

# Looking Closer at Length of Stay: a Structured Analysis of Post Op Progress Notes for Patients Undergoing Minimally Invasive Lumbar Fusion.

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## Introduction

Length of stay (LOS) for patients undergoing minimally invasive (MIS) spine fusion is often longer than expected. Previous research has identified factors that predict longer length of stay including preexisting disease and postoperative complications. Here, we analyze postoperative progress notes created by the Orthopedic Spine Service at our institution to determine which postoperative issues have smaller, or larger effects on LOS.

## Methods

This is a retrospective chart review of forty patients who underwent MIS lateral or transforaminal approach lumbar interbody fusion at an academic tertiary care referral center. Two cohorts were created, patients who had a length of stay of two nights or fewer (shorter LOS: n=15), and patients who had a length of stay of three nights or greater (longer LOS: n=25).

## Results

POST OP ISSUE	LONGER LOS COHORT (LOS≥3d)	SHORTER LOS COHORT (LOS<3d)	p-value
Acute Blood Loss Anemia	36%	0%	0.01*
Delays caused by admission to SNF	24%	7%	0.16
Lower back/extremity pain/numbness/weakness	60%	60%	1
Reduced mobility	24%	27%	0.85
Ileus	24%	20%	0.77
Urinary retention	24%	20%	0.77
Nausea/vomiting	8%	13%	0.59

Table 1: Comparison of Post Op Issues between longer LOS cohort and shorter LOS cohort

POST OP ISSUE	PERCENTAGE
Leukocytosis	12%
Pneumonia	8%
Delirium	8%
Dizziness	12%
Facial flushing	4%
Acute kidney injury	4%
Small bowel obstruction	4%
Hypokalemia	4%

Table 2: Issues only found in the longer LOS cohort (LOS≥3d)

## Discussion/Conclusion

Lower back and lower extremity pain/numbness/weakness, reduced mobility, ileus, urinary retention, and nausea/vomiting are common post op, however, these issues were found to be equally prevalent in patients with both shorter and longer LOS. These issues may have smaller effects on prolonging total length of stay. Post op hypotension/anemia, and unique issues such as pneumonia, leukocytosis, AKI, dizziness, delirium, SBO, and electrolyte abnormalities may have larger effects on total LOS. Close and frequent monitoring of patient status is important to implement early consultations and interventions to correct these issues.