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NASHVILLE, TN

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Case Report

37 year old Female With Spondylolisthesis And Disc Herniation

History

- Lower back and right leg pain
- 2 month onset
- Currently – difficult walking and doing her ADL's
- She is off work from a shipping and receiving department
- Last seen 12 years prior for neck pain and HA's
- PIS 8/10 with an Oswestry index of 33/50 or 66%
- OTC pain meds, lisinopril, metropol and Prilosec
- Sitting leaning to the left with right leg extended
- Numbness across the top of the foot
- She is a heavy smoker.

Continuing

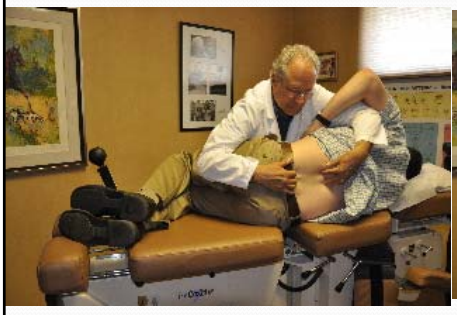
- Slightly elevated blood pressure
- Temp: 99.6F (37.6 C), 67" (170.18 cm), 302 lbs. (137.27 kg)
- Limited ROM with extension and right lateral bending increasing her leg pain
- Kemp's standing radiated pain to the right calf
- Coughing, sneezing or straining was painful in the mid-line of the lower back
- Marked piriformis spasm
- SLR 30° right and 80° left
- Other nerve root tension signs were positive
- Standing plain film x-rays to the lower back

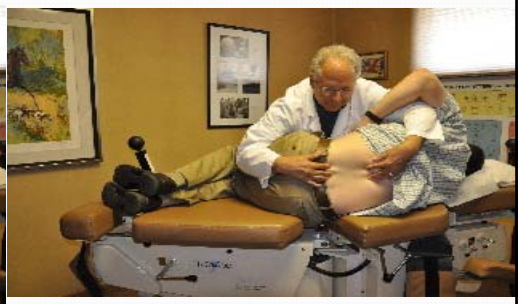
Continuing

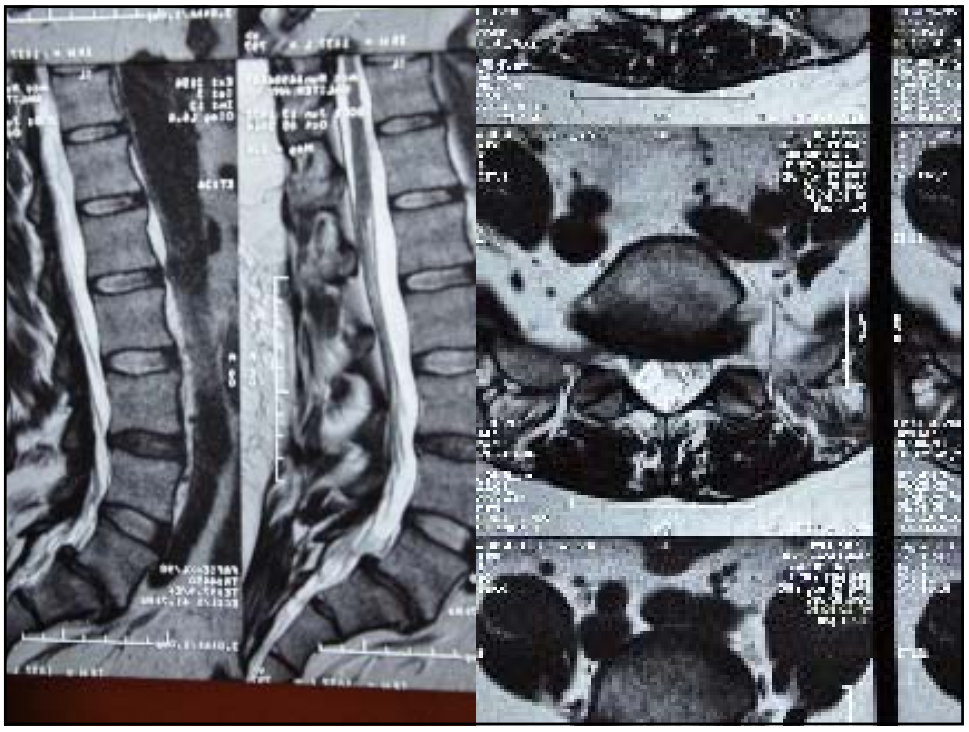
- Began a course of Flexion-distraction following technique protocol 1 for extension pain below the knee (Side Posture)
- She was given the "Quit Plan Minnesota" pamphlet for cessation of smoking provided by BCBSM.
- Supportive modalities were used – ultrasound, interferential current, cryotherapy, no work
- She progressively worsened over the next week.
- Increased pain, numbness and leg weakness "like it's going to buckle on me"

Side posture flexion-distraction positioning

Side posture treatment flexion-distraction







Continuing

- Advanced imaging:
  - 5mm spondylolytic spondylolisthesis
  - Severe disc degeneration
  - 4-5 mm right extraforaminal herniation at L5/S1 impinging upon the right L5 nerve root
  - 3mm AP left foraminal protrusion at L5/S1 abutting the left L5 ganglion
  - Disc degeneration with bulge and central dorsal high-intensity fissure at L3-L4

Continuing

- Flexion distraction was continued.
- She was scheduled for an transforaminal epidural steroid and local anesthetic injection on the right at L5/S1.
- Initial response 50% improved, PIS 4-6/10
- **By her 8th session** she was "40% better (1 week post injection) and SLR was to 40°... initially 30 °
- **Examination 5 weeks post onset of treatment** only "on occasion will I take pain medication"
- SLR 65 °, sensation of weakness gone Triad "slight" in the mid line
- Leg pain only intermittent and it was just below the inferior gluteal fold (visit 16).

Continuing

- She was referred for aggressive rehabilitation at a physical medicine facility.
- She did not quit smoking.
- 3 months rehabilitation
- She returned to full duties lifting up to 40 lbs. (18.18 kg)
- She had 4 visits with me during the rehabilitation and a final evaluation.

- **Conclusion:**
  - No lower back or leg pain, no numbness and no limitations or restrictions placed upon her.
  - PIS 0-1/10 "once in awhile" (Initially 8/10)
  - Final recommendations: weight loss and stop smoking

Rationale of imaging and treatment

- Lower back and leg pain that has been getting worse
- Obese, heavy smoker
- Sensation that the leg was feeling weak and that it had a feeling that it was going "to buckle" while walking

Smoking and Spondylolisthesis

- Deguchi,M, Rapoff, AJ, Zdeblic, TA at the U of Wisconsin reported in the Journal of Spinal Disorders, 1998 Dec;11(6):459-64…that regarding smokers, cessation from smoking postoperatively did not increase the fusion rate.
- Patients who continued to smoke after surgery showed a significantly higher rate of pseudarthrosis.
- A smoking history or NSAIDs use postoperatively had strong negative influences on the fusion and clinical success rates.
- This slide demonstrates the difficulty with smokers and back care, particularly spondylolisthesis.
- This information did not dissuade the patient from smoking.

Smoking and Spondylolisthesis….But Wait!

- Jacobsen, Sonne-Holm et al, Spine Vol 32, Number 1, pp 120-125, 2007 reported in the Copenhagen Osteoarthritis Study that smoking did not have an effect on degenerative spondylolisthesis
- They concluded that BMI and angle of the lordosis were significant contributors to degenerative spondylolisthesis at menopausal age women.
- At age menopause, occupation and smoking were not associated with degenerative spondylolisthesis.
- Just when we thought we had it figured out……