Dynamic Chiropractic

BACK PAIN

A Neuromusculoskeletal Medicine Approach to LBP

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Editor's Note: Dr. James Lehman, our former Ethics columnist, is shifting his writing focus to clinical care under a new column title: Clinical Pearls.

The osteopathic profession initiated the first resident training program that prepared osteopathic physicians to become neuromusculoskeletal medicine specialists. This program was opened up for allopathic physicians who completed the necessary postdoctoral training and passed the appropriate board examinations. Board certification by the American Osteopathic Board of Neuromusculoskeletal Medicine verifies that an NMM doctor has completed specialized training and passed competency examinations.

A neuromusculoskeletal medicine doctor is a doctor of osteopathic medicine who specializes in using hands-on, osteopathic evaluation and manipulative medicine to treat a variety of physical and mental conditions. NMM doctors focus on the relationship between a person's health and neuromusculoskeletal system (nerves, muscles, bones, skull and spine).

Chiropractic NMS Medicine

The first chiropractic neuromusculoskeletal medicine residency program began in 2013. The University of Bridgeport, School of Chiropractic initiated the program within the primary care facilities offered by the Community Health Center of Middletown, Conn., which is also credentialed as a Federally Qualified Health Center. The University of Bridgeport, School of Chiropractic defines a neuromusculoskeletal medicine specialist as:

A board-certified chiropractic neuromusculoskeletal medicine specialist focuses on the evaluation and management of patients suffering with pain syndromes and neuromusculoskeletal conditions.

The International Academy of Neuromusculoskeletal Medicine (IANM) defines chiropractic neuromusculoskeletal medicine specialists as the following:

Board-certified Chiropractic Neuromusculoskeletal Medicine specialists are doctors of chiropractic that have completed extensive postdoctoral education in non-surgical Neuromusculoskeletal Medicine, and have passed rigorous specialty Board examinations leading to Diplomate status as a Chiropractic Neuromusculoskeletal Medicine specialist.

A Chronic LBP Case Study

Now that you are more familiar with the neuromusculoskeletal medicine specialist, let's discuss the evaluation and management of a case of chronic low back pain.

History of Present Illness

A 35-year-old male patient presents with a chief concern of "My back is killing me." He explains that since he took a job as a mail carrier five years ago, his back has hurt seven days per week, worse on his work days. He claims to walk 10-15 miles per day delivering mail. The daily, deep, aching pain on the right side of his low back is rated 3/10. Once he sits down at the end of the day, he experiences a sharp pain in the same area (rated 8/10) that interferes with walking or rising from a chair.

In the morning, he notices the sharp lower back pain on the right that feels like a muscle spasm while brushing his teeth. Stretching and a hot shower seems to reduce the pain. Anytime he bends at the waist, he experiences difficulty and pain while attempting to stand erect.

He denies any radiating pain into the legs. Denies the use of medications or chiropractic care in the past. The pain is getting worse and he wonders if chiropractic might help.

His hydration level is limited to 16 ounces of water per day. He drinks a liter of diet cola per day. After work in the evening, he consumes a six-pack of beer.

Physical Examination

Appearance: He is alert, pleasant and cooperative He is a good historian and a well-developed mesomorph, appearing his stated age and mildly obese. He is slow to rise from the seated position. He grimaces and appears to be stiff while attempting gain an erect posture.

Height 70 inches; *weight* 230 pounds.

Vital signs: skin temperature of 98.4 degrees F; BP 145/94; pulse rate 64/minute; respiration rate 14/minute.
Posture: mild "S" type scoliosis with convexity of the lumbar to the right with a right posterior inferior ilium.

Leg length symmetrical, tape measure.

Long sit test demonstrates the right lower extremity to appear shorter in supine and sitting position compared to the left lower extremity. Placement of a ¼" heel lift under the right heel levels the pelvis. Sitting demonstrates a level pelvis.

Palpation reveals painful nodules with taut bands in the right, lumbosacral multifidi muscles. Palpation of the right iliopsoas muscle reveals painful nodules and taut bands that reproduce the low back pain on the right side. Palpation of the right L4-5-S1 facet capsules is painful.

Active lumbar range of motion appears full, symmetrical and without pain except with extension, which is limited and painful at the lower lumbar spine on the right.

Kemp's maneuver (standing) is negative for leg pain, but produces some pain in the right anterior hip and the right lower lumbar spine.

Fabere Patrick's demonstrates reduced range of motion in the right hip with pain in the right iliopsoas and normal range of motion left hip.

Posterior joint dysfunction: L4-5-S1 with pain upon palpation, reduced ROM, and hypertonicity of the multifidi muscles.

Three-part peripheral neurological examination including sensory, motor and deep tendon reflexes intact without deficits, weaknesses or abnormal reflexes.

Gait appears normal.

Assessment

1. Chronic pain syndrome,[1] post-traumatic (G89.21)[2]
2. Myofascial pain syndrome
3. Lumbar facet syndrome
4. Scoliosis

The Plan

- Spinal manipulation to reduce pain, improve function and correct posterior joint dysfunction.
- Rx ¼ inch heel lift in right shoe to reduce posterior inferior ilium.
- Increase hydration with 60-80 ounces of water per day to reduce pain.[3]
- Reduce consumption of beer and lose 20 pounds to reduce spinal stress and dehydration effect of the alcohol.
- Treat two times for two weeks and re-evaluate.

The patient returns for re-evaluation after four treatments. He claims to respond to care with reduced pain for 6-12 hours, but then the pain returns.

Why did he not respond better to the care? Normally, if the patient does not respond appropriately, either the diagnosis or the treatment is incorrect. Possibly both are incorrect. In this case, both treatment and diagnosis were incorrect.

What Does the Patient Need? Your Multiple-Choice Question

a. Increased hydration to reduce pain
b. Soft-tissue treatment of the iliopsoas and multifidi muscles
c. Manipulation of the right hip joint
d. All of the above

If you selected soft-tissue treatment of the muscles with myofascial trigger points, I agree. However, here's a clinical pearl I learned while caring for professional baseball pitchers with the Bridgeport Bluefish.

What Worked? The Clinical Pearl

Most often, pelvic obliquity occurs with anatomical or functional leg-length inequality. This patient demonstrated a short leg in both supine and sitting posture, but the tape measure demonstrated symmetrical leg lengths. His job required an extensive amount of walking and he was hypohydrated. He also demonstrated myofascial contracture of the right iliopsoas with resultant shortening of the right lower extremity.

What I learned while treating the Bluefish is that a contracture of the iliopsoas must be treated with soft-tissue treatment and stretching, plus proper hydration. In addition, the clinician must perform a long-axis traction of the femoral acetabular joint, and then recheck the leg lengths in both the supine and sitting posture.

Following trigger-point pressure releases and long-axis hip manipulation, the patient's hip and back pain were relieved. Upon re-evaluation of the leg lengths with both the Long sit test and tape measurement, his legs were symmetrical in length. He no longer needed the ¼ inch heel lift and was able to work without pain. He was compliant with increased hydration, stretching and reduction of his beer consumption, with subsequent loss of weight.

References

1. *National Pain Strategy: A Comprehensive Population Health-Level Strategy for Pain*.
2. AAPC. Pain Quick Reference for ICD-10-CM.
3. Perry BG, et al. Mild dehydration modifies the cerebrovascular response to the cold pressor test. *Exp Physiol,* 2016 Jan;101(1):135-42.

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