Foraminal Endoscopic Lumbar Surgery for Painful Degenerative Conditions of the Lumbar Spine

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Thanks to DRs. Raley, Iprenburg
Lumbar Disc Surgery

- Open 1977
- Microscopic 1986
- Chemonucleolysis
- Micro-“endoscopic” 2000
- TESSYS 2004 -2012
- 2015
- Endoscopic fusion
- INTRALAMINAR approach
Posterior  Lumbar MIS vs Foraminal MIS


Posterior: Must still violate Normal anatomy (multifidus)

Foraminal: Avoids injuring multifidus Muscle
The triangular working zone according to Parviz Kambin and the target area of the TESSYS™ approach.
Access Planning – Step 3 (2/2)
Conditions Ideally Suited for Foraminal Endoscopic Surgery

- Extraforaminal HNP
- Upper lumbar HNP
- Discitis
- Foraminal HNP
Case example #1
(foraminal/extraforaminal HNP L 3-4)

- 53 Male, 8 months of:
- Mild LBP back pain (10%)
- R Leg Pain (90%)
- Right + SLR & Femoral Stretch
- Numbness & Pain R L3 Distribution
- Had 1 epidural and 2 R L3 Blocks (Transient response 3 months)
- Has had PT, Chiro, narcotics= No Help.
Case#1 Foraminal HNP L3-4

Foraminal/Extraforaminalal HNP (best indication at all levels)
Intra op
The Surgeon – Journal of the Royal College of Surgeons of Edinburgh

**Review**

**Transforaminal endoscopic spinal surgery:**

The new ‘gold standard’ for discectomy

_Gibson JNA, Cowie J, Iprenburg M*

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VAS Back pain

Back pain

Time post surgery

VAS score (0-10)

TESS

Micro
Oswestry Disability Index

ODI

Time post surgery

ODI

0 3 12 24

TESS

Micro
Full-endoscopic interlaminar and transforaminal lumbar discectomy versus conventional microsurgical technique: a prospective, randomized, controlled study.


Endoscopic operated patients do have less back pain after 2 years as patients operated microscopically!
Spinal Endoscopy

- Working channel endoscope in lumbar spine surgery.
- Choi G, Lee SH, Deshpande K, Choi H
- Wooridul Spine Hospital, Seoul, Korea - spine.choi@gmail.com.
- **Type:** Journal Article, Review
- Percutaneous endoscopic lumbar discectomy (PELD) is a well established modality in the treatment of patients with herniated lumbar discs.

- **Clinical Neurology and Neurosurgery**
- **Volume 133**, June 2015, Pages 40–45
- The strategy and early clinical outcome of full-endoscopic L5/S1 discectomy through interlaminar approach
- Zhen-zhou Li,
- Shu-xun Hou,
- Wei-lin Shang,

- **Highlights**
- Full-endoscopic discectomy was performed for L5/S1 intervertebral disc excision.
- No nerve injury and infection were observed during perioperation.
- Interlaminar approach was safe and of effective minimally invasive.
Endoscopic Lumbar Discectomy Under Local Anaesthesia May Be An Alternative To Microdiscectomy: A Single Centre's Experience Using The Far Lateral Approach

T. Sanusi,
J. Davis

Highlights

- Far lateral endoscopic discectomy under local anaesthesia is safe and effective
- 95% of patients were discharged within 7 hours post operatively
- VAS score was 0-1/10 in 95% of patients at 2 weeks post operatively
- 87% of patients had returned to their normal activities within 2 weeks.
Foraminal Endoscopic Surgery for Painful Degenerative Conditions of the Lumbar Spine

(Visualized Intradiscal and Extradiscal Surgical Technique)

- **Endoscopic Therapy (TESSYS)**
  - Selective Endoscopic Discectomy™
- **Intradiscal and foraminal Surgery**
  - HNP (all types)
- **Nucleus replacement?**
- **Intra laminar endoscopic discectomy**

**Extradiscal Foraminal Surgery**

- Ablation /removal of synovial cysts
- Foramino-plasty
  - Lateral stenosis
  - Osteophytosis
  - Central stenosis
  - FBSS
    - Recurrent HNP
    - Lateral recess stenosis
- **Intradiscal Fusion**