lumbar spine in patients older than 65 years. Chin Med J (Engl). 125(14):2505-10.