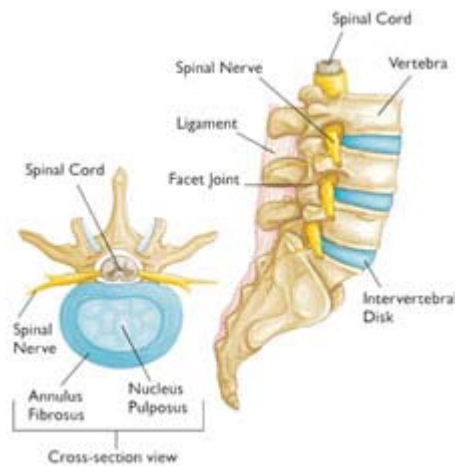


Herniated Disk

When people say they have a "slipped" or "ruptured" disk in their neck or lower back, what they are actually describing is a herniated disk—a common source of pain in the neck, lower back, arms, or legs.

Anatomy

Disks are soft, rubbery pads found between the hard bones (vertebrae) that make up the spinal column. The spinal canal is a hollow space in the middle of the spinal column that contains the spinal cord and other nerve roots. The disks between the vertebrae allow the back to flex or bend. Disks also act as shock absorbers.



Normal anatomy of lumbar spine.

Disks in the lumbar spine (low back) are composed of a thick outer ring of cartilage (annulus) and an inner gel-like substance (nucleus). In the cervical spine (neck), the disks are similar but smaller in size.

Cause



A herniated disk (side view and cross-section).

A disk herniates or ruptures when part of the center nucleus pushes through the outer edge of the disk and back toward the spinal canal. This puts pressure on the nerves. Spinal nerves are very sensitive to even slight amounts of pressure, which can result in pain, numbness, or weakness in one or both legs.

Risk Factors/Prevention

In children and young adults, disks have high water content. As people age, the water content in the disks decreases and the disks become less flexible. The disks begin to shrink and the spaces between the vertebrae get narrower. Conditions that can weaken the disk include:

- Improper lifting
- Smoking
- Excessive body weight that places added stress on the disks (in the lower back)
- Sudden pressure (which may be slight)
- Repetitive strenuous activities

Symptoms

Lower Back

Low back pain affects four out of five people. Pain alone is not enough to recognize a herniated disk. See your doctor if back pain results from a fall or a blow to your back. The most common symptom of a herniated disk is sciatica—a sharp, often shooting pain that extends from the buttocks down the back of one leg. It is caused by pressure on the spinal nerve. Other symptoms include:

- Weakness in one leg
- Tingling (a "pins-and-needles" sensation) or numbness in one leg or buttock
- Loss of bladder or bowel control (If you also have significant weakness in both legs, you could have a serious problem and should seek immediate attention.)
- A burning pain centered in the neck

Neck

As with pain in the lower back, neck pain is also common. When pressure is placed on a nerve in the neck, it causes pain in the muscles between your neck and shoulder (trapezius muscles). The pain may shoot down the arm. The pain may also cause headaches in the back of the head. Other symptoms include:

- Weakness in one arm
- Tingling (a "pins-and-needles" sensation) or numbness in one arm
- Loss of bladder or bowel control (If you also have significant weakness in both arms or legs, you could have a serious problem and should seek immediate attention.)
- Burning pain in the shoulders, neck, or arm

Diagnosis

To diagnose a herniated disk, your doctor will ask for your complete medical history. Tell him or her if you have neck/back pain with gradually increasing arm/leg pain. Tell the doctor if you were injured.

A physical examination will help determine which nerve roots are affected (and how seriously).

A simple X-ray may show evidence of disk or degenerative spine changes.

MRI (magnetic resonance imaging) or CT (computed tomography) (imaging tests to confirm which disk is injured) or electromyography (a test that measures nerve impulses to the muscles) may be recommended if the pain continues.

Treatment

Nonsurgical Treatment

Nonsurgical treatment is effective in treating the symptoms of herniated disks in more than 90% of patients. Most neck or back pain will resolve gradually with simple measures.

- Rest and over-the-counter pain relievers may be all that is needed.
- Muscle relaxers, analgesics, and anti-inflammatory medications are also helpful.
- Cold compresses or ice can also be applied several times a day for no more than 20 minutes at a time.
- After any spasms settle, gentle heat applications may be used.

Any physical activity should be slow and controlled, especially bending forward and lifting. This can help ensure that symptoms do not return—as can taking short walks and avoiding sitting for long periods. For the lower back, exercises may also be helpful in strengthening the back and abdominal muscles. For the neck, exercises or traction may also be helpful. To help avoid future episodes of pain, it is essential that you learn how to properly stand, sit, and lift.

If these nonsurgical treatment measures fail, epidural injections of a cortisone-like drug may lessen nerve irritation and allow more effective participation in physical therapy. These injections are given on an outpatient basis over a period of weeks.

Surgical Treatment

Surgery may be required if a disk fragment lodges in the spinal canal and presses on a nerve, causing significant loss of function. Surgical options in the lower back include microdiscectomy or laminectomy, depending on the size and position of the disk herniation.

In the neck, an anterior cervical discectomy and fusion are usually recommended. This involves removing the entire disk to take the pressure off the spinal cord and nerve roots. Bone is placed in the disk space and a metal plate may be used to stabilize the spine.

For some patients, a smaller surgery may be performed on the back of the neck that does not require fusing the bones together.

Each of these surgical procedures is performed with the patient under general anesthesia. They may be performed on an outpatient basis or require an overnight hospital stay. You should be able to return to work in 2 to 6 weeks after surgery.

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