

Outpatient
Minimally Invasive
Transforaminal Lumbar
Interbody and Fusion:

Assessing Safety, Efficacy,
Feasibility,
and Learning Curve.

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No disclosures relevant
to this study.



Background / Introduction

- Medicare & WHO (2018)
 - DSD, DDD, Stenosis, Spondylolisthesis
 - 4.5%, 6.8%, 1.7%, 0.6% (Incidence) and on the rise
- MI-TLIF
 - Proposed advantages: Reduced intraoperative blood loss, Reduced LOS, Decreased narcotic consumption, Improved post-op mobility, Reduced paraspinal muscle dissection
- Outpatient surgery on the rise with notable cost savings and improved patient satisfaction
- Proposed MI-TLIF learning curve in literature: 10-44 cases
- Literature alludes to feasibility of MI-TLIF as an outpatient procedure

Objective

Evaluate the safety, efficacy, feasibility, and learning curve of the MI-TLIF as an outpatient procedure.

Methods

- Retrospective review – IRB Approved
- All cases performed at a single hospital by a single Orthopedic Spine Surgeon with a history of microscopic, tubular practice
- Evaluation of consecutive cases from first case to most recent (2018 to 2022)
 - Inclusion: MI-TLIF cases with L4-5 or L5-S1 pathology, minimum 3 month follow up
 - Exclusion: Cases of revision surgery and surgery due to infection, malignancy, and/or trauma
- Surgical Data: Duration of surgery/Operative time, EBL, Length of stay, Post-Anesthesia Care Unit time
- Demographic Data: Age, Sex, BMI

Surgical Data

Surgical Data	Inpatient (n=44)	Outpatient (n=43)	
LOS* (Hours)	Mean	25.869	3.737
	Median	24.667	3.767
PACU Time* (Minutes)	Mean	84.932	137.767
	Median	76.5	124
Surgery Duration (minutes)	Mean	191.23	179.91
	Median	182	176
EBL (mL)	Mean	51.59	35
	Median	25	25

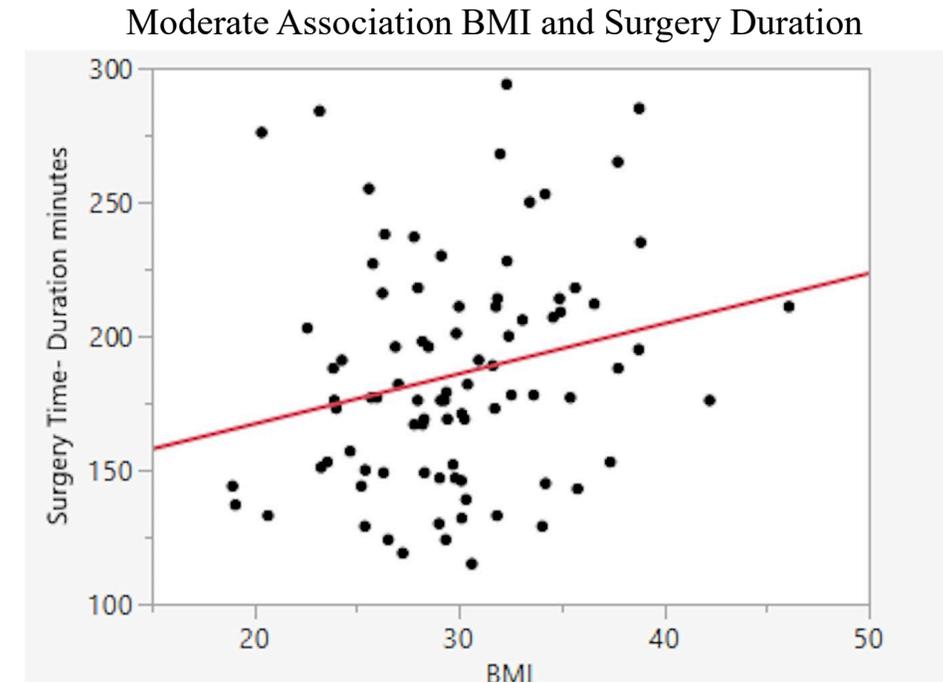
- Inpatient:
 - 24 single-level, 4 two-level, 16 single-level with adjacent level decompression
- Outpatient:
 - 22 single-level, 11 two-level, 10 single-level with adjacent level decompression
- Weak learning curve in EBL based on chronological case order
- No statistically significant differences in minor complications
- Post-operative physical therapy implemented in outpatient cases

No major complications were observed

* p-value < 0.05

Demographic Data

Demographic Data	Inpatient (n=44)	Outpatient (n=43)	
Sex*	Male	16	25
	Female	28	18
Age	Mean	57.65	57.86
	Median	59	59
BMI	Mean	29.55	30.14
	Median	29.365	29.81



- Moderate association between BMI and Surgery Duration

Conclusions

- The MI-TLIF appears as a safe, feasible, and efficacious procedure when performed in the outpatient setting in the properly selected patient
- Demographic & post-operative outcomes similar in outpatient and inpatient cases
- Physical therapy implementation in out-patient cases
- BMI should be considered in patient selection
- Provided a surgeon has a history of experience with O-TLIF and tubular surgery it may be feasible to transition from O-TLIF to MI-TLIF with a minimal learning curve

Thank you
very much
for your
time and
attention.

Please Email questions to:
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