

Evidence-Based Care for Low Back Pain

By

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The paradox of acute low back pain (ALBP) has received enormous attention lately for good reasons. Different approaches and treatments abound among practitioners of different skill levels. Considering the huge costs involved in this epidemic, the consensus of evidence-based medicine (EBM) has recommended an emerging new model of care that I would like to share with you.¹

“A disease like back pain can have a lot of variability in the ways medical professionals approach patient care,” according to Scott Boden, MD, director of the Emory Orthopaedic and Spine Center in Atlanta. “Many, if not most, primary care providers have little training in how to manage musculoskeletal disorders.”²

Indeed, LBP has become a “think out of the box” problem because the standard medical approach for LBP—pain pills, muscle relaxants, steroid injections, physical therapy modalities, MRI scans, disc surgery—has now been shown to be expensive, risky, and often ineffective according to Gordon Waddell, MD, orthopedist and spine researcher. “Low back pain has been a 20th century health care disaster. Medical care certainly has not solved the everyday symptom of low back pain and even may be reinforcing and exacerbating the problem.”³ Hopefully the 21st century with evidence-based care will improve upon his assessment.

Muscle Relaxants: Overused, Ineffective

Ostensibly the most common LBP diagnosis is “pulled muscles” and the routine treatment is NSAIDs and muscle relaxants in 63% of cases.⁴ In a recent issue of *Spine*, researchers found in patients with severe acute LBP, muscle relaxant use was associated with a statistically significant increase in time to recovery -- 32.4 days compared to 16.2 days in the placebo group, due to the sedative effect upon patients. The researchers concluded there was “no demonstrable effect from muscle relaxant use.”⁴

“False Positive” Imaging

There’s been a tendency to let imaging trump clinical presentation in ALBP cases. EBM now questions whether or not scans are necessary in light of the cost and ubiquitous nature of disc abnormalities.⁵ “It should be emphasized that back pain is not necessarily correlated or associated with morphologic or biomechanical changes in the disc,” according to Dr. Scott Boden. “The vast majority of people with back pain aren’t candidates for disc surgery.”¹

Agreeing with Dr. Boden is another leading spine researcher, Richard Deyo, MD, MPH, University of Washington Medical School, who criticized “Old concepts supported only by weak evidence” and the reliance on MRI exams to infer disc abnormalities as the universal cause of back pain. In *The New England Journal of Medicine*, he debunks the disc theory that often leads to a “false positive” misdiagnosis:

“Early or frequent use of these tests [CT and MRI] is discouraged, however, because disc and other abnormalities are common among asymptomatic adults. Degenerated, bulging, and herniated disks are frequently incidental findings, even among patients with low back pain, and may be misleading. Detecting a herniated disk on an imaging test therefore proves only one thing conclusively: the patient has a herniated disk.”⁵

An MRI finding of disc abnormalities alone is no longer considered a diagnosis; moreover, some causes of pain will not show up on an MRI scan, primarily the mechanical ability of the spine to bear weight and the functioning of spinal joints. By focusing mainly on disc abnormalities and arthritis, the overall functioning of the spine is often ignored. A complete diagnosis for LBP must include proper vertebral alignment, spinal muscular strength, and overall flexibility of the spinal joints, and not just the status of discs from an MRI scan.

Unnecessary Disc Surgery

The correlation of disc abnormalities to back pain despite the weak evidence is a mistaken assumption that has led to unnecessary surgery, high costs, and poor outcomes that Dr. Waddell and other experts bemoan.

The Agency for Health Care Policy and Research (AHCPR), a 23-member panel headed by orthopedist Stanley Bigos, MD, unquestionably the most in-depth meta-analysis of acute LBP to date, confirmed the rare need for surgery:

“Even having a lot of back pain does not by itself mean you need surgery. Surgery has been found to be helpful in only 1 in 100 cases of low back problems. In some people, surgery can even cause more problems. This is especially true if your only symptom is back pain.”⁶

There is now broad agreement in medical practice that disc surgery should not generally be considered until there has been a trial of conservative non-surgical care, primarily spinal manipulative therapy. ^{7,8,9}

Emerging Model for LBP

If not “pulled muscles” or “slipped discs” causing most idiopathic ALBP, what does? Research now believes that most back pain is mechanical in nature—that is, dysfunctional spinal joints cause the inflammation, facet pain, and reflex spasm associated with ALBP.

Joint complex dysfunction is now considered the most accurate explanation of mechanical low back pain.¹⁰ Considering there are 137 joints in the human spine, the causation of ALBP stemming from joint dysfunction explains why spinal manipulation has worked so well to help solve this epidemic.

Dr. Deyo acknowledged that most back pain is “mechanical.” In his article, “Differential Diagnosis of Low Back Pain,” Dr. Deyo opined that Mechanical Low Back or Leg Pain constituted 97% of these cases, of which lumbar strain, sprain accounted for 70% of these cases; Non-mechanical Spinal Conditions accounted for about 1%; Visceral Disease accounted for 2%.⁵

Many medical peer-reviewed articles in *Spine* and *The Journal of Joint and Bone Surgery* now suggest that the effectiveness of skilled manipulation can primarily be explained as the alleviation of pain from overlying facet joint dysfunction or, in chiropractic parlance, the vertebral subluxation. ^{11,12,13,14}

The AHCPR panel also recommended spinal manipulation as a “Proven Treatment” and the preferred initial professional treatment for acute low back pain. This guideline states:

“This treatment (using the hands to apply force to the back to ‘adjust’ the spine) can be helpful for some people in the first month of low back symptoms. It should only be done by a professional with experience in manipulation.”⁶

Dr. Deyo agreed chiropractic was a popular solution:

“Chiropractic is the most common choice, and evidence accumulates that spinal manipulation may indeed be an effective short-term pain remedy for patients with recent back problems.”⁵

Recently in Spine, a major RCT study by Wand et al.¹⁵ on early intervention for ALBP found that patients obtain significant benefit from an early active therapy program. Their findings suggested that “early active manual therapy led to improved outcomes in disability, general health, social function, anxiety, depressive symptoms, mental health, and vitality.”

Manual therapy, rehabilitative exercises, advice on staying active and education were the major interventions used. The manual therapy intervention used both low-velocity joint mobilization techniques and high-velocity manipulation techniques.

Buckled Joints

Most ALBP may not be caused primarily by a slipped disc as much as by slipped joints that have finally buckled. Research from the multidisciplinary practice at the Texas Back Institute suggests many cases of ALBP are the result of a “segmental buckling effect,” according to research by John Triano, DC, PhD, et al.¹⁶

This buckling effect may explain why a patient doing perfectly well one moment may suddenly experience an excruciating back pain while virtually doing a minor act later in life. Indeed, it’s the proverbial straw that broke the camel’s back. “But all I did was...” so explains the bewildered patient but, upon examination, spinal x-rays show an aged, arthritic spine with many areas of structural misalignments.

SMT for HNP?

The question concerning LBP with sciatica presents another consideration: can SMT be as effective as spinal surgery for actual cases of disc herniation? Yes it can!

The latest studies suggest that SMT and spinal axial decompression may be the best methods for the majority of these cases. Several studies have recently shown that 50-80% of patients with lumbar disc herniation are relieved by side-posture manipulation.^{17,18,19} The largest study by Kuo and Loh¹⁹ involved a series of 517 patients over an eight-year study period. All had a diagnosis of lumbar disc protrusion and were referred for manipulative therapy. 77% had a favorable response, defined as relief of pain at least to the extent that the patient could perform daily activities.

Spinal Decompression with DRX9000

Certainly not every LBP case is caused by joint dysfunction alone nor does every patient respond to SMT. For whatever reasons, however, once a spine has buckled causing disc, nerve, and joint compression, spinal axial decompression therapy has proven very effective in treating disc herniation and degeneration with an 86% success rate according to extensive research by CN Shealy, MD, PhD. ²⁰

Indeed, vertebral axial decompression fills the gap in treatment between spinal manipulation and disc surgery. Unlike the VAX-D straight linear traction that is non-specific like old traction tables, the DRX technology uses angled distraction specific to each lumbar intervertebral disc, applying about 80-90% of pull to a single disc segment, resulting in more effective reversal of the compression upon the disc and z-joints.

In addition, the software in the DRX program creates an intermittent pulsation distraction, a major key component in restoring discal hydration. The FDA concluded that the DRX9000 achieves its effects through decompression of the intervertebral discs and facet joints, in effect, unloading excessive pressure.

A study by Gose et al.²¹ from the University of Chicago collected data from twenty-two medical centers for patients who received spinal decompression therapy for low back pain, which was sometimes accompanied by referred leg pain. Only patients who received at least ten sessions and had a diagnosis of herniated disc, degenerative disc, or facet syndrome, which were confirmed by diagnostic imaging, were included in this study; a total of 778 cases. The patients' quantitative assessments of their own pain, mobility, and ability to carry out the usual 'activities of daily living was rated successful in 71% of the 778 cases.

As you can see, the evidence has shown that the trend to SMT and spinal decompression for ALBP is well established. While not every LBP case is due to joint dysfunction, the recommendations now suggest conservative care before scans or surgical intervention. I hope you've found this essay interesting, helpful and maybe enlightening, but not offensive. The facts are clear: this is a new era in the treatment of LBP.

An Invitation to You

I realize how busy you are, so please logon to www.smithspinalcare.com to learn more about my office, my approach, and the DRX9000. Once you read about my comprehensive approach to spinal care and see my office equipment, you'll have the confidence to refer your patients for acute or chronic low back pain as well as for the serious whiplash cervical injuries. I guarantee that you will be sent reports on your patients and, if they do not respond to my care, I will either refer them back to you or to a local orthopedist. My goal is to give patients the best of all worlds in health care. Hopefully your goal is the same.

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