PainWeek®

Treatment Algorithm for Managing Chronic Back Pain in the Elderly Population

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Learning Objectives

- Identify common chronic pain conditions in elderly patient population
- Describe challenges associated with managing chronic pain in elderly population
- Discuss evidence base minimally invasive interventions available for chronic pain patients
- Summarize appropriate minimally invasive interventions to elderly patient population suffering with chronic pain

Challenges in Elderly Population

- Age
  - Alterations in pain perception
  - Comorbid health conditions increases with age.
- Inactivity/Social Factors
  - Psychological distress (depression especially) can increase incidence of disabling pain.
- Cognitive/Mental Status

  Alterations in pain expression (Dementia, Alzheimer's, Parkinson's)

Common Underlying Causes

Depression	Lumbar Radiculitis	Lumbar Spondylosis/Degenerative Disc Disease/Myofascial Pain
Vertebral Compression Fracture	Lumbar Spinal Stenosis	Failed Back Surgery Syndrome (FBSS)

Chronic Back Pain

General Pharmacological Management

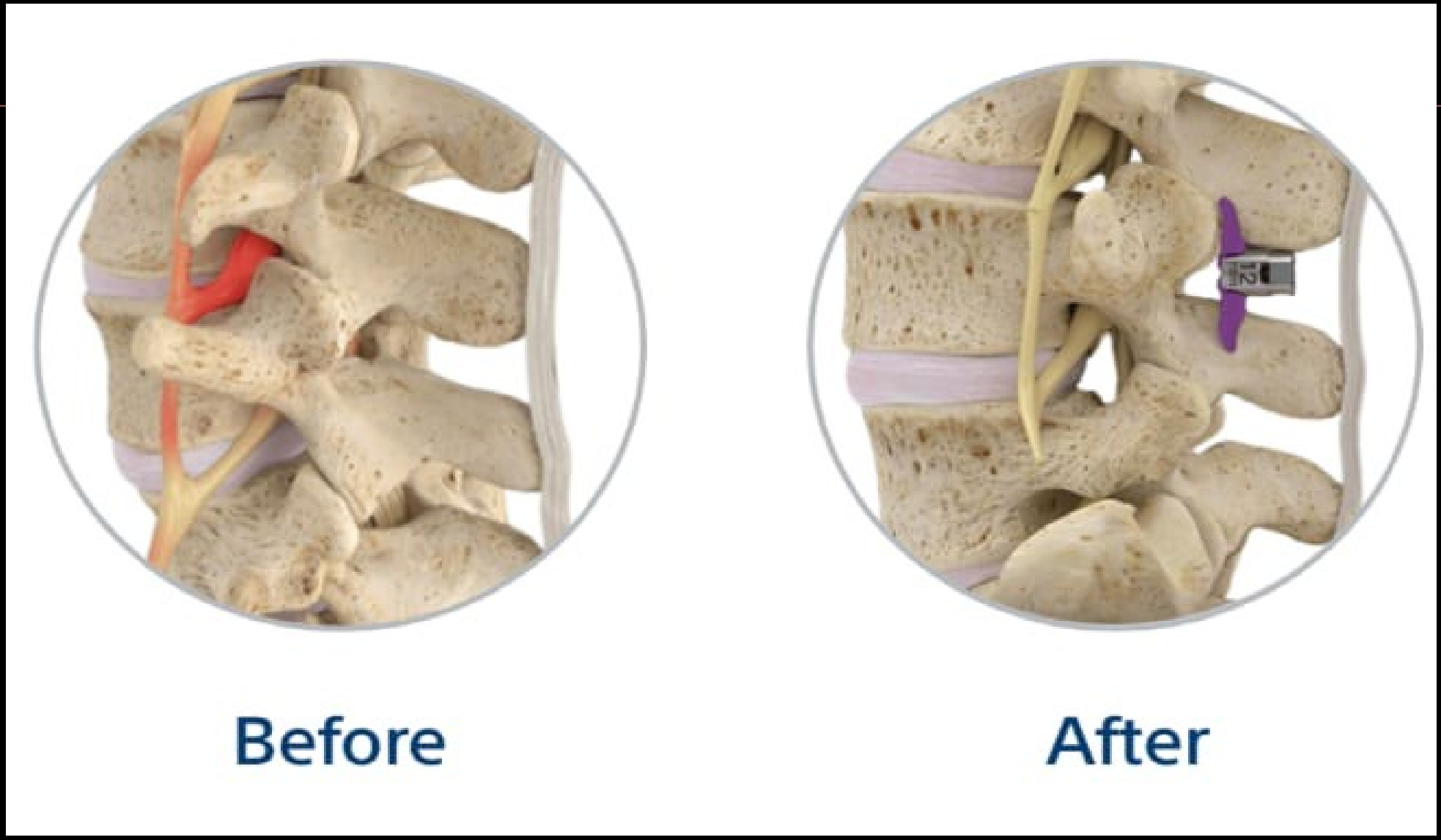
- Acetaminophen
  - Recommended 1st line therapeutic for mild-moderate pain due to safety profile (max daily dosage 4g)[7]
  - Caution uses in: Hepatic Dysfunction(decrease dosage by 50-70%)
  - Effective in osteoarthritis and low back pain, but less effective than NSAIDs in managing chronic inflammatory pain (RA-associated).[7]
- NSAIDs (oral and topical)
  - More useful in short-term treatment of episodic flares of pain.
  - Topical NSAIDs (Diclofenac) have less side effects and have comparable efficacy for osteoarthritis.
  - Caution use in: Gastrointestinal, Renal and Cardiovascular Patients.
    - NSAID related side effects as the cause for hospitalization in 23.5% of the elderly.[7]
    - GI Side Effects (ulceration, bleeding) can be limited with use of PPI.
      - Celecoxib has less GI effects, but increased risk of CV side effects (→decreased PGI_2 increases platelet-vessel wall interactions).[34]
    - Decreased renal blood flow (lowering GFR even further) associated with fluid retention and poorer clearance of other renally eliminated drugs.
- Muscle Relaxants
  - Caution uses in history of fall

General Pharmacological Management

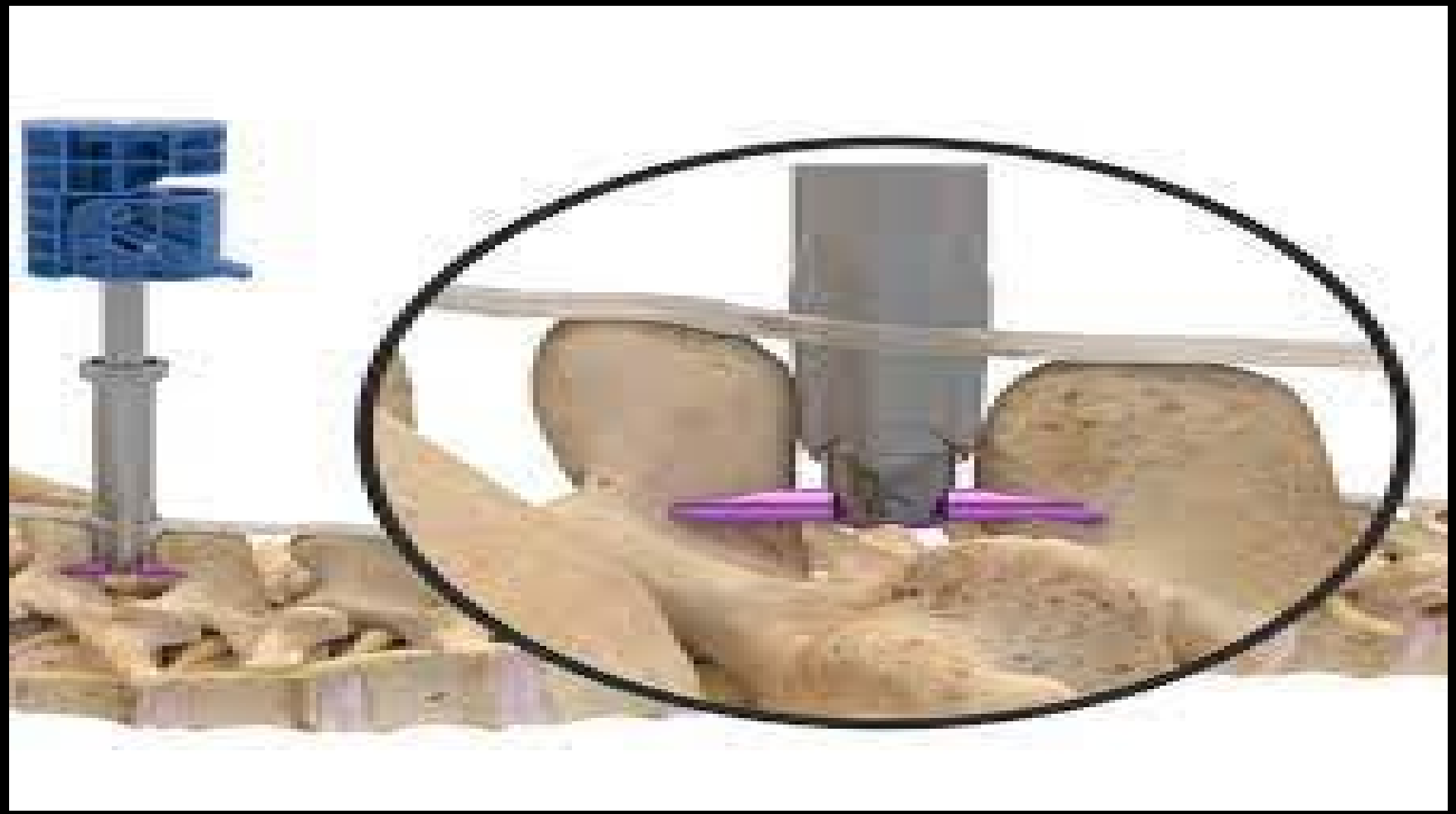
- Antidepressants (SNRIs, TCAs)
  - Also helps with Mood
- Anticonvulsants ($\alpha_2\delta$-Ca^{2+}-channel antagonists: Gabapentin, Pregabalin)
  - Also helps with Neuropathic Pain
- Opiates (Morphine, Codeine)
  - Caution Risk of tolerance/ Addiction/ Constipation
- Opioids (Hydrocodone, Oxycodone, Tramadol, Fentanyl)
- Polypharmacy : Risk of fall, Confusion, excessive Sedation. Risk vs Benefit

Lumbar Spinal Stenosis

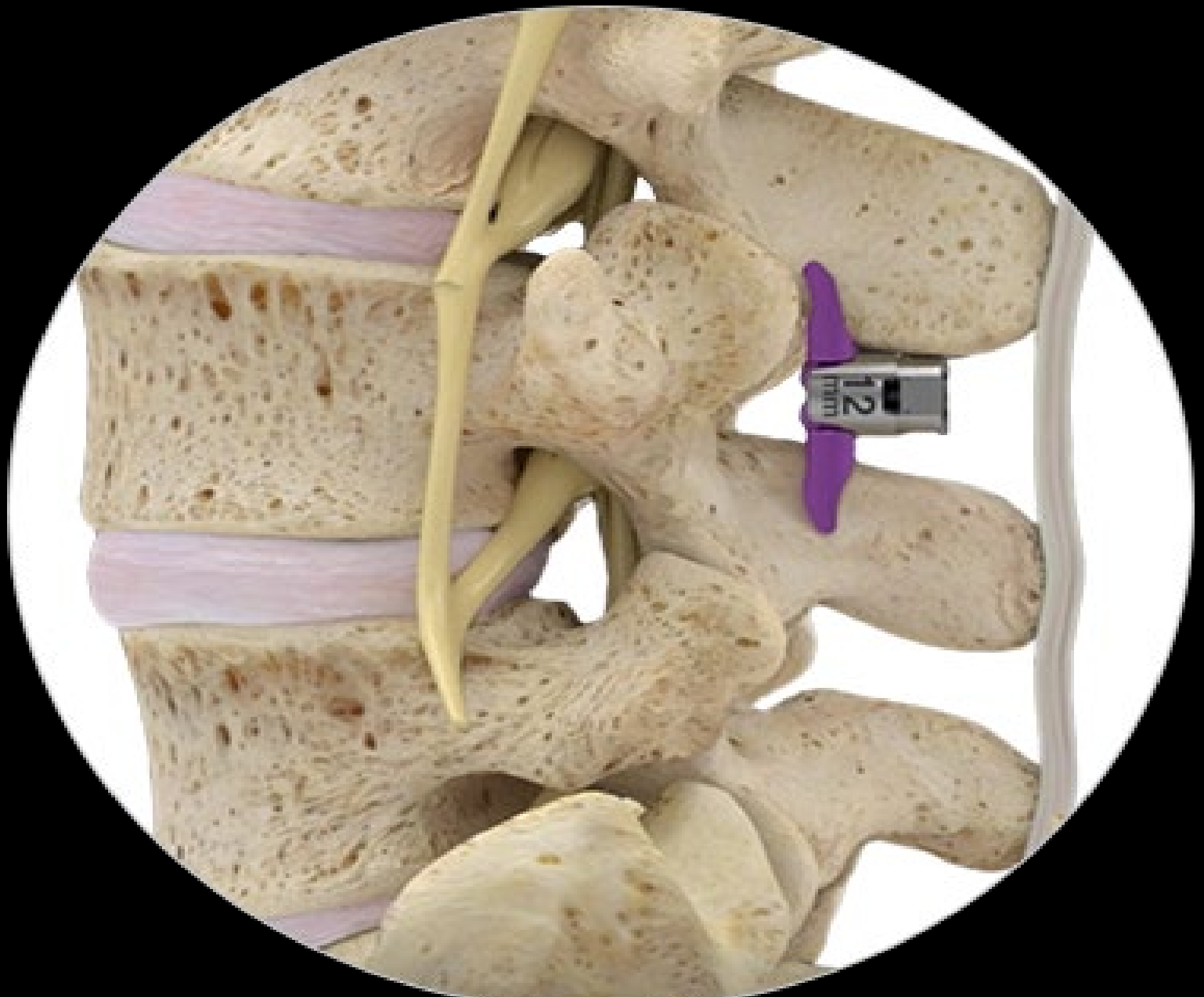
Indirect Lumbar Decompression



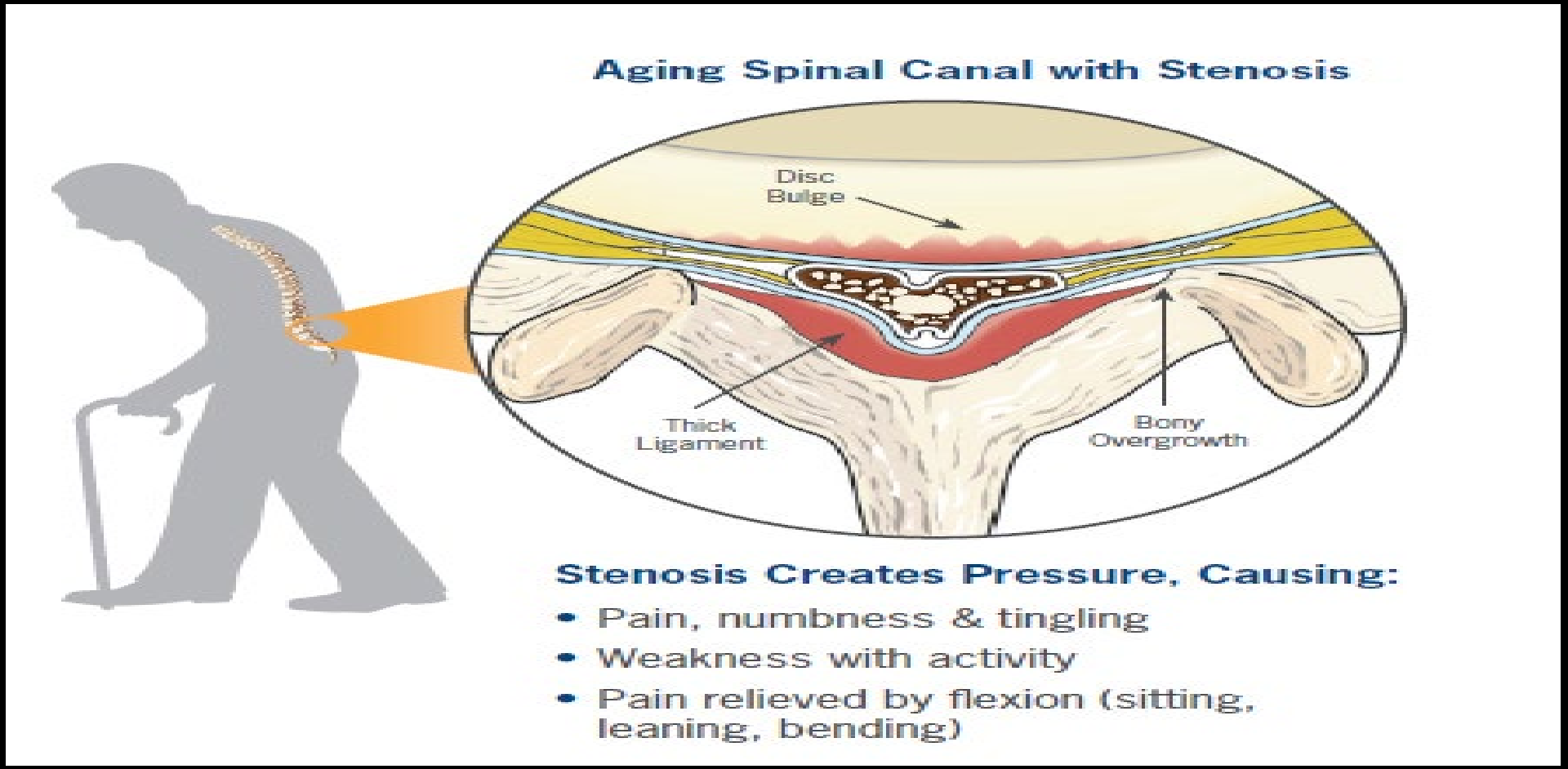
Indirect Lumbar Decompression



Indirect Lumbar Decomprssion



Lumbar Spinal Stenosis



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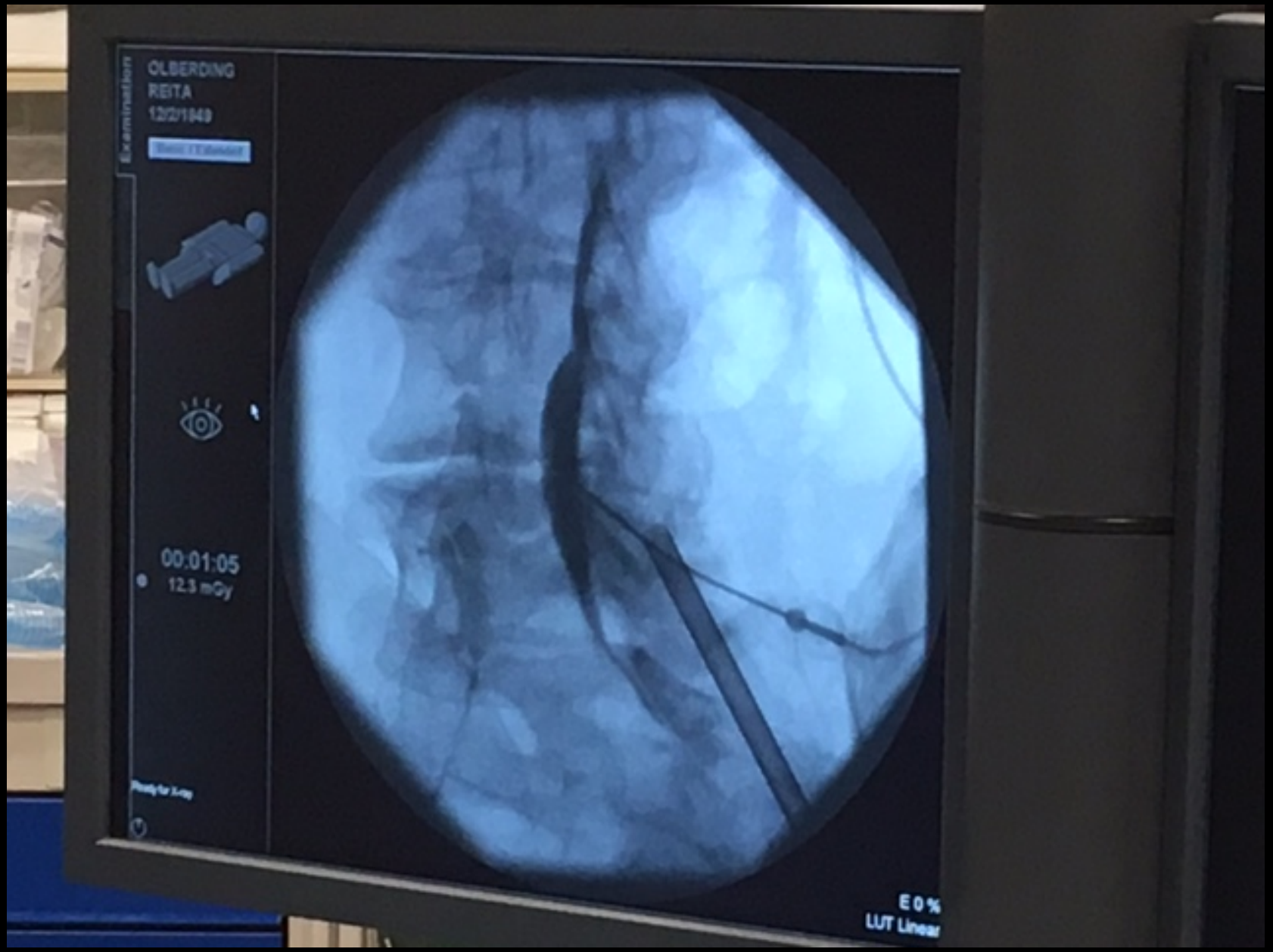
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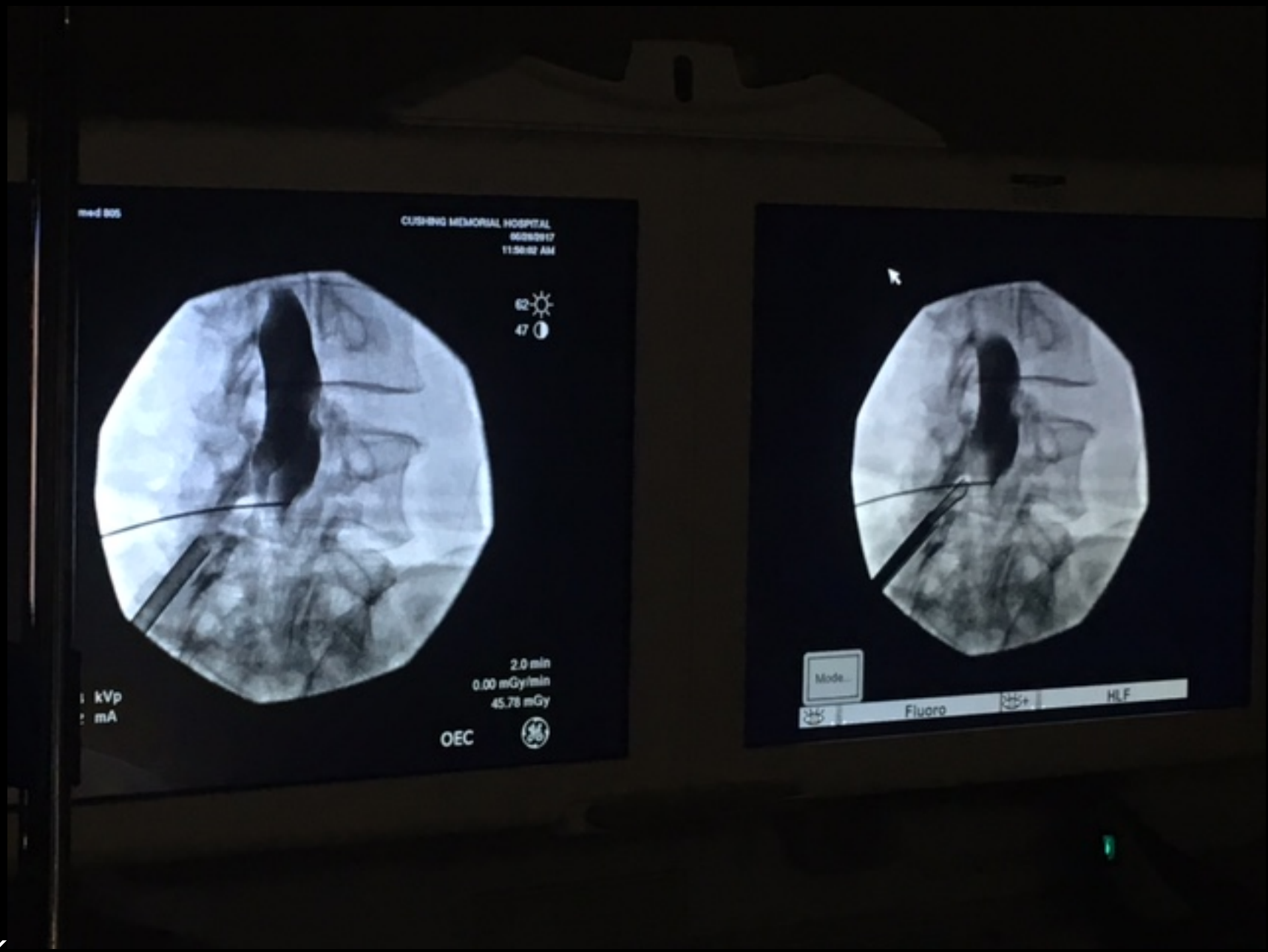
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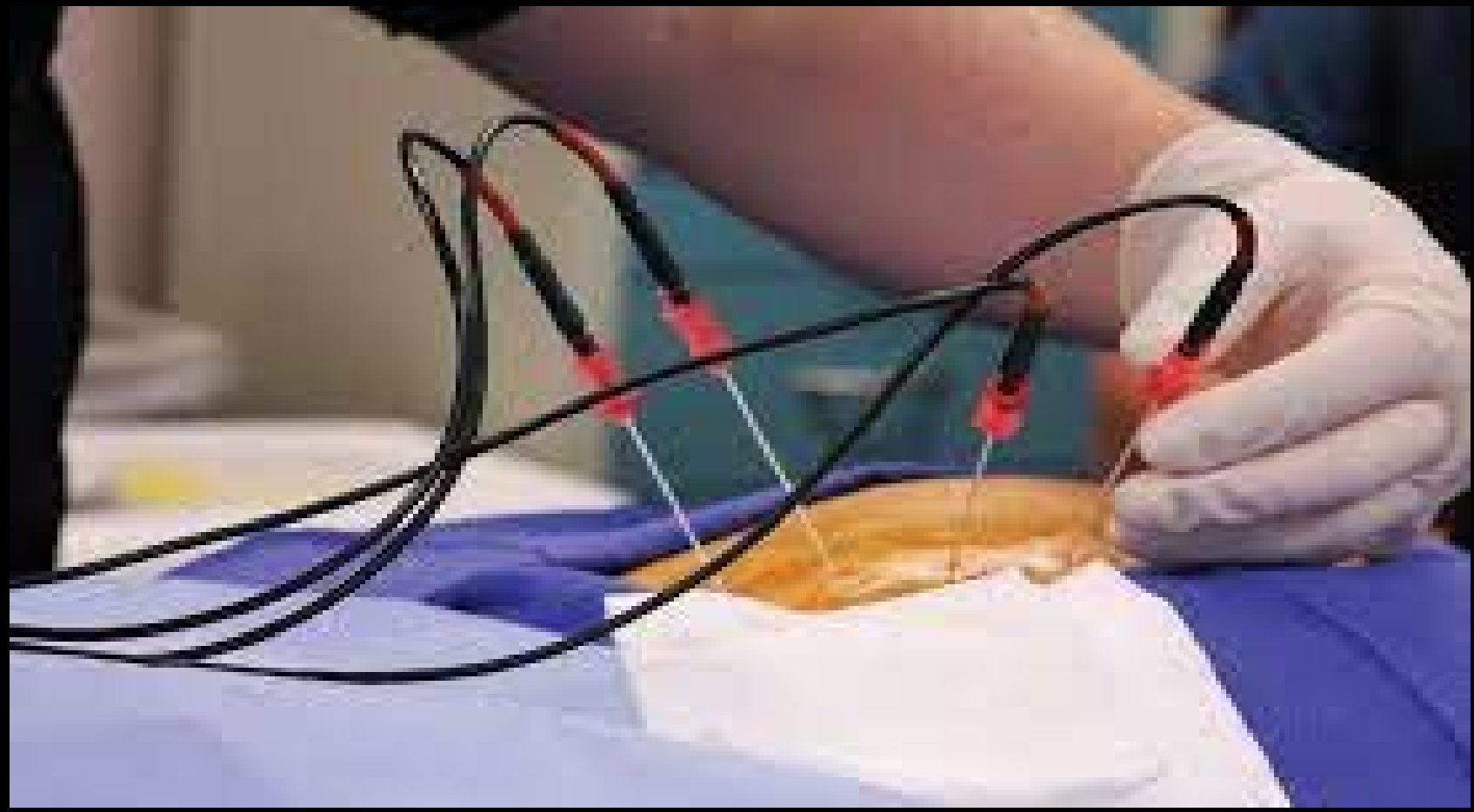
Lumbar Spondylosis

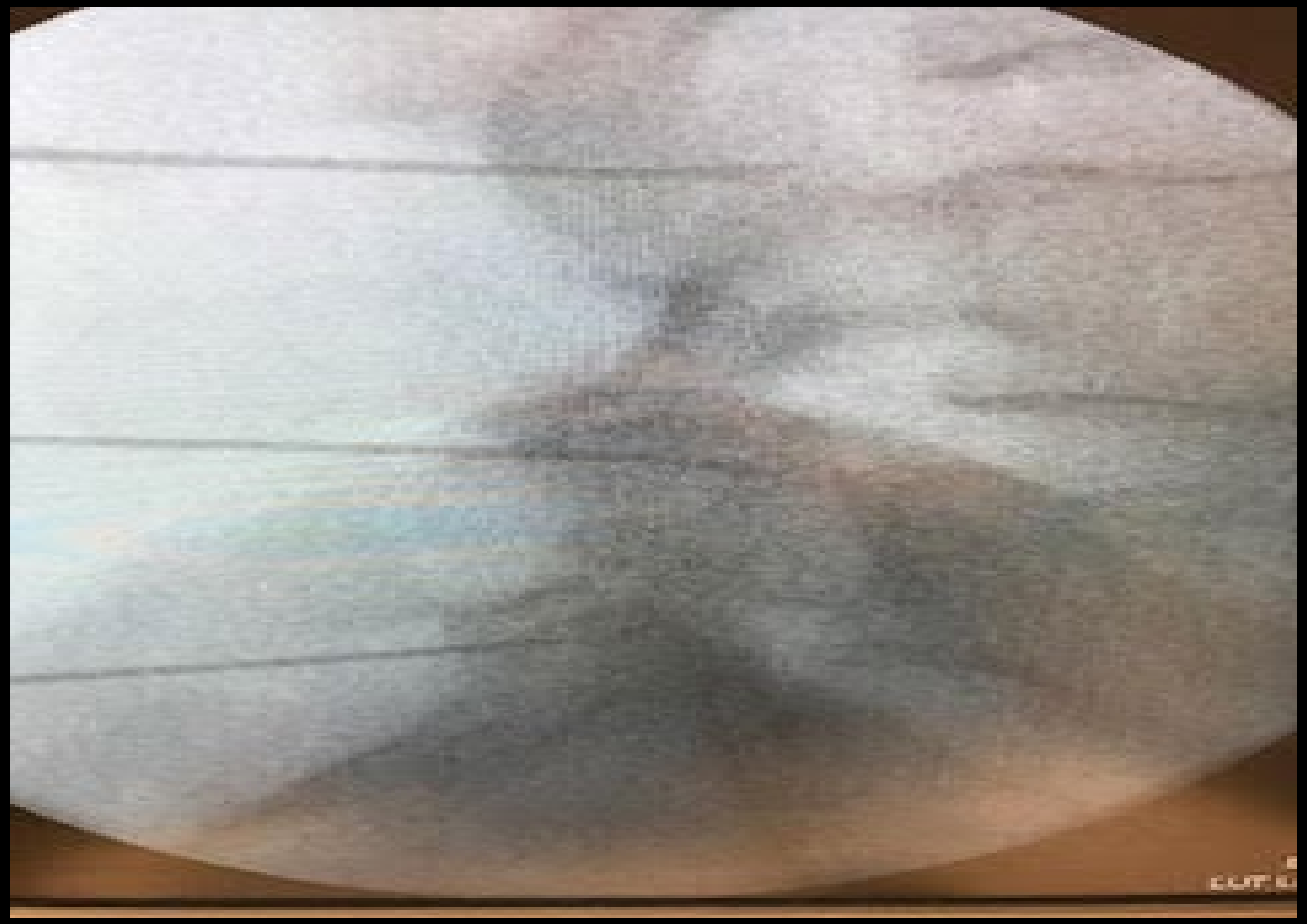
Radiofrequency Ablation



RFA

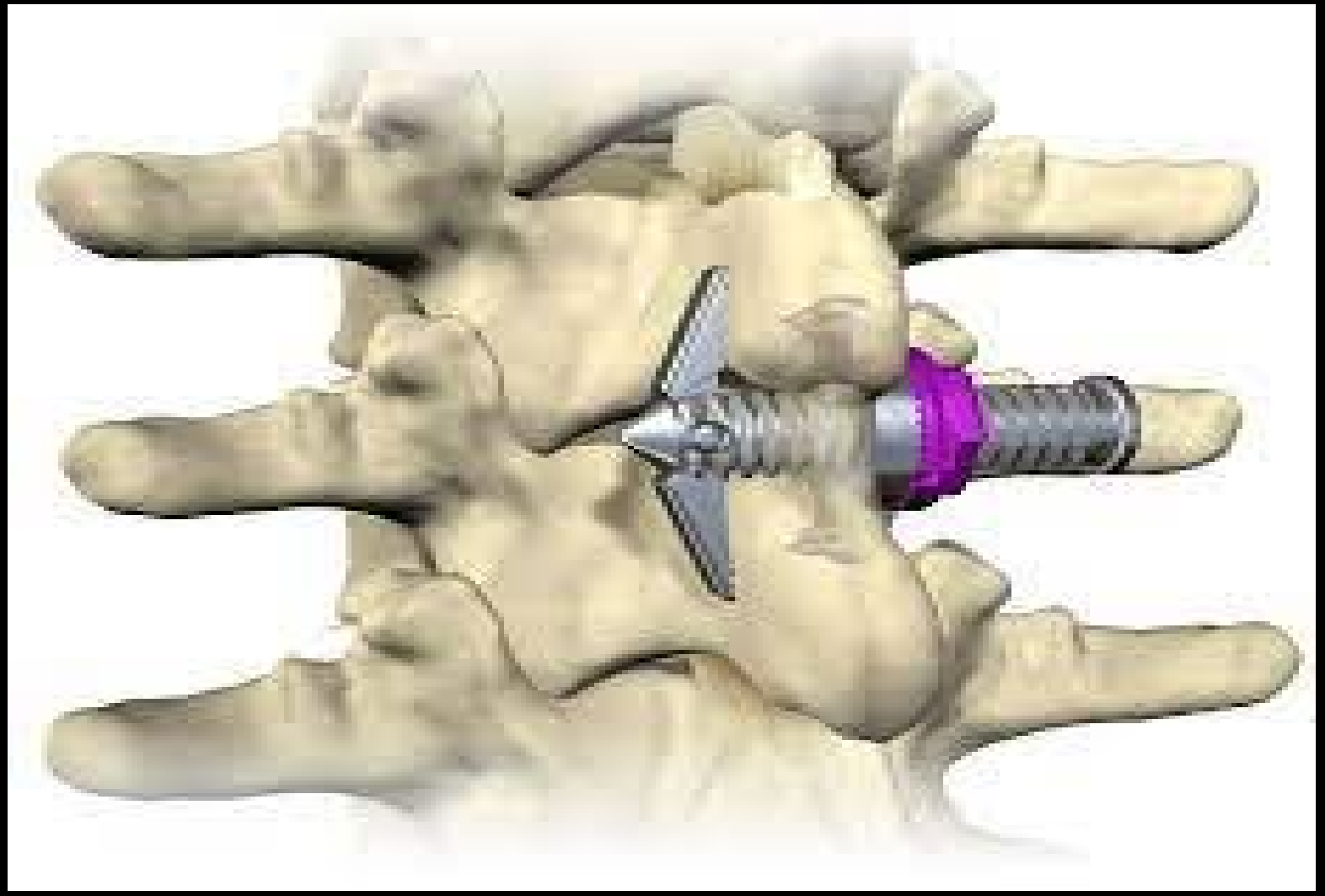
RFA Lumbar/ Chronic Low Back

RFA Lumbar/ Low Back

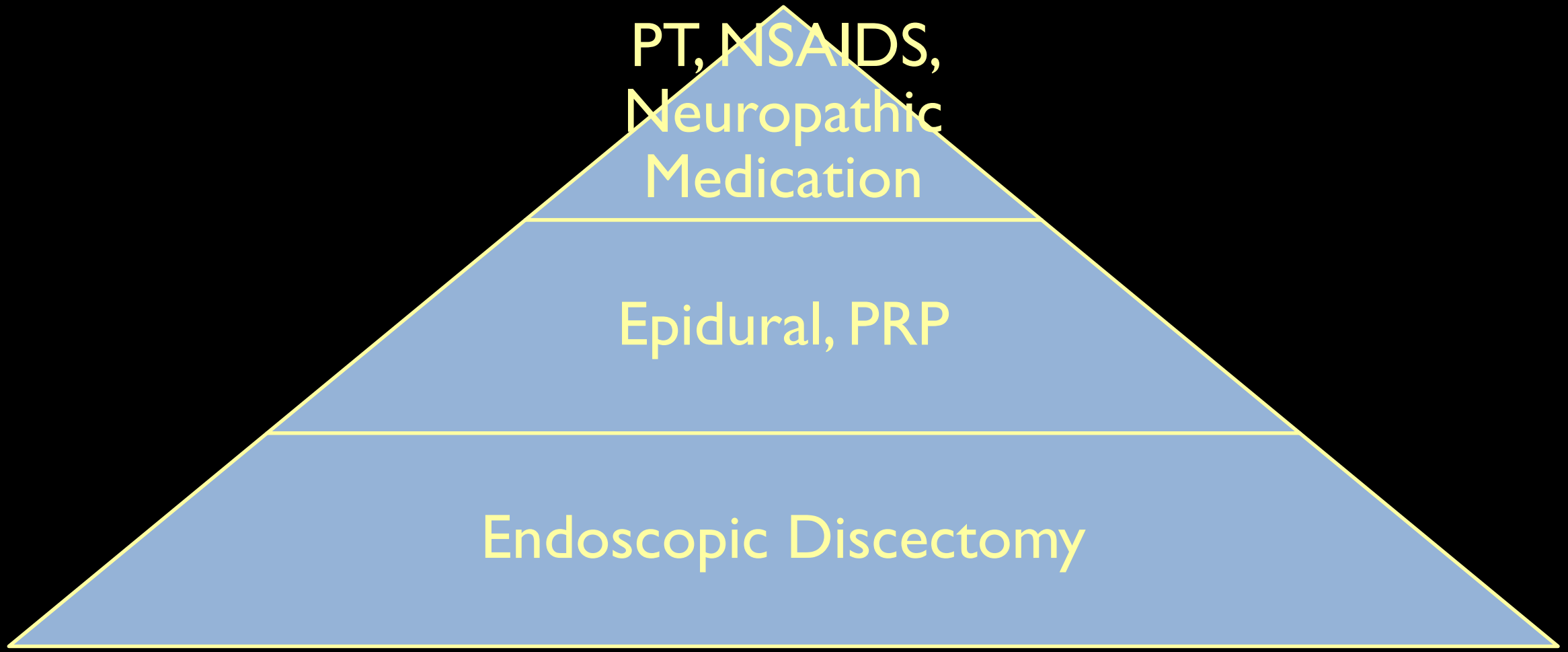


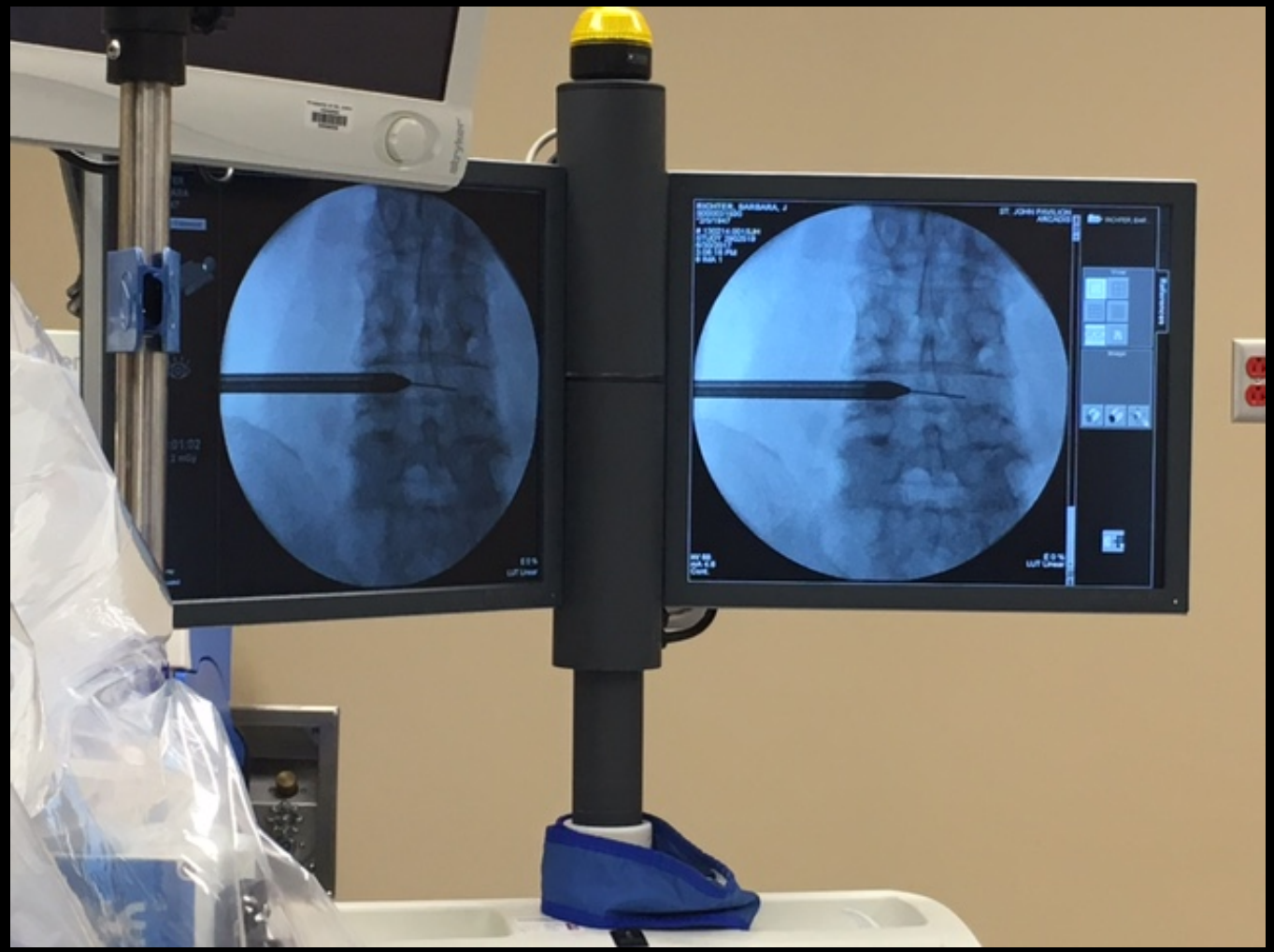
Lumbar Spondylosis/ Spondylolisthesis/DDD

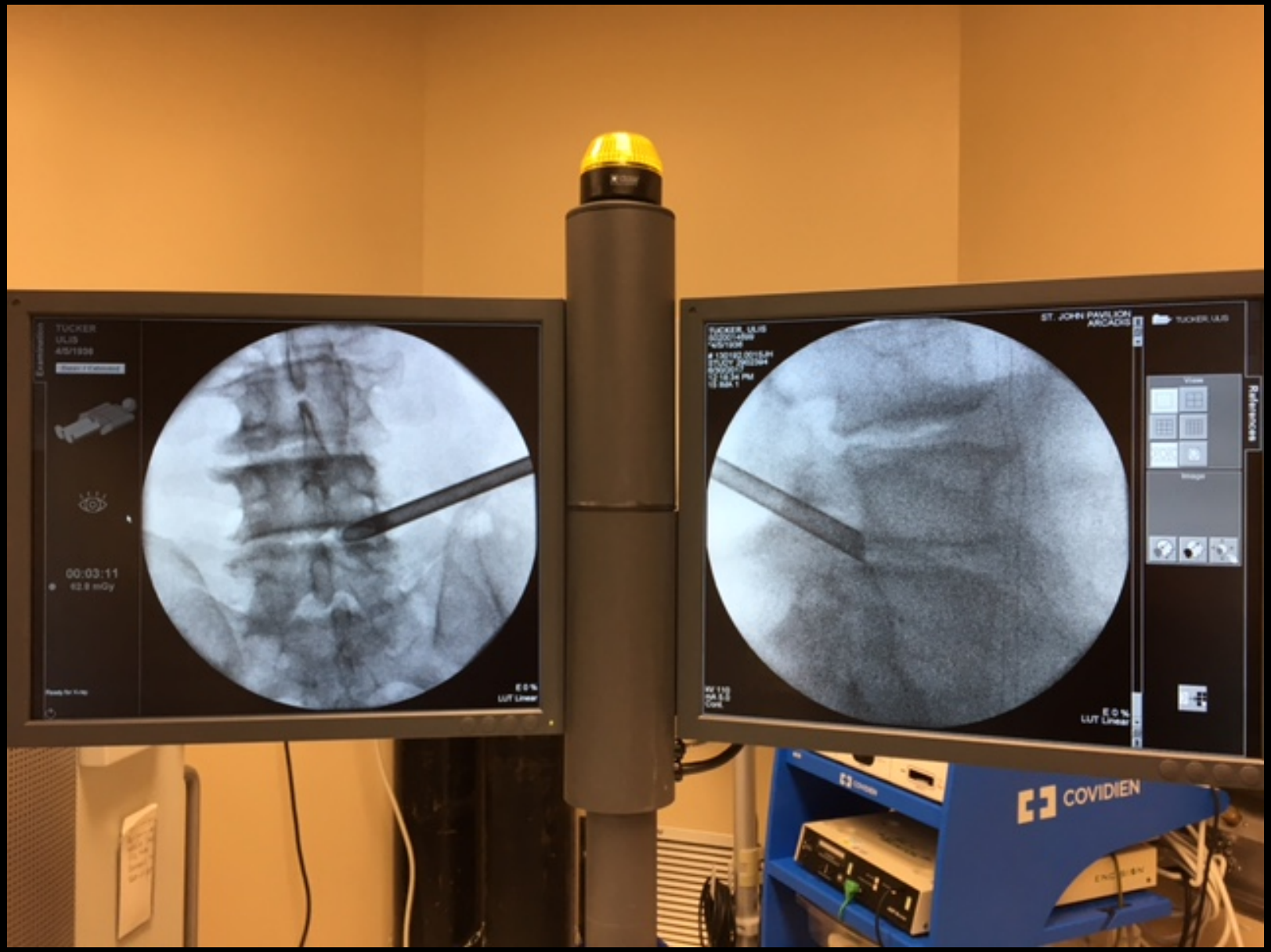
Lumbar Spondylosis/ Spondylolisthesis/DDD



Radiculitis/ Herniated Disc/Sciatica



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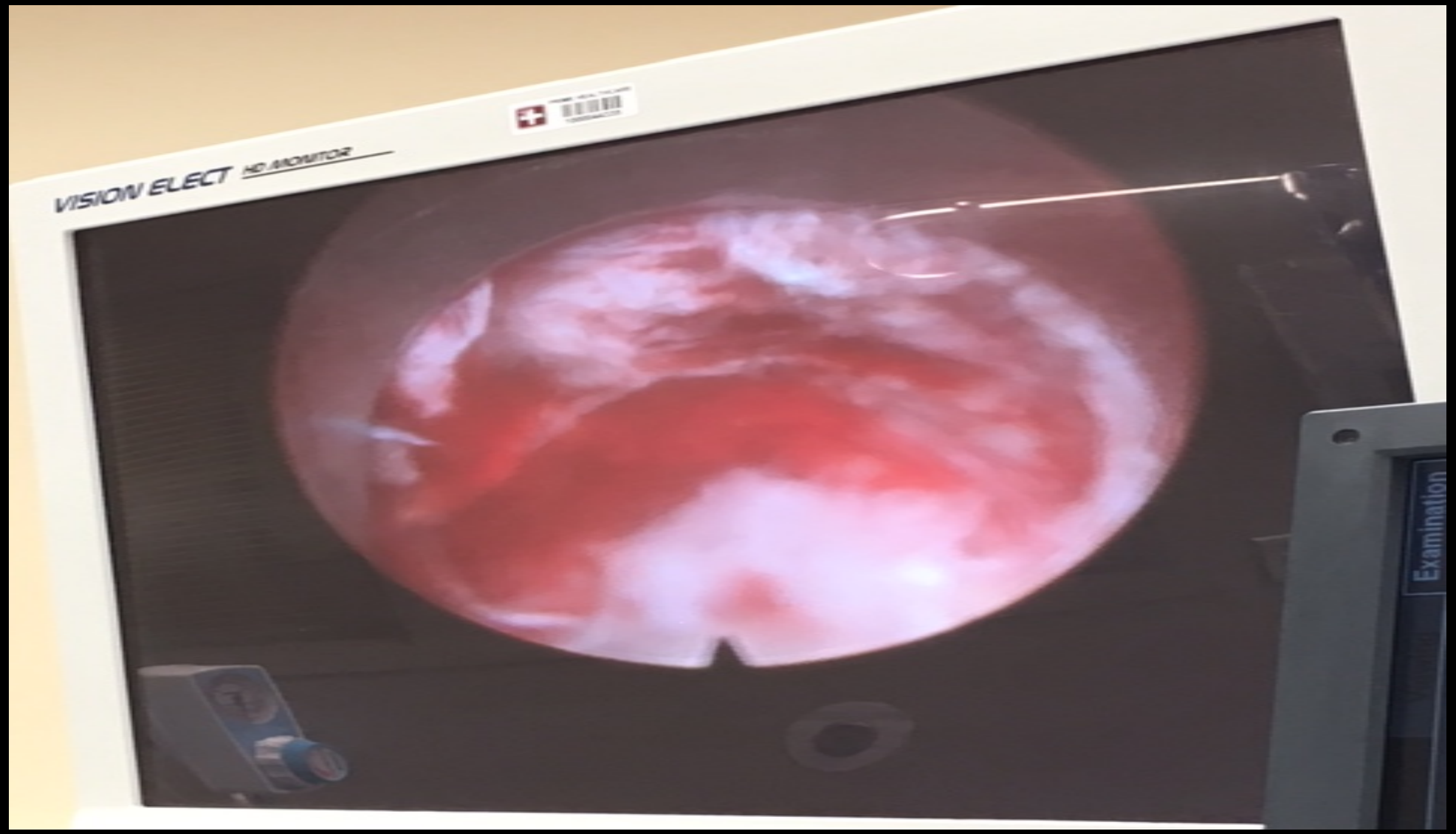
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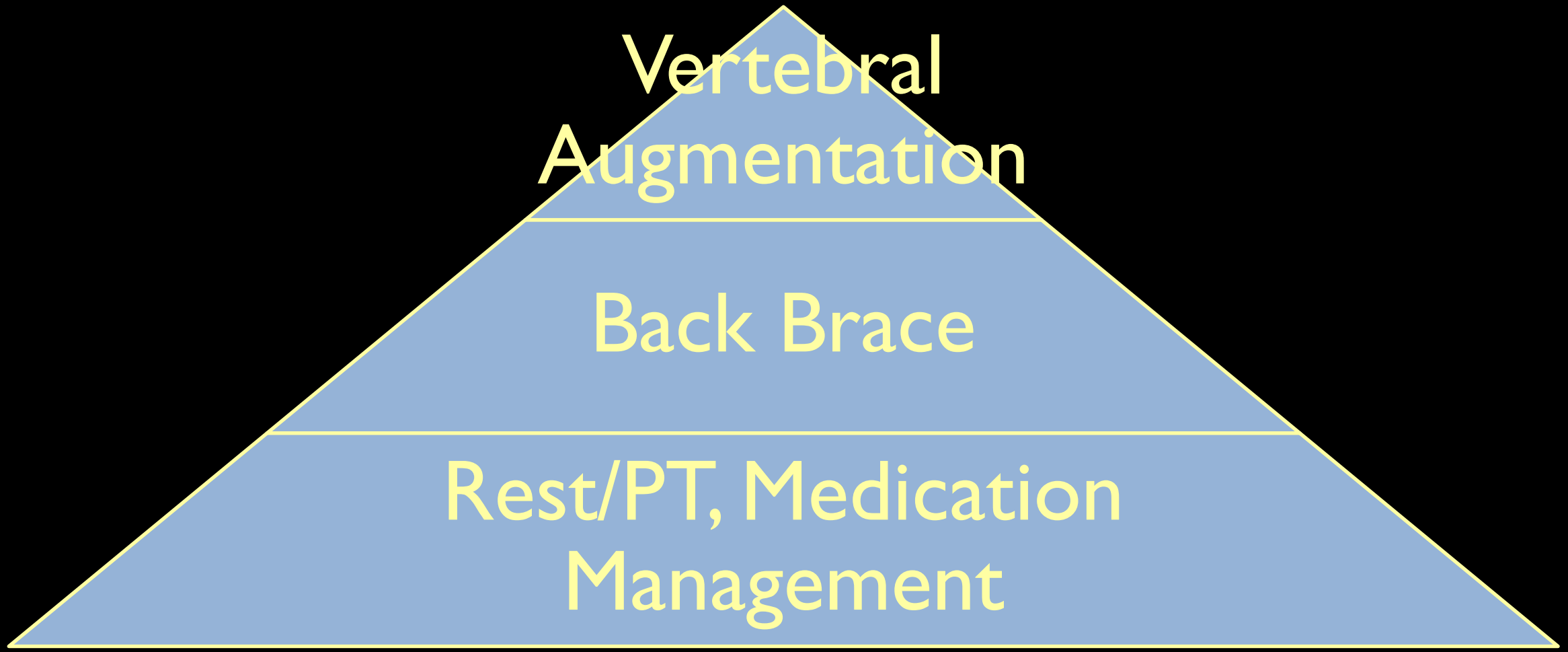
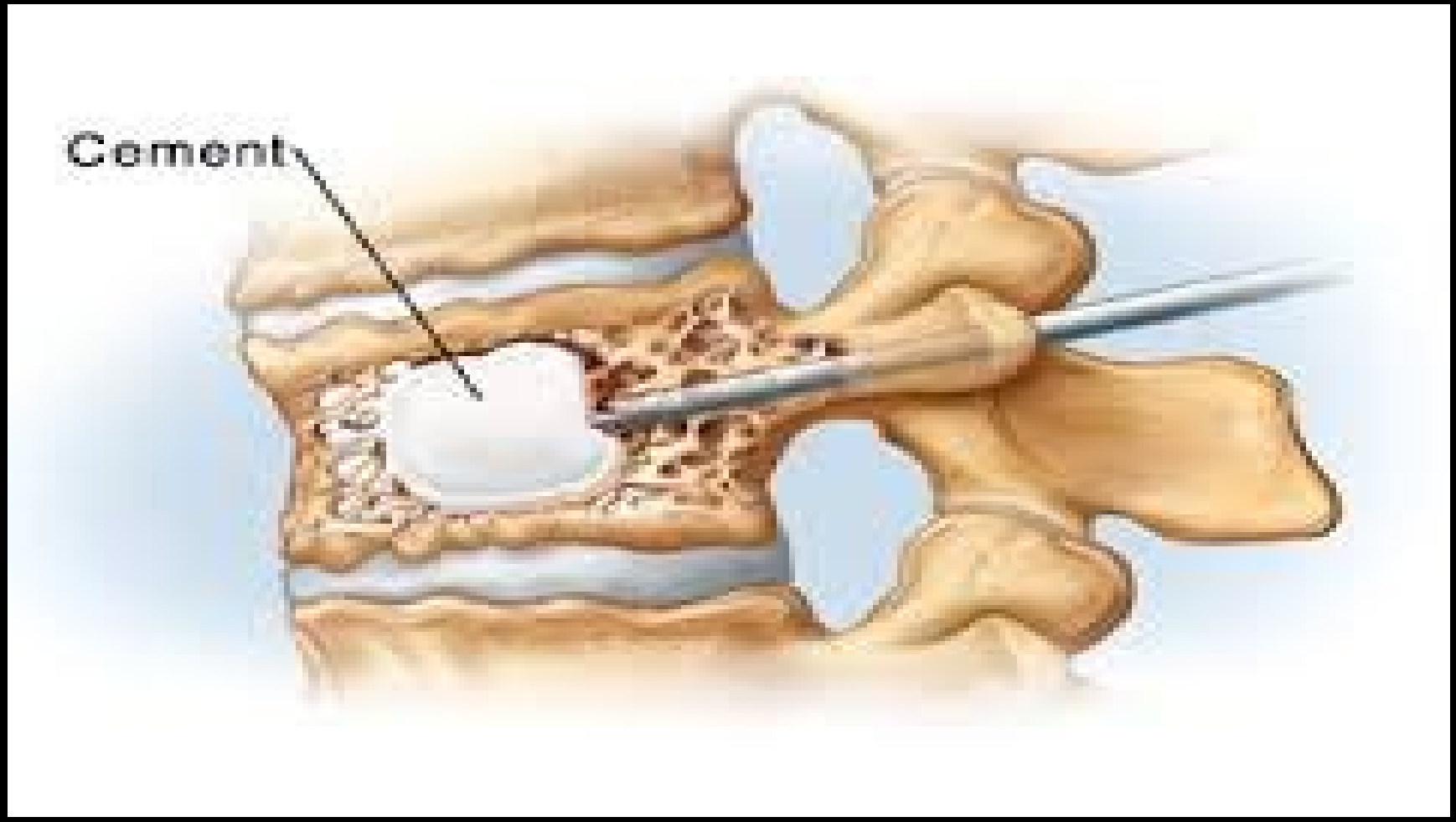
Examination

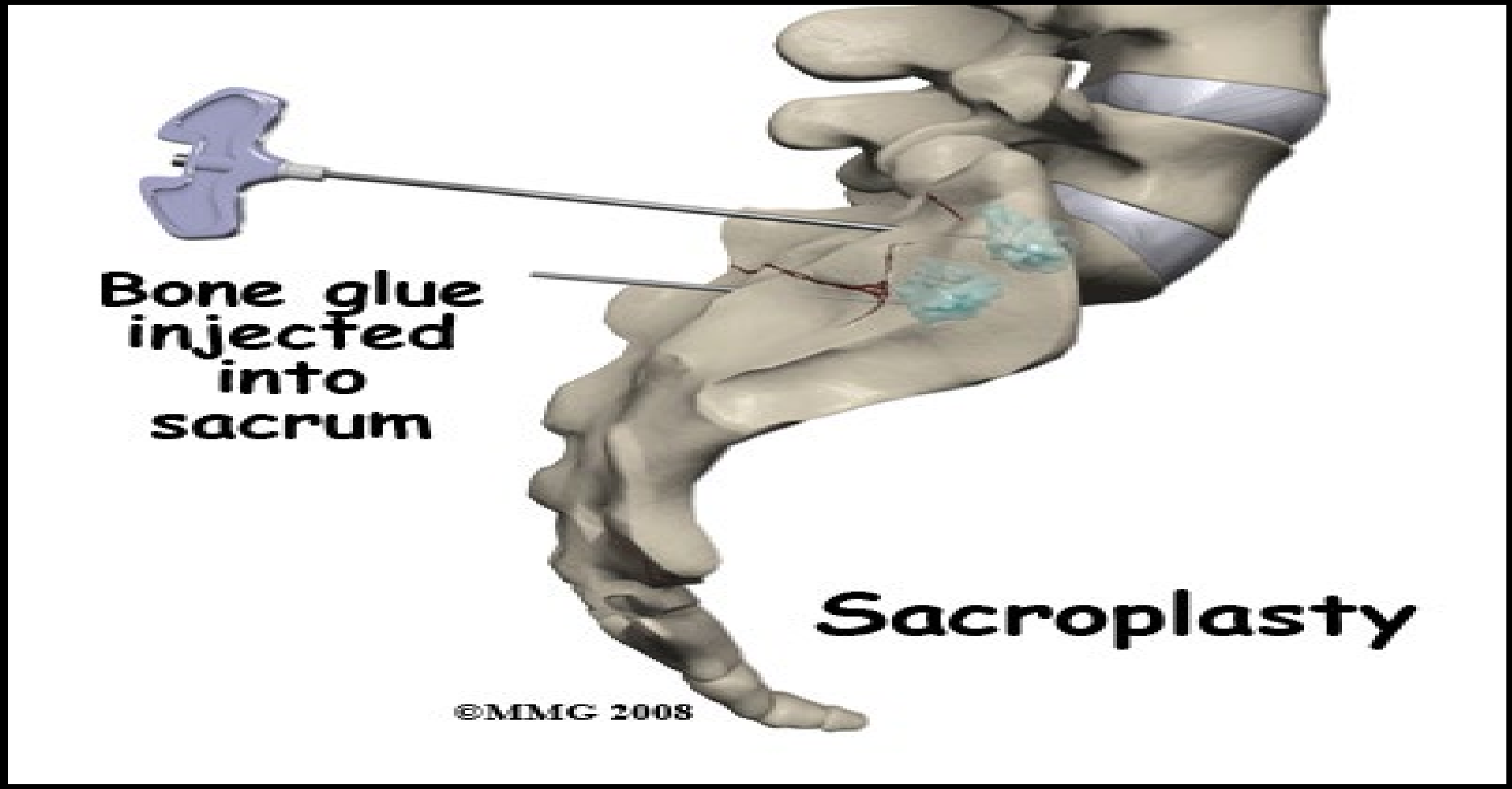
Osteoporotic Acute Compression fracture



Kyphoplasty



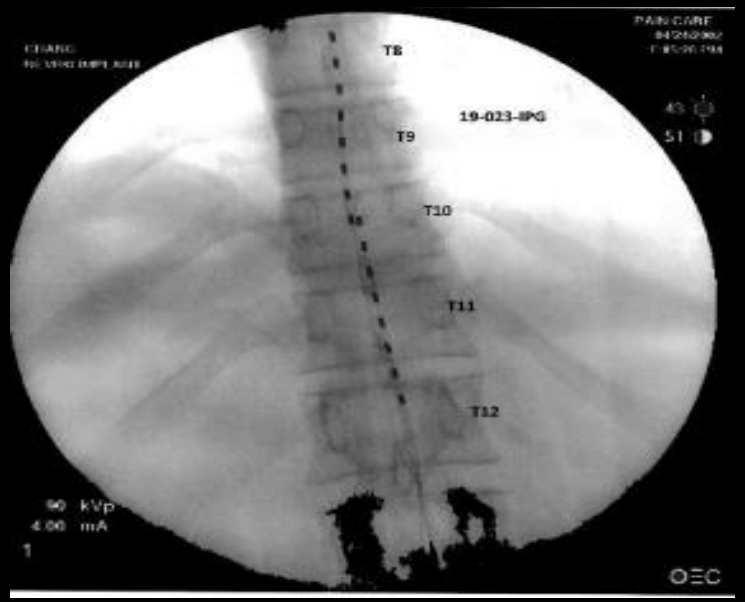
Sacroplasty

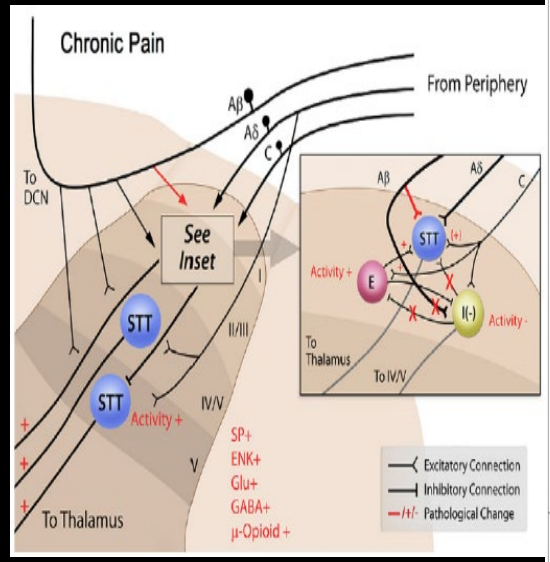


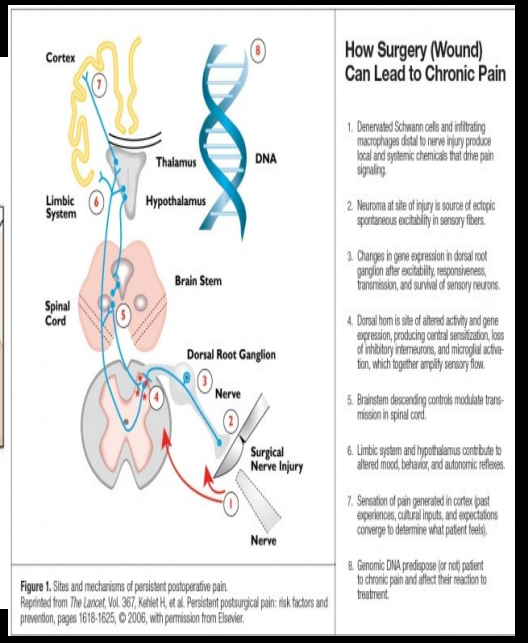
Neuromodulation/ Failed Back Surgery Syndrome

Hypothesis 1

Gate Theory







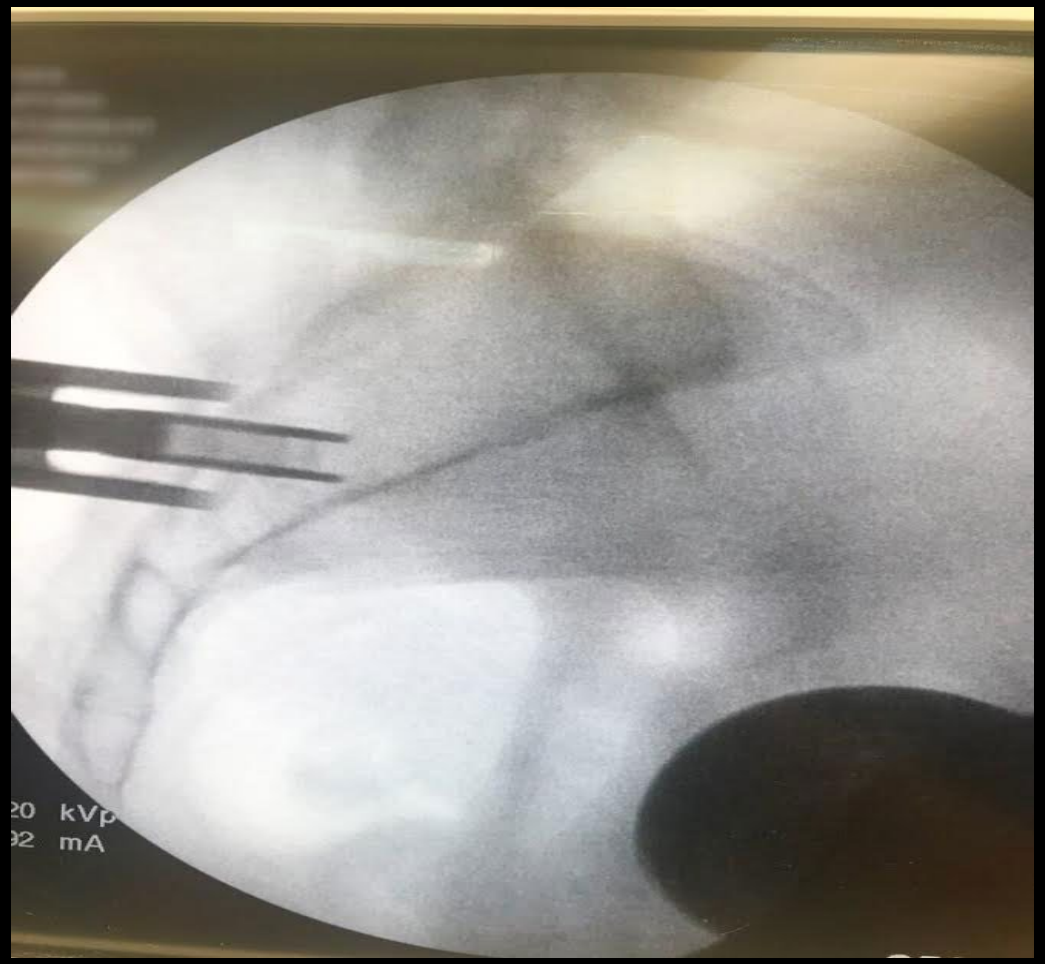
Neuromodulation

SCS Battery

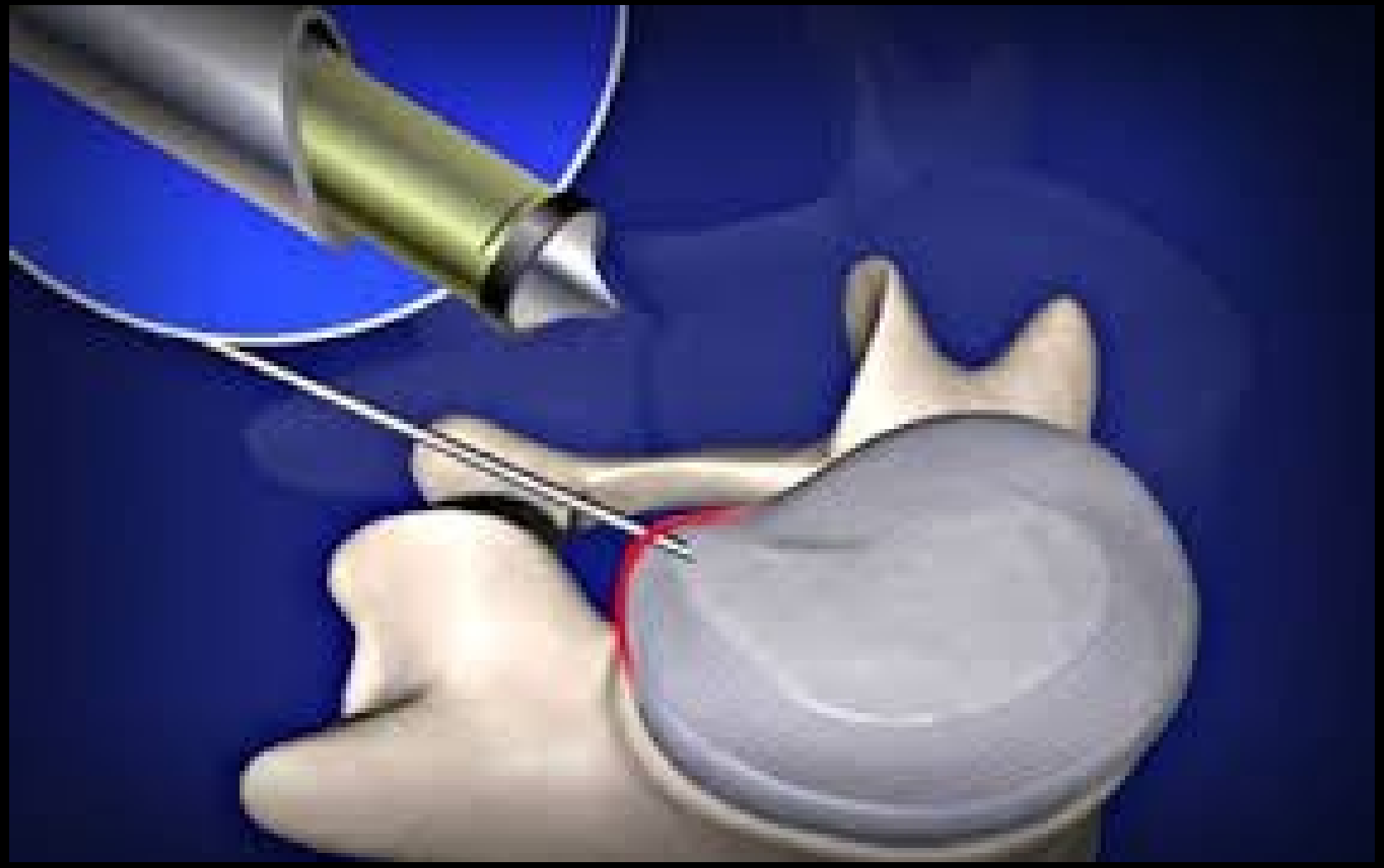
Intrathecal Pump: Indications

Sacroiliatis

- PT
- NSAIDs
- RFA
- SI Fusion



Stem Cell Therapy



Question

- 70 year old female with history of Microdiscectomy at Right L4-5 level has developed similar pain in Right L4-5 distribution. Repeat MRI shows fibrosis along right L4-5 nerve root. Patient has failed PT and medication management. Next Step for treating pain:
- 1. Repeat Back Surgery
- 2. Spinal Cord Stimulation (Correct Answer)
- 3. Radiofrequency Ablation
- 4. Intrathecal Pump

Question:

- An 80 years old male has Lumbar spinal stenosis symptoms with ligamentum flavum hypertrophy at L3-4 level. He has tried PT, tramadol, gabapentin, epidural with limited response. Next step in management would be:

1. Start Oxycodone
2. Start Oxycodone and Cymbalta
3. Consider open decompression with spinal fusion at L3-4 level
4. Minimally Invasive Lumbar decompression. (Correct Answer)

References

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2. Nunley P et al. Interspinous Process Decompression Improves Quality of Life in Patients with Lumbar **Spinal Stenosis**. Minim Invasive Surg. 2018; 2018:
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- 4. Qin R et al.
  Percutaneous Endoscopic Lumbar Discectomy Versus Posterior Open L umbar Microdiscectomyfor the Treatment of Symptomatic Lumbar Disc Herniation: A Systemic Review and Meta-Analysis. World Neurosurg. 2018 Dec;120:352-362

- **5 Morales A et al. Spinal Cord** Stimulation: Comparing Traditional Low-frequency Tonic Waveforms to Novel High Frequency and Burst Stimulation for the Treatment of Chronic Low Back Pain. Curr Pain Headache Rep. 2019 Mar 14;23(4):25.