

Lumbar Herniated Disc

Introduction

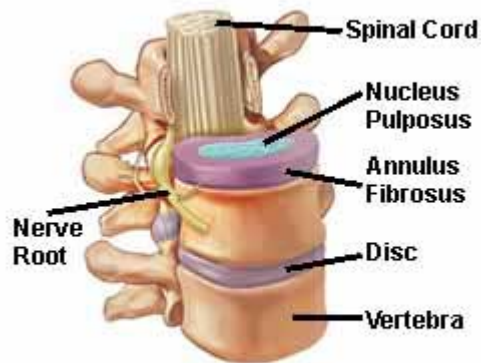
A common cause of low back and leg pain is a ruptured or [herniated disc](#). Symptoms may include dull or sharp pain, muscle spasm or cramping, [sciatica](#), and leg weakness or loss of leg function. Sneezing, coughing, or bending usually intensifies the pain. Rarely bowel or bladder control is lost, and if this occurs, **seek medical attention at once**.

[Sciatica](#) is a symptom frequently associated with a lumbar herniated disc. Pressure on one or several nerves that contribute to the [sciatic nerve](#) can cause pain, burning, tingling, and numbness that extends from the buttock into the leg and sometimes into the foot. Usually one side (left or right) is affected.

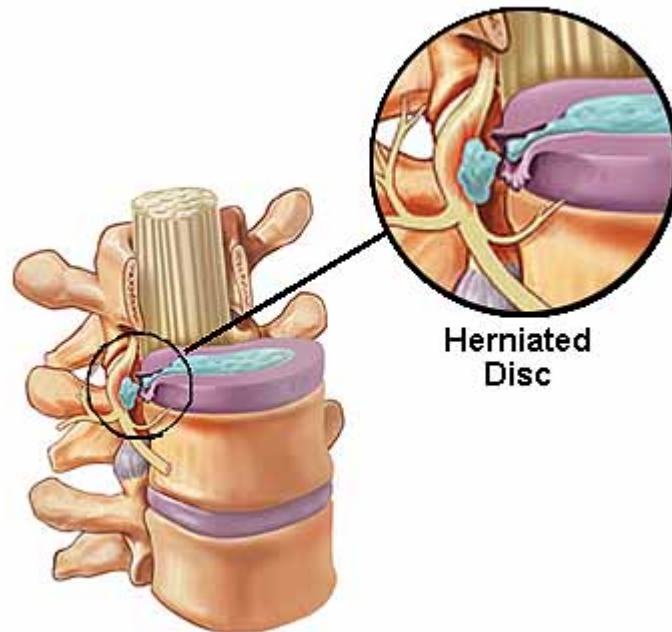
Anatomy - Normal Lumbar Disc

In between each of the five lumbar vertebrae (bones) is a disc, a tough fibrous shock-absorbing pad. Endplates line the ends of each vertebra and help hold individual discs in place. Each disc contains a tire-like outer band (called the annulus fibrosus) that encases a gel-like substance (called the nucleus pulposus).

Nerve roots exit the spinal canal through small passageways between the vertebrae and discs. Pain and other symptoms can develop when the damaged disc pushes into the spinal canal or nerve roots.



Disc herniation occurs when the annulus fibrosus breaks open or cracks, allowing the nucleus pulposus to escape. This is called a Herniated Nucleus Pulposus (HNP) or [herniated disc](#).



Many factors increase the risk for disc herniation: (1) Lifestyle choices such as tobacco use, lack of regular exercise, and inadequate nutrition substantially contribute to poor disc health. (2) As the body ages, natural biochemical changes cause discs to gradually dry out affecting disc strength and resiliency. (3) Poor posture combined with the habitual use of incorrect body mechanics stresses the lumbar spine and affects its normal ability to carry the bulk of the body's weight.

Combine these factors with the affects from daily wear and tear, injury, incorrect lifting, or twisting and it is easy to understand why a disc may herniate. For example, lifting something incorrectly can cause disc pressure to rise to several hundred pounds per square inch!

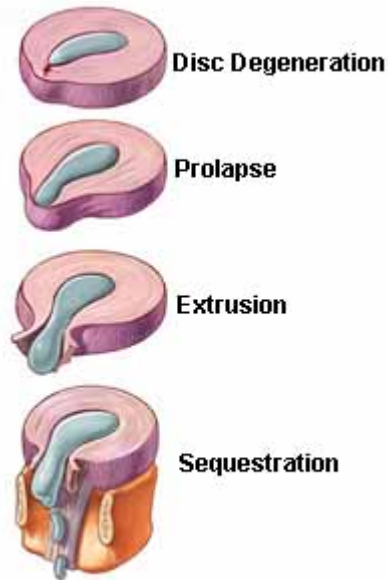
A herniation may develop suddenly or gradually over weeks or months. The four stages to a [herniated disc](#) include:

1) Disc Degeneration: chemical changes associated with aging causes discs to weaken, but without a herniation.

2) Prolapse: the form or position of the disc changes with some slight impingement into the spinal canal. Also called a bulge or protrusion.

3) Extrusion: the gel-like nucleus pulposus breaks through the tire-like wall (annulus fibrosus) but remains within the disc.

4) Sequestration or Sequestered Disc: the nucleus pulposus breaks through the annulus fibrosus and lies outside the disc in the spinal canal (HNP).



Locating the Cause of Pain

Interestingly, not every [herniated disc](#) causes symptoms. Some people discover they have a bulging or [herniated disc](#) after an x-ray for an unrelated reason.

Most of the time the symptoms prompt the patient to seek medical care. The visit with the doctor usually includes a physical and neurological exam; review of medical history, symptom evaluation and the history of treatments and medication the patient has tried. An x-ray may be needed to rule out other causes of back pain such as [osteoarthritis](#) or [spondylolisthesis](#). A CT or MRI scan verifies the extent and location of disc damage. Sometimes a myelogram is necessary.

Non-Surgical Treatment

Most patients with a lumbar [herniated disc](#) do not need surgery! Initially, the doctor may recommend some bed rest, cold therapy, and medications. Bed rest takes the pressure off nerves in the low back. During the first 24 to 48 hours cold therapy helps to reduce swelling, muscle spasm, and pain by reducing blood flow. Never apply cold or ice directly to skin; instead wrap the ice pack or cold product in a towel and apply for no longer than 15 minutes.

Medications may include an anti-inflammatory to reduce swelling, a muscle relaxant to calm spasm, and a pain-killer (narcotic) to alleviate intense but short-lived pain (acute pain). Mild to moderate pain may be treated with non-steroidal anti-inflammatory drugs (NSAIDs). These work by relieving both swelling and pain. Discuss NSAID use with your physician first.



Usually, after the first 48 hours, heat therapy can be applied. Heat increases blood flow to warm and relax soft tissues. Increased blood flow helps to flush away irritating toxins that may accumulate in tissues as a result of muscle spasm and disc injury. Never apply heat directly to skin; instead, wrap the heat source in a thick towel for no longer than 20 minutes.

If leg pain is severe, or leg weakness is developing, the doctor may prescribe an [epidural injection](#). An epidural is an injection of anti-inflammatory medication into the space near the affected nerves. You should discuss this option with your doctor and ask about potential side effects before beginning this treatment.



The doctor may recommend physical therapy. The doctor's orders are transmitted to the physical therapist by prescription. Physical therapy includes a combination of non-surgical treatments to decrease pain and increase flexibility. Ice and heat therapy, gentle massage, stretching, and pelvic traction are some examples.



In four to six weeks, the majority of patients find their symptoms are relieved without surgery! Be optimistic about your treatment plan and remember that less than 5% of all back problems require surgery!

Surgical Treatment

Spine surgery is considered if non-surgical treatment does not relieve symptoms. Constant pain, leg weakness, or loss of function requires further evaluation. Rarely, does

a lumbar [herniated disc](#) cause bowel/bladder incontinence or groin/genital numbness, which requires immediate medical attention. If surgery is recommended, always ask the purpose of the operation and what results you can expect. Never be afraid to obtain a second opinion.

To relieve nerve pressure and leg pain, surgery usually involves a partial disc removal or [discectomy](#). In addition, the surgeon may need to access the herniated disc by removing a portion of the bone covering the nerve. This procedure is called a laminotomy. Fortunately, these procedures can often be done utilizing minimally invasive techniques. Minimally invasive surgery does not require large incisions, but instead uses small cuts and tiny specialized instruments and devices such as a microscope and endoscope during the operation.

Prevention

Aging is inevitable, but lifestyle changes can help prevent [lumbar disc](#) disease. Risk factors include poor posture and body mechanics, weak abdominal muscles, smoking, and obesity. Start now to adopt habits that will help preserve your spine for the future.