

Getting Started With Endoscopic Spine Surgery: Mitigating the Learning Curve and Risk



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Spine Centers Of America

Leaders in field of Endoscopic Spine Surgery (ESS)

Center of Excellence in NJ
Cadaver training
Mentorship (on and offsite)



Partner and develop ESS programs
3 locations in NJ
Growth in South and West
Partnerships under development



New Frontier

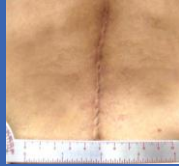
Open vs. Laparoscopic Surgery

Arthroscopic Surgery
Endoscopic Surgery



Traditional Techniques

- Open Cholecystectomy (gall bladder)
- Open Meniscectomy (knee)
- Open Spine Surgery
 - Larger incision
 - Muscle stripping and retracting



Evolution of Spine Surgery

Minimize Destabilization

- Bilateral Laminectomy
- Hemi-Laminotomy
- Microdiscectomy
- Endoscopic



What is done internally matters! NOT just the incision size

Goal: Recreate endoscopically what we have done for years with traditional approach



Minimally Invasive?

Vague, overused, marketing phrase

What does it really mean?



Recognize the trend

New generation of endoscopes

Uniportal approach



Advances in Instruments

Flexible bipolar



High speed burrs and shavers

Articulating burrs and graspers



Mitigating the Learning Curve

Don't reinvent the wheel

- Cadaver training
- Basic course
- Advanced course



Partner with an experienced Endoscopic Spine Surgeon
Bring them into your ASC to participate.

*complex cases

Who performs Endoscopic Spine Procedures?

Orthopedic Surgeons

Neurosurgeons

Pain Management Physicians

Anesthesia
Interventional Radiology
Physical Medicine and Rehabilitation



Partnering

Spine Surgeon + Physicians



Advantages of Partnering

Physicians

Natural extension of practice

Participate in surgery

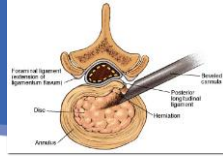
Surgical back-up



Advantages of Partnering

Spine Surgeon

- Alleviate long-term post-op care
- Aid in access techniques
- Outpatient elective surgery



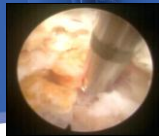
Mitigating the Learning Curve-Skill Requirement

Intimate knowledge of 3D spine anatomy
 Extensive arthroscopic/endoscopic experience

- Angled scopes
- Keep field clear in fluid filled spaces
- Avoid damaging scope and instruments
- Burrs/shavers

Laser experience

- Avoid nerve damage (direct/indirect)
- Avoid scope damage
- Various settings for annulus/bone

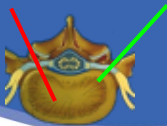


Mitigating the Learning Curve

ACCESS is crucial

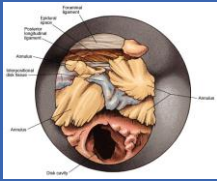
Reach and identify the pathology (L5/S1)

- Poor Access = Long Surgery
- Excessive nerve root retraction
- Excessive removal of supporting structure
- Neurologic Injuries



Mitigating the Learning Curve-Endoscopic Technique

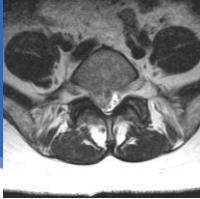
Orientation



Mitigating the Learning Curve-Endoscopic Technique

Know when you are in the Danger Zone

Pathology surrounds the neurologic structure



Twilight anesthesia
Neuro monitoring

Mitigating the Learning Curve-Endoscopic Technique

Size Matters

7mm, 8mm, 10mm

1mm is significant



Mitigating the Learning Curve-Endoscopic Technique

Minimize Surgical Time

The clock is ticking



Mitigating the Learning Curve-Endoscopic Technique

Visualization

Don't continue when you can't see

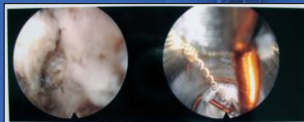


Mitigating the Learning Curve - Start Simple

Retrieval of broken IDET Wire

ID of L4/L5 Discitis

Foraminal HNP L4/L5



Mitigating the Learning Curve -Proceed with caution

Transforaminal L5 / S1

Inter Laminar Approach

Extruded/migrated L5 / S1

Cervical /Thoracic Discectomy



Mitigating ASC Risks -Start Up Costs

Endoscopic Equipment \$80-250K

Scopes, instruments, video, etc.

Super C - Fluoroscope \$100K

Radiolucent Table \$20K

*take advantage of free trials



Mitigating ASC Risks - BAD Events

Exsanguination

Bowel Perforation

Spinal Cord/Nerve Injuries

Dural Tears

*local hospital affiliation with
necessary specialists



Mitigating ASC Risks - Privilege Protocol

Spine Surgeon (Ortho/Neuro)
Pain Management (Assist)



Mitigating ASC Risks - Golden Rule

Operating physician or team needs to be able to treat the potential complications!



Mitigating ASC Risks - Experience

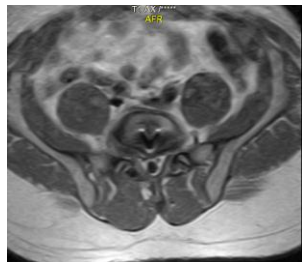
Don't Go It Alone

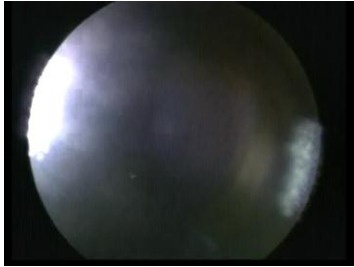
Cadaver Training

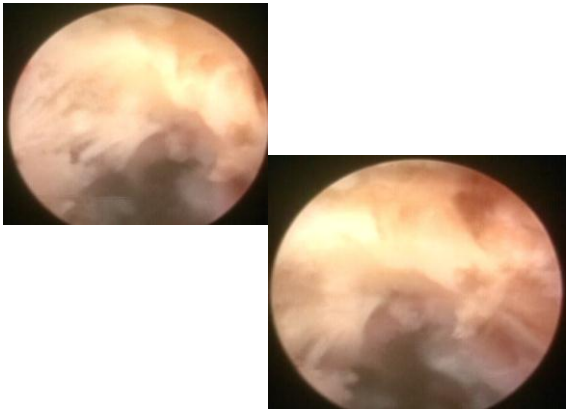
Basic course (endoscopic transforaminal/endo dorsal ramus rhizotomy)

Advanced course (interlaminar/posterior cervical)









Thank You

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