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**RhAPP**  
RHEUMATOLOGY ADVANCED  
PRACTICE PROVIDERS





# Interventional Procedures in Management of Low Back Pain

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# Disclosures

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Vaheed Sevvom, PA-C:

- There are no relevant financial relationships to disclose

Vanessa Hill, BSN, MSN:

- There are no relevant financial relationships to disclose

# Goals

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- Emphasis of this is **non-operative procedures**
- Understand differential of commonly seen causes of low back pain (non-inflammatory)
- Understand role of different interventional procedures in role of managing back pain
- Expectations with procedures

# Data

- 84% of people will experience back pain in their life
- 5% of chronic back pain disability account for 75% of the costs (uptodate.com)



# Diagnosis

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- History gets you most of the way
- Consider **acute vs chronic** or **radiating vs axial**
- Sometimes the diagnosis is made with the injection response: “Diagnosis is in the needle”

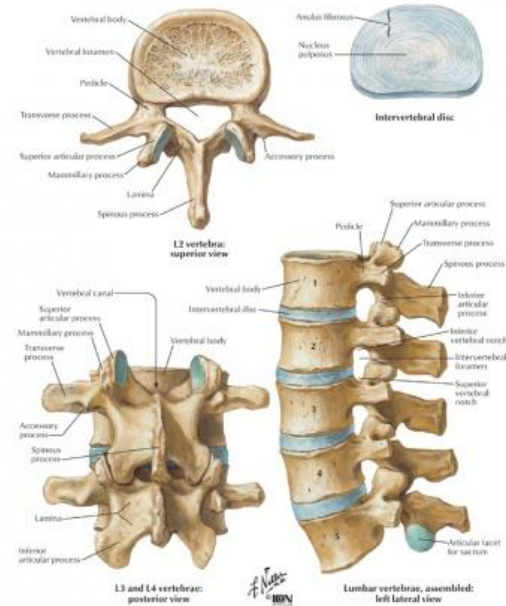
# Diagnosis

	Acute	Chronic
Radiating	Disc herniation or facet cyst with radiculopathy	Spinal stenosis with or without spondylolisthesis
Non-radiating	Muscle strain/spasm, Fracture, Discogenic, Visceral, Infection, Mets	Facet joint arthropathy, Discogenic, SI joint, Autoimmune



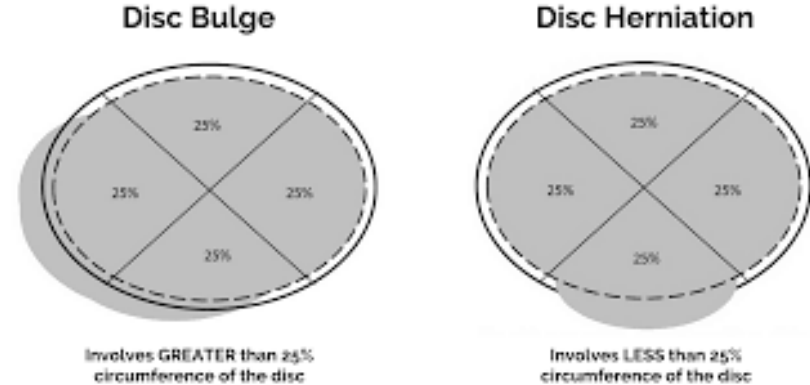
# Pain Generator Differential

- Disc, facet joint, nerve, bone, or muscle
- Think of spine as a tricycle



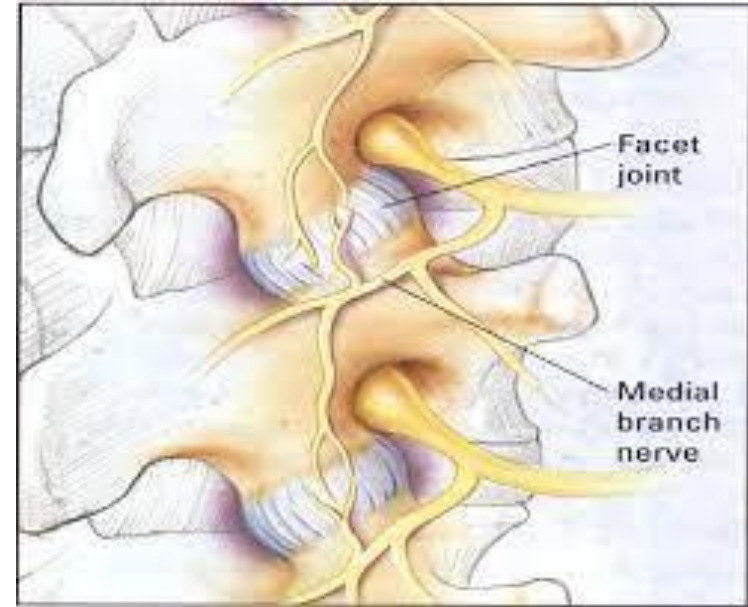
# Pain Generator - Disc

- Acute: Herniation (vs bulging)
- Chronic: Disc degeneration (vs dessication)



# Pain Generator - Facet Joint

- Synovial Joint
- Not meant to be a weightbearing joint but often becomes one
- Osteoarthritis, usually insidious/chronic



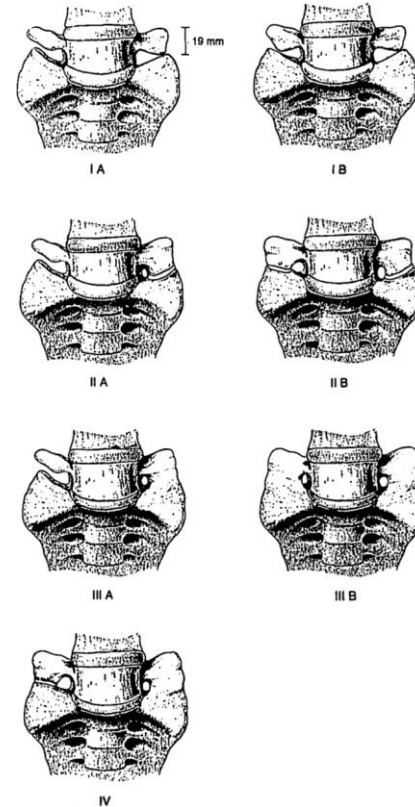
# Pain Generator - Sacroiliac Joint & Bertolotti's Syndrome

- May account for 15-30% of low back pain. Increases to 32-37% with L5-S1 fusion
- Also more common in young women, pregnancy, leg length discrepancy and gait abnormalities (Chuang, et al)



# Pain Generator - Sacroiliac Joint & Bertolotti's Syndrome

- Bertolotti's syndrome is back pain secondary to congenital abnormalities with transitional anatomy
- Pseudoarticulation, sacralized L5 vs lumbarized S1



# Pain Generator - Spinal nerve

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- Impingement and inflammation of spinal nerve
  - Stenosis, disc herniation, facet cyst
- Radiculitis: painful and pure sensory
- Radiculopathy: 2 subtypes
  - Addition of mild, **non-progressive** weakness and/or reflex changes
  - **Progressive** and/or severe motor deficits

# Pain Generator - Bone

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- Fracture
  - Osteoporosis
  - Pathologic fracture: BLT w/ Ketchup and Pickles
    - Breast, Lung, Thyroid, Kidney, Prostate

# Pain Generator - Muscle

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- Spasm – secondary to other pain generators?
- Strain
- Tear

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**My Favorite**  
*Childhood*  
*Memory*  
**Is My Back**  
**Not Hurting**

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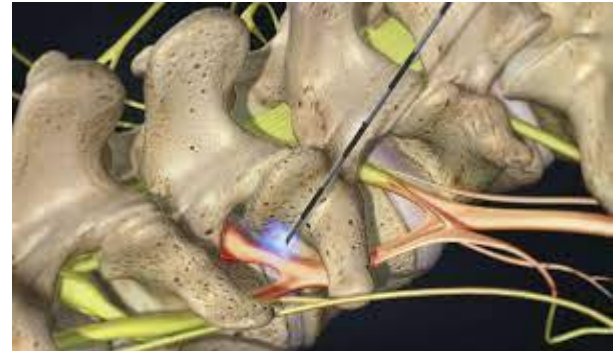
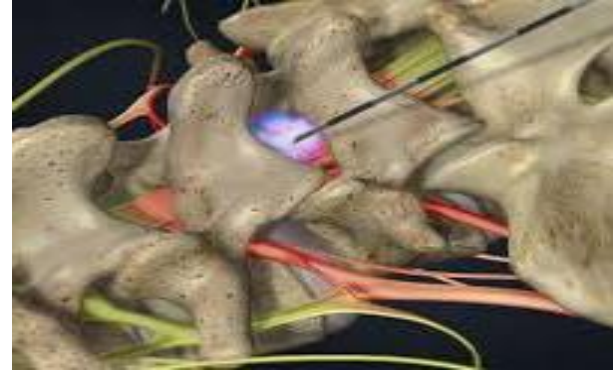
# Interventional (non-surgical) Procedures

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- Epidural steroid injection
- Facet joint steroid injections and radiofrequency ablation (aka denervation, rhizotomy)
- SI joint steroid injections
- Vertebroplasty

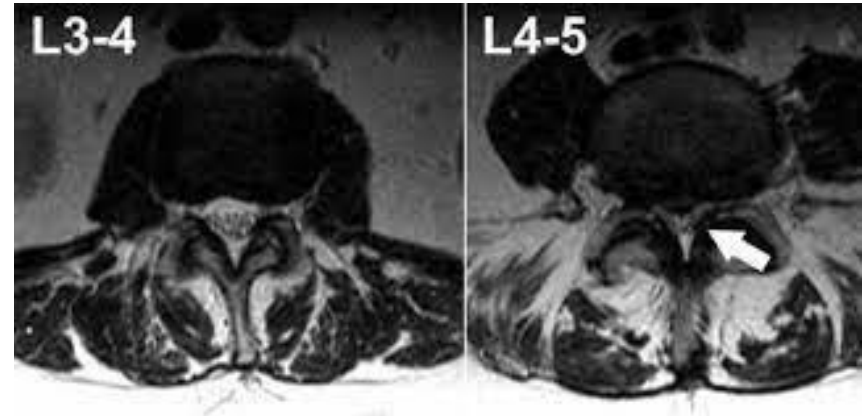
# Epidural Steroid Injection

- Indicated for disc and spinal nerve
- Tends to work best for spinal nerve
- Interlaminar: bilateral symptoms single approach
- Transforaminal approach: nerve root specific, can be done bilaterally



# Epidural Steroid Injection

- Expectations: Highly variable, best for lumbar radiculopathy from disc per data, but we use for all
- Can be repeated, not sooner than 1 month, not more than 3/year



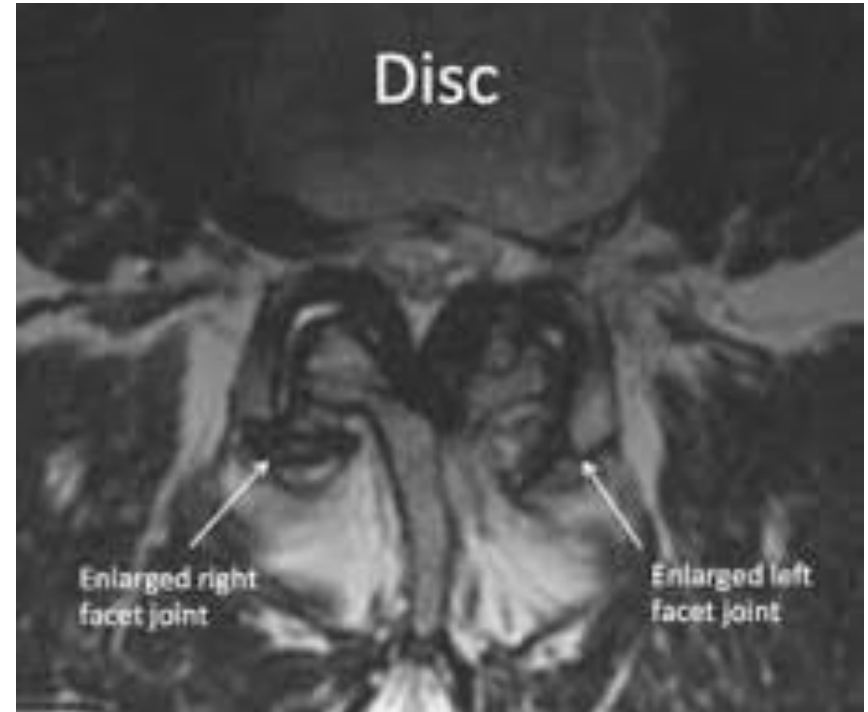
# Facet Joint Injections and RFA

- Facet joint intra-articular steroid no longer covered by insurance
- Radiofrequency ablation is cauterizing the medial branch nerve that innervate the facet joints
  - Requires 2 diagnostic medial branch blocks first.
  - Benefit to well selected individuals (Cohen et al)



# Radiofrequency Ablation

- Expectations: highly variable, we say 6-24 months. Again, patient selection is key
- Can be repeated



# SI Joint injections

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- Test intra-articular injection with >75% relief suggests the diagnosis
- Our facility often does steroid with diagnostic instead of a second injection.
- Fluoro/CT > Ultrasound > blind
  - US 60% accurate on 1<sup>st</sup> 30 injxns, increasing to 93.5% on last 30 injxns with cadaveric studies
  - Blind 22% accurate on cadaver (Chuang et al)

# Vertebroplasty

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- Cement injected into collapsed vertebra.
  - Primary goal is to relieve pain
  - Secondary preserve mechanical structure
- Risk of secondary fracture. Review of 9 articles to assess risk of secondary fracture found 340 cases out of 1882 patients (18%). Age, hx of other fractures, BMD, cement leakage and Cobb Angle may play a role in increased risk (Mao et al)

# Understanding Your Patient

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- Comorbid conditions
- Adherence to treatment
- Willingness to improve wellbeing
- Socioeconomics/Social History



# Traditional Treatment

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- Exercise
- Improve sleep hygiene
- Weight loss if obese
- Healthy lifestyle
- FDA approved medications

# Low Dose Naltrexone

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- Naltrexone is approved to treat opioid drug dependency and alcohol abuse
- Research has shown that using very low doses can improve symptoms of fibromyalgia

# Barriers to treatment

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- Chronic opioid use for other conditions
- Socioeconomic status
- Reluctance to use non-FDA approved medication
- Fear of being labeled as a drug addict

# Side effects

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- Nausea
- Vivid dreams
- Increased depression
- Allergy

# Articles

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- [https://www.medscape.com/viewarticle/926611#vp\\_2](https://www.medscape.com/viewarticle/926611#vp_2)
- <https://pubmed.ncbi.nlm.nih.gov/23359310/>
- <https://pubmed.ncbi.nlm.nih.gov/28325149/>
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# Thank you!

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They say pain let's you  
know you're alive. Oh I feel  
so so alive right now.

