



Post-Surgical Continued Pain Syndrome Relief for Recurring L5 and S1 Dermatome Pain

presented by

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Introduction

Post-surgical cases are becoming common-place. Weinstein reports that 14% of spending for back surgery in 1992 was for spinal fusion and 47% in 2003. (1) Carey reports that 25% of the patients are 95% of the costs for back pain. (2) Frymoyer reports that 5% of back pain patients are 75% of the total costs of back pain care. (3) Berger shares that having a second or third back surgery greatly increases disability. (4) Nguyen details an 11% permanent disability rate for surgical cases of disc degeneration, disc herniation with or without radiculopathy versus 2% for non-surgical cases and a 26% return to work rate for spinal fusion patients versus a 67% return to work rate for non-surgically treated patients. (5) Patients are looking for non-surgical care. Cases like the following may demonstrate how chiropractic care may benefit back pain patients even after they have already gone through back surgery and continue to experience pain. A trial of conservative management which includes chiropractic manipulation is appropriate. (6)

HISTORY

A 51 year old female presents with acute right-sided back and leg pain which has been getting worse for the past month. She reports limited range of motion and a very difficult time with sitting which her job requires.

Her history reveals chronic lower back pain over the past 5 years. In May of 2015, she experienced a sudden onset of right lower back pain which progressed over 3 days into the S1 dermatome on the right. Her pain was severe and was not controlled well by medication from her family doctor. Her medical doctor referred her to a neurosurgeon, and, after his exam and review of the MRI, she was scheduled for surgery and had a L5/S1 laminectomy on May 15, 2015.

She initially obtained good relief from her leg pain and after 4 weeks was prescribed physical therapy at a local hospital. During her second session there, she was given a hamstring stretch in a standing position and instructed to put her heel on the ground in front of her and then to bend forward. She felt a sharp pain in her right buttocks and popliteal space and discontinued the maneuver. She was discharged from therapy 3 weeks later for lack of progress and has been managing the pain with medications from her family doctor.

In early September 2015, her symptoms were back in her right foot in the L5 and S1 dermatome. She was also experiencing some left anterior thigh pain.

She was considering follow-up with her neurosurgeon when a co-worker recommended our office.

IMAGING (see figures 1-7)

PRE-SURGERY MRI REPORT

"This is likely degenerative. Discitis should be excluded clinically with C-reactive protein and ESR. There is a disc protrusion and osteophyte measuring 3 mm toward the left narrowing the lateral foramen greater than the right. The thecal sac is not stenotic.

"L5-S1: There is a large disc protrusion toward the right measuring 8 mm which abuts and displaces the right S1 nerve root posteriorly. There is narrowing of the right neural foramen greater than the left. The left S1 nerve root is intact.

"IMPRESSION:

- 1. Degenerative endplate changes and disc changes at L4-5. These are likely degenerative in nature. Discitis should be excluded clinically with C-reactive protein and ESR. There is an annular fissure and disc protrusion asymmetric toward the left with narrowing of the lateral foramina greater than the right.*
- 2. Large disc protrusion at L5-S1 toward the right abutting and displacing the right S1 nerve root posteriorly. There is narrowing of the right neural foramen greater than the left. There is no stenosis of the thecal sac in the lumbar region."*



Figure 1. Pfirrmann grades 3-4 on lower two discs, Modic type 1 changes bright T2, dark T1 acute stage, retrolisthesis L4 on L5 was stable on flexion/extension.



Figure 2. T2 sagittal image shows the large L5-S1 disc extrusion (arrow)

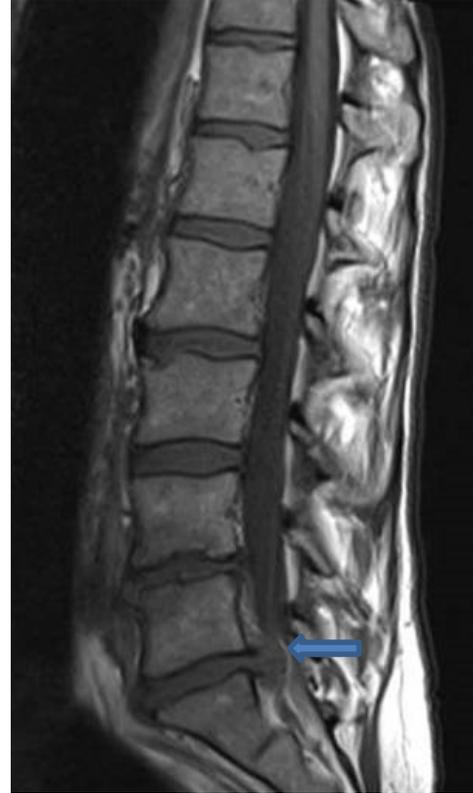


Figure 3. T1 weighted image shows the large L5-S1 disc extrusion (see arrow)



Figure 4.



Figure 5.

Note the Multifidus muscle atrophy fatty infiltration in figures 4 and 5

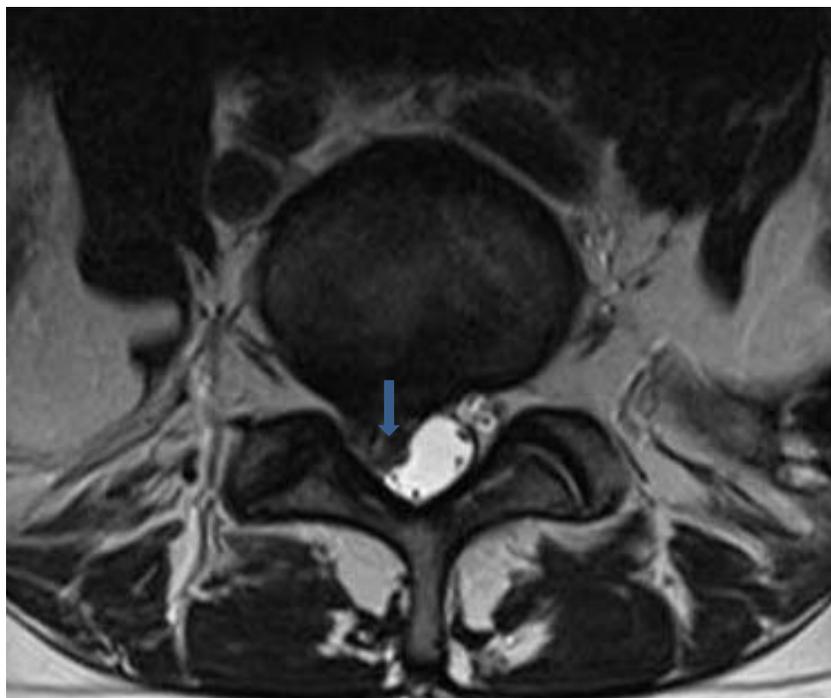


Figure 6. T2 weighted axial image shows the large right sided L5-S1 disc extrusion (see arrow)

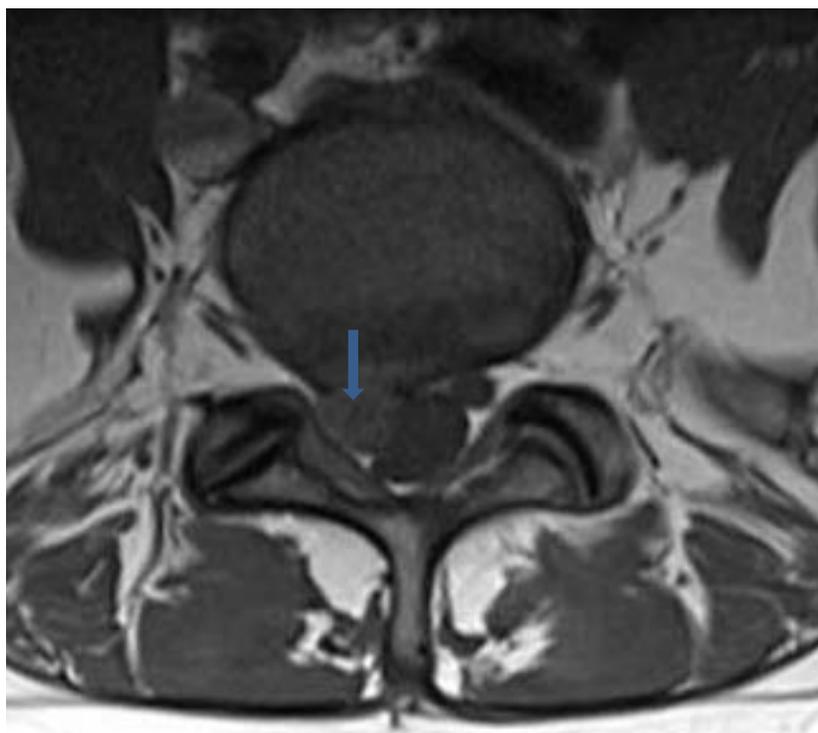


Figure 7. T1 weighted axial image shows the large right sided L5-S1 disc extrusion (see arrow)

EXAMINATION

Vital signs were normal, healed incision for removal of L5-S1 disc. Patellar reflexes are +2, Achilles +1 bilaterally. Hip flexion, knee extension, dorsiflexion, plantar flexion, and great toe dorsiflexion all graded 5/5. Sensory exam revealed decreased pinwheel sensation in the right S-1 dermatome. SLR was positive on the right at 40 degrees with a positive Braggard sign. Bechterew's was positive on the right. Kemp's was positive on the right for pain into right calf. Range of motion was markedly reduced in flexion (25), extension (10), and lateral flexion was 10 on the right side and 20 on the left. All lower extremity pulses were present and strong.

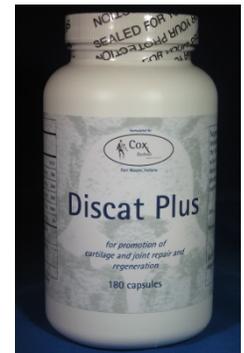
TREATMENT PLAN AND REPORT OF FINDINGS

We had a long discussion of options at this point. I explained our treatment program and the need to see 50% relief in the first 4 weeks. The 50% Rule of Cox Protocols for radicular pain looks for 50% relief of pain in the first 30 days of care with Protocol 1 at which point visits are reduced by 50% and Protocol 2 is started. I informed her that we would obtain a follow-up with her surgeon if we did not reach our goals. She was very positive and anxious to try a conservative approach.

We also discussed obtaining a new MRI. With our clinical examination findings, I told her it was not absolutely necessary and that we would monitor her progress closely should a need arise. This case was in the gray area for more imaging, but I felt strongly that we could safely treat her with careful tolerance testing per protocol and monitoring clinically for neurological changes.

TREATMENT

For the radicular pain and symptomatology, Protocol 1 with a contact at L4 was started after careful tolerance testing revealed no lateralization of the pain. I chose L4 as my contact due to the pre-surgical MRI finding of a left-sided disc herniation there as well and wanted to be sure to stay above that disc level. Protocol 1 involves the use of a single segment contact above the involved segment and long-y axis movement (or flexion) from the taut point for 4 seconds repeated 5 times for a total of 20 seconds. This series is repeated 3 times. Between each set of five 4-second sessions, trigger point therapy is applied to the surrounding musculature and dermatomes involved. See figure 8 for illustration of treatment. (JULIE: CAN WE PUT A PICTURE OF THE COX TABLE AND TREATMENT ON IT HERE????)



She is on Discat Plus (chondroitin sulfate/glucosamine sulfate) capsules 8 per day for the first 4 months, then the dosage will be reduced to 4 per day. (See Figure 9.)

Figure 9.

CLINICAL OUTCOMES

After three treatment visits, the pain went from a VAS (10 being the worst pain possible) of 8 to a 6, with centralization above the knee. On her 6th treatment, she rated her pain 3 out of 10. Her ROM is improved in all directions. She is doing pelvic tilts and walking 1 mile per day. She has also switched to an adjustable desk and sits 1/2 of the day and stands 1/2 of her day.



She was discharged on 12/23/15 with pain mild and centralized to the lower back only. She elected to do a monthly maintenance treatment, and we last saw her on March 23, 2016. She is doing well, has minimal back pain and is heading to Europe for a two week vacation. She is taking a maintenance dose of Discat Plus and doing exercises 1, 2, 3, and 5 (pelvic tilt, pelvic lift, knee to chest, abdominal stretching) of the Cox® Exercises. (See Figure 10.)

CLOSING COMMENTS

With post-surgical continued pain incidence and disability as well as medical costs under scrutiny, we chiropractors have a rare opportunity to be the primary caregivers for these complicated post-surgical back pain cases.

REFERENCES

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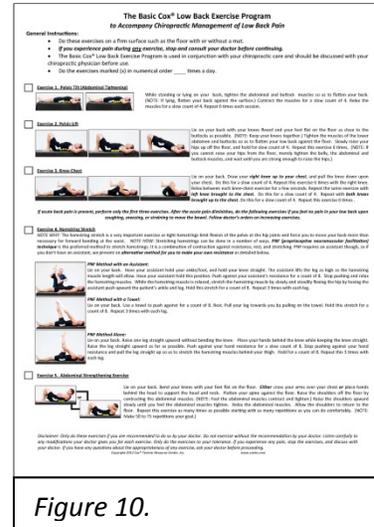


Figure 10.