

Common Spine Conditions: Knife or Needle?

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Orthopedic Spine Surgery



A DIVISION OF NORTHWEST SPECIALTY HOSPITAL
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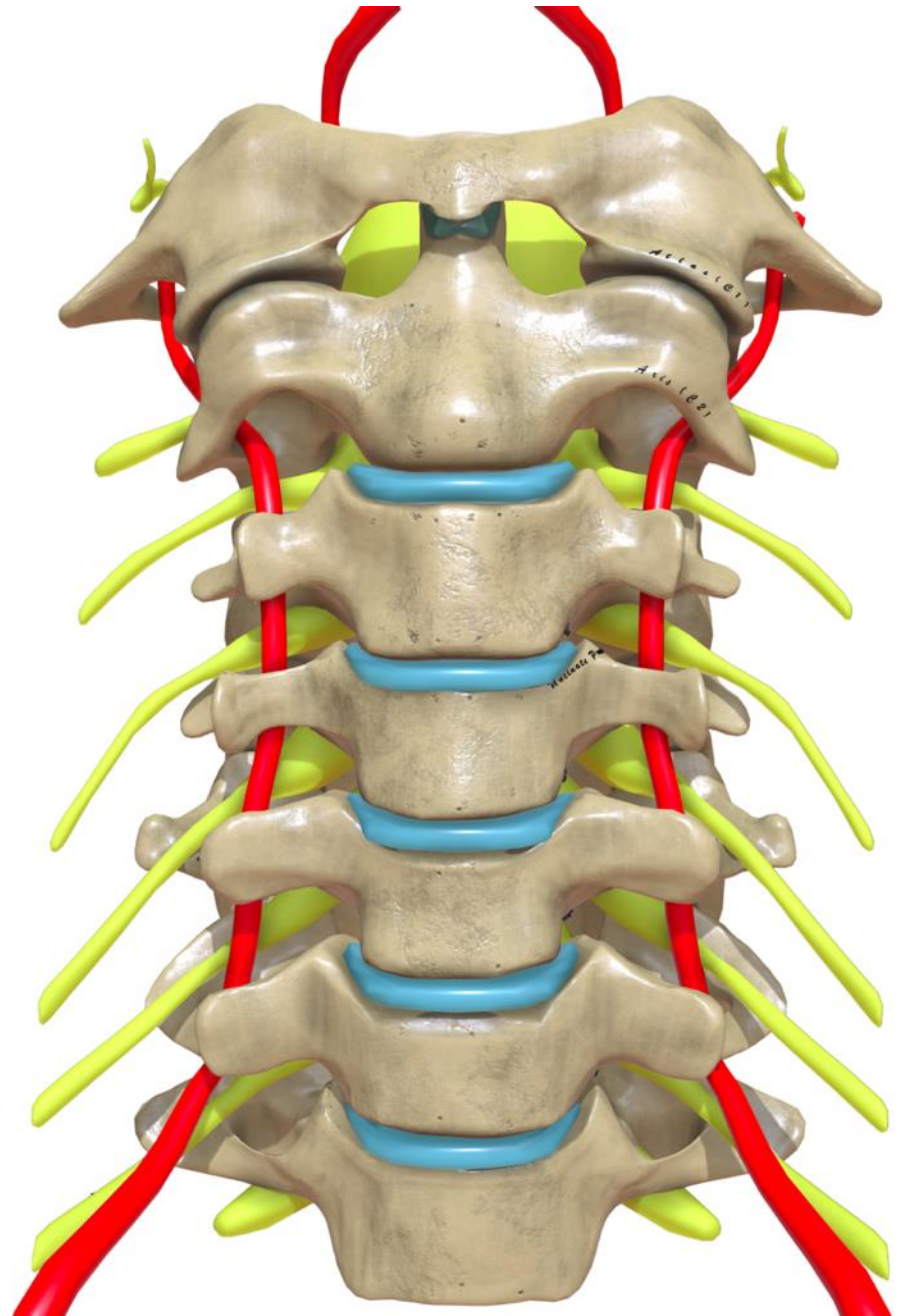
Conflicts

- **Globus – Education**
- **I do spine surgery.**

Objectives

- **Review cervical and lumbar degenerative conditions.**
- **Discuss the benefits of surgical and interventional treatment for these conditions.**
- **Develop a general idea of who should undergo surgery versus nonoperative treatment.**

Cervical Spine



Degenerative Cervical Radiculopathy Dx

- Self-limited with spontaneous resolution after variable time/tx
- Pain/paresthesia/numb/weak, abnl reflex
- Typical: arm, neck, scapular, periscapular
- Atypical: deltoid/grip weak, scapular wing, chest pain, HA
- Dermatomal map not specific

Degenerative Cervical Radiculopathy Tx

- **SNRB to diagnose multi-level or discordant symptoms**
- **TFESI may be considered, also traction, meds, PT**
- **Surgical decompression allows rapid relief of symptoms with favorable long-term outcomes**

Cervical Fusion/Arthroplasty

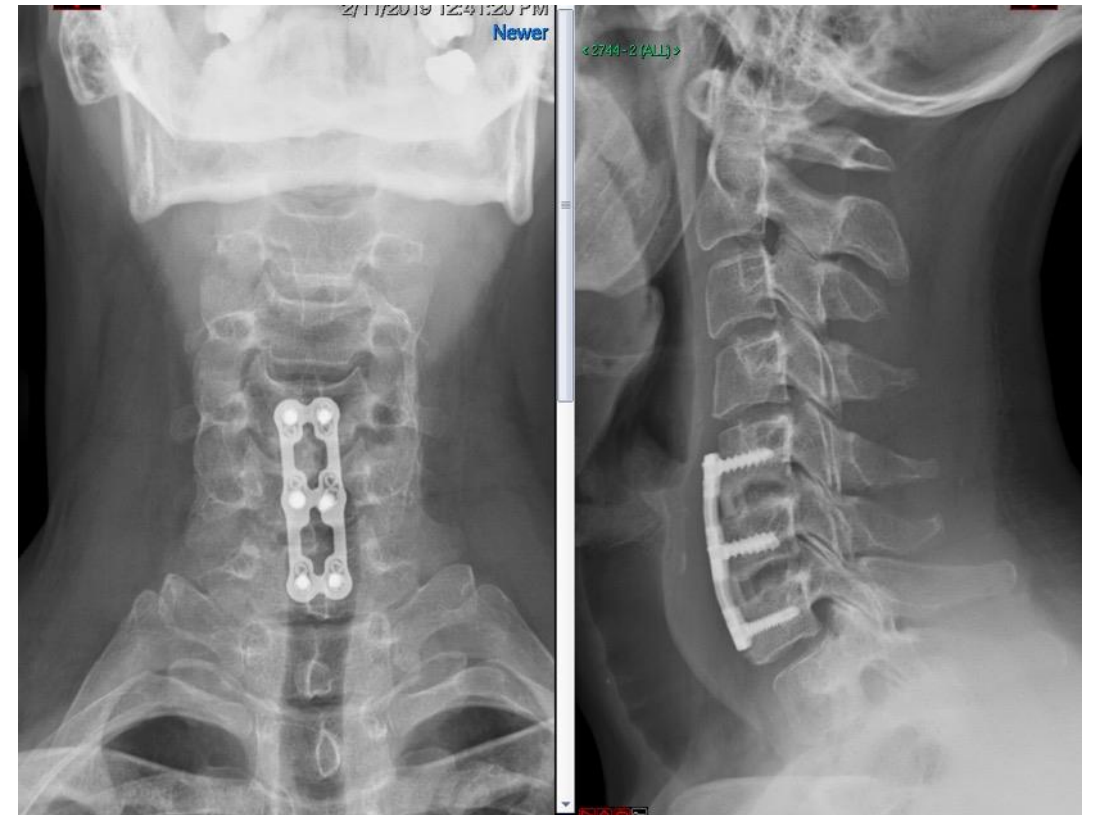
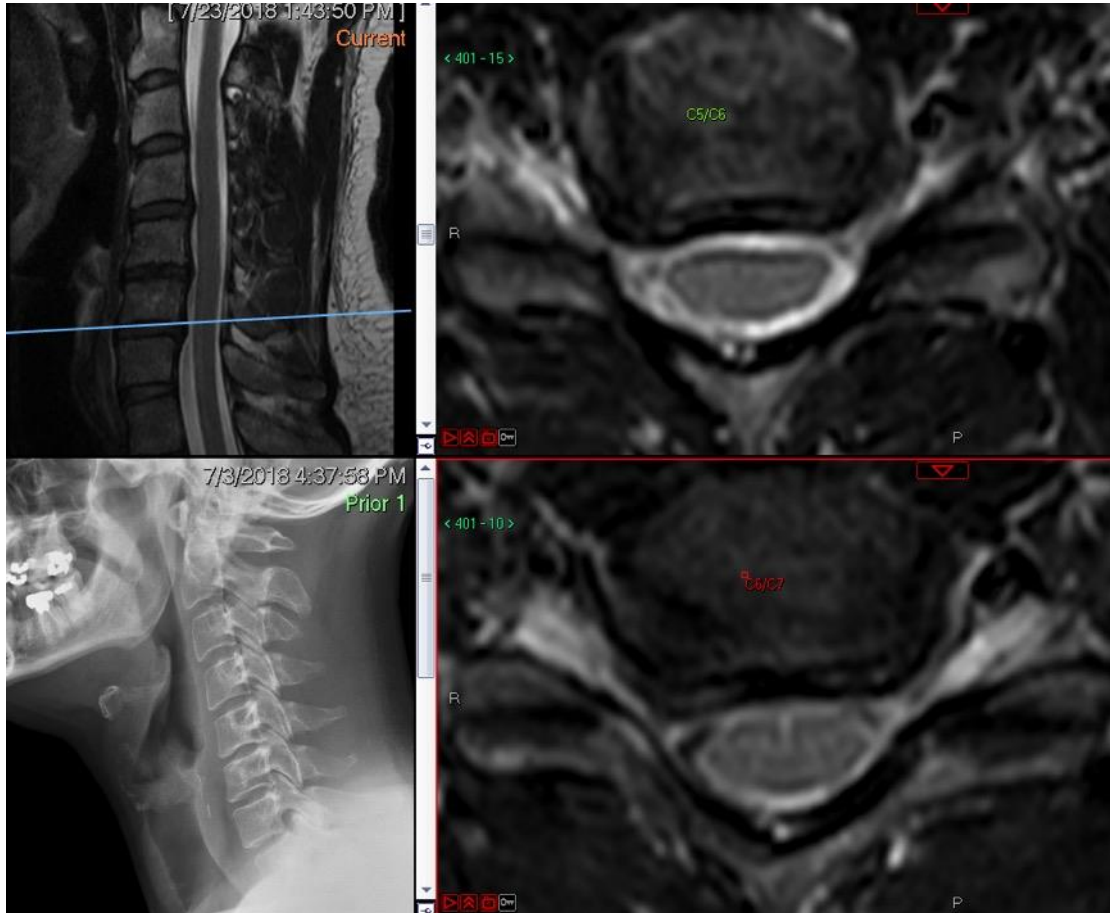
- **FUSION – ACDF, Post Fusion**

- Instability, 2mm flex/ext
- Deformity (fwd gaze, ADL, amb)
- Degen Radic after 6-12w nonop
- Synovial Facet Cyst
- Avoid Surgery: axial neck pain w/o neural compression, instab, or deformity

- **ARTHROPLASTY – CDA/TDA**

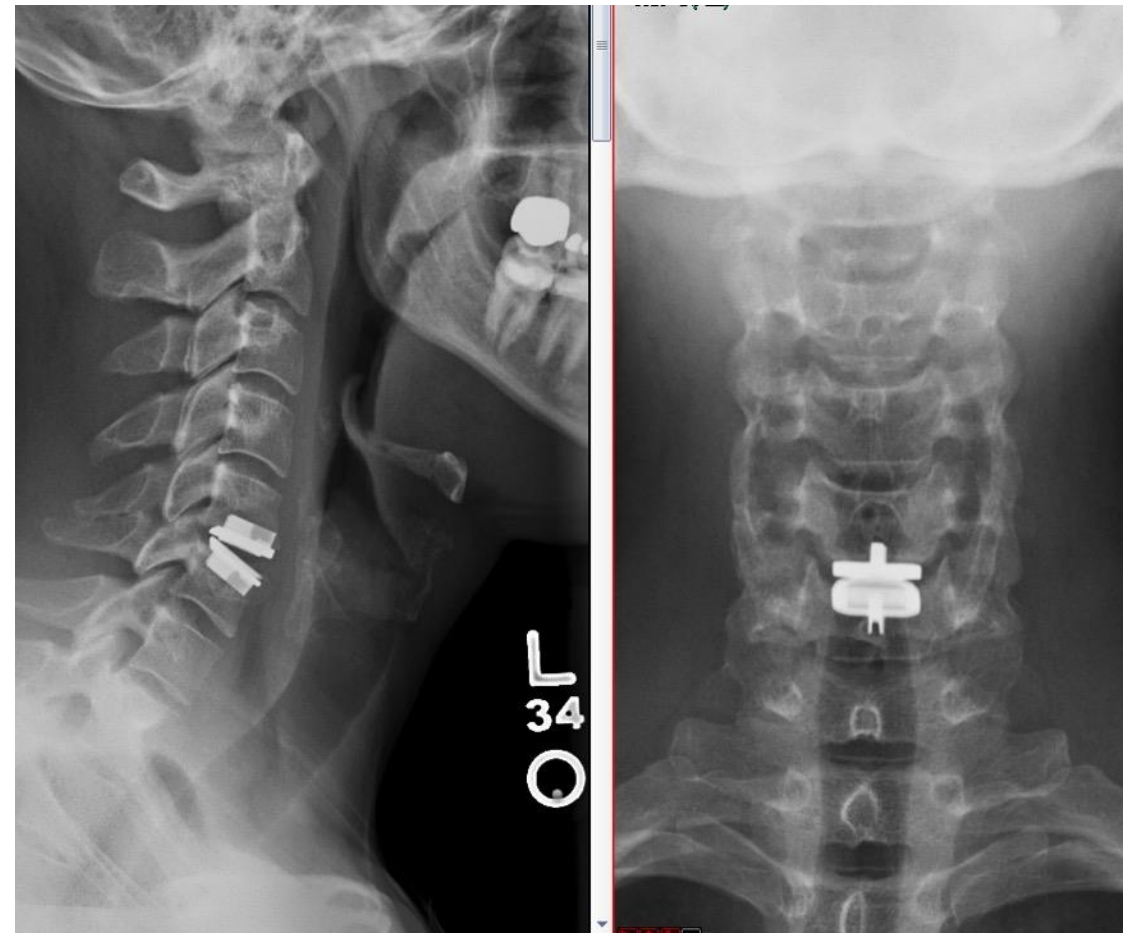
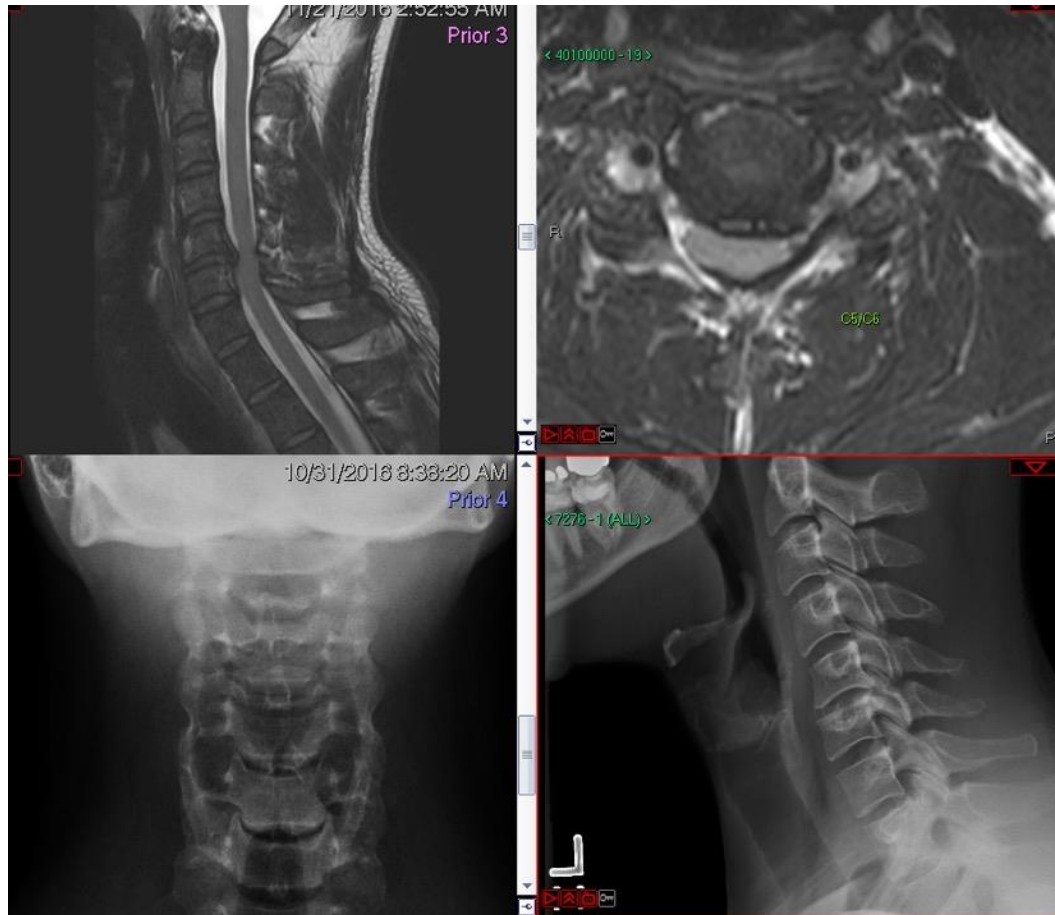
- 1-2 levels radic or myelopathy refractory to nonop, C3-C7
- Avoid CDA: disk ht loss, severe facet degen, bridging phytes, stiff flex/ext, instability

38M c/o RUE post radic, 75/25 RUE



C5-C7 ACDF

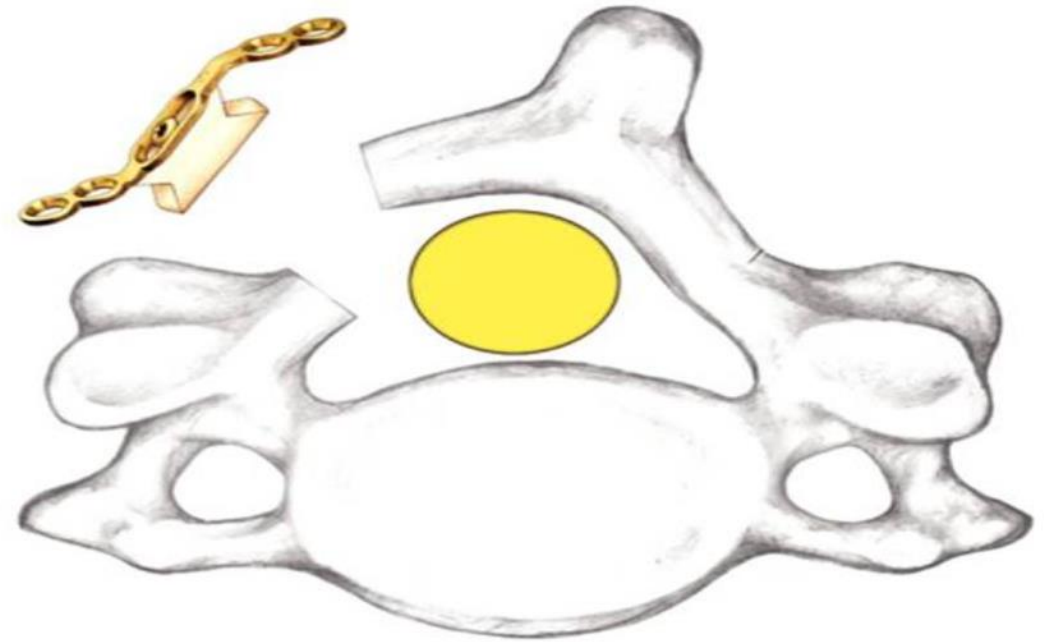
28M c/o LUE radial radic, 60/40 LUE/Neck



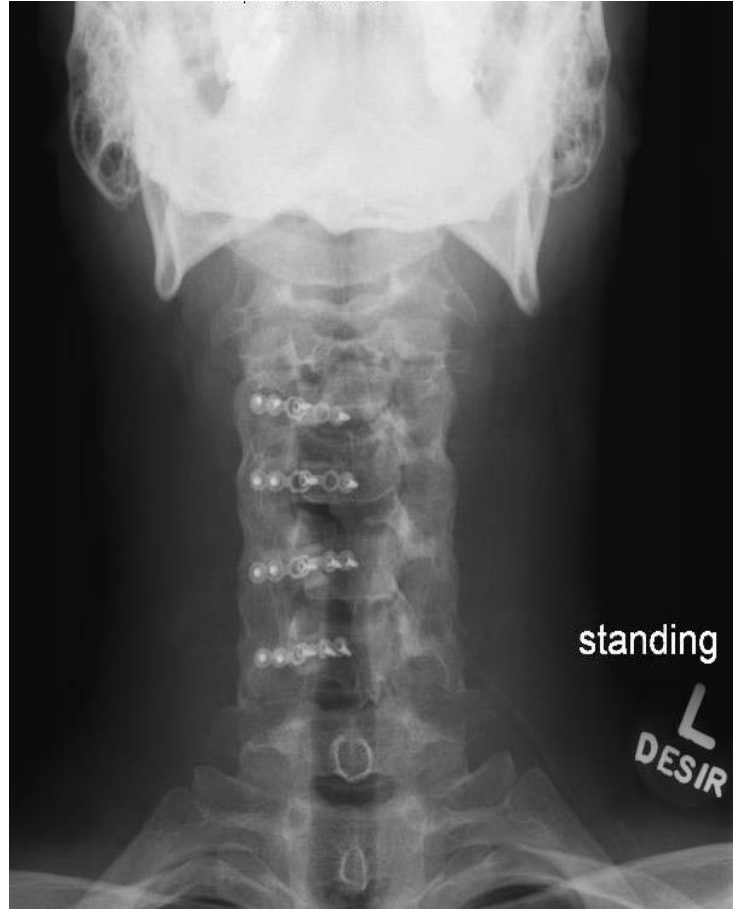
C5-C6 CDA

Cervical Laminoplasty

- Myelo w neut/lordotic curve
 - Recur cerv hnp +/- myelo
 - Tumor, Infection, Stable Trauma
-
- Contra: axial neck pain w/o stenosis/myelomalacia, instability, kyphosis



30M c/o coord/balance loss, C3-C7 stenosis

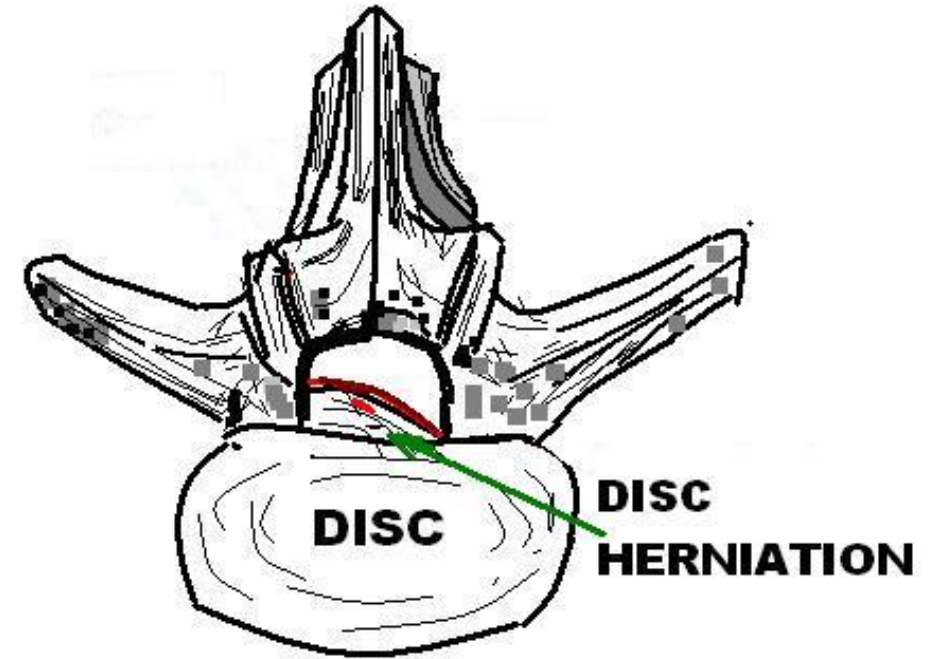


Lumbar Spine



Lumbar Disc Herniation Dx

- Self-limited
- Spontaneous resolution
- HNP shrink/regress associated with decrease in symptoms



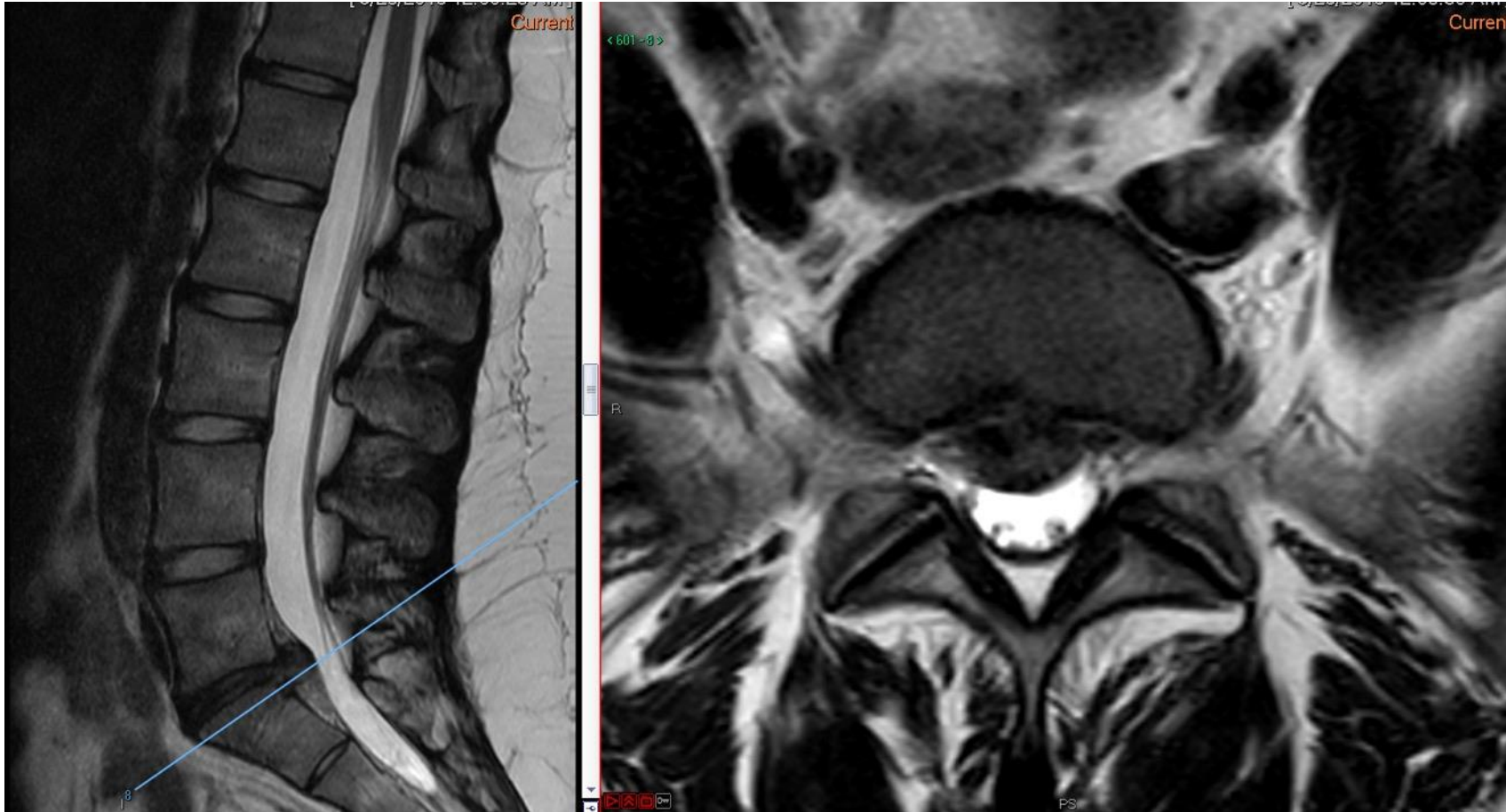
Lumbar Disc Herniation Tx

- **TFESI recommended for 2-4 w relief, ILES/ CES may be considered**
- **May consider PT, DC/DO, meds**
- **Best surgical outcomes if <40y and <3-6m symptoms**
- **Surgical decompression offers long-term symptom relief**

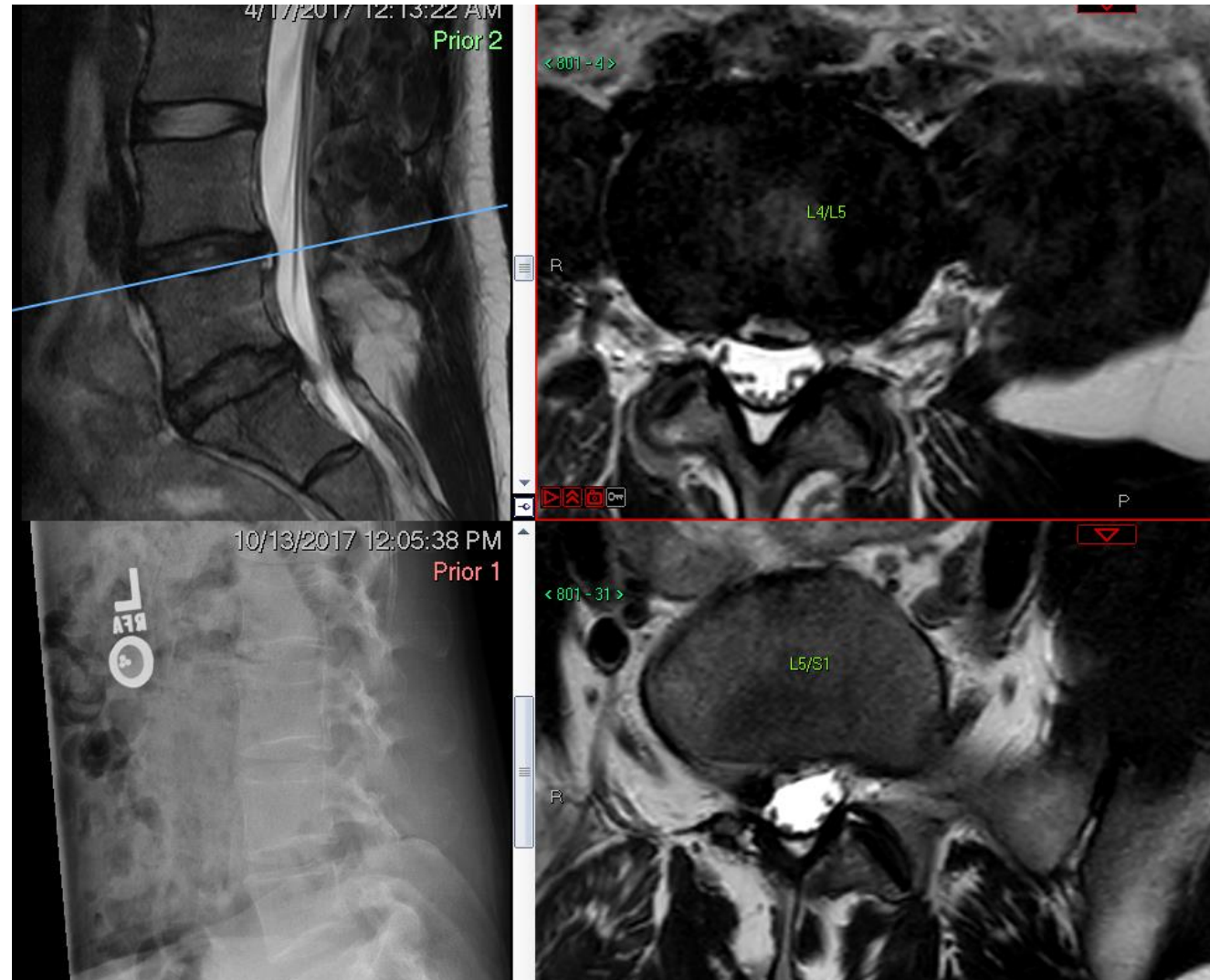
Lumbar Discectomy

- **Attempt 6-12 week nonop for primary or recurrent HNP**
- **Bypass nonop if CES, functional/progressive weakness, unable work, forced bed rest**
- **Avoid Surgery:**
 - **Isolated axial back pain w HNP**
 - **Primary c/o LBP w disc degen +/- annular tear w/o HNP**
 - **Asymptomatic and normal PE regardless of HNP size**

22F c/o post radic, 75/25 leg, 80/20 RLE



24M c/o post leg radic, 90/10 RLE/Back



Degenerative Lumbar Spinal Stenosis Dx

- **Gluteal and/or leg pain +/- back pain, worse w walking**
- **Leg/back dominance unreliable, % question is best**
- **1/3 - 1/2 mild/mod symptoms will improve w/o treatment**
- **Insufficient evidence for severe symptoms**

Degenerative Lumbar Spinal Stenosis Tx

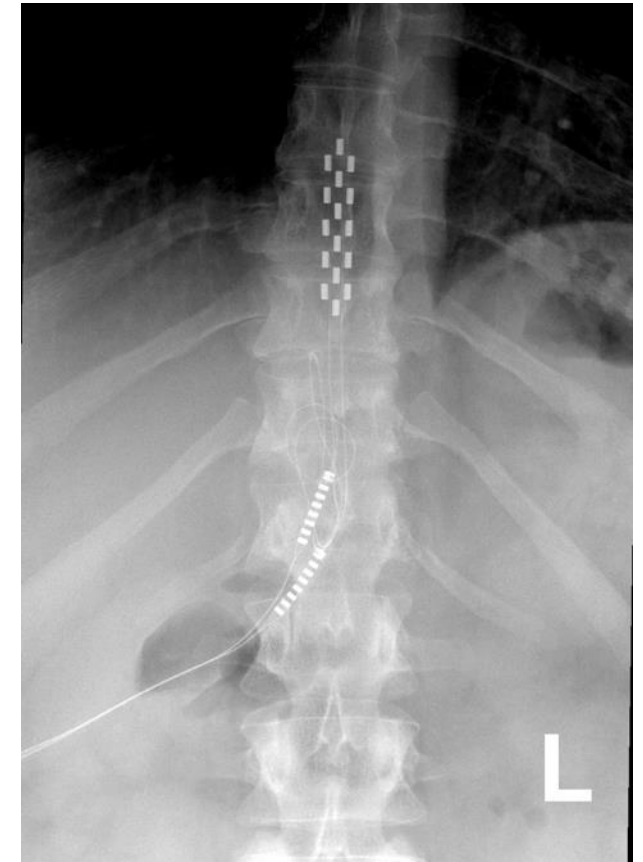
- **ILESI may provide 2w – 6m relief**
- **TFESI/CES for radic or inter claud, 3m – 3y relief with mult injxns**
- **May consider meds, PT, DC/DO, traction, TENS, acupuncture, IS device, corset**
- **Surgical decompression offers long-term improvement for mod/sev symptoms**

Lumbar Laminectomy/Laminotomy

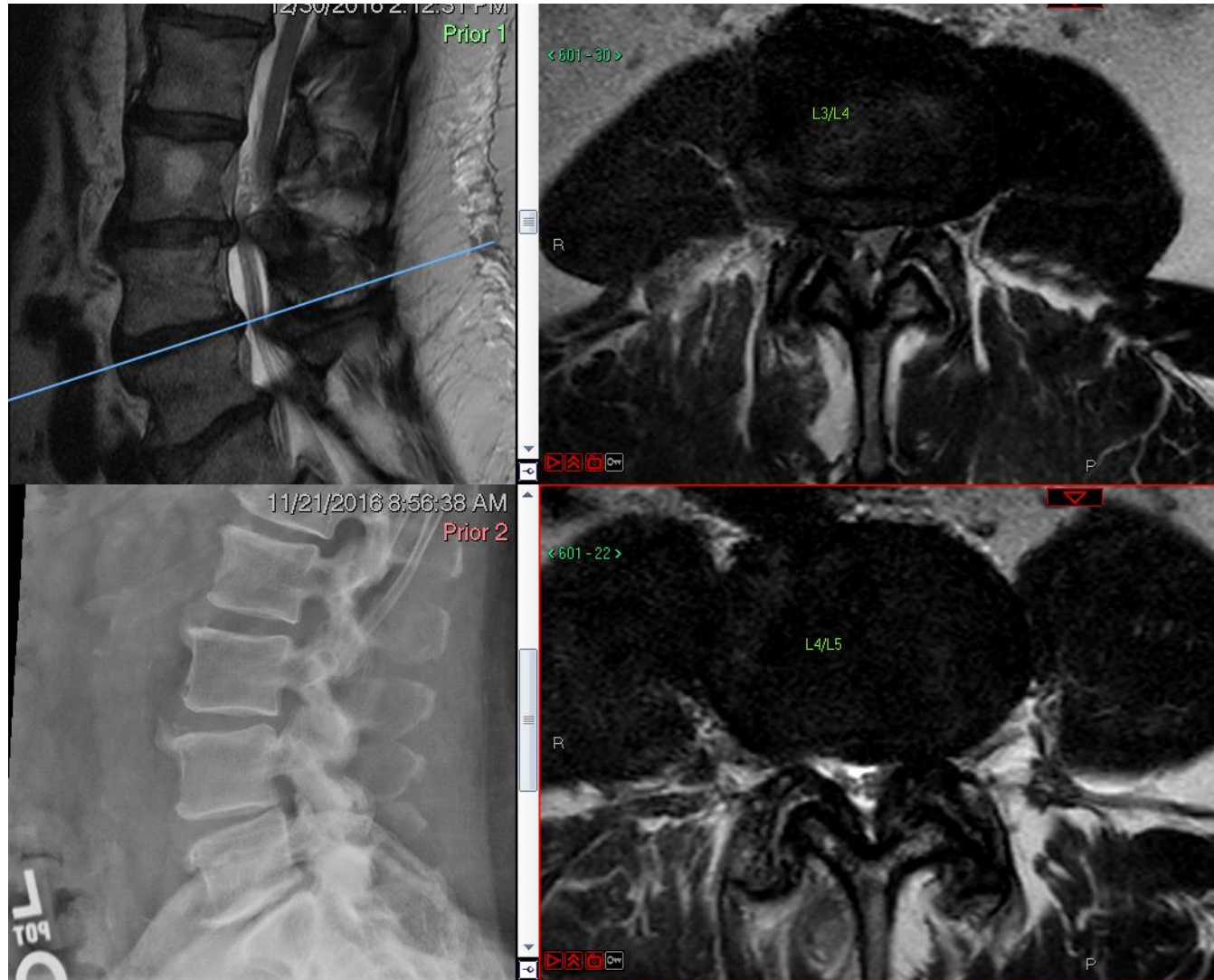
- **Spinal Stenosis w concurrent imaging and neurogenic claudication/radiculopathy**
 - 6 weeks nonop unless fxnl weak, prog neuro deficit, forced bed rest
- **Cauda Equina Syndrome**
- **Facet Cyst**
- **Also fuse if isthmic spondy c/o LBP/neur claud +/- radic x 6w**

No Lumbar Laminectomy/Laminotomy

- Spinal stenosis w/o neurogenic claudication/radic
 - c/o mech LBP or nonspecific LBP
- LBP > leg pain w/ disc degen +/- stenosis
- No correlated imaging

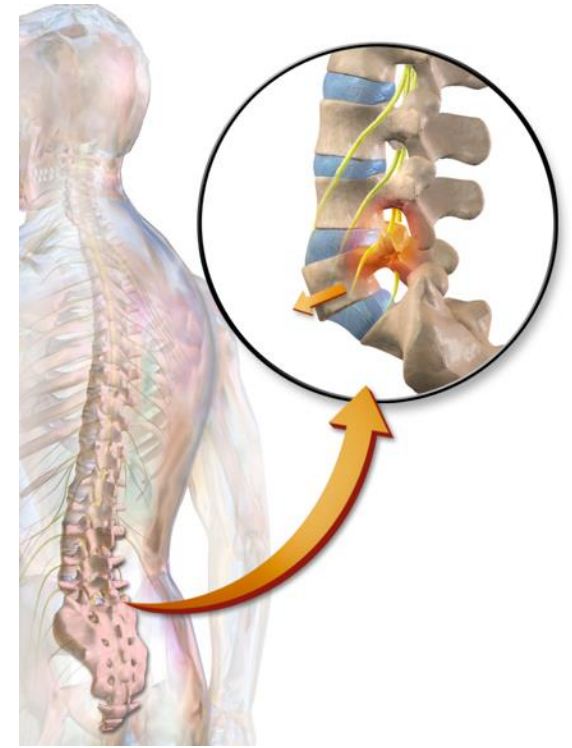


67M w neur claud, 80/20 Leg/Back, L3-5 Lami



Adult Isthmic Spondylolisthesis

- Most c/o LBP, half c/o leg pain
- L4/L5 > L5/S1 c/o leg pain
- Limited evidence for medical/interventional tx
 - Pars injection for LBP
 - TFESI for leg pain
- Surgical fusion provides long-term clinical improvement

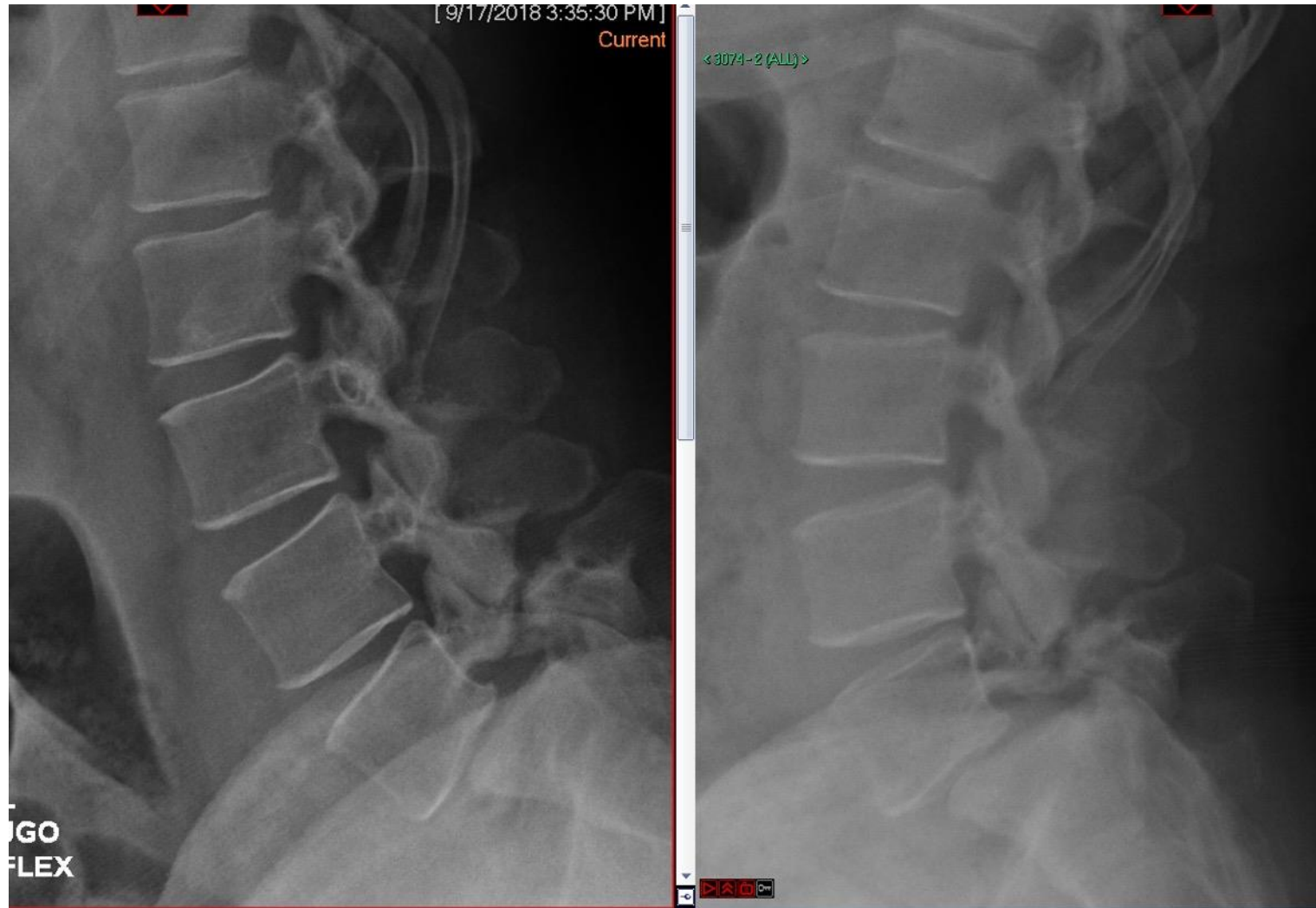


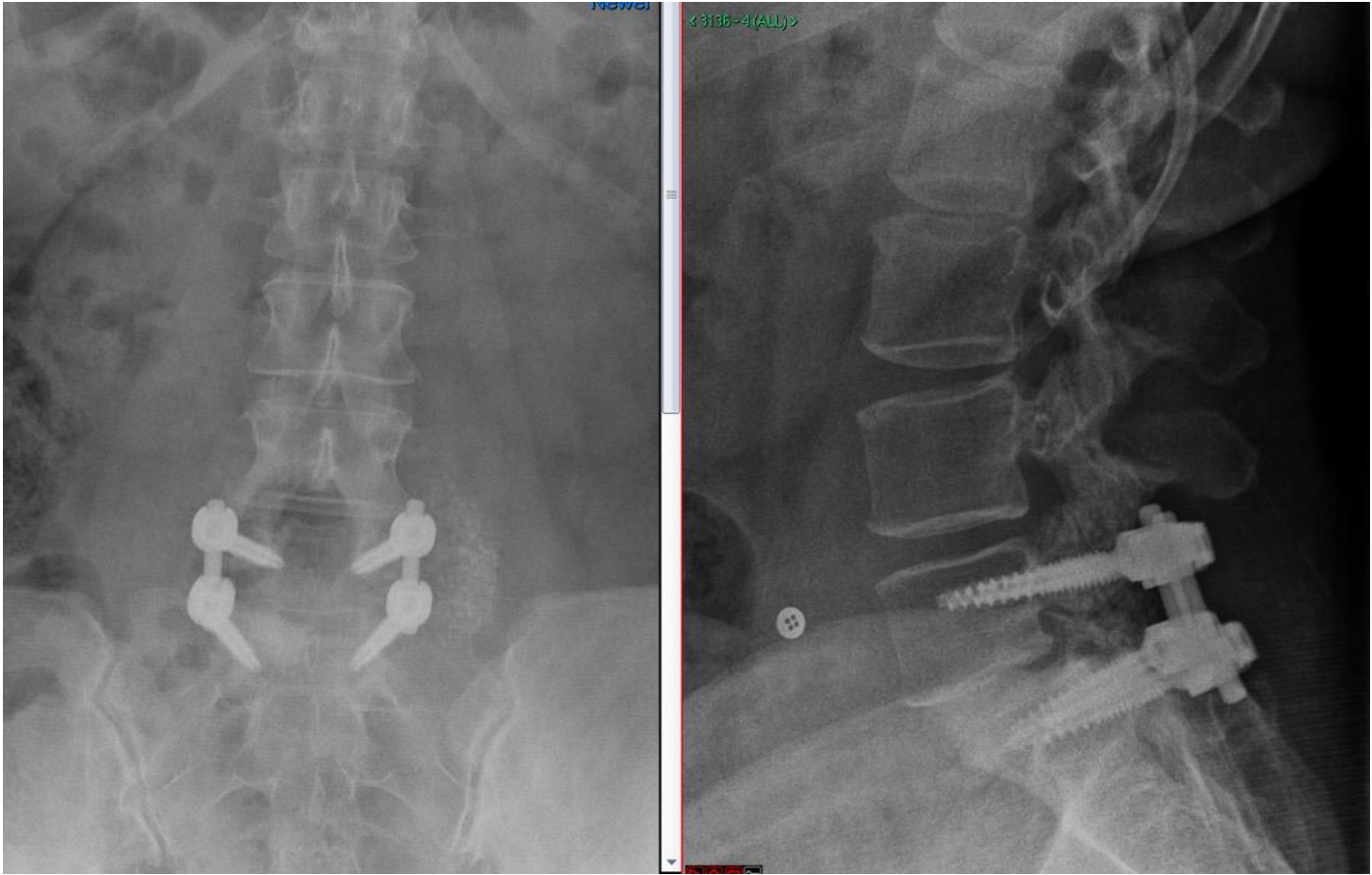
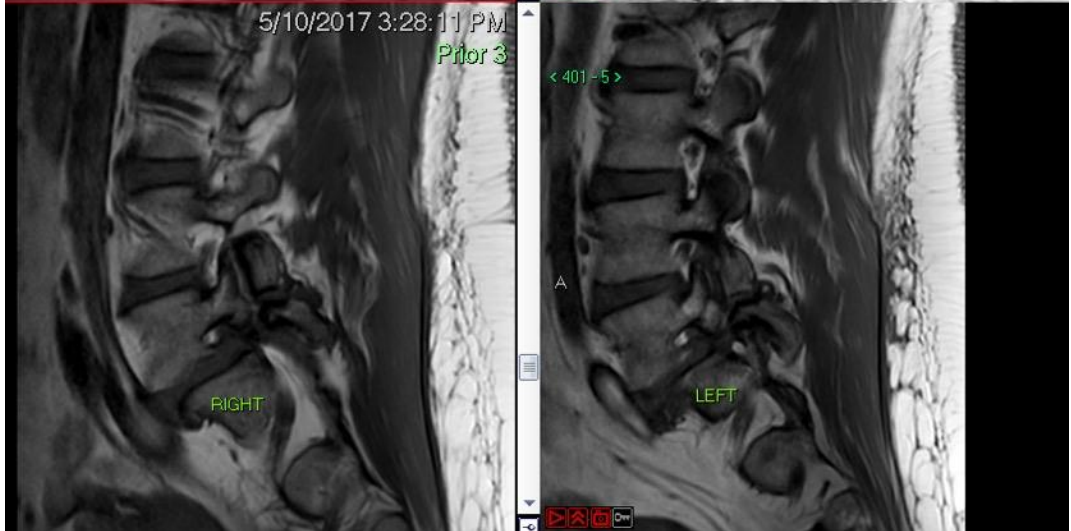
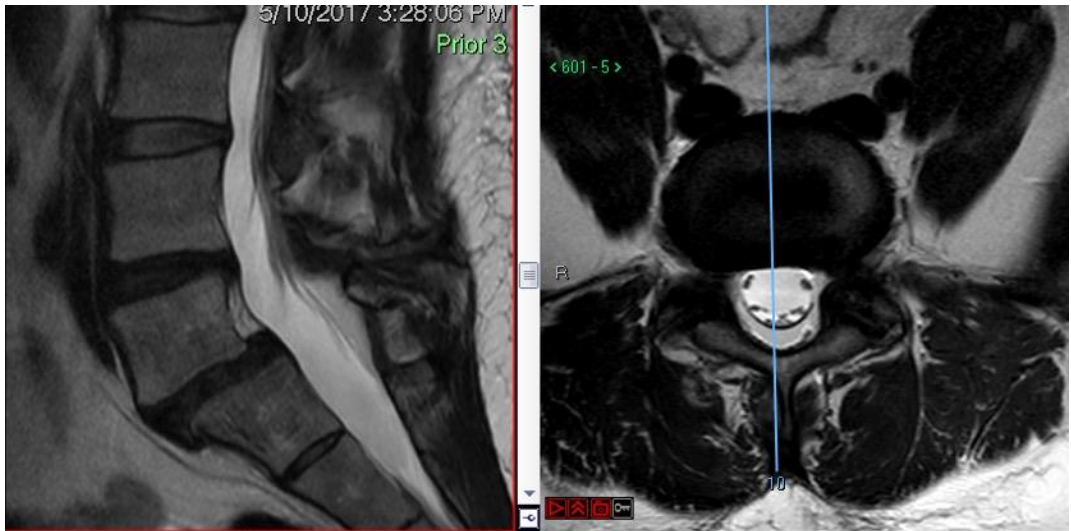
Lumbar Fusion

- **Stenosis, central/foraminal**
 - 2mm dynamic instab
 - Isthmic/degen spondy
 - Recurrent stenosis
 - Stenosis adj to fusion
- **Herniation**
 - Far lateral at L5/S1
 - Foraminal
 - Recurrent
 - Primary at cord level
- **Synovial Facet Cyst**

- **Discogenic LBP**
 - Adv single level disease, pri c/o LBP +/- leg pain
 - Modic changes
 - Other levels nl XR and nl/min MR
 - 6 months treatment
 - PT/exer, IPM, DC/DO
 - Psych conditions managed
- **Deformity****
 - 5cm sagittal/coronal imbalance
 - 10deg curve progression
 - 30deg coronal curve

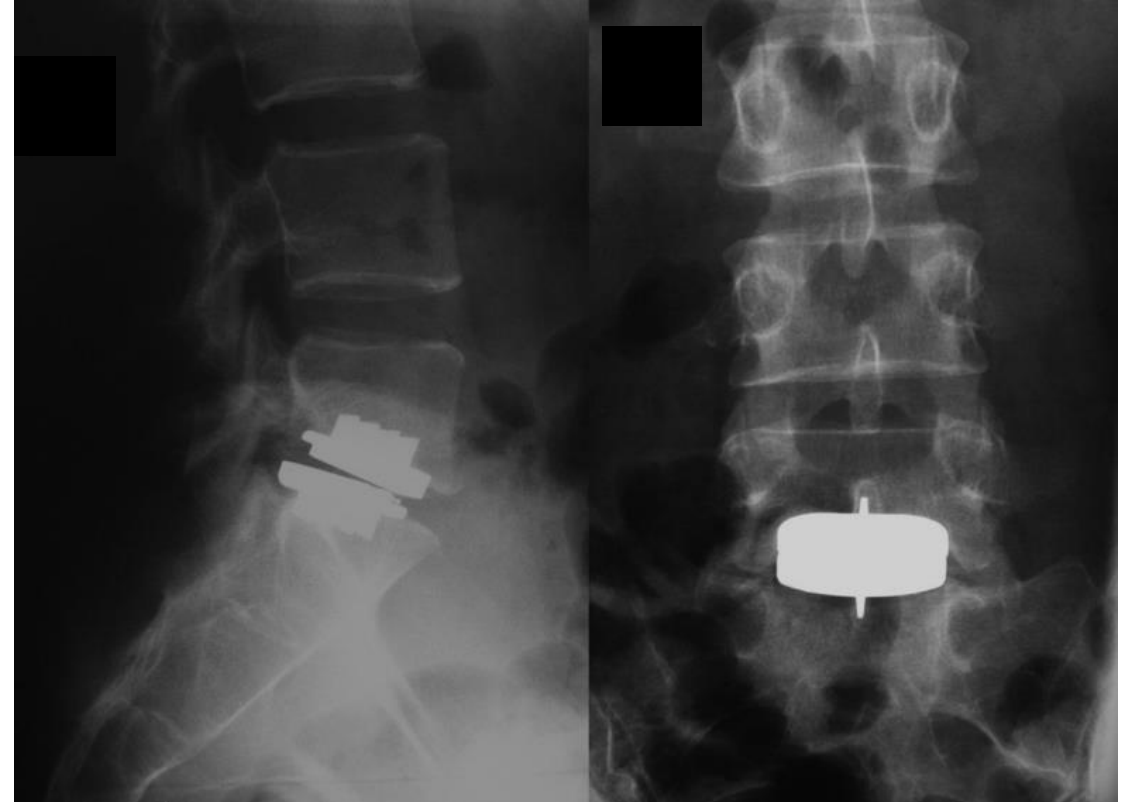
41F LBP, 50/50 LBP/legs, R=L P/L Thigh





Lumbar Artificial Disk Replacement

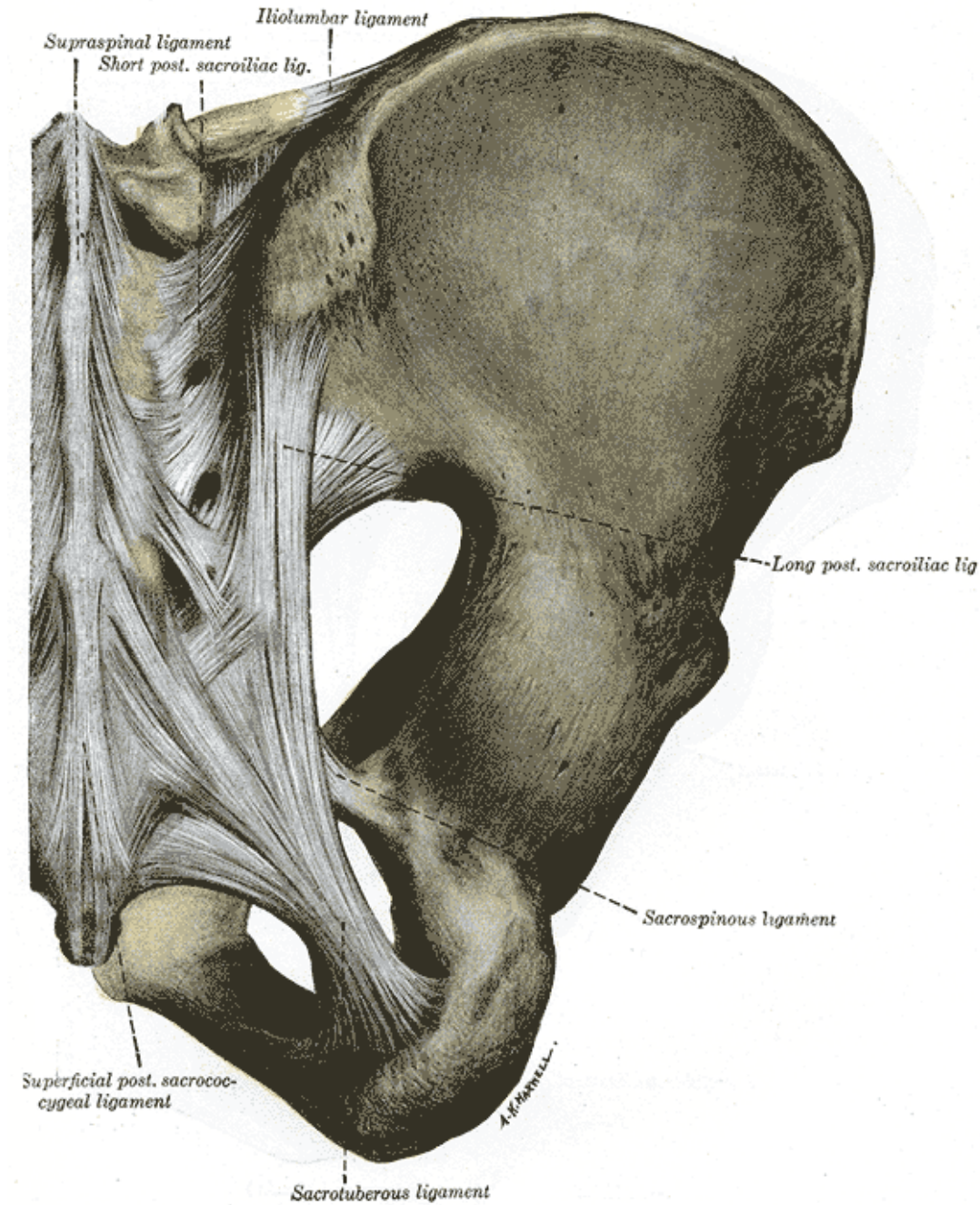
- **Adv 1-2 level disease, L3-S1**
 - Primary c/o LBP +/- leg pain
 - Modic changes
 - Other levels nl XR and nl/min MR
- **6 months treatment**
 - PT/exercise, IPM, DC/DO
- **Psych conditions managed**
- **18-60y/o w/o sig facet degen**



42F c/o LBP to bilat post thighs, 85/15



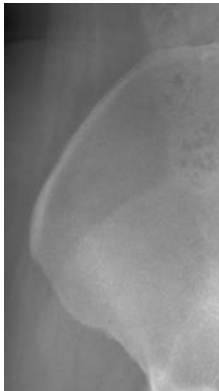
Sacroiliac Joint



Sacroiliac Joint Fusion History/Imaging

- **Low back/buttock pain after 6 months nonop treatment**
- **No generalized pain behavior/disorder (somatoform, fibromyalgia)**
- **Imaging indicates SIJ (r/o Lumbar/Hip/Tumor/Inflammatory)**
- **Pain: caudal to L5, over SIJ, ideally unilateral**

Sacroiliac Joint Fusion PE/Interventions

- **Tender at Fortin's point/sacral sulcus**
 - **No tenderness/obvious pain source elsewhere**
 - **>3/6 positive provocative tests**
 - **75% relief with SIJ inj x 2**
- 
- A lateral X-ray of the sacrum, showing the bony structure of the lower spine. The sacral sulcus and Fortin's point are visible, which are key anatomical landmarks for diagnosing sacrospinous joint dysfunction.



Symptoms
Physical Exam
Imaging



Bottom Line – Yes Surgery

- **Surgery first line:**
 - Cauda Equina Syndrome
 - Myelopathy
- **Surgery ok early:**
 - Dynamic Spondy
 - Neurogenic Claudication
 - Lumbar HNP



Bottom Line – Possible Surgery

- **Surgery beneficial w corresponding imaging after fail nonop:**
 - Cervical Radiculopathy
 - Stable Spondy
 - Deformity
 - Facet Cyst
- **Surgery beneficial after extensive fail nonop:**
 - Single Level Discogenic Back Pain
 - Sacroiliac Joint Dysfunction

Bottom Line – Avoid Surgery

- Axial pain without neural compression, instability, or deformity
- Lumbar HNP w/ axial pain only or no symptoms/normal PE
- Spinal Stenosis w/ mechanical/nonspecific LBP
- Disc Degen +/- annular tear w/o HNP and primary c/o LBP



References

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Questions?

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