The YESS Philosophy: My Transforaminal Endoscopic Decompression and Coflex Surgery

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I Treat patients with Chronic Back Pain and leg pain (sciatica)

- **Conditions treated**
  - **Herniated discs**
  - **Painful degenerative discs**
  - **Foraminal stenosis**
  - **Facet cysts**
  - **Painful Foraminal Osteophytosis**
  - **FBSS**
- **Philosophy: Treat the pain generator: Least Invasive procedure first**

YESS Philosophy and Technique

- Correlate Results of Diagnostic and Therapeutic Injections with imaging studies
- Percutaneous transforaminal decompression as the least invasive technique
- Stage surgical procedures to avoid performing the last procedure first
- Treat the pain generator, not the Mri or X-Ray image only

My surgery Pre-op:

Progressive degeneration over 5 years

Prodromal symptoms over 2 years

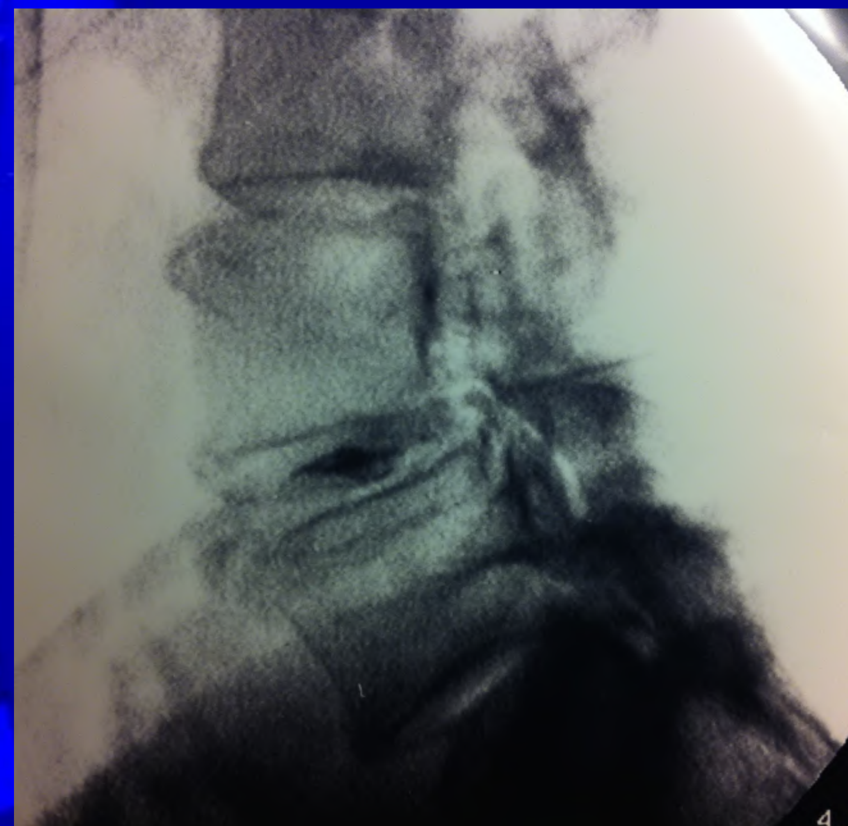
- Back ache with intermittent bilateral sciatica R>L
- Predominant L5 and S1dermatomes
- Relieved by rest and Nsaids large doses
  - 800 mg ibuprofen
  - 750 naproxen

- Unrelenting sciatica for 3 months
- Muscle atrophy
- Last 30 days
  - Weak hip abduction , foot dorsiflexion
  - Weak EHL
  - Unable to bear weight

First diagnostic and therapeutic TFESI

Needle placement

Incidental discogram outlines HNP

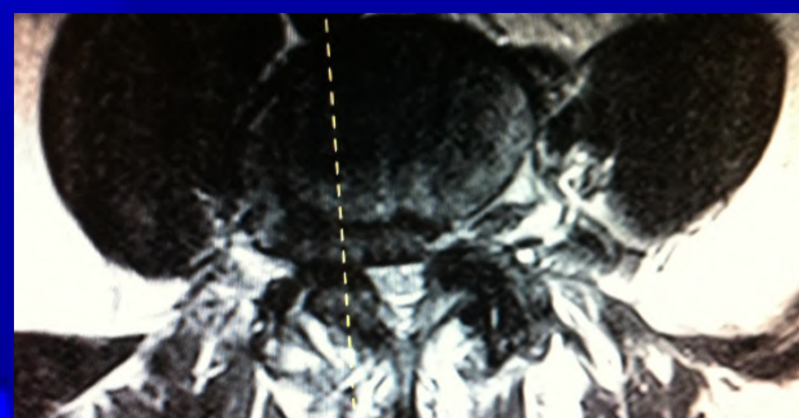


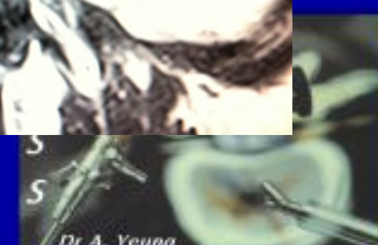
Result of TFESI

- Temporary Relief, indicating the pain generator is from L4-5
- Incidental discogram outlines foraminal disc herniation
- Easy access to HNP transforaminally
- Epidural block was done before MRI as it was guided clinically

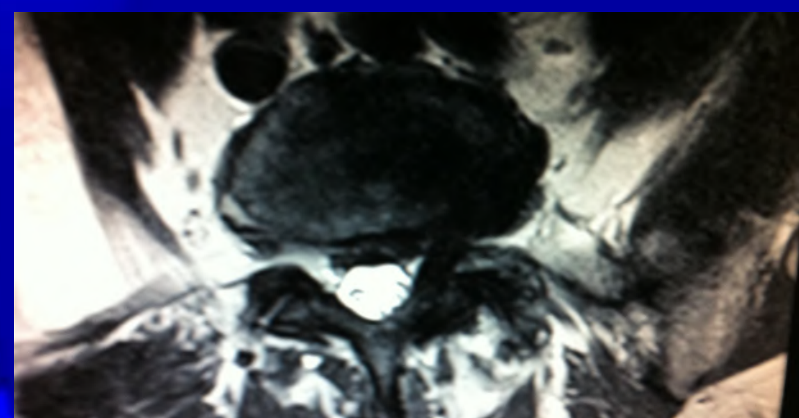
ATY 1st Mri R L4-5= Trimodal HNP

With “unrecognized” lateral stenosis L





ATY 1st Mri L4-5 ,L5-S1 Left stenosis



Radiculopathy on R

- Unable to stand
- Severe R thigh , buttocks and leg pain to L5 distribution
- Had intermittent L sciatica L5
- Intermittent sciatica S1

What were my options?

- Options
- 6 weeks therapy?
- Epidural blocks?
- MLD?
- Decompression and fusion?
  - What levels?
- MIS procedures?
  - Transforaminal?
  - Posterior?
  - What levels?
- What did I chose?
  - I opted for surgical decompression by CAY

My SED™ #1 by CAY

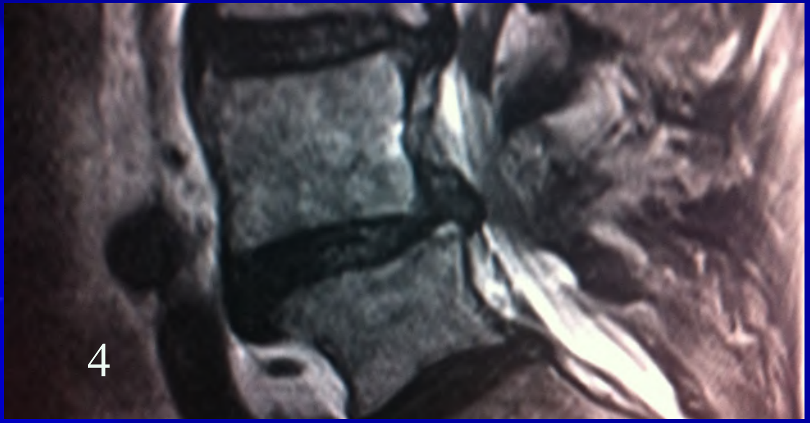
- **Leg Pain Immediately Relieved but recurred three days later**
- Post-op Mri obtained, and recurrent HNP discovered
- Surgical decompression documented on surgical images and DVD

1st surgery video: Traversing Nerve skillfully decompressed

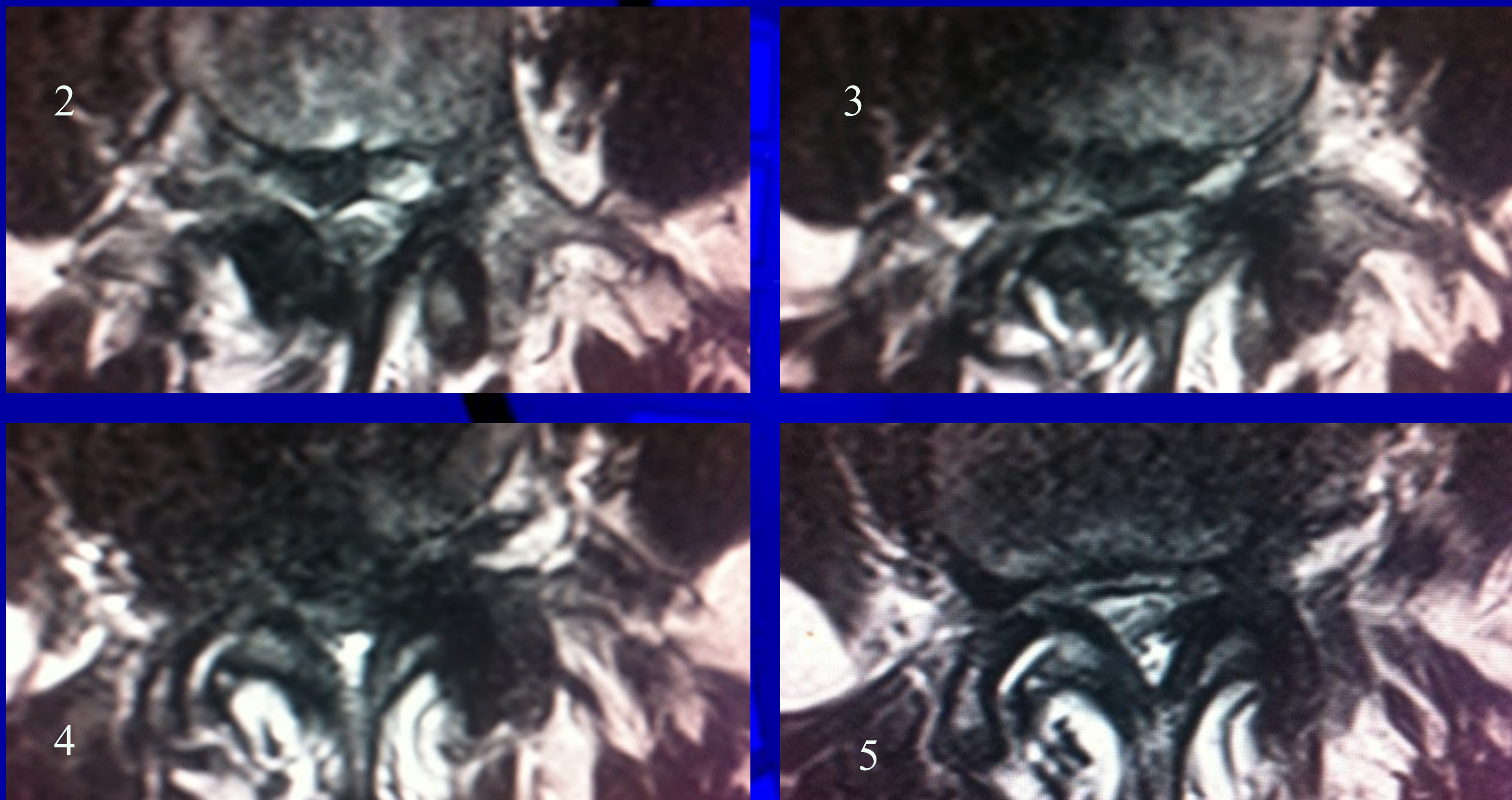
Recurrent HNP Evident Clinically after complete pain relief

- Lessons learned
  - When sciatica returns after complete relief, suspect recurrent HNP when exam is obvious
  - Many surgeons refuse to acknowledge this and make the patient wait because the surgeon was **certain** he removed the herniation
- Get a follow-up Mri and don’t worry about what the insurance company wants

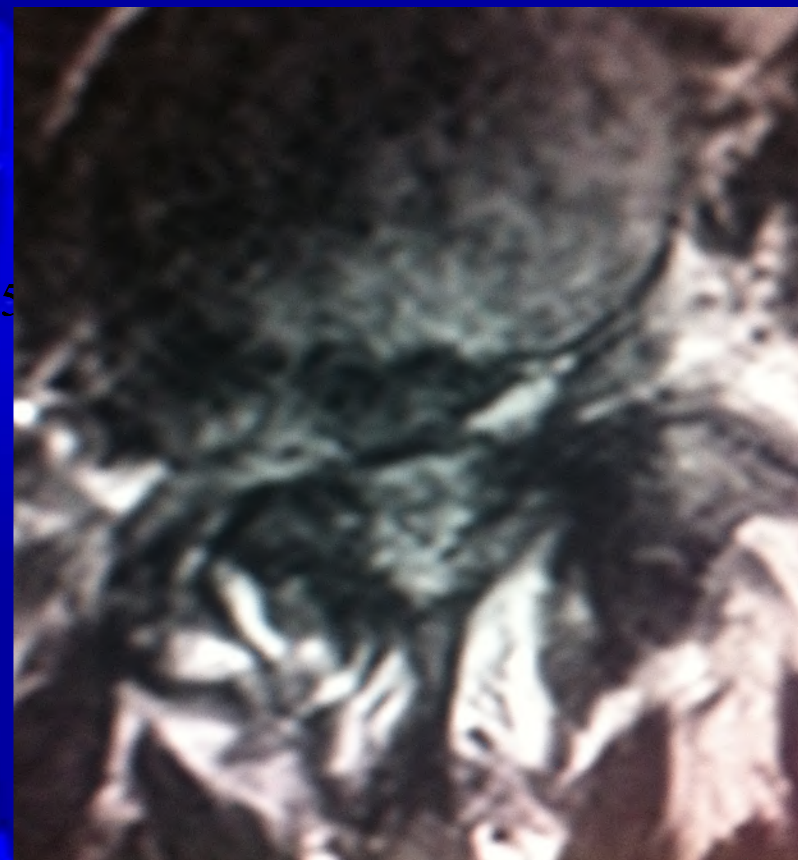
Post –op SED 1 Lateral 4, axial 1



Post –op SED 1 Axial 2-5



Recurrent HNP with cephalad fragment migration identified



Post-op tri modal hnp converted to bimodal with recurrent extruded fragment to L3

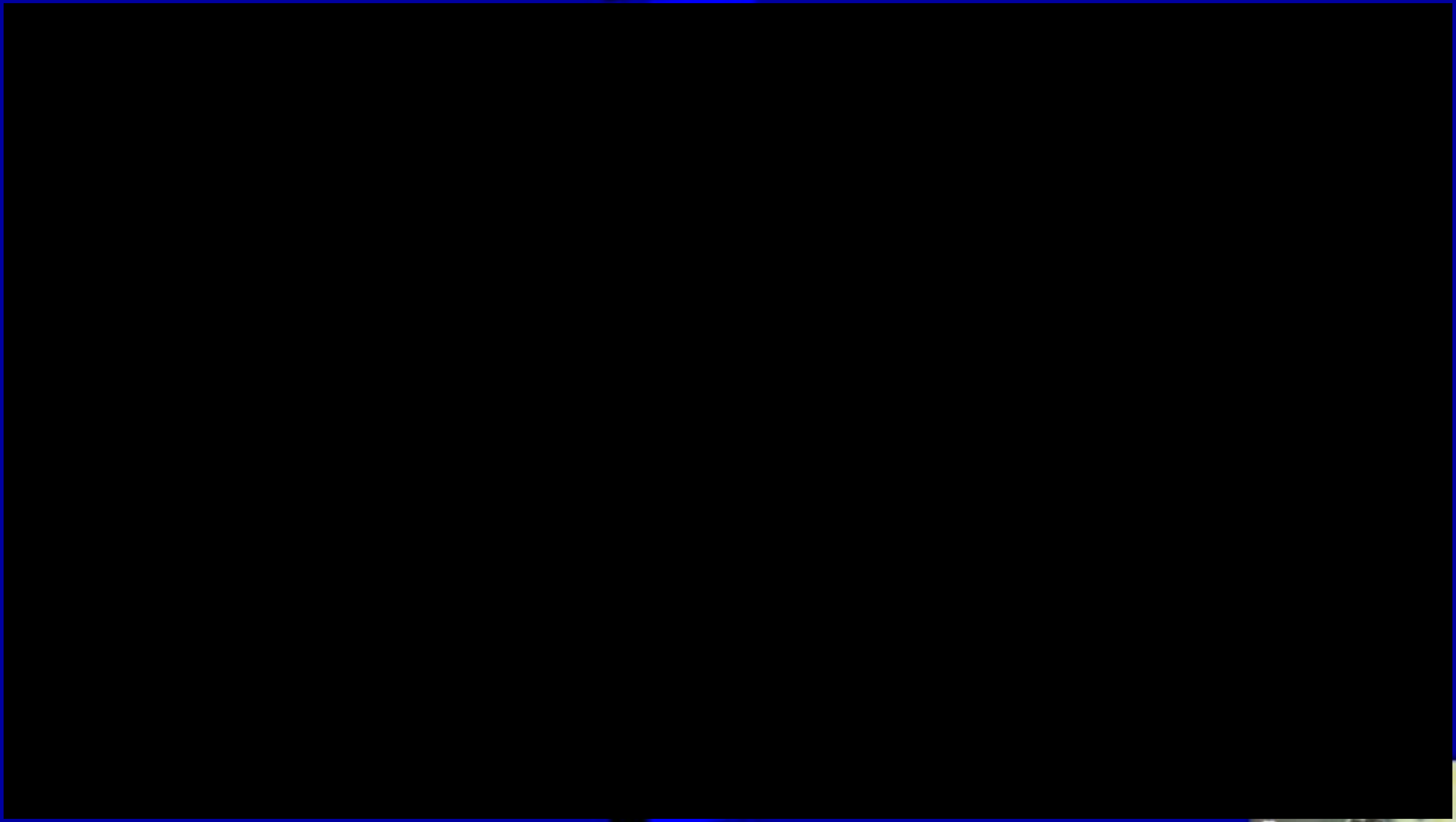
- Immediate relief of severe unrelenting R leg pain
- Residual R hip pain and thigh discomfort
- Intermittent left sciatica
- Able to travel 2 weeks to Bali
- I opted for a second SED when sciatica residuals persisted

The Second SED (no sedation)

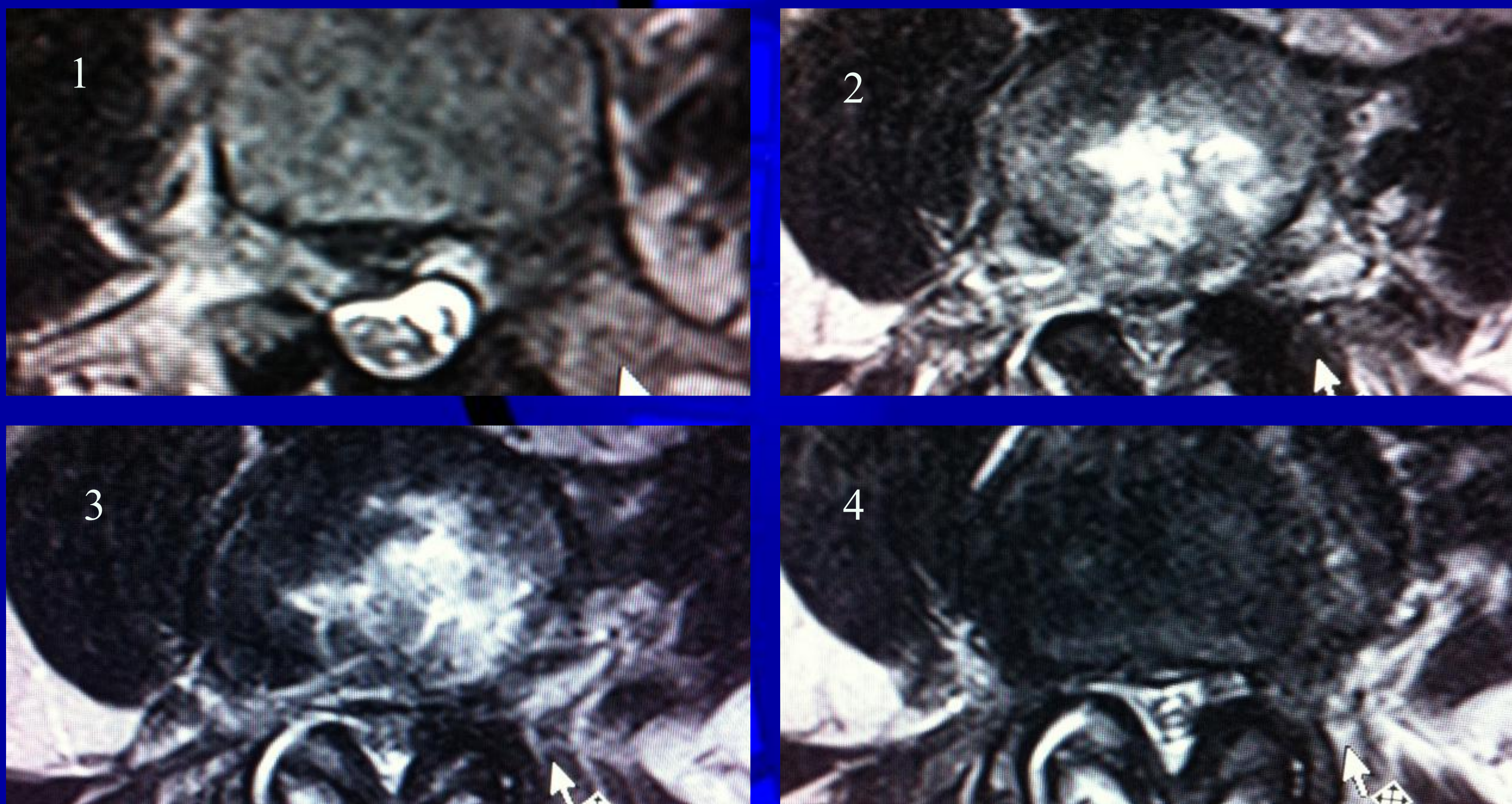
- Go after recurrent central extrusion and extra-foraminal HNP
- Willing to chance the new extruded HNP can be removed transforaminally

- Mri shows foraminal HNP gone
- Foraminal HNP most painful

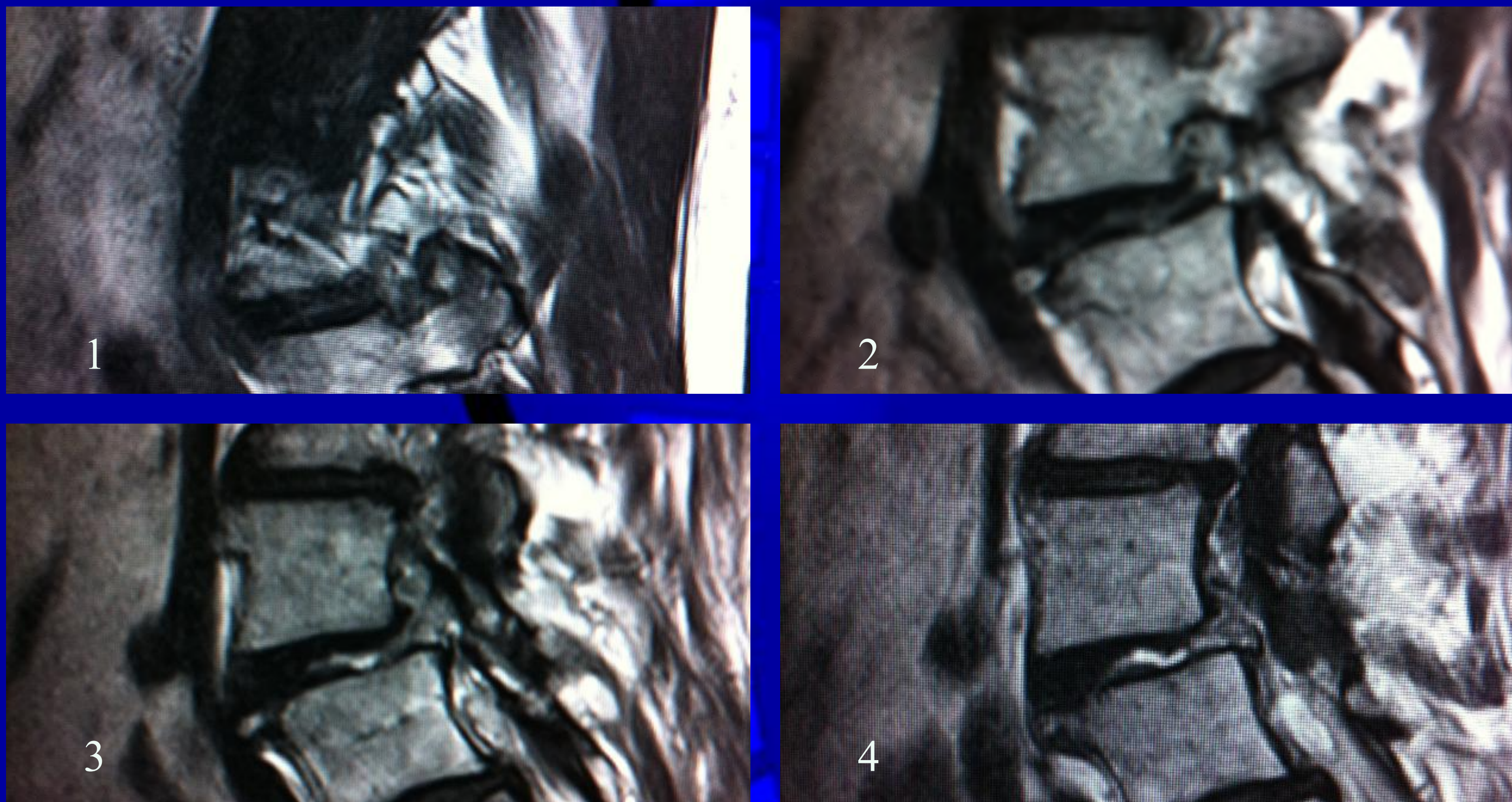
Second SED



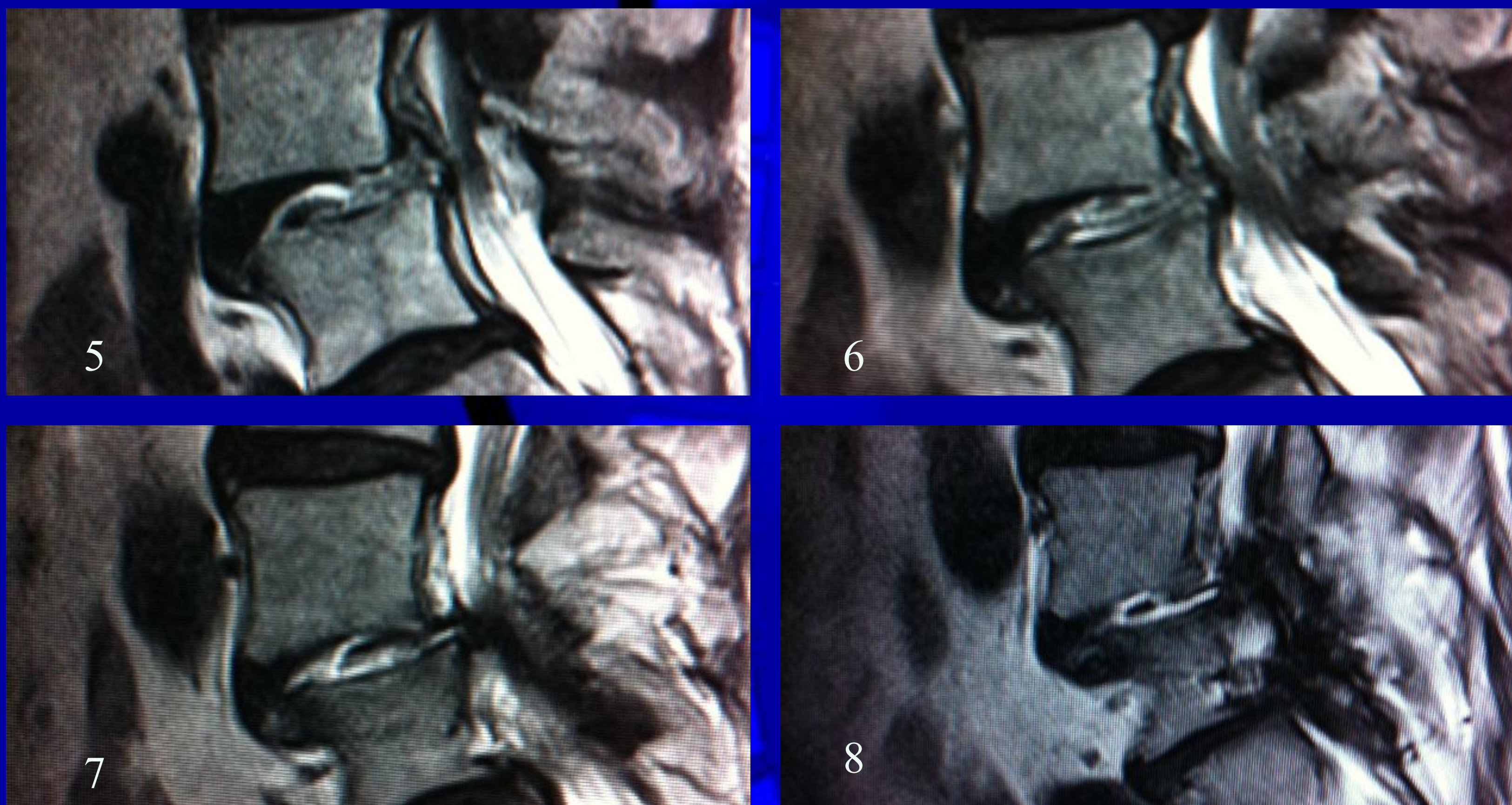
Axial SED 2 cephalad > caudal



Post –op SED Lateral SED 2 L>R



Post-op SED Lateral L>R



Leg pain and sciatica resolved

- Weakness improved
- Numbness resolved
- No pain sitting and lying down
- Severe sharp pain with position changes, bending, twisting
- walking

Suspect Residual extruded fragment

- CAY aborted the second SED procedure because I had pain and he stuck with the philosophy to quit when there was pain he could not explain or finish the surgery
- The video demonstrated some obstruction was still in the foramen, and the extruded fragment may still be present

Symptoms following second SED

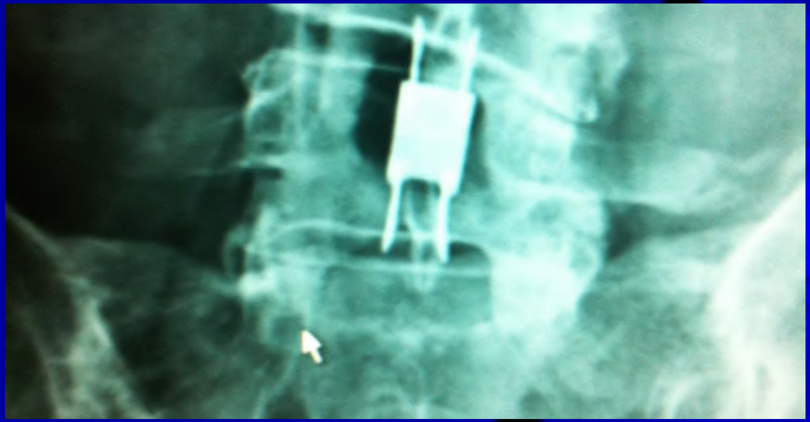
- Right leg pain 90% resolved, but sharp pain in R buttock with changes in position
- Left buttock sharp pain with movement, stabilized with sitting and standing
- Residual extrusion suspected

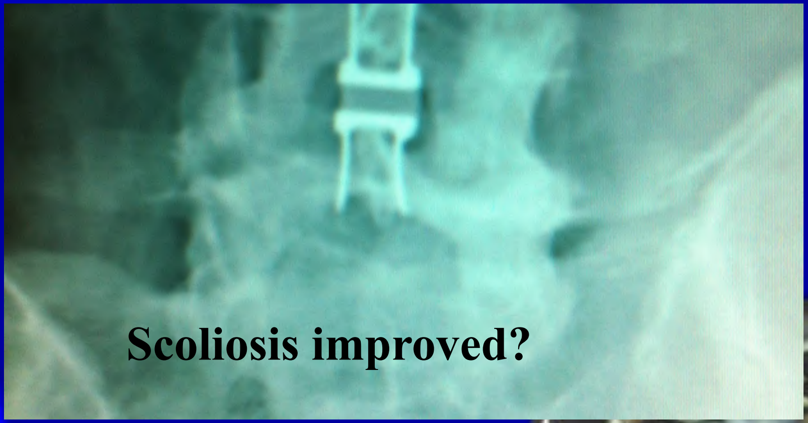
Decision for additional surgery

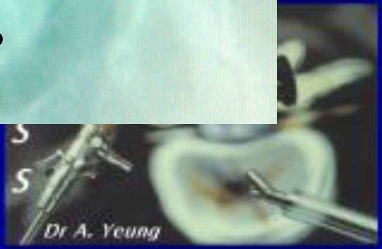
- Had second Sed™ under local, no sedation
- Still working, losing only one day of work
- No post –op analgesics
- Now translaminar decompression and fusion or Coflex may be needed

I opted for Coflex over fusion

(no back pain) translaminar decompression L3-S1







Post-op Coflex Surgery

- Translaminar decompression L4-5 **bilateral**
- Coflex implantation
- Translaminar decompression L5-S1 L

- Residual left buttock pain with positional change from contralateral lateral stenosis
- No right leg pain, strength returning
- Left buttock pain persists

Reason for residual Buttock, pain?

- Residual lateral stenosis?
- Where?
- L4-5 L?
- L5-S1 L?

Right leg pain resolved

- 4 months later acute weakness and numbness right thigh
- 2/5 Quadriceps
- 2/5 hip flexor and abductor
- Mri demonstrates recurrent extra foraminal HNP

- Acute severe weakness dictated immediate decompression for recurrent far lateral HNP since there was no annulus left

4 months Post op SED and Coflex: analysis

- Left buttock pain : residual lateral stenosis, HNP? (unrecognized?)
- Became evident when R leg symptoms resolved
- Severe weakness on R indicated far lateral extrusion

Right leg pain resolved, but…
acute onset of quadriceps 2/5 weakness

- 2/5 Quadriceps
- 2/5 hip flexor and abductor
- Sharp L buttocks pain persists even after translaminar decompression L4-5 bilateral

- No Pain, just weakness
- MRI reveals Recurrent far lateral HNP
- I opted for another SED

Repeat SED at L4-5 R (9.48)

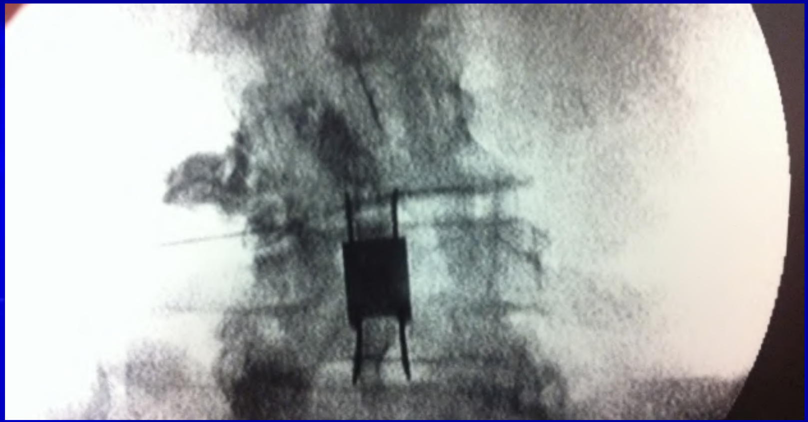
illustrating YESS™ technique probing the pain generators

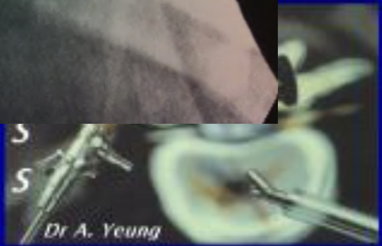
3rd SED surgery for recurrent far lateral HNP

- Successful!!! No right leg pain
- I still had residual Left buttocks pain with position changes
- Suspected Foraminal stenosis and foraminal osteophyte
- Obtained follow-up Mri and CT scan with saggital and coronal reconstruction

Epiduralgram and TFESI

- Diagnostic and therapeutic transforaminal epidural injection
- 90 percent relief at L4-5
- Same injection at L5-S1 only 10 percent relief





Work-up for residual left buttocks pain

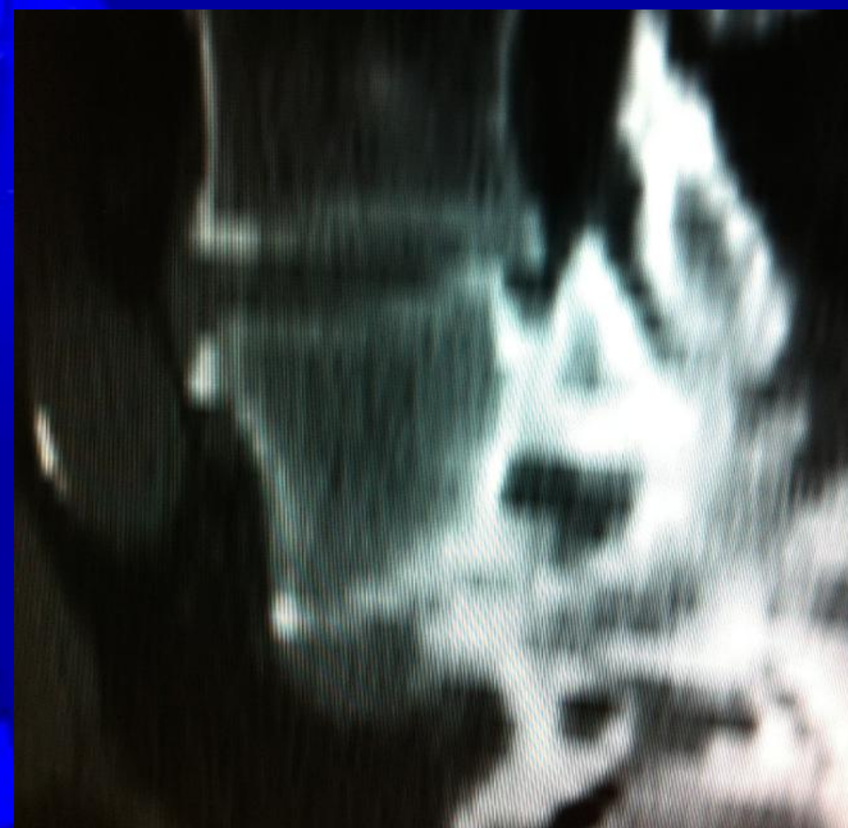
- Transforaminal epidural block at L5-S1
  - MINIMAL RELIEF
- Transforaminal epidural block L4-5 90% relief
- Using the results of the transforaminal therapeutic injections, I opted for endoscopic foraminoplasty

CT scan with saggital reconstruction

(translaminar decompression not helpful, stenosis at L4-5 and L5-S1)

Endplate osteophyte L

Endplate osteophyte L



I opted for endoscopic foraminoplasty by CAY (4.22)

Lessons learned from surgery with out sedation

- In scoliosis with disc collapse dilating the disc space will cause bilateral S1 symptoms at L4-5
- Direct decompression better than indirect decompression
- Can predict results from visualizing the patho-anatomy and evaluating the estent of decompression
- Learning curve dependent on assessing decmpression

Severe L buttock pain better, but not completely resolved

- Was a a fusion a better choice in the beginning? (maybe not)
- What type? (T-Lif)
- What did the endoscopic decompression demonstrate?
  - Lateral stenosis not as effective for translaminar compared to foraminal decompression

Post op course

- Improved every month
- T-Lif may have decompressed concave scoliosis deformity better and stabilized the scoliosis better, but…
- Dilation of the disc space under local anesthesia caused severe leg pain
- Are FBSS after fusion from over stretching of the exiting and traversing nerve?

Lessons learned

- Lateral Decompression with the transforaminal endoscopic procedure best for transforaminal endoscopic approach
- Least Invasive with minimal residuals
- Distracting disc space produces pain
- Restoration if disc height to normal not needed. Decompress, ablate, irrigate!
- Is restoration of saggital and coronal alignment necessary (for the elderly??)

Lessons learned

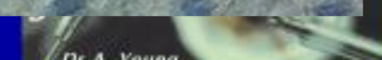
- Do not over distract or even distract to normal height
- Degenerative scoliosis and spondylolisthesis is affected by the saggital alignment of the facet
- Asymmetric alignment will cause rotation from the assymetry of the facet alignment and the scoliosis

Lessons learned

- Coflex, by providing dynamic stability, is a less invasive option even in the face of instability and will improve with time as the spine re-stabilizes naturally with the support preventing progression of deformity
- The surgeon factor and his experience will enhance results
- Not all surgeons are created equal!

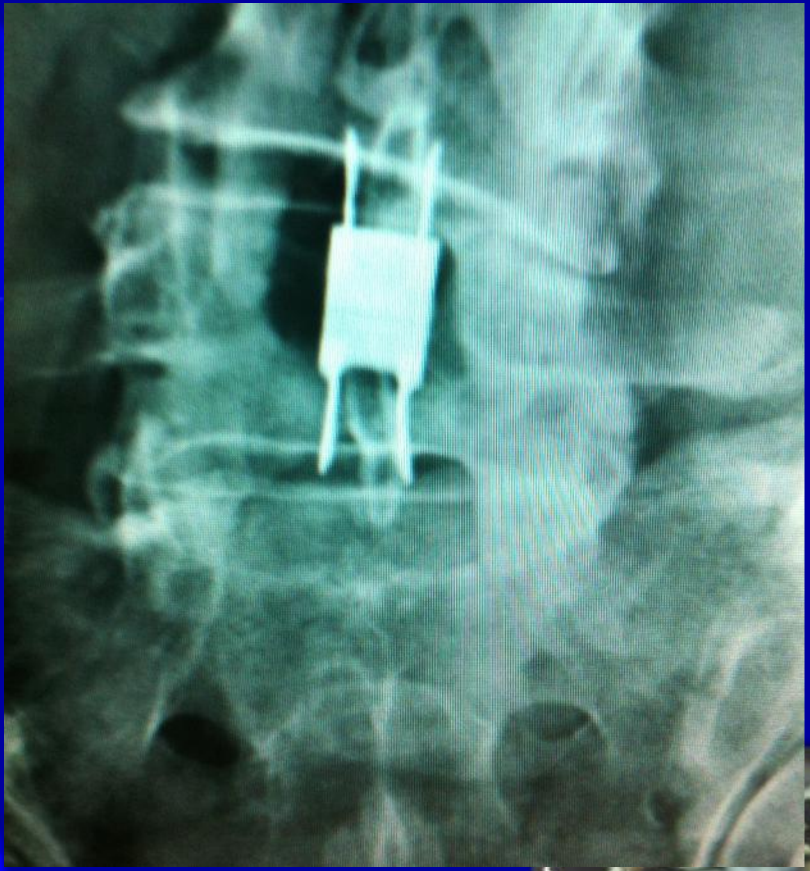
Stenosis dilation produced bilateral sciatica

Custom Tqpered foraminoplasty cannu;la



Lateral recess stenosis

- Direct Transforaminal decompression needed
- Indirect decompression may cause stretch injury
- Restoration of disc height should be limited



Results are very dramatic

- Patients are amazed at the minimal post-op pain
- They are generally more satisfied than patients with good results from traditional surgery
- The surgical morbidity is less

What some Christian patients tell me post-op

Thank you