

## **Cox® Technic Flexion-Distraktion and Decompression Relieves Right Lower Extremity Radiculopathy and Low Back Pain Post Laminectomy**

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The following is a case of a 54-year-old white male seen on June 23, 2006, with complaints of lower back pain and right lower extremity pain for one week's duration. The low back pain and right lower extremity pain are rated at a 7 on a VAS 0-10. The patient also complains of persistent intractable right sacroiliac pain and has right thigh and adductor pain, especially after exertion. He is an avid golfer who plays right-handed and usually develops pain after a round of golf.

### **HISTORY**

Past medical history shows a bulging disc at L2-3 in which he had subsequent low back laminectomy performed at the Hughston Clinic in Columbus, Georgia, in 1996. He participated in a course of physical therapy post-surgery.

In 1998, he developed right calf discomfort, right knee weakness, and discomfort above the right buttocks. Surgery was performed which included a L2/L3 level discectomy/laminectomy in September 1998 at Doctors Hospital in Columbus, Georgia. He developed a CSF leak one-week post-surgery that was subsequently repaired. No physical therapy was followed after this surgery.

The patient reports always having some degree of low back discomfort and stiffness.

In 2006, patient experienced right thigh and adductor pain especially after exertion. Pain and paresthesia localized to L3/L4 distribution which prompted his care at the author's office.

### **EXAMINATION**

Physical exam reveals a 54-year-old white male who is 6'2" tall and weighs 205 pounds. He is right hand dominant. Blood pressure is 104/64 in the left arm. Mild left antalgic posture. Minor's sign is negative. There are no assistive appliances or supports. Lower extremity DTRs are full and strong bilaterally except for right patella reflex which is 2- sluggish. Lower extremity motor function testing is full and strong bilaterally. Sensory examination reveals

hypesthesia at the L2-L3 dermatomal distribution of the right lower extremity in the lower internal thigh. Ely's heel-to-buttocks test positive on the right with hiking of the right ilium. Visual scar noted from L1 to L3. He was able to heel-toe walk. Ober's positive bilaterally. Piriformis tightness noted bilaterally.

## IMAGING STUDIES

Multiple MRIs and comparison studies with previous studies dated 1998 were performed on this patient.

MRI studies dated April 16, 2003, show

- disc degeneration noted at levels L1-2, L2-3, and L3-4, as well as L5-S1
- small central/left paracentral disc protrusion at L2-3
- small central protrusion at L3-4 with small central disc protrusion at L5-S1
- degenerative joint disease of the apophyseal joints throughout the lumbar spine.
- Tarlov cyst at S3 level of insignificance at this time.
- diffuse disc bulge with posterior annular fissure at L1-2.
- postsurgical changes from previous right L2-3 laminectomy.
- A second radiologist's overread revealed
  - mild diffuse disc bulge evidenced with broad based central L4/L5 disc protrusion.

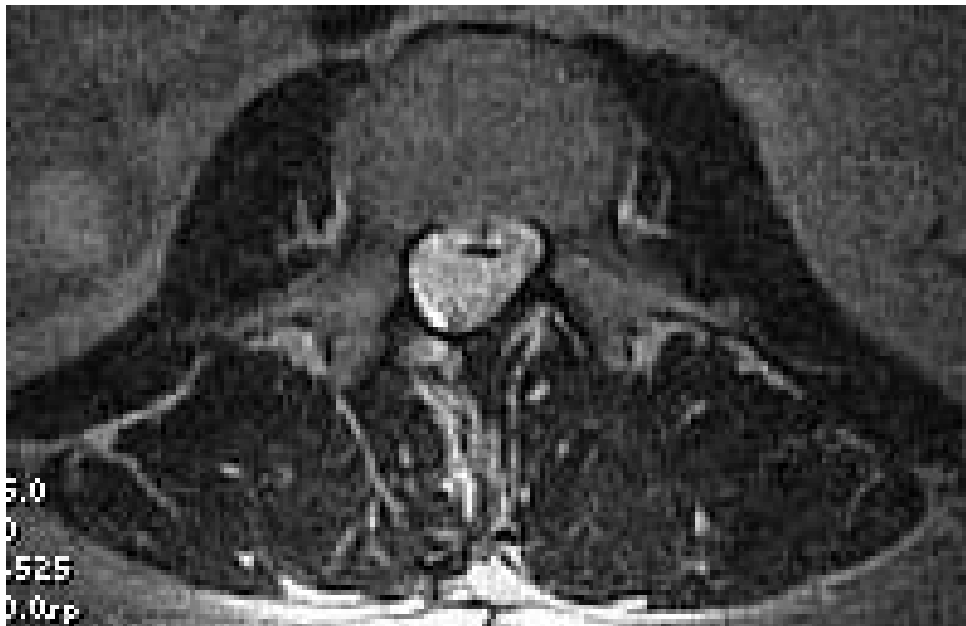


Figure 1 - level L3 T2 spin echo hypertrophy of ligamentum flavum, hypertrophic changes left facet joint, and central paracentral left disc herniation with high intensity changes



Figure 2 - level L2-L3 shows laminectomy L3 with a left side disc protrusion and high intensity changes of the posterior disc



Figure 3 - The L3-L4 disc shows posterior disc bulge. Also note the L3 level Tarlov Cyst of incidental finding.



Figure 4 - L3-L4 level broad based central paracentral disc herniation that does contact the thecal sac. Hypertrophy of the left superior facet is present.

## DIAGNOSIS

The diagnosis in this case was:

1. Lower back pain with right lower extremity radiculopathy.
2. Lumbar post laminectomy syndrome, (past history of surgical discectomy L2-3).
3. Disc protrusion L2-3, L3-4, and L5-5. Pain and dyesthesia overlapped dermatomal distribution L3/L4.
4. Degenerative joint disease lumbar spine/post surgical changes (multiple levels).
  - Overread by second radiologist - mild diffuse disc bulge evidenced with broad-based central L4/L5 disc protrusion
5. Tarlov cyst S3.

## TREATMENT

Treatment goals were to reduce and relieve right lower extremity pain and ultimately relieve lower back pain and inflammation by administering flexion distraction and long Y-axis traction above the level of previous surgical incision.

Patient also participated in physical therapy at a frequency of 3 x 4 weeks utilizing Williams flexion exercises, progressing to increase in patient's activities of daily living. Patient was instructed on demonstration of proper body mechanics when lifting and demonstration of

proper sitting and standing postures. Other goals included getting the patient to tolerate prolonged sitting for 45-60 minutes while working at a desk.

Modalities of negative galvanism, ultrasound high volt, ice and moist heat were administered. Patient was also placed on Discat (glucosamine/chondroitin sulfate) nutrition supplementation.

## **CLINICAL OUTCOME**

After 12 weeks of care, the patient's pain rating was recorded and compared:

- Initial presentation: Current: 6/10; worst: 8/10; least: 4-5/10.
- Final re-evaluation: Current: 1-2/10; worst: 1-2/10; best: 1-2/10.

Disability index from 5 on initial evaluation to 1 on a scale of 1 (best) - 10 (worst).

Furthermore, post-treatment MRI studies (not taken for any specific complaint, but as the patient is an executive of a large hospital, his access to MRI allowed such scans periodically) were taken on 4/25/2008. Images are not available for this study, but the radiologist's report is which states that the L4-5 broad-based central disc protrusion less apparent on current study than on initial study in 2003 and looks to have actually resorbed since previous study in 2003.