Full Endoscopic Lumbar Fusion Surgeries Performed in Outpatient Center – Outcomes Study

Prospective Ongoing Study of 32 patients

By

Solomon Kamson, MD
Seattle, WA
Lumbar fusion Video

Video (click here for youtube ➔)
Lumbar fusion - Fluoro
Lumbar fusion - Fluoro
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PATIENT DATA

SEX DISTRIBUTION

- Male: 10
- Female: 13

Personal Habits: Smoking

- Current Smoker: 9
- Former Smoker: 10
- Non-Smoker: 11

Occupation Distribution

- Heavy Labor (ex: construction): 1
- Medium Labor (ex: cashier, nurse): 4
- Driving Intensive (ex: truck driver): 2
- Walking Intensive (ex: field real estate agent): 1
- Office Work (ex: office manager): 2
- Not Working for Past 5 Years: 8
- Retired: 1

Age Distribution

- 0-19: 9
- 20-29: 2
- 30-39: 4
- 40-49: 6
- 50-59: 5
- 60-69: 4
- 70-79: 2
- 80 and Above: 1
SURGERY: implants and biologicals

**FIXATION and INTERBODY SYSTEM**

- Facet Screw
- Pedicle Screw
- Facet/Pedicle
- Unilateral
- Bilateral
- P.E.E.K Cage
- Optimesh Bag

**SYSTEM USED**

- Amendia
- Spinology

**Biological Used**

- DBM Allograft
- Allogeneic Morphogenetic Protein
- BMA Autograft
- PRP Autograft
- Amnionic Tissue Allograft
SURGERY: perioperative

**Number of Patients (n=32)**

- **PACU Time**
  - 0-1 hour: 3
  - 1-2 hours: 12
  - 2-3 hours: 5
  - 3-4 hours: 2
  - 4-5 hours: 3
  - 5-6 hours: 1

- **Operating Time**
  - 0-2 hours: 10
  - 2-4 hours: 12
  - 4-6 hours: 8
  - 6-8 hours: 4
  - 8-10 hours: 2

- **Anesthesia**
  - **General Anesthesia**: 32
  - **Local Anesthesia**: 1

**Intraoperative Data**

- **Number of Patients (n=32)**
  - Intra Operative Discogram: 2
  - Intra Operative Epidural: 18
SURGERY: levels and concurrent procedures

![level distribution bar chart]

- L3/4: 1 patient
- L4/5: 12 patients
- L5/S1: 17 patients
- 1 level fused: 8 patients
- 2 levels fused: 1 patient

![concurrent procedure with fusion bar chart]

- Decompression at another level: 1 patient
- Decompression at the fused level: 32 patients
- Nerve excision at another level: 17 patients
- Nerve excision at the fused level: 1 patient
SURGERY: prior lumbar spine surgery

- Prior Lumbar Spine Surgery
  - No Prior Surgery
  - Same Level Surgery
  - Different Level Surgery
  - Unknown

- Prior Spine Surgery: Same Level Lumbar Spine Surgery: Details
  - Decompression and Nerve Excision
  - Decompression
  - Nerve Excision
  - Radiofrequency

- Prior Spine Surgery: Other Level Lumbar Spine Surgery: Details
  - Decompression/Fusion
  - Decompression
  - SCS
  - Unknown
OUTCOMES: back and leg pain

Back pain (VAS):
Pre op vs post op at 6 months:
P = .0004, statistically significant
Pre op n=31, post op at 6 months n= 16
Pre op mean=7.297, SD=1.98; Post op mean at 6 months=4.344, SD=3.33

Pre op vs post op on discharge (VAS):
Discharge time frame defined as: .5 month – 2 years range; mean 6.91 months, n=32
P=.0001, statistically significant
Pre op n=32, post op on discharge n=29
Pre op mean = 7.297, SD=1.98; Post op mean on discharge = 3.948, SD=3.33

Leg pain (VAS):
Pre op vs post op at 6 months:
P =.0142, statistically significant
Pre op n=31, post op at 6 months n= 16
Pre op mean=5.548, SD=3.53; Post op mean at 6 months=2.906, SD=3.03

Pre op vs post op on discharge (VAS):
Discharge time frame defined as: .5 month – 2 years range; mean 6.91 months, n=32
P=.0015, statistically significant
Pre op n=32, post op on discharge n=29
Pre op mean = 5.548, SD=3.53; Post op mean on discharge = 2.655, SD=3.16
OUTCOMES: satisfaction

- Great Deal Satisfied: 19
- Satisfied: 2
- Little Satisfied: 9
- Unsatisfied: 1
- Not Reported: 1

Would recommend this surgery?
- Yes: 23
- No: 4
- Not Reported: 5

Would do this surgery again?
- Yes: 22
- No: 4
- Not Reported: 6
Listhesis Group: n=13
- **Back Pain**: On average back pain decreased by 3.93 points based on VAS
- **Leg Pain**: On average leg pain decreased by 3.64 points based on VAS

Non-Listhesis Group: n=16*
- **Back Pain**: On average back pain decreased by 2.53 points based on VAS
- **Leg Pain**: On average leg pain decreased by 2.38 points based on VAS

*Total 18 patients in non-listhesis group. 2 did not report post operative pain values

Unpaired t test - \( \Delta \) (pre and post op VAS)
- Back P = .1643 not statistically significant
- Leg P = .3101 not statistically significant

BUT clinically significant?
OUTCOMES: satisfaction within age group

SATISFACTION WITHIN AGE GROUPS

- NOT REPORTED
- UNSATISFIED
- LITTLE SATISFIED
- SATISFIED
- GREAT DEAL SATISFIED

Age groups:
- 0-19
- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80 AND ABOVE
Underweight (BMI below 18.5)

Normal (BMI 18.5-24.9)

Overweight (BMI 25.0-29.9)

Moderately Obese (BMI 30.0-35.0)

Severely Obese (BMI 35.0-40.0)

Very Severely Obese (BMI 40 and above)

# of patients n = 32

OUTCOMES: BMA and satisfaction

BODY MASS INDEX

Unreported
Not Satisfied
Little Satisfied
Satisfied
Great deal satisfied
OUTCOMES: return to work

![Bar chart showing the number of patients who returned to work or regular activities over different time periods: less than 1 month, 1-2 months, 1-6 months, 6-12 months, ongoing care/undetermined (13 months post-op), and not recorded. The chart indicates a significant number of patients returned to work in the 16-month category, with fewer returns in other time frames.]
OUTCOMES: short term complications

POST OPERATIVE COMPLICATIONS WITHIN 72 HOURS

# OF PATIENTS (n=32)
OUTCOMES: long term – OPTIMESH vs OLIF PEEK system

SPINOLOGY OPTIMESH SYSTEM: LONG TERM COMPLICATIONS

TOTAL PATIENTS NEEDING POST OP INTERVENTION
- 71.43% (25 patients)
- 0.00% (0 patients)
- 42.86% (10 patients)
- 0.00% (0 patients)

POST OPERATIVE ESI FOR NEURALGIA
- 71.43% (18 patients)
- 0.00% (0 patients)
- 42.86% (10 patients)
- 28.57% (7 patients)

BONE STIMULATOR
- 71.43% (18 patients)
- 0.00% (0 patients)
- 42.86% (10 patients)
- 28.57% (7 patients)

REVISION OF NO POST OP FUSION INTERVENTION
- 71.43% (18 patients)
- 0.00% (0 patients)
- 42.86% (10 patients)
- 28.57% (7 patients)

TOTAL PATIENTS NEEDING POST OPERATIVE MEDICATION FOR NEURALGIA
- 71.43% (18 patients)
- 0.00% (0 patients)
- 42.86% (10 patients)
- 28.57% (7 patients)

2ND REFILL OF POST OPERATIVE MEDICATION FOR NEURALGIA
- 71.43% (18 patients)
- 0.00% (0 patients)
- 42.86% (10 patients)
- 28.57% (7 patients)

OLIF PEEK SYSTEM: LONG TERM COMPLICATIONS

TOTAL PATIENTS NEEDING POST OP INTERVENTION
- 76.00% (20 patients)
- 24.00% (6 patients)
- 68.00% (18 patients)
- 24.00% (6 patients)

POST OPERATIVE ESI FOR NEURALGIA
- 76.00% (20 patients)
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OUTCOMES: blood loss

ESTIMATED BLOOD LOSS

NUMBER OF PATIENTS (n=32)

- 0-5 cc: 20
- 6-10 cc: 7
- 11-20 cc: 2
- 21-30 cc: 2
- 31-40 cc: 1
- 40 cc or more: 0
Thank you