Considerations for the lumbar fusion patient: A pre- and post-operative approach for Chiropractors

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Ontario Chiropractic Association

Introduction

- Chiropractors can assist lumbar fusion patients in pre- and post-surgical settings
- Understanding typical presentation patterns in the instability and foraminal stenosis patient is key
- Treat the patient, not the imaging
- Learn to differentiate between the clinical patterns presented in cases of foraminal vs. central stenosis
- Which treatments are safe pre- and post-surgical fusion?

When is lumbar fusion appropriate?

- Instability
  - Spondylolisthesis with evidence of instability
    - Flex-ex radiographs, Comparison of MRI (supine) to standing radiographs, fluid seen in facet joints on MRI
  - Certain fractures – ex. Burst fracture
  - Mets/infection damage
- Single Level Severe DDD (Complete Obliteration)
- Foraminal Stenosis
  - Today's case will be L4-5 Spondylolisthesis with associated foraminal stenosis.

Clinical Presentation – Foraminal Stenosis

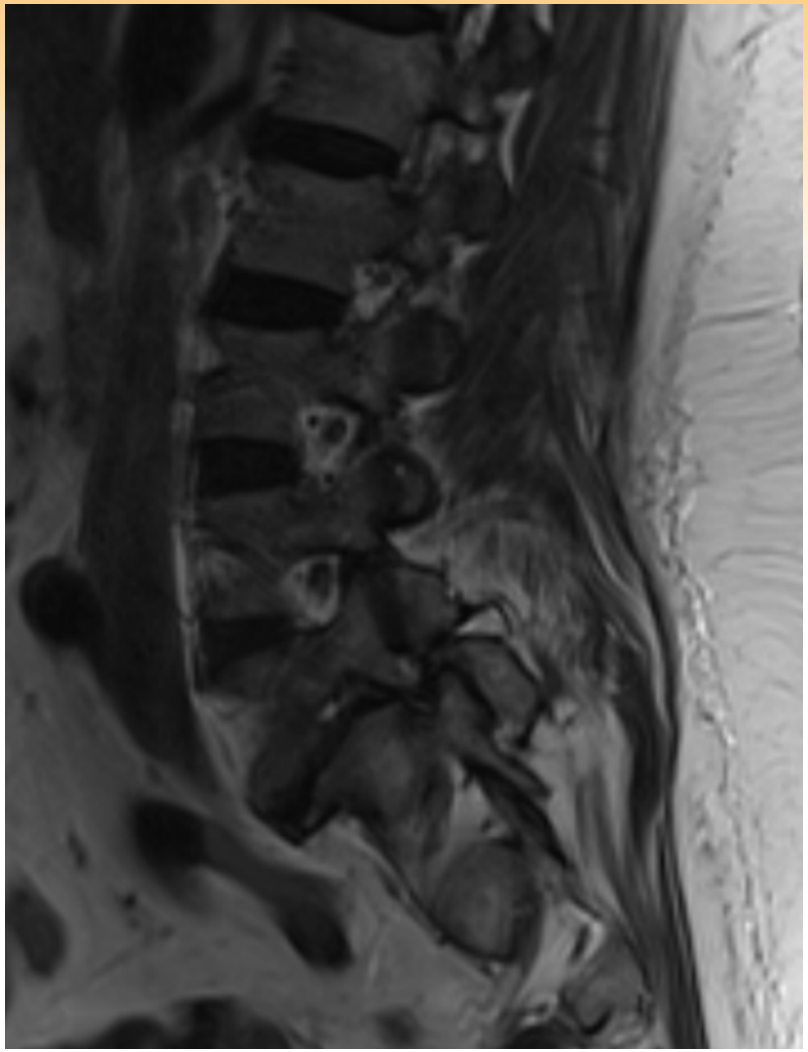
- Radiculopathy – compression vs congestion
- Pain, motor, or sensory change in a dermatomal pattern
- Gradual or sudden onset
- Provoked by standing and walking, relieved by sitting and forward flexion
- Often there is NO LAG between onset of standing/walking and onset of symptoms
- Sensory change will be dermatomal
- No risk of CES with foraminal compression in the lumbar spine
- Associated lower back pain attributed to instability and degeneration

Objective Findings – Foraminal Stenosis

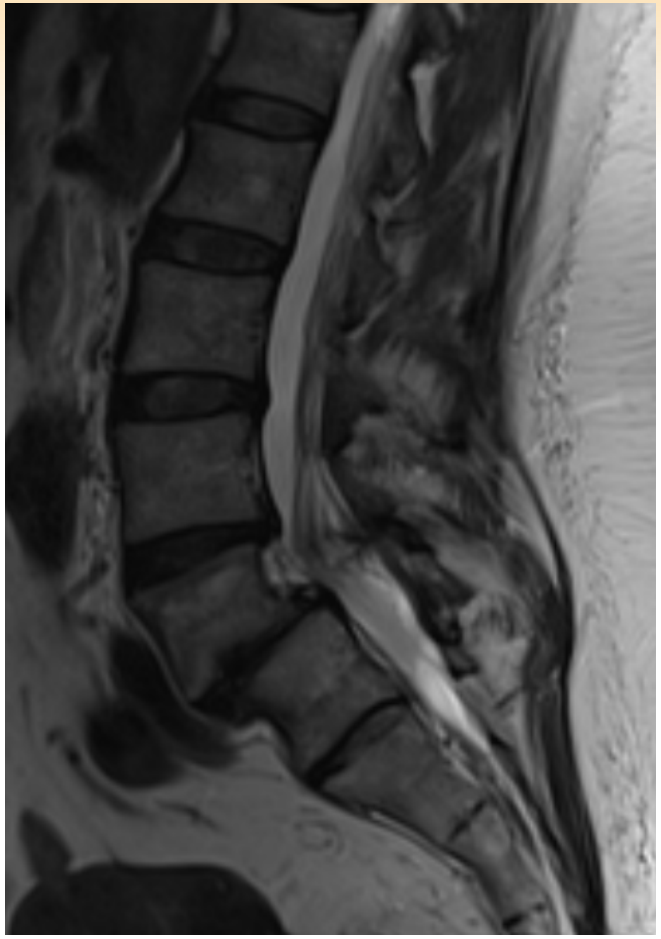
- Patients may walk with “Simian Stance”; a forward flexed posture while walking into your office
- There may be dermatomal sensory deficits or myotomal weakness
- SLR and FNS tests may be positive, whereas they are typically negative with central stenosis
- Lumbar flexion is palliative, while extension is pain provocative (back and/or leg)
  - Max foraminal compression (Kemp’s Test) can recreate leg pain
- Normal UMN findings

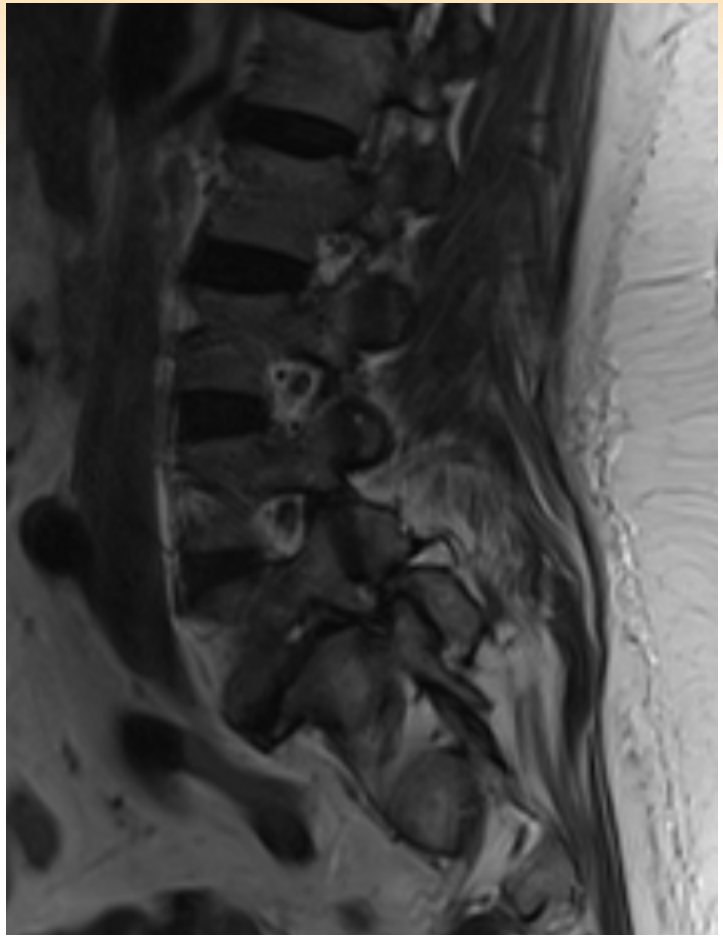
Surgical Candidacy

- Conservative management failure
- Persistent, progressive, and debilitating symptoms IN THE LEGS
  - Decompression targets legs symptoms, not back symptoms
- Progressive neurological symptoms
- CES is NOT caused by foraminal stenosis!
- Imaging confirms foraminal stenosis



Imaging Findings





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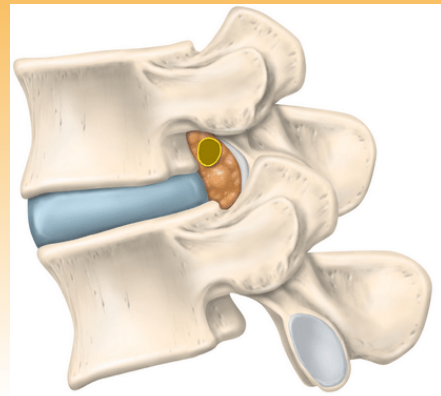

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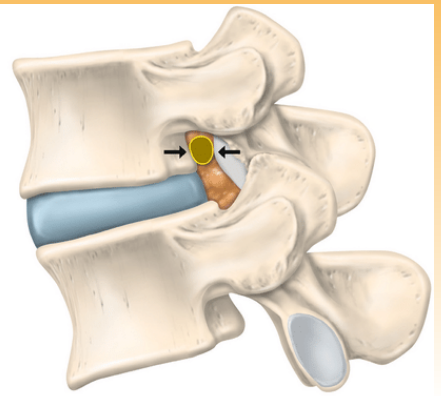

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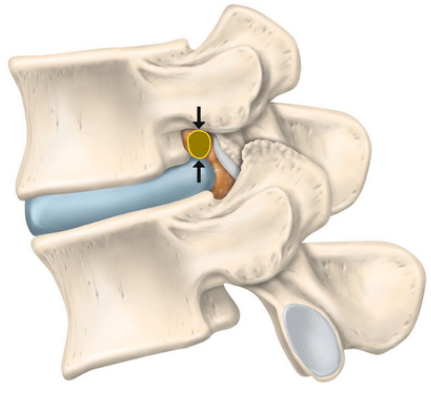

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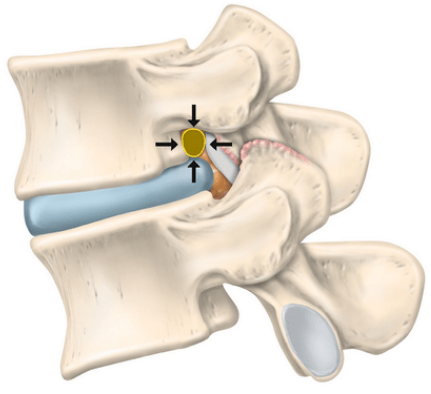

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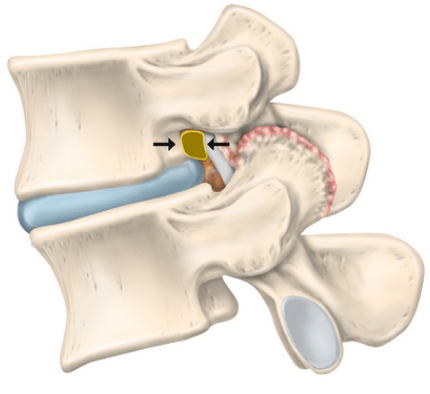

Grade 3

Grade	MRI grading system for lumbar foraminal stenosis
Grade 0	Normal
Grade I	Mild degree of foraminal stenosis
Grade II	Moderate degree of foraminal stenosis
Grade III	Severe degree of foraminal stenosis

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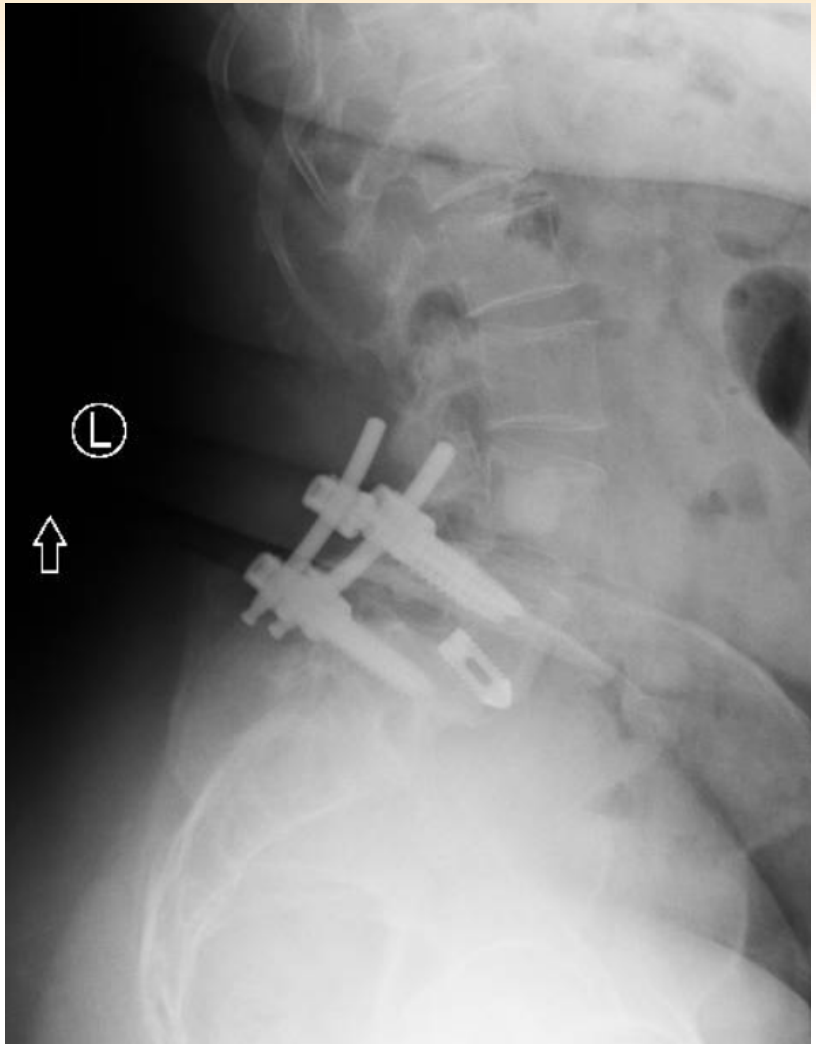
Pre-Operative Conservative Management

- Physical Therapy
  - Goal of pain reduction, increased walking tolerance, sustaining strength
  - Flexion-based POR and exercises/stretches – e.g. pelvic tilts, dead bugs
    - AVOID extension-based exercises or POR
  - Flexion-based mobs/manipulations – sacral pump, side-lying mob/SMT
  - Maintain LE strength via exercise bike or row machine
  - Gait retraining with pelvic tilt and spinal flexion
- Pharmacological Pain Management
  - OTCs/NSAIDs/PKs where appropriate, Anti-convulsants - Lyrica (Pregabalin), Gabapentin for nerve symptoms
- Interventional Pain Management
  - Targeted nerve block for leg-dominant pain, nerve root RFAs
- Lifestyle Modifications – walker, rollator, bicycle, scooter, planned walking routes

Decompression with Fusion, Transforaminal lumbar interbody fusion (TLIF), ALIF



Post-Operative Management

- LIMITED FLEXION FOR 90 DAYS!
- Lifting limited to 5 lbs for 90 days
- Wait for clearance from the surgeon to start rehab
  - Patients are typically cleared for rehab around12 weeks post-op
- Focus on rehabilitation – patients are often deconditioned due to limited walking tolerance prior to surgery
  - Pain is considerable after fusion. Patients mostly limited to walking for the first 90 days.
  - Strengthen glutes, quads, hams, gastrocs/soleus, core, etc.
  - Focus on neutral spine exercises to start. Minimize stress on the instrumentation.
- Manipulation and mobilization
  - HVLA – absolute contraindication!
    - Approach “above and below” tx with caution. POOR SPECIFICITY OF SMT!
- Considerations for ongoing lower back pain
  - Once a level is fused we rarely see injection intervention at that level. Above and below is an option, however.

Key Takeaways

- Patient selection is key for successful fusion procedures
  - Radicular leg pain most reliable, consideration for instability and single level severe DDD
- Pre-operative care focuses on pain management, maintaining strength, and increasing walking tolerance
  - Walking aids may be necessary, walking may be extremely limited
- Post-op care
  - Limit flexion, and limit lifting to 5 lbs. for 90 days; get clearance before rehab
  - Manipulation is an absolute contraindication
  - Focus on rehabilitation – strengthen the legs and core
    - Neutral spine
  - Individualized care, working in collaboration with medical professionals, and tailoring treatments to each patient's needs