

## Chronic Pain Syndrome: Piriformis Syndrome

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### Case History

E.K. is an 80-year-old white male with a gait abnormality of approximately two years' duration. The symptomatology has been gradually and insidiously progressive. Initially, the patient had an acute onset of neurological dysfunction on his right side associated with numbness and tingling, and was reportedly told by his internist to be "untreatable by standard medicine." The patient subsequently underwent further workup and evaluation, including MRI of the lumbar spine, and was diagnosed as suffering from a "chronic degenerative spine." According to the patient, he was considered "not a surgical candidate" for his right lower-extremity disorder, and thus was discouraged from undergoing lumbar laminotomy and disc resection.

The patient complains he cannot work vertically for more than 30 minutes without having limb irritation he describes as a "dull, deep ache." The patient has an additional history of carcinoma of the prostate. He has not had any metastatic disease diagnosed, and reports satisfactorily that he has undergone successful surgery and the general course of diagnostic testing with which to monitor any metastatic progression.

E.K. presents to my office for consideration of evaluation of his condition. On clinical examination, he stands 5'9" and weighs 175 pounds. His pulse is 76. He presents unassisted. The patient's gait and balance testing demonstrate moderate abnormality of his gait. He is unable to balance on the affected limb. He does not have a staggering gait.

Motor testing demonstrates diffuse weakness in the right lower extremity. He doesn't have dramatic extremity weakness. Sensory testing demonstrates slight loss of proprioception on the right side. Straight-leg-raising to 80 degrees is negative. He has some tenderness and reproduction during palpation of the right sacroiliac joint, inconsistent with heel-to-buttock testing of sacroiliac dysfunction. The sciatic notch is nontender. The right piriformis on origin and insertion sites is painful to deep palpation with latent and active trigger points, and reproducible for his chief complaint.

E.K. is without diminution or loss of the deep tendon reflexes in the Achilles or patellar tendons. He is without atrophy of the calf or thigh musculature; there is no weakness of the *extensor hallucis longus* muscle or coldness of the affected limb. The distal vascular exam is normal. Range of motion of the hips and joints in the lower extremities does not reproduce his pain. He demonstrates some bilateral limitation of both internal and external rotation of the thigh. Radiographic imaging studies were not obtained, because outside studies were available as noted above. Previous reporting indicates diffuse disc bulges and degenerative changes at all levels. No EMG/NCV testing is available at present to demonstrate any chronic lumbar radiculopathy.

The patient presents with an interesting and challenging case. His goal is in seeking chiropractic: "I went to a chiropractor about five years ago for my sciatica, and I really felt it to be helpful." I am in agreement that the patient has chronic degeneration of his spine, and I feel that he is probable for central stenosis and lateral recess stenosis, in view of his chronic degenerative spinal condition.

In fact, he may be experiencing concurrent disorders. However, there is no clinical evidence of spinal cord compression or lumbar disc syndrome.

Using anatomical charts and models, I explain to the patient why I feel he may be experiencing a sciatic neuritis, not a sciatic radiculitis, as it relates to his right-limb complaint. In such a scenario, the nerve irritation in a herniated or "compromised" disc would occur at the root, and in a piriformis, or myofascial syndrome, the nerve irritation is to the full thickness of the nerve. Furthermore, I explained how I was able to reproduce the pain of the chief complaint clinically, upon internal and external rotation of the thigh (stretching the piriformis muscle) and deep digital examination at the origin and insertion of the piriformis. I agreed to accept him as a patient for short-term care, to treat what I felt was a right-sided piriformis syndrome.

The patient also has the possibility of a spinal condition related to his previous prostate cancer. Had it not been for his reported prostate-specific antigen (PSA) levels and imaging study reports verifying no evidence of metastasis, I would have considered a referral to his oncologist, if I felt this should be treated medically and further confirmed.

However, it was the patient's specific desire to seek an alternative opinion. I offered him a neurosurgical referral if he failed to respond to my course of care, or an immediate referral to a neurosurgeon who would be more likely to express a neurosurgical opinion as to the immediate need for a lumbar decompression and fusion. In the interim, he agreed to allow conservative chiropractic management an opportunity to monitor the unilateral symptoms.

## Discussion

Low back pain with or without sciatica is a common condition seen in chiropractic practice. In the majority of cases, pain is caused by classic conditions, such as degenerative disc disease, spondylosis, and entrapment of the lateral recess. In less common cases, sciatica is caused by arthritic changes in the sacroiliac joint or the existence of a trigger area in the piriformis muscle.

The signs and symptoms of sciatic neuritis, as exemplified by piriformis syndrome, are distinct from those of sciatic radiculitis. The most important distinction in the differentiation of sciatic pain caused by piriformis syndrome is the lack of a true neurological deficit. In piriformis syndrome, the positive sign is point tenderness over either end of this muscle. It may be found near its origin just lateral to the mid-sacrum, with its insertion just medial to the greater trochanteric. Deep palpation exemplifies the pain. With myofibrosis, or contracture of the piriformis muscle, this may produce resulting pressure on the sciatic nerve that traverses the muscle. The pressure or irritation of the nerve may derive not from the muscle itself, but from a complex inflammatory process set into motion by the piriformis spasm.

## Treatment

I have found that a combination of chiropractic manipulative treatment with myofascial release of the piriformis muscle is an effective therapy for piriformis syndrome. The piriformis is stretched manually by applying steady pressure perpendicular to the muscle's long axis and tangential to the buttocks, until the muscle is felt to relax. Chiropractic instrumentation may be utilized to promote relaxation, (I use vapocoolant sprays and/or percussor therapy to reduce muscle spasm by sustained pressure on the muscle, to disrupt noxious afferent stimuli/breaks and the pain-spasm-pain cycle. The spray blocks the pain sensation.) The patient is prone, and the chiropractor is on the side opposite the affected extremity during the myofascial release and manual stretching. The manipulation is applied with gentle force in a rotational maneuver. The goal is to separate the articular facets and restore lumbosacral mobility. The technique varies according to the location

and degree of lumbosacral rigidity. Chiropractic technique allows the facets to move more freely and reduces irritation of the spinal column, which could result in compensatory muscle splinting.

E.K. was instructed to wear a trochanteric belt/back support over the next week (anatomical rest to promote healing) while walking, and to avoid downhill climbs that would compress the facets and consequently irritate the piriformis. (Keeping a patient, especially an 80-year-old, ambulatory and in motion increases blood supply and lymphatic drainage, and can resolve the myofibrositis.) He was instructed to take Epsom salt bath soaks for at least 20 minutes before going to bed, to promote relaxation of the contracted muscle. He was instructed in the use of a topical analgesic ointment (designed for arthritis patients - I like over-the-counter Mobisyl by B.F. Escher, because it is greaseless and has no odor, but we chiropractors have many favorites!) to be applied liberally, three times a day and at bedtime. The analgesic properties of the ointment on the lumbosacral muscles ("topical" doesn't ignore muscle recruitment of compensatory muscles) serves to block pain sensations from active trigger points.

Piriformis syndrome, a common cause of low back and leg pain, can be relieved with conservative chiropractic care. As a testimony, I received a card from E.K. the other day that read: "Thank you for your help. My two-year leg pain is gone after only seven short treatments. I praise God every day for your existence. As you know, medicine offered no hope for me, but your help, combined with prayer and your knowledge of my condition, resolved my condition. God bless you!"

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