



## Spine SECRETS

Which term also means “herniated disc”?

- A) pinched nerve
- B) bulging disc
- C) sciatica
- D) all of the above

Answer: D—All of the above

## Back TALK

Low back pain affects four out of five people. Pain alone is not enough to recognize a herniated disc. The most common symptom is sciatica—a sharp, often shooting pain that extends from the buttocks down the back of one leg.

Other symptoms include:

- Weakness in one leg
- Tingling (a “pins-and-needles” sensation)
- Loss of bladder or bowel control
- A burning pain centered in the neck

THE SPINE SPECIALISTS



Walter O. Carlson, MD



K. C. Chang, MD



Mitchell C. Johnson, DO



Matthew J. McKenzie, MD

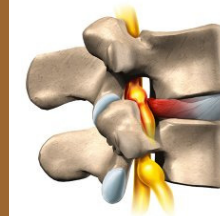


Robert C. Suga, MD

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## Disc Herniation

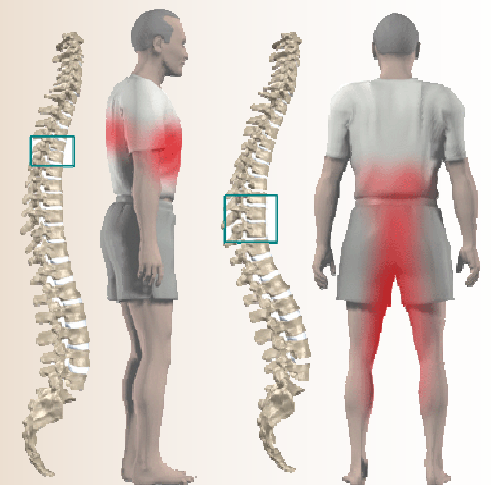


Low back pain is a common cause for individuals to seek physicians’ assistance. There is a 60-80% probability that the average working individual will develop low back pain sometime during life.<sup>1</sup> Men are more likely to develop back pain and it manifests most commonly in the fourth or fifth decade of life.<sup>1</sup> Back pain is caused by many changes in the body including fractures, tumors, spinal stenosis, tight hamstrings, or a complication from an existing condition. Yet, this article will focus on one of the most common causes: disc herniation.

The intervertebral disc consists of an outer annulus fibrosus, an inner annulus fibrosus, and a central nucleus pulposus. The disc is essential to the axial skeleton for mobility and compression support. However, as the body ages and is continually stressed, the discs begin to wear. The nucleus pulposus, which is mainly made of water and proteoglycans, deteriorates over time.<sup>2</sup> Once the loss of water/proteoglycan composition occurs, herniations become prevalent. The development of back pain can occur as a result of direct stimulation of the outer annulus nerves, direct compression of nerve roots or the spinal cord, and /or the chemical response from the herniation.<sup>1</sup> The location of herniation is most common at either L4-L5 or L5-S1.

### What are the key diagnostic symptoms?

In the clinical setting, the symptoms associated with disc herniations are straightforward. The key diagnostic symptoms are sciatica and either acute or chronic back pain. It is essential to rule out other associated conditions including fracture, tumor, infection, bladder and/



Orthopedic Institute  
810 E. 23rd Street  
Sioux Falls, SD  
57117-5116  
888-331-5890  
605-331-5890  
www.ortho-i.com

## Management of Discogenic Pain

or bowel dysfunction cauda equina syndrome, or progressive neurological deficit.<sup>1</sup> The presence of any complicated condition necessitates an immediate workup. Two other differential diagnoses to consider are diabetic neuropathy and spinal stenosis. Confirming the cause of back pain to be discogenic can be accomplished through the clinical history and physical examination.<sup>1</sup> The physical signs may include loss of lordosis, leaning

away from the painful side, or a slight flexion and external rotation of the hip and knee on the affected side to relieve nerve root compression.<sup>1</sup> The physical exam includes the classic straight leg raise test and neurological exam including reflex and sensory testing.<sup>1</sup>

Diagnosing disc herniations solely by clinical history and physical examination is common for physicians. Radiological testing is chosen by whether the pain is acute or chronic. Acute episodes of low back pain with no signs of serious complications should not be imaged for six weeks and treated conservatively.<sup>3</sup> There is a 28% prevalence of herniated discs in asymptomatic individuals by magnetic resonance imaging (MRI), therefore, a herniated disc by MRI is not necessarily the cause of the pain.<sup>3</sup> If after six weeks of conservative treatment the patient is unsatisfied with the results, plain film x-rays are indicated to determine the presence of tumor, infection, instability, defects of pars interarticularis, or osteoarthritis of the hip. A MRI is then performed if there is no defect on x-ray since soft tissue



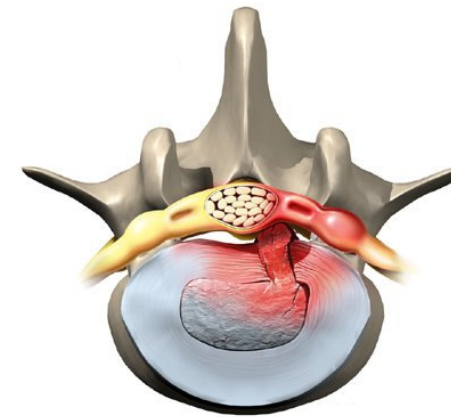
is no defect on x-ray since soft tissue

abnormalities can be assessed.

Chronic back pain patients with pain for more than six months are tested differently than acute back pain patients. MRI should be initiated immediately to evaluate fractures, tumors, spinal instabilities, and to determine the integrity of the intervertebral discs. Discography can be used to determine the specific level of disc degeneration and computed tomography (CT) myelogram can be used when MRI is contraindicated. Once the cause of the pain is determined to be discogenic the treatment process can begin.

## What are the treatment options for disc herniation?

The treatment options for low back include both conservative and surgical options. The vast majority of patients with low back pain can be treated with conservative methods in the primary care setting with success. Conservative treatment includes medication, bracing, manipulation, massage therapy, physical therapy, patient education, hot or cold packs, and bed rest. The treatment goals for patients with acute back pain with a normal examination are pain management and early mobilization. Patients should be advised to continue to stay active in whatever capability is comfortable for them. Bed rest should not be advocated, but if bed rest is necessary, it should last no longer than 2-3 days.<sup>3</sup> Analgesic medication generally is central to the treatment plan for patients with acute back pain. Both opioid and nonopioid analgesics are used, and studies have shown no difference in symptom relief or time of return to work between opioid, nonopioid, and NSAID medication.<sup>5</sup> Muscle relaxants can also be used as adjunctive therapy in severe acute low back pain, but should only be used for a short time. Aerobic and low-stress exercises are helpful along with exercises to strengthen the abdominal musculature and improve “core strength”.<sup>5</sup> Chiropractic manipulation appears to be most effective in the short-term, especially if the symptoms were present for less than 2 weeks.<sup>5</sup> Patients with acute low back pain who continue to have symptoms after 6-8 weeks of conservative treatment should have diagnostic testing performed and a consideration of referral to an orthopedist for evaluation.




## What are the important points to remember?

- Individuals with back pain secondary to disc herniation are very common patients for clinicians.
- Using the patient history and physical examination the physician can make the correct diagnosis.
- Conservative treatment should almost always be prescribed first and if unsuccessful, advising a MRI and referral to an orthopedic surgeon for consultation is advised.
- Surgical outcomes for patients are very successful and the desired relief is often attainable.



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**PHYSICIAN SPOTLIGHT**

**K. C. Chang, M.D.**

Dr. Chang is a physiatrist specializing in the non-surgical treatment of the spine and in electrodiagnostic medicine. He completed his medical education at the University of Florida and a residency at the Westchester County Medical Center in New York. He is one of three board certified physicians in electrodiagnostic medicine in the state of South Dakota. Before joining Orthopedic Institute, he practiced for ten years at the Florida Center for Orthopedics.

**SPECIALTIES:** Acupuncture, non-surgical spinal pain management, percutaneous electrical nerve stimulation and physical medicine

- Certified: Diplomate of the American Board of Physical Medicine and Rehabilitation
- Certified: American Board of Electrodiagnostic Medicine
- Certified: American Board of Independent Medical Examiners
- Residency: Westchester County Medical Center, New York
- University of Florida