



Non-CME Webinar Series
designed with the trainee in mind

second Tuesdays of odd-numbered months

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— THE ASSOCIATION OF —
PAIN PROGRAM DIRECTORS
ADVANCING PRACTICE IN MULTIDISCIPLINARY PAIN MEDICINE

Minimally Invasive Spine Procedures

Tuesday, May 11, 2021

7-8:30 pm ET



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ENDOSCOPIC SPINE SURGERY

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UNIVERSITY OF FLORIDA

History of Spine Endoscopy

- 1975: Hijikata in Japan, posterolateral disc access with tubes and trephines under fluoroscopy and used pituitary rongeurs for 'percutaneous nucleotomy'
- 1986: Kambin in Philadelphia refined the technique of 'percutaneous discectomy' through 'Kambin's triangle'
- 1989: Schreiber, Suezawa, and Leu got the idea to perform percutaneous nucleotomy under visual using endoscope (discoscopy)
- 1989: Mayer & Brock refined instruments in Germany (Berlin technique)
- 1996 Hal Matthews & 1997 Tony Yeung described more lateral access for Transforaminal Endoscopy. Tony Yeung also used cont. irrigation
- 2001: S Rutten in Germany described interlaminar approach and application of arthroscopic techniques using high speed drills etc.



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Given a Choice, Will you Fix the Problem or Mask it?

- Significant spine pathologies like large disc herniations, large facet cysts, epidural fibrosis (FBSS), large bulky and degenerated facet, degenerated disc osteophytes etc. can cause significant nerve impingement.
- Severe lumbar spinal stenosis can cause compression and edema of cauda equina nerve roots
- Conservative treatments are not realistic at times as patients have severe pain and/or disability which likely won't respond to any therapy or injections in the short to interim term.
- Endoscopic approach can treat any single level or adjacent level pathologies anywhere in the spine. Sealing the annular rent & hardening the nucleus using bipolar radiofrequency cautery, prevents re-herniations: unique to endoscopy



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Don't Settle for Less

- No one likes to hear that they need to learn to live with weakness, numbness , paresthesia
- Pain relief is a good goal but so is a recovery of nerve function (SCS can't achieve the latter)
- Plasticity of nerves well documented
- Once spinal nerve compression is relieved their function recover quickly

Ref: Gray CM, Kumar S. Complete resolution of chronic pain, sensory impairment, and motor dysfunction following percutaneous transforaminal endoscopic decompression in a failed back surgery syndrome patient—a case report. *J Spine Surg* 2020;6(3):613-619. doi: 10.21037/jss- 20-586



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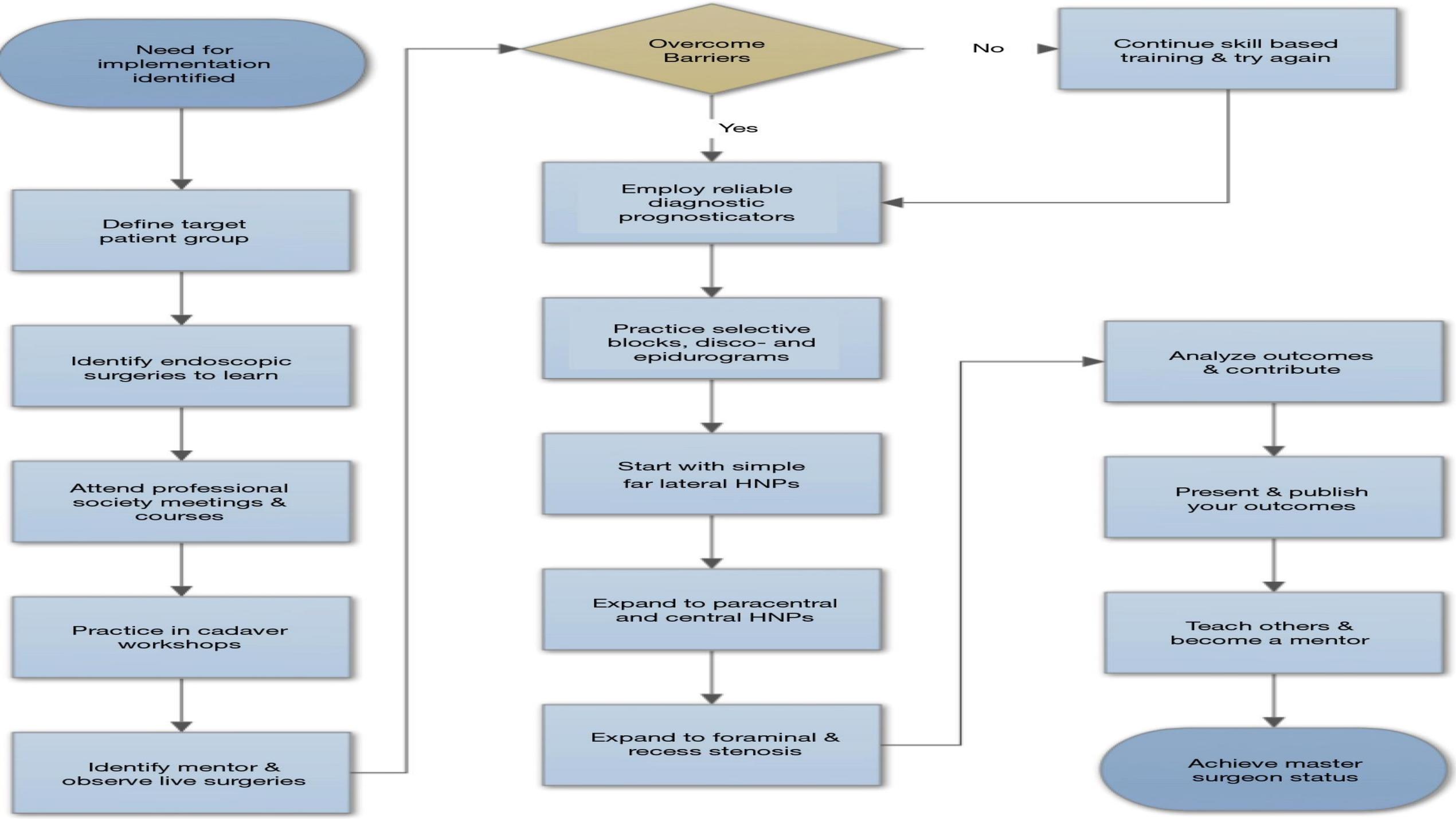
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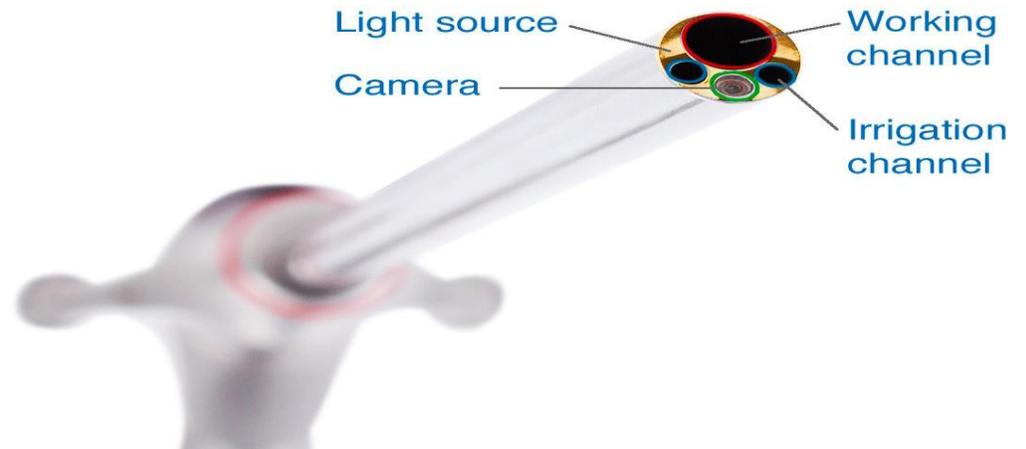
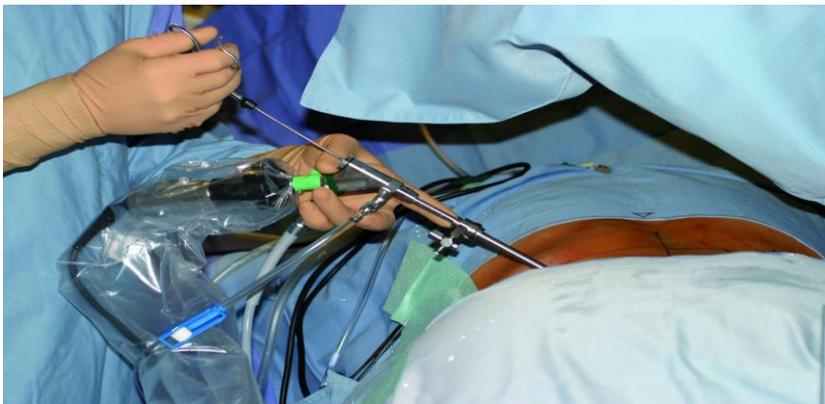
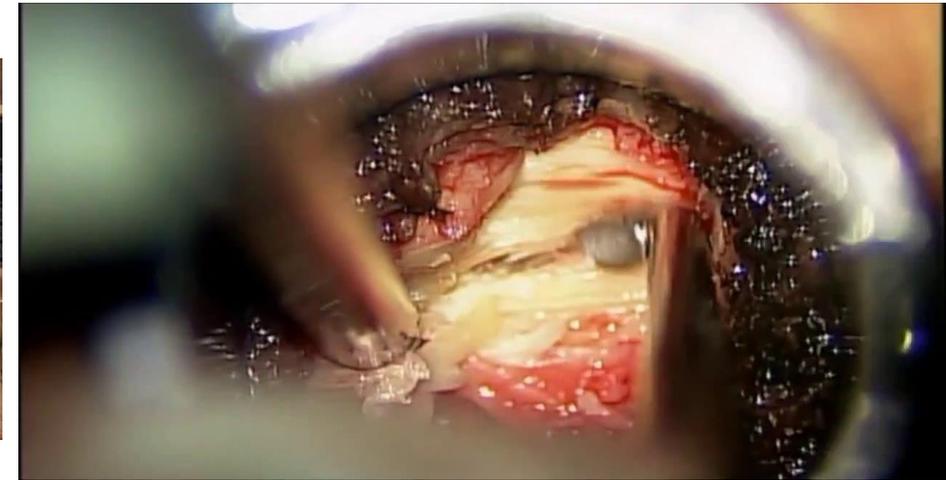
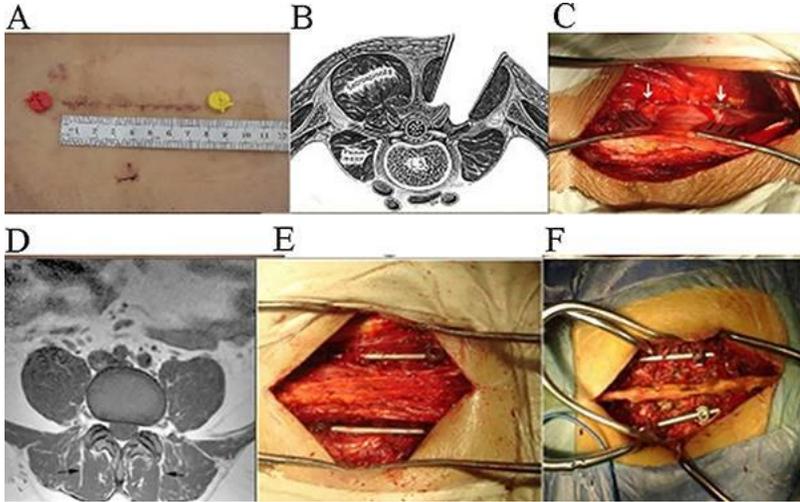
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Can I get trained in Endoscopic Spine Surgery?

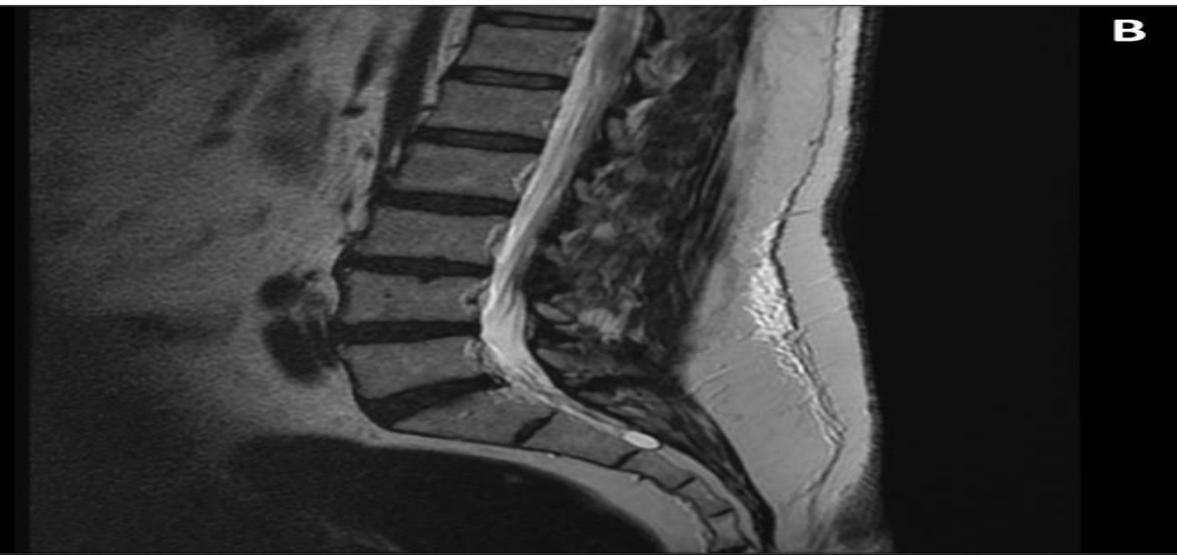
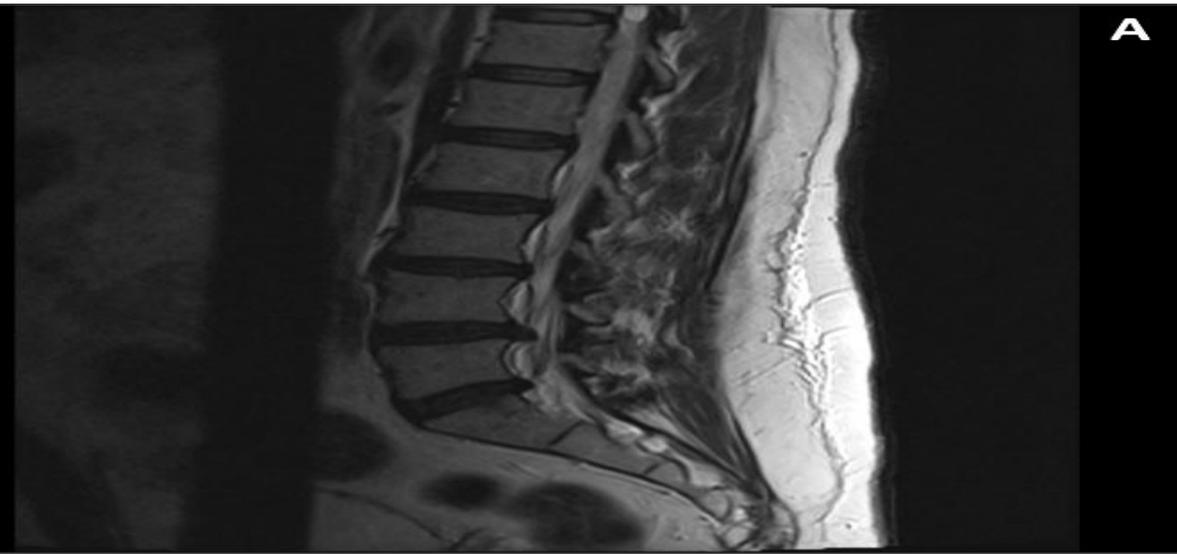
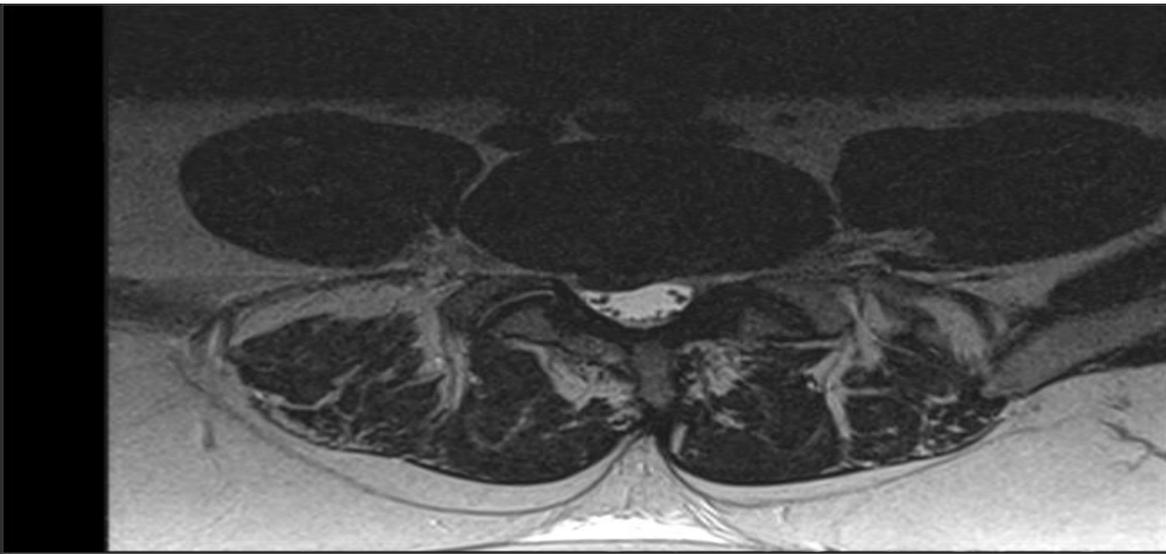
- At UF we train our pain medicine fellows during their fellowship year
- We are trying to establish an endoscopic spine fellowship from 7/22, will be an extra year with certification for Pain Medicine physicians
- Mastery of interpretation of MRI & CT images a must to get a 3D perspective
- Very few spine fellowships run by NSGY incorporate Spine Endoscopy in their training so minimal formal training even in NSGY
- Industry sponsored cadaver labs give some exposure
- Long and steep learning curve and needs a master trainer initially
- Spine Surgeons not happy with 'non surgeons' doing surgeries
- Still a window of opportunity before NASS takes a stand



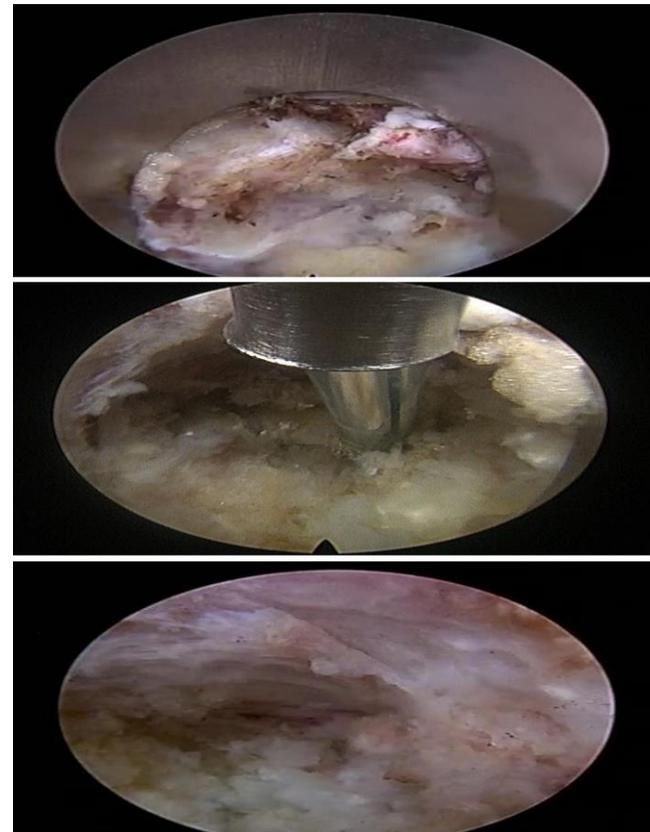
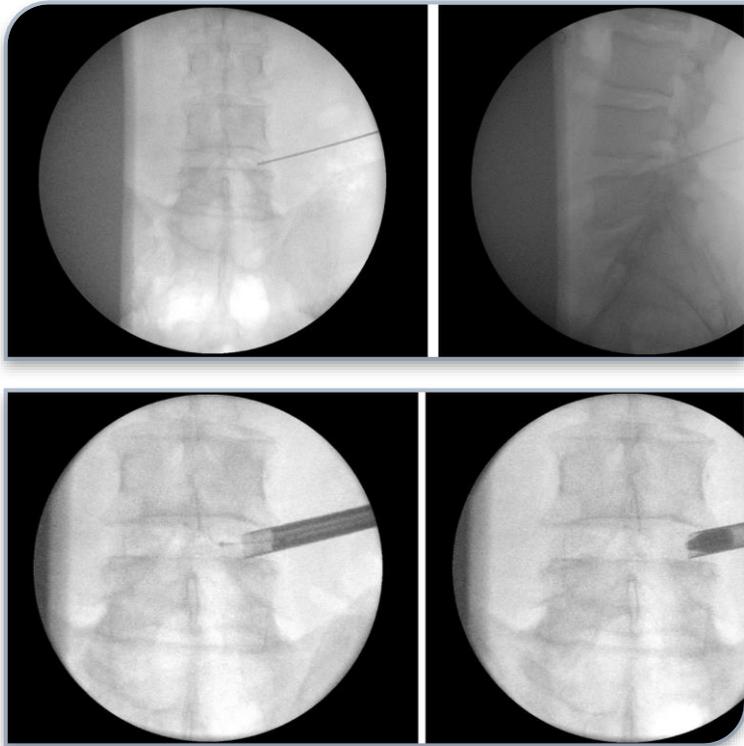
Endoscopy: Least invasive approach & best visualization for spine pathologies (eye inside the spine)

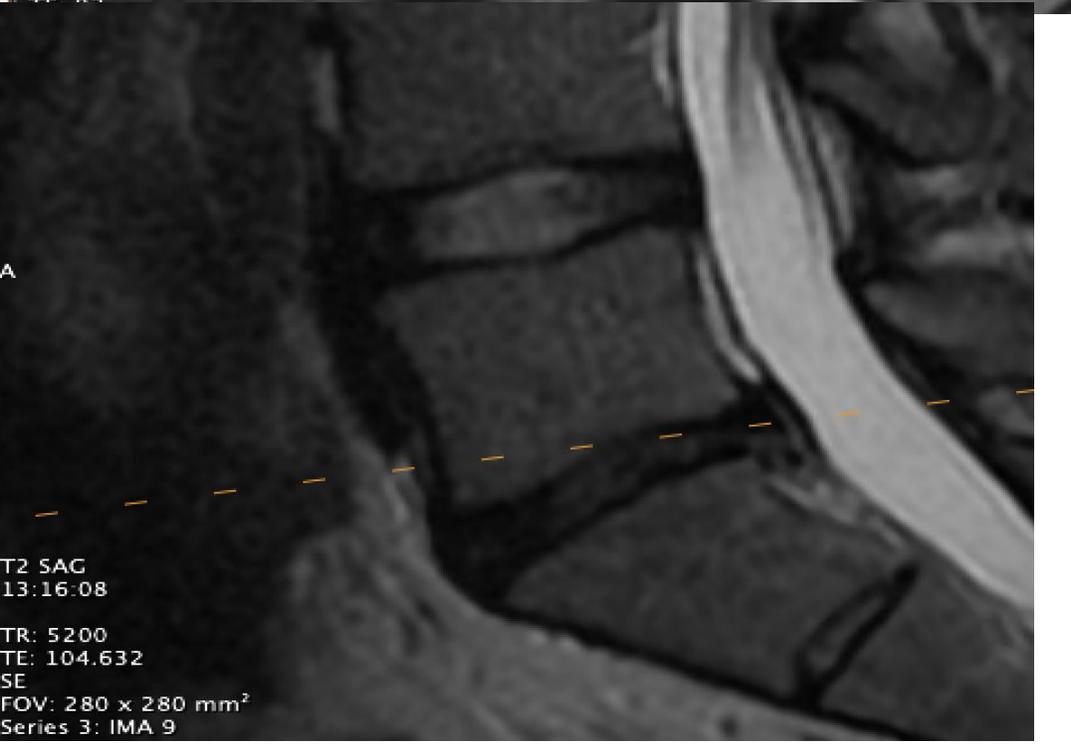
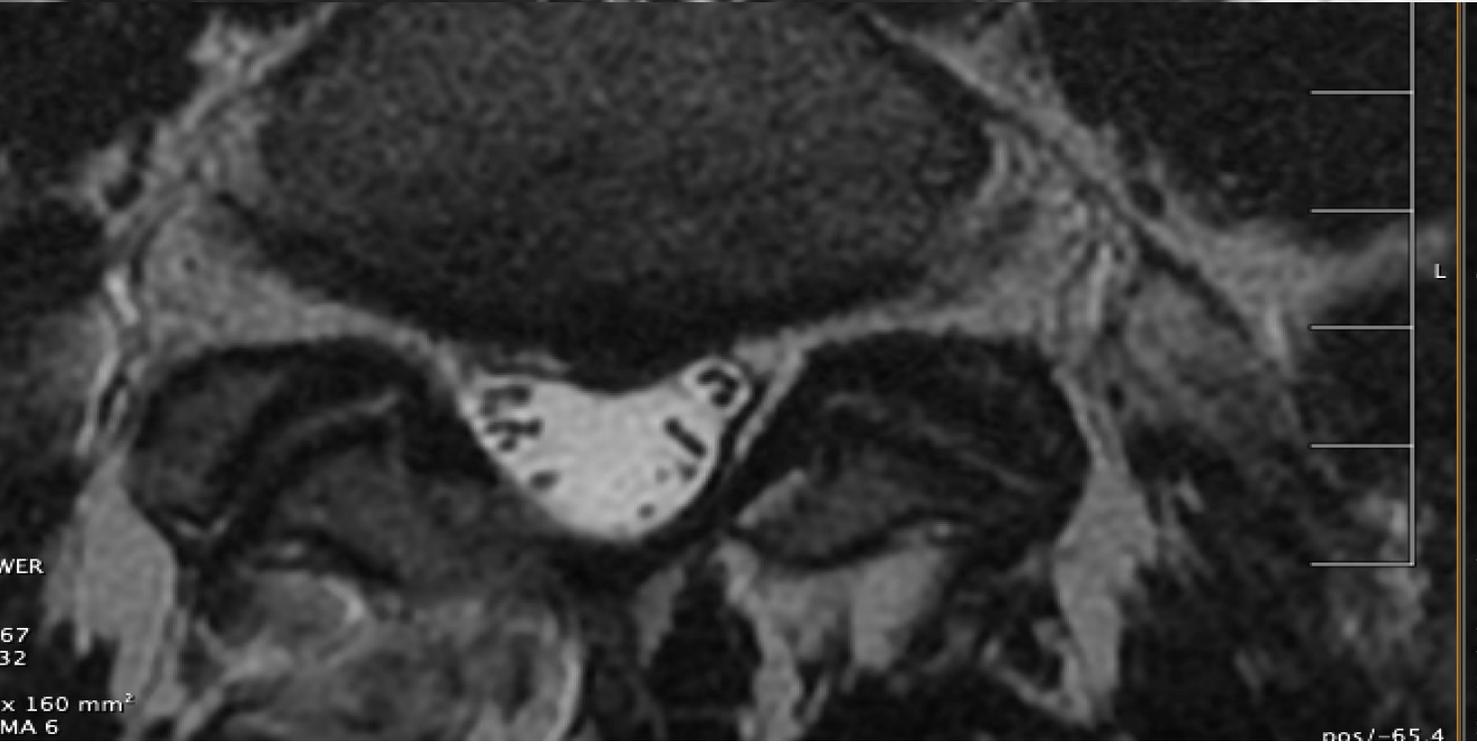
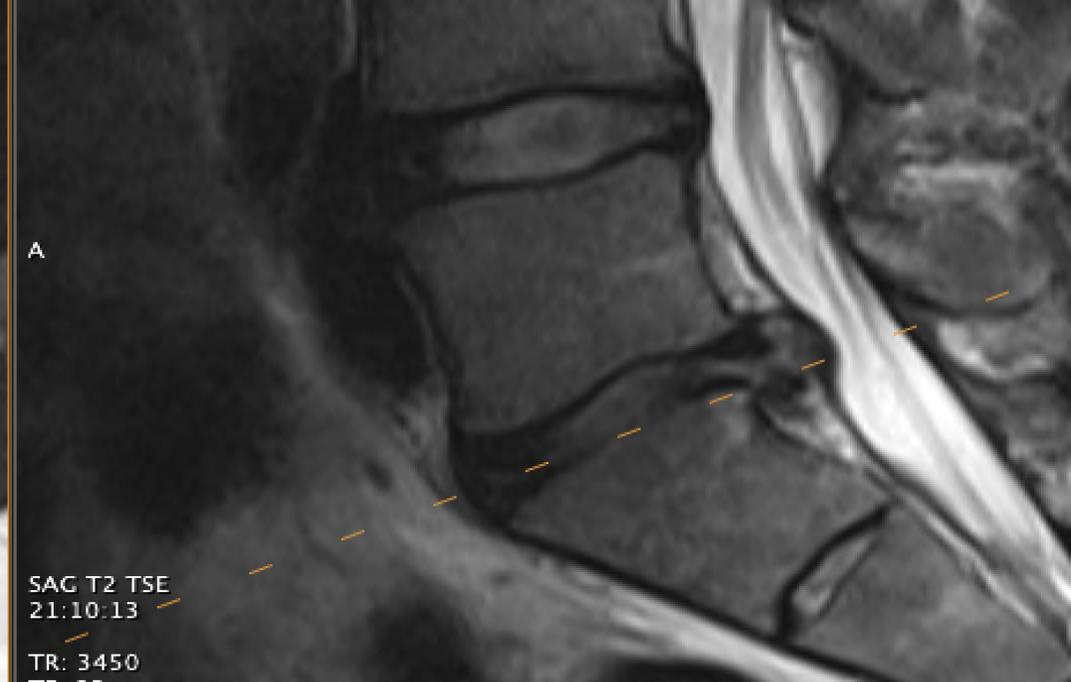
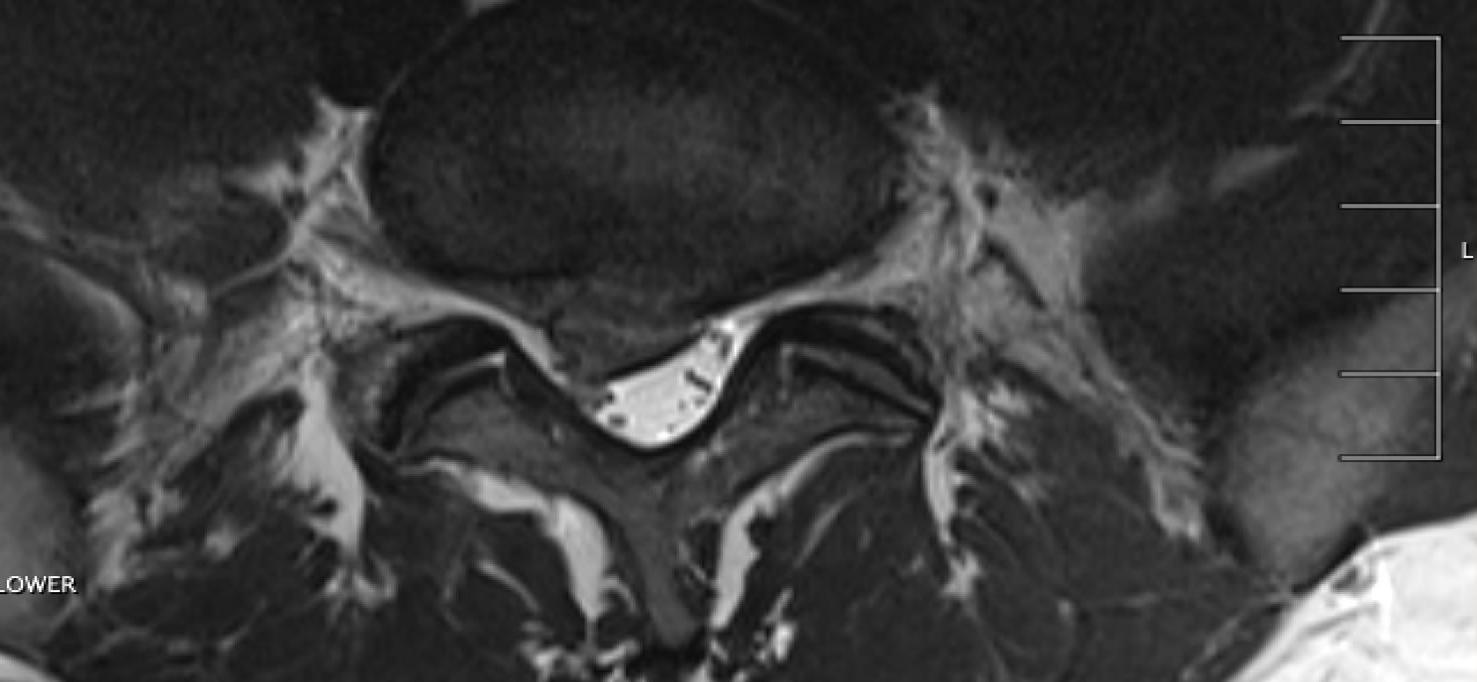


A good starting case: right L4-5 paracentral herniation, transforaminal endo decompression

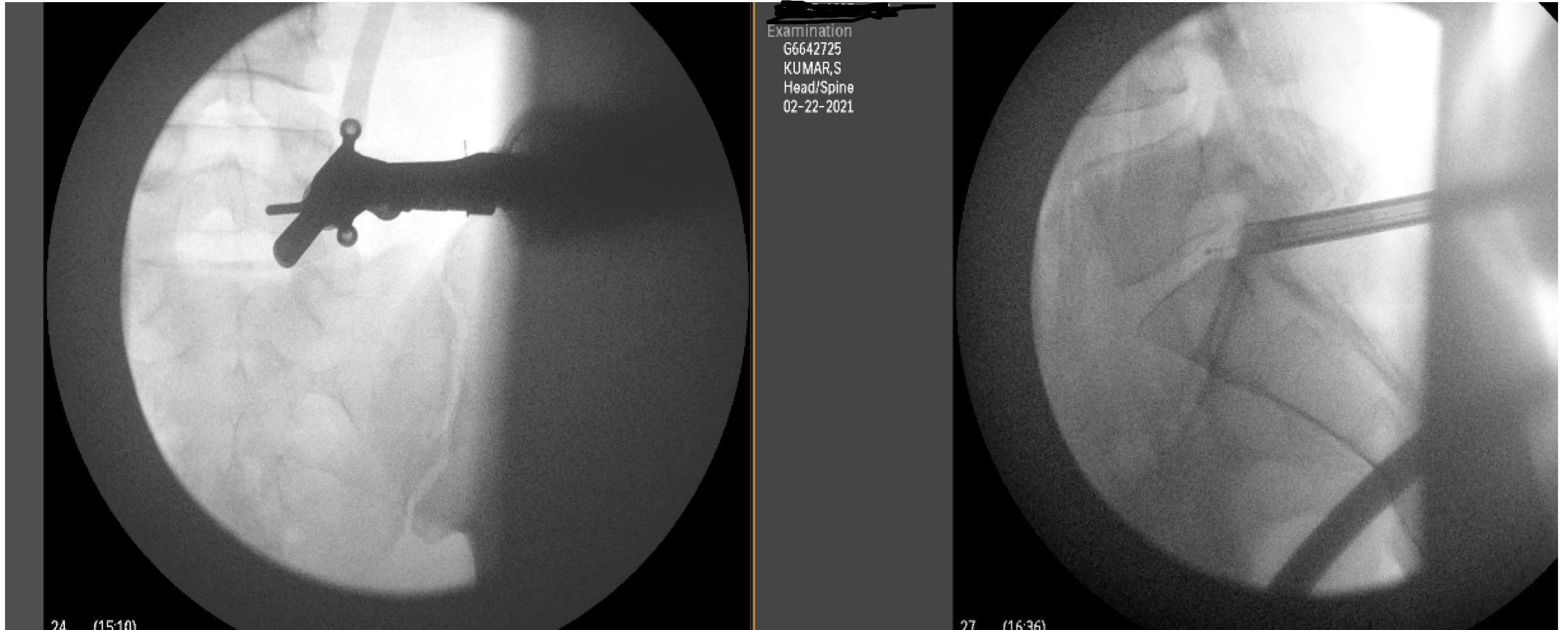


Fluoroscopic views and views from the scope of the same case

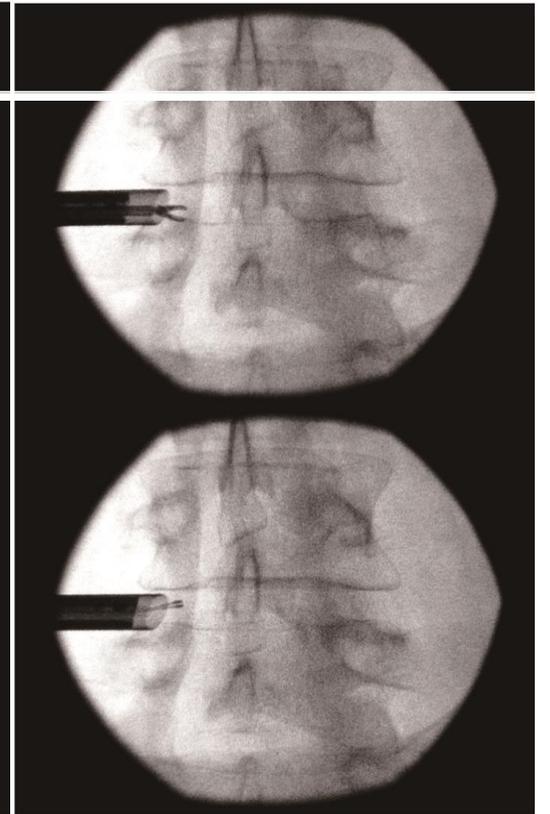
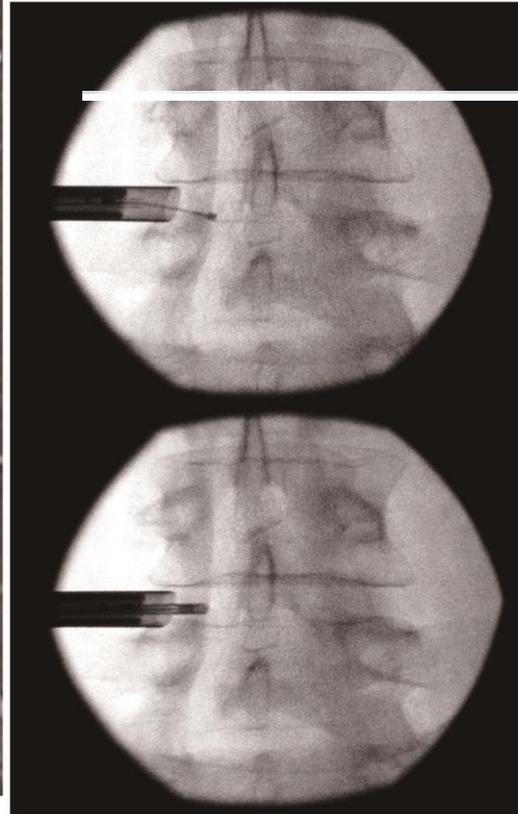
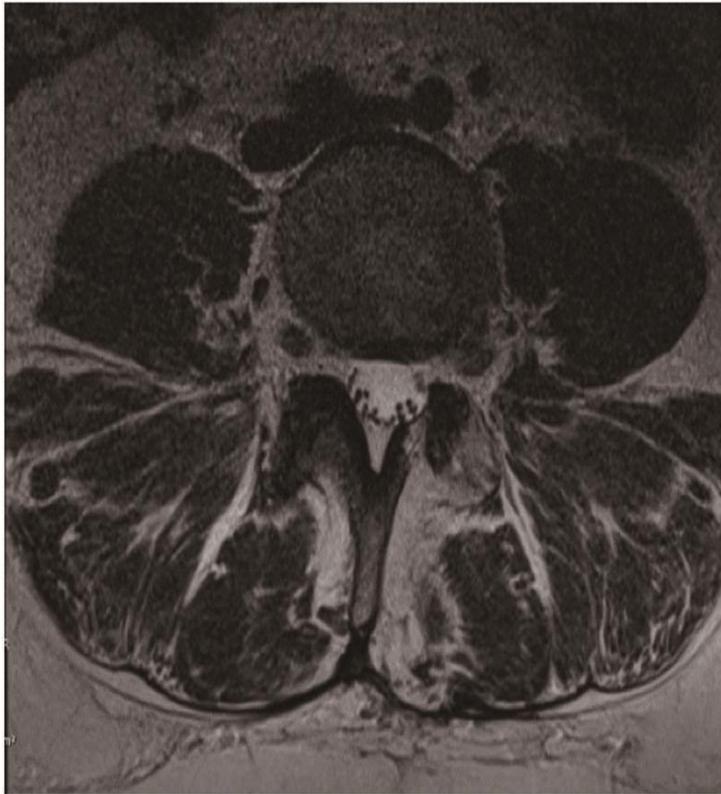




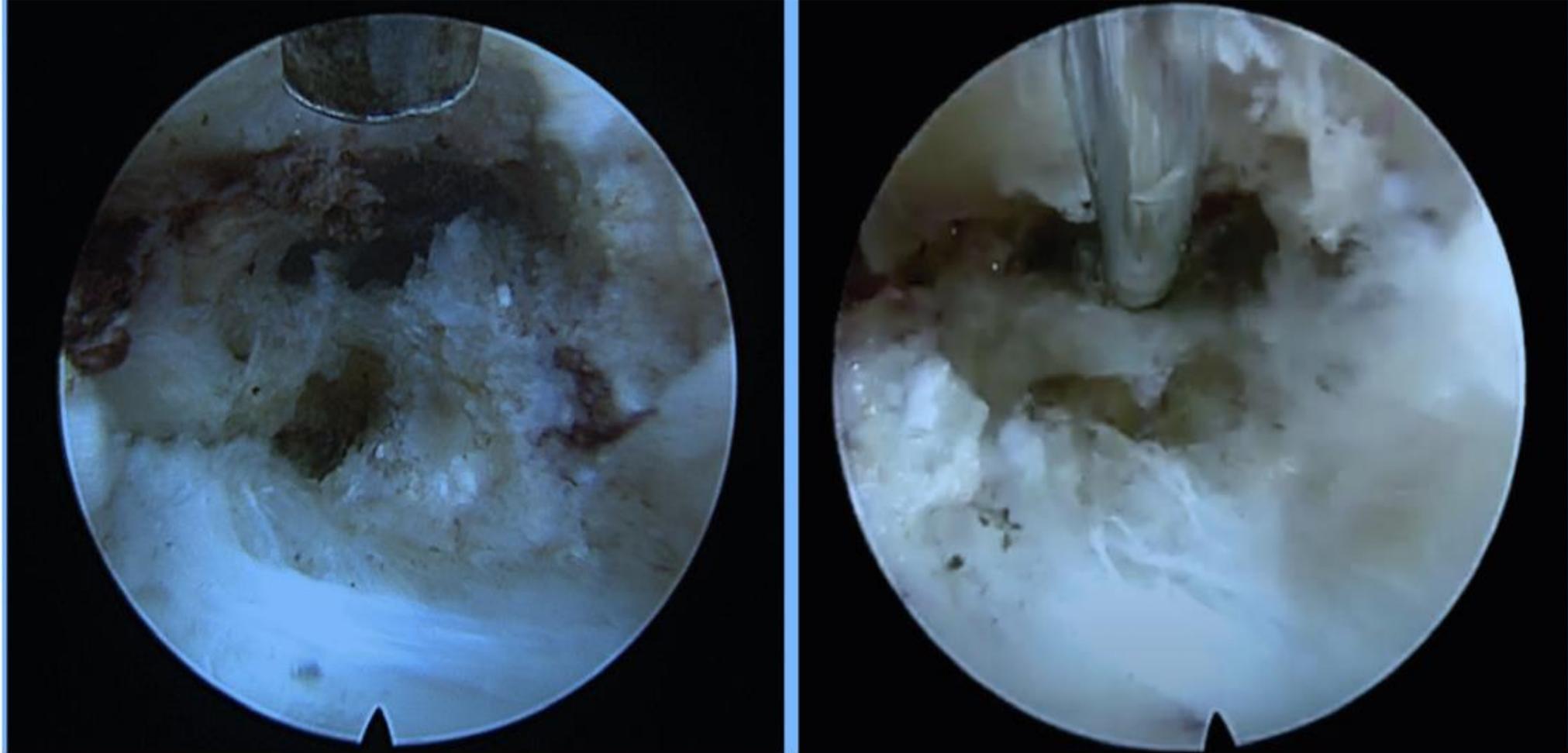
Fluoroscopic images from the previous surgery (Right L5-S1 interlaminar decompression)



Left L4-5 Transforaminal: Previous Hemi-Lami with epidural fibrosis encompassing L5 root causing foot drop



Endoscopic view of “Peeling the onion”: Close but not too close! L5 nerve root getting ‘cleaned & freed of surrounding scar’





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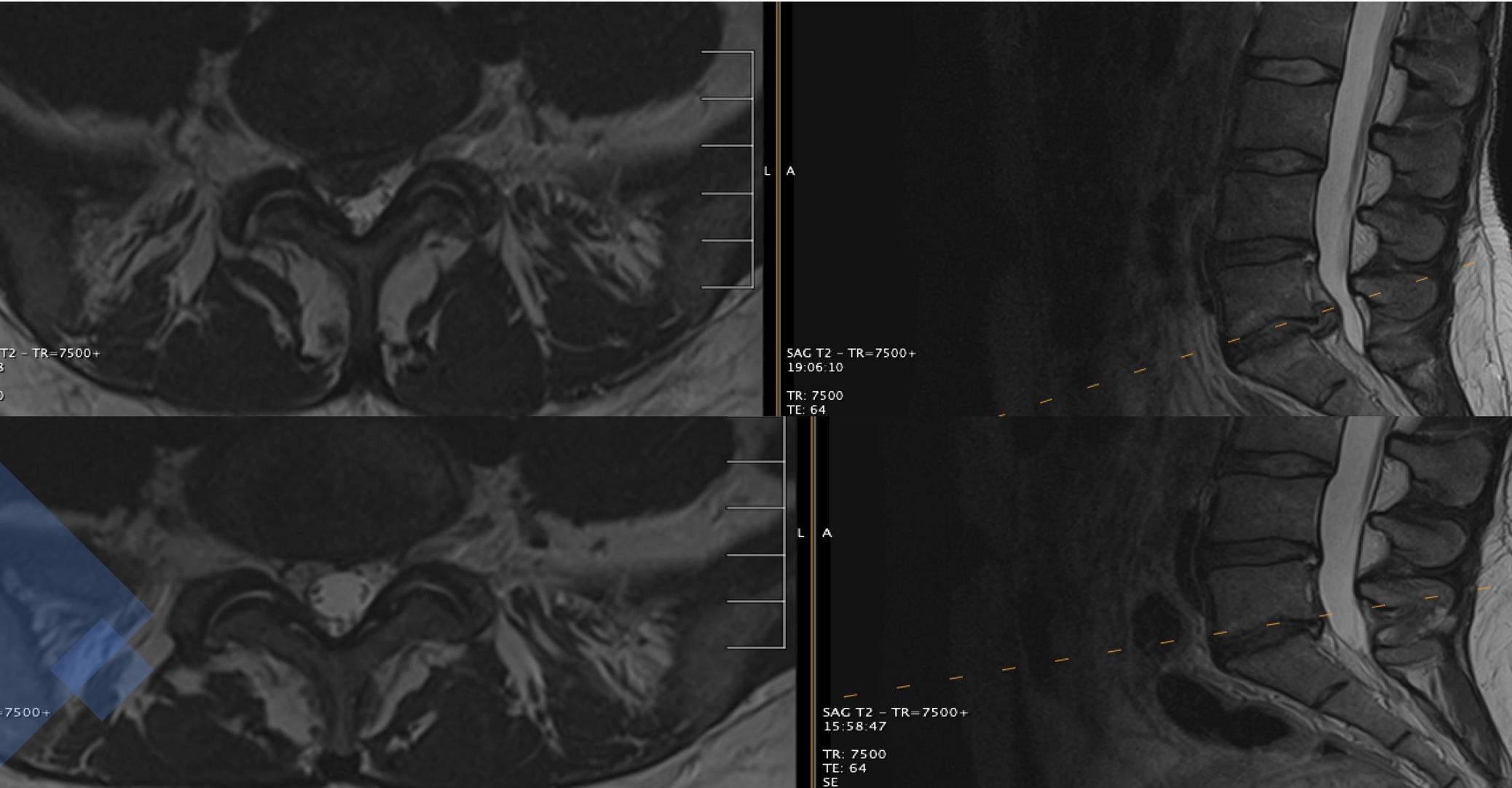
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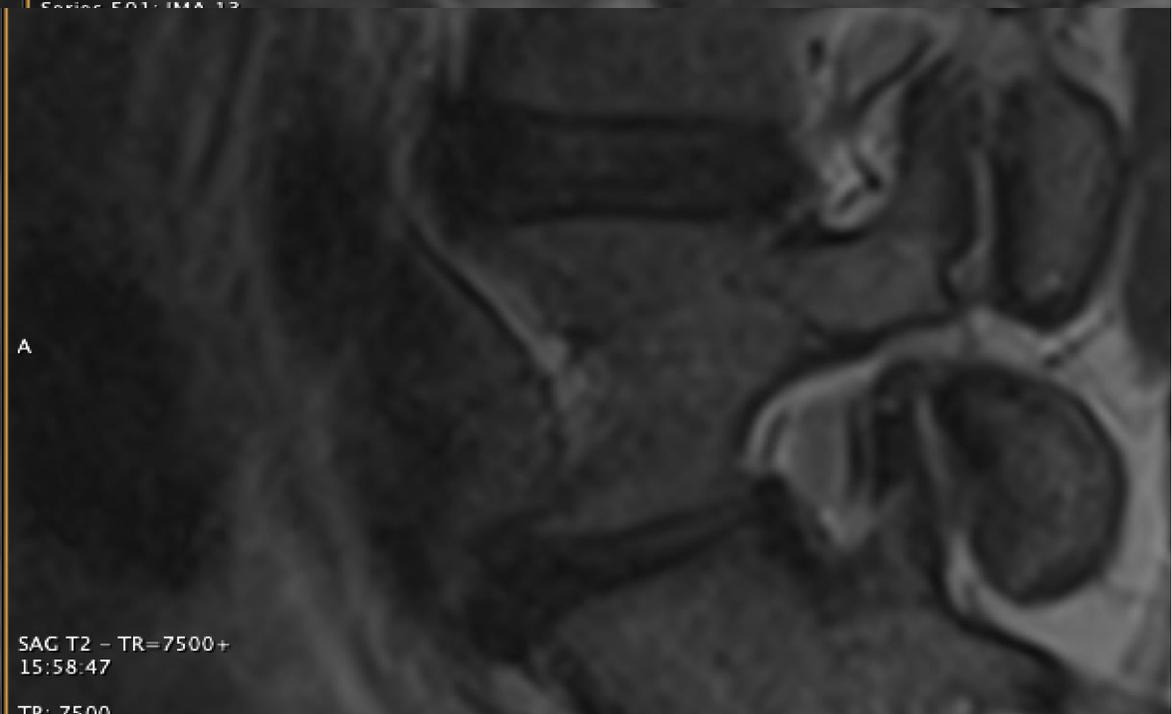
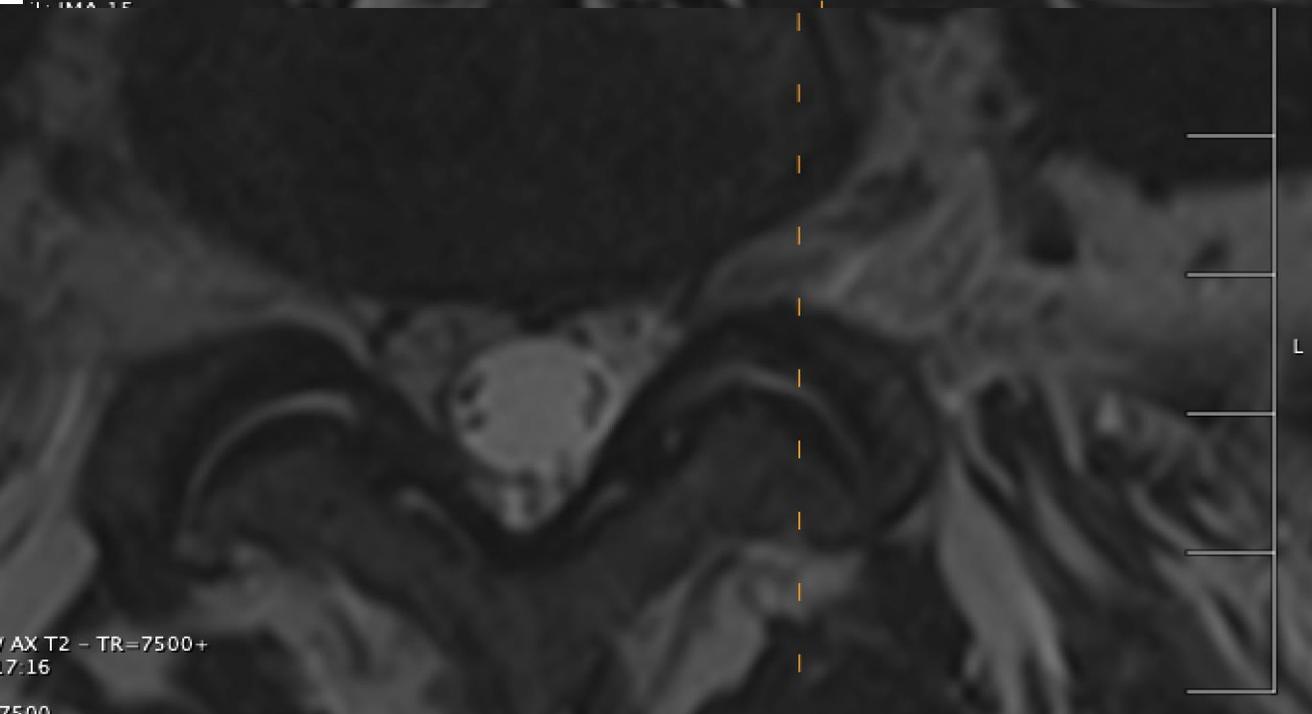
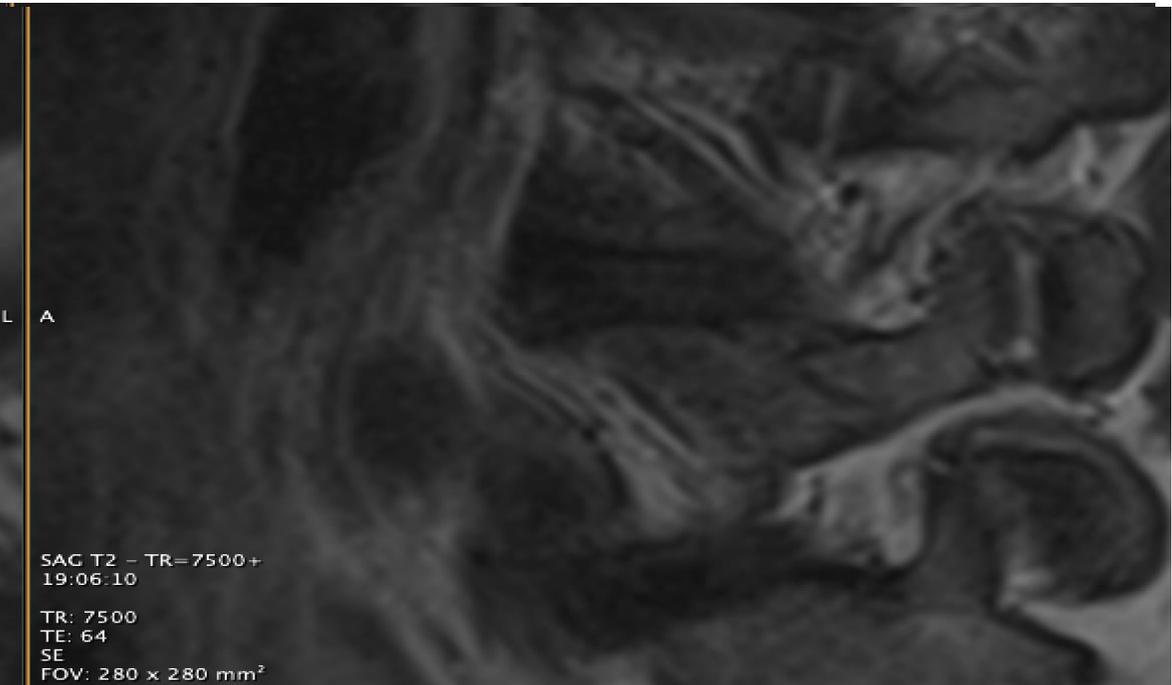
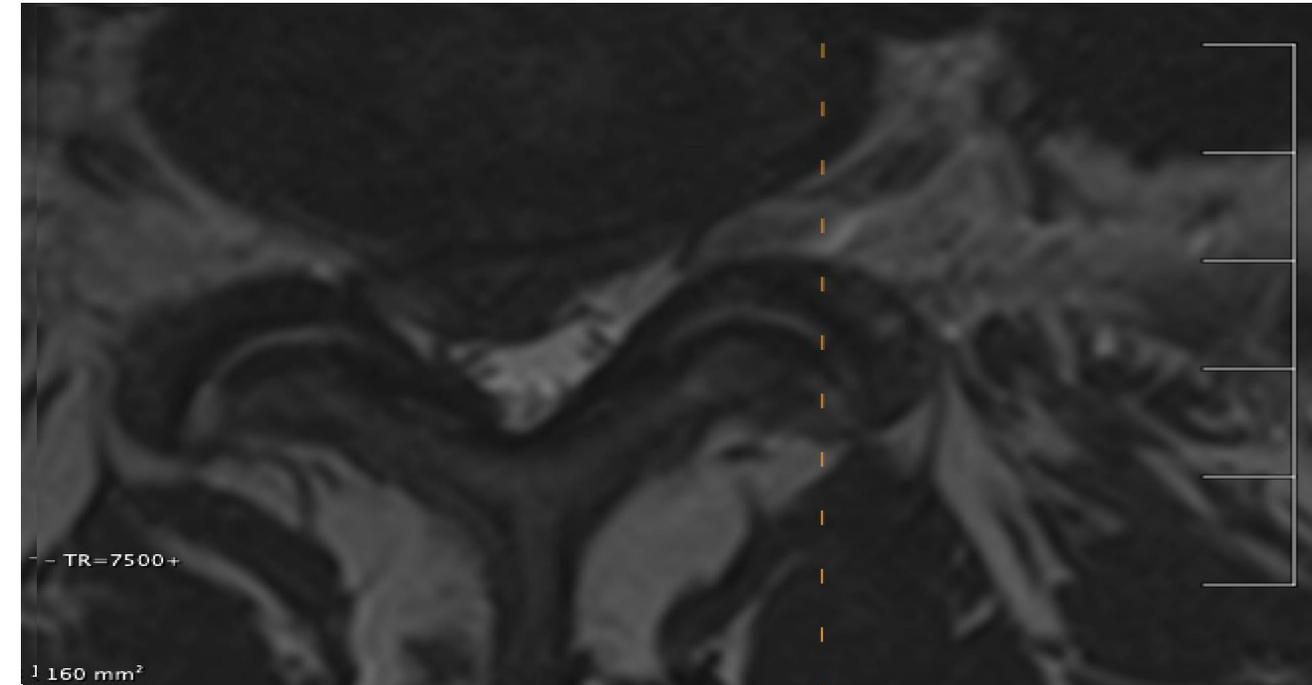


3

Looking underneath the nerve & accessing the 'hidden zone': Very tough to achieve by traditional spine surgeries

Look Closely at the MRI Images: You might save someone from a major injury





Change your mindset!

- CRPS is a diagnosis of exclusion and several supposed CRPS patients' have an ongoing irritation/compression of spinal nerve root/s which can be diagnosed by looking closely at MRI mages and is potentially curable
- Constant reinforcements by SCS reps doesn't let us think outside the 'box'
- Worldwide: Endoscopic Spine Surgery is the preferred form of treatment for spine pathologies (Simple Spine)
- It has been a slow adoption in US due to focus on 'high dollar value' surgeries and insurance limitations (Only CPT 62380 since 2016)
- Lately our spine surgeons have realized it's value and are aggressively promoting it. In 2021 AMA added to CPT 63030 - the words Endoscopic assisted

Benefits of Endoscopic Spine over traditional surgeries & Patient selection

- With preservation of bones, muscles and other soft tissues, spinal architecture is unchanged after spine endoscopy
- There is virtually none or very minimal scar tissue and recovery is very quick. Outpatient and some can be done under local/MAC
- It doesn't burn any bridges for traditional surgery
- Even old herniations with adhesions and scarring around them could be better managed and chance of Dural tears much less in good hands
- Dogma of "all spine surgeries are bad" doesn't hold true with endoscopy so earlier interventions prevents chronic pain & future degeneration/stenosis
- Endoscopy is not for unstable spine or complex spine so choose appropriately
- Future: Endolif - Endoscopic assisted Lumbar Fusion is here now



Thank You For
Your Attention

Any questions please feel free to reach out to:

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