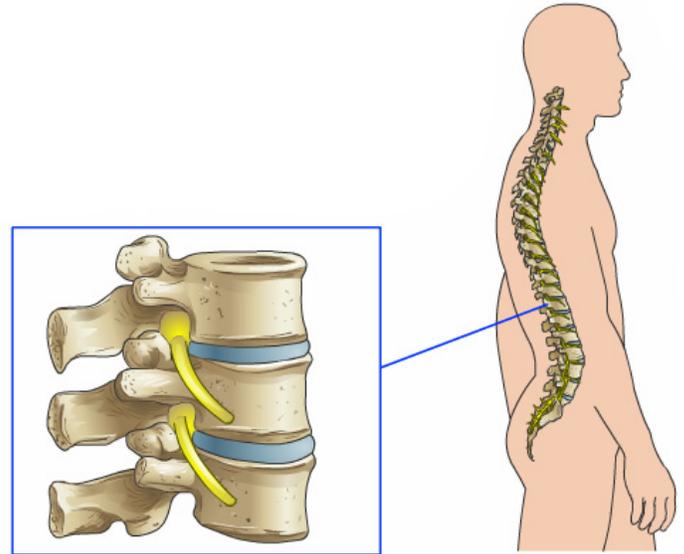


### **Introduction**

Your backbone, or spine, has 24 moveable vertebrae made of bone. Between the bones are soft disks filled with a jelly-like substance. These disks cushion the vertebrae and keep them in place.

A herniated disk, also known as a slipped disk or a ruptured disk, is a disk that breaks. This allows the jelly-like center of the disk to leak. The nearby nerves become irritated and may cause back, leg or arm pain. With treatment, most people recover.



This reference summary explains herniated disks. It discusses symptoms and causes of the condition, as well as treatment options.

### **Anatomy of the Spine**

The spine protects the spinal cord and nerves that go to different parts of the body. The spine is formed of solid vertebrae. The vertebrae are separated by softer disks.

A spinal disk has a softer center encased within a tougher exterior. A herniated disk happens when some of the softer center pushes out through a crack in the tougher exterior.

### **Symptoms**

You can have a herniated disk without knowing it. If the herniated disk is not pressing on a nerve, you may have no symptoms at all. But some herniated disks can be painful. The location of your symptoms may vary. It depends on where the herniated disk is located along your spine. Most herniated disks happen in the lower back, or lumbar spine. They can also happen in your neck, or cervical spine.

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The most common signs and symptoms of a herniated disk are:

- Arm or leg pain.
- Numbness or tingling.
- Severe deep muscle pain and muscle spasms.
- Weakness.

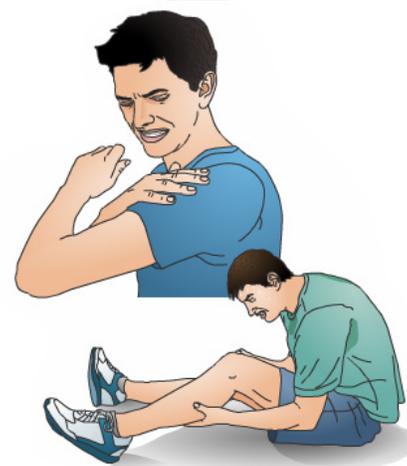
If your herniated disk is in your lower back, you will typically feel the most intense pain in your:

- Buttocks.
- Thigh.
- Lower leg.
- Foot.



If your herniated disk is in your neck, the pain will typically be most intense in the shoulder and arm. This pain may shoot into your arm or leg when you cough, sneeze or move your spine into certain positions.

You may experience muscle weakness. This may cause you to stumble. It may also limit your ability to lift or hold items.



## Causes

Disk herniation is most often the result of slow, aging-related wear and tear. This is called disk degeneration. As you age, your spinal disks lose some of their water content. That makes them less flexible and more prone to tearing or rupturing with even a minor strain or twist. Herniated disks are most common in middle age, especially between 35 and 45.

Most people cannot pinpoint the exact cause of their herniated disk. Sometimes, using your back muscles instead of your leg and thigh muscles to lift large, heavy objects can lead to a herniated disk. Twisting and turning while lifting can also cause a herniated disk. People with physically demanding jobs have a greater risk of back problems. Repetitive lifting, pulling, pushing, bending sideways and twisting also may increase your risk of a herniated disk.

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Being overweight increases your risk of disk herniation. Excess body weight causes extra stress on the disks in the lower back. Rarely, a traumatic event such as a fall or a blow to the back can cause a herniated disk.

## Complications

Complications of herniated disks include loss of agility, strength or sensation in one or both legs and feet. Chronic pain is a complication of disk herniation that may cause depression and anxiety.

Below the waist, the spinal cord separates into a group of long nerve roots known as the cauda equina. Rarely, disk herniation can compress the entire cauda equina. Emergency surgery may be required to prevent permanent weakness or paralysis. People who have the cauda equina syndrome also may become incontinent or have difficulty urinating, even with a full bladder. Saddle anesthesia is also a complication of a herniated disk. It is a progressive loss of sensation that affects the inner thighs, back of legs and the area around the rectum.

Seek emergency medical attention if you have pain, numbness or weakness that prevents you from doing your usual daily activities.

## Diagnosis

To diagnose a herniated disk, your health care provider will ask you questions about your personal and family medical history. He or she will perform a physical exam. If your health care provider suspects another condition or needs to see which nerves are affected, he or she may order tests.

Tests may include:

- X-rays.
- Computerized tomography, or CT scan.
- Magnetic resonance imaging, or MRI.
- Myelogram.

A CT scanner takes a series of X-rays from many different directions. It creates cross-sectional images of your spinal column and the structures around it.



CT Scan

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During an MRI, radio waves and a strong magnetic field are used to create images of your body's internal structures. This test can be used to confirm the location of the herniated disk and to see which nerves are affected.

During a myelogram, a dye is injected into the spinal fluid, and then X-rays are taken. This test can show pressure on your spinal cord or nerves due to herniated disks or other conditions.

Electromyograms and nerve conduction studies may also be done. These tests measure how well electrical impulses are moving along nerve tissue and the general health of the muscles. This can help pinpoint the location of the nerve damage.

## Treatment

For most people, avoiding painful positions and following an exercise and pain-medicine plan can relieve symptoms. Most people get better in one or two months.

If your pain is mild to moderate, over-the-counter pain medicines can provide relief. These include:

- Acetaminophen, such as Tylenol®.
- Ibuprofen, such as Advil® or Motrin®.
- Naproxen, such as Aleve®.

If your pain does not improve with over-the-counter medicines, your health care provider may prescribe:

- Anti inflammatory medications including steroids.
- Narcotics.
- Nerve pain medicines.
- Muscle relaxers.
- Cortisone injections.



Narcotics are strong pain medicines that are only available with a prescription. Cortisone injections are shots that can help relieve pain and inflammation in specific areas of the body.

Physical therapists can show you positions and exercises designed to minimize the pain of a herniated disk. As the pain improves, physical therapy can advance you to a rehabilitation program of core strength and stability. The goal is to maximize your back health and help protect against future injury.

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To treat symptoms, a physical therapist may also recommend:

- Electrical stimulation.
- Heat or ice.
- Short-term bracing for the neck or lower back.
- Traction.
- Ultrasound.



Traction

Electrical stimulation uses electrodes placed on the skin to deliver a small electrical current to a specific muscle or group of muscles. Traction helps relieve pressure on a herniated disk or compressed nerves. It can be done by using mechanical devices or by putting one's body into certain positions. Ultrasound uses sound waves to create images of structures inside the body. It can also be used to improve blood flow and relieve pain by generating heat in certain body parts.

A small number of people with herniated disks need surgery. Your health care provider may suggest surgery if other treatments fail to ease your symptoms after six weeks.



Surgery may also be needed if:

- A disk fragment lodges in your spinal canal, pressing on a nerve and resulting in worsening symptoms.
- You are having significant trouble performing basic activities, such as standing or walking.

In many cases, surgeons can remove just the protruding portion of the disk. Rarely, the entire disk must be removed. In these cases, the vertebrae may need to be fused together with metal hardware to provide spinal stability.

To help prevent a herniated disk:

- Exercise. Core-muscle strengthening helps stabilize and support the spine.
- Maintain a healthy weight.
- Maintain good posture.

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## Summary

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You can have a herniated disk without knowing it. If the herniated disc is not pressing on a nerve, you may have no symptoms at all. But some herniated disks can be painful.

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