

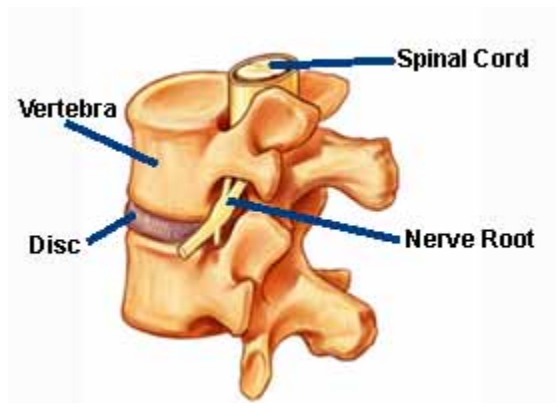
# Lumbar Back Sprains and Strains

Most people will experience back pain during their lifetime. Some patients fear the worst, especially when pain is severe. Although back pain can be caused by fracture, disc disorder, or tumor, the most common cause is sprain or strain.

Sprains and strains often result from excessive physical demands on the back. Lifting something too heavy, a sudden fall, car crash, or sports injury can cause soft tissues (ligaments, muscles, tendons) to stretch too much.

## Sprains · Strains

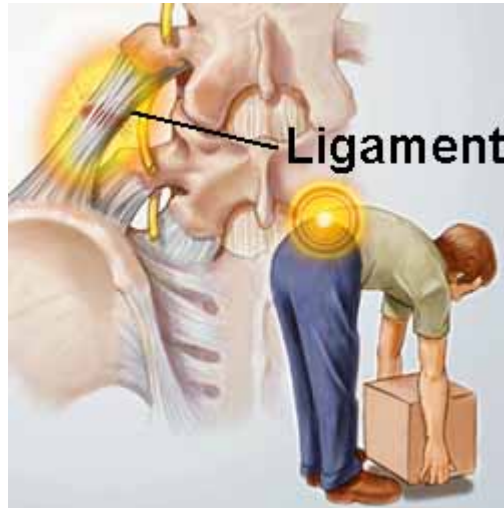
The spine includes vertebrae (bones), discs (cartilaginous pads or shock absorbers), the spinal cord and nerve roots (neurological wiring system), and blood vessels (nourishment). Ligaments link bones together, and tendons connect muscles to bones and discs. The ligaments, muscles, and tendons work together to handle the external forces the spine encounters during movement, such as bending forward and lifting.



Sprains and strains are similar disorders affecting different soft tissues in the spine. Sprains are limited to ligaments whereas strains affect muscles, tendons, or muscle-tendon combinations.

Ligaments are strong flexible bands of fibrous tissue. Although ligaments are resistant to being stretched, they do allow some freedom of movement. Muscle is made up of individual and segmental strands of tissue. When back muscles encounter excessive external force, individual strands can stretch or tear while the rest of the muscle is spared injury.

To illustrate a sprain or strain, consider what happens when lifting something heavy. Initially muscles are recruited to manage the load. When the load or force exceeds the muscles' ability to cope, the force is shared with the ligaments. When a ligament is stressed beyond its strength, it can tear.



Local tissues swell when ligaments, muscles, tendons, or combinations become overstretched, overused, or torn. Swelling causes pain, tenderness, and stiffness; swelling serves to protect the injured back by restricting movement - similar to a splint on a broken leg.

A lumbar back sprain or strain causes local tissues to swell when ligaments, muscles, tendons, or combinations become overstretched, overused, or torn. Swelling causes pain, tenderness, and stiffness; swelling serves to protect the injured back by restricting movement - similar to a splint on a broken leg.

### **Locating the Cause of Pain**

General practitioners, primary care physicians, and spine specialists routinely treat patients who suffer from low back sprain and strain. After reviewing the patient's medical history, current symptoms, and treatments or medications the patient has tried, the doctor performs a physical and neurological examination. This exam may include testing the patient's range of motion by observing their ability to bend forward, backward, and from side to side. Nerve deficit in the legs may be tested by traditional ankle and knee jerk tests. Straight leg raises, when the doctor raises each leg while the patient lies on their



back, help determine if there is nerve root irritation.

Sprains and strains can be very painful and the patient's complaints may be similar to

other disorders affecting the back. Therefore, to accurately diagnose the problem, the doctor may order an x-ray, CT or MRI Scan. Of course, if Dr. Chang determines back pain is not due to sprain or strain, he will look further, which may include seeking the opinion of another specialist.

### **Non-Surgical Treatment for Lumbar Sprains/Strains**

During the first 24 to 48 hours cold therapy helps to reduce swelling, muscle spasm, and pain by reducing blood flow to the injured area. 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.

If the low back sprain or strain is serious, the doctor may recommend a day or two of rest, cold and/or heat therapy, and medications. 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). Most sprains and strains heal within a few weeks.

Mild to moderate pain may be treated with non-steroidal anti-inflammatory drugs (NSAIDs). These work by relieving both swelling and pain. Many NSAIDs are available over-the-counter. Discuss NSAID use with your physician first.



The [chiropractic](#) approach to treating sprains and strains includes specific, gentle adjustments (also called spinal manipulations) to help restore spinal function.

Usually, after the first 48 hours, heat therapy is used to warm sore tissues. Never apply heat directly to skin; instead, wrap the heat source in a thick towel. Heat increases blood flow warming and relaxing soft tissues. Heat therapy is often used in physical therapy to prepare patients for gentle stretching and exercise to increase flexibility. When combined with stretching, the benefits of heat therapy are greater than heat alone.

### **Spine Surgery ?**

The pain from sprains and strains can be so severe the patient may feel surgery is a certainty! Thankfully, most sprains and strains can be managed using the treatments listed above.

***Rarely is surgery a consideration.***

Typically disorders that may warrant surgery include spinal cord impingement and structural deformity. In fact, the majority of patients with back pain are successfully treated non-surgically. Less than 5% of all back problems require surgery!

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.

### **Think Prevention**

It would be foolhardy to believe that all spine problems can be prevented! However, by thinking ahead and a little maintenance, most people can enjoy the benefits a healthy spine offers.

- Proper posture lessens stress to the back.
- A healthy body needs regular exercise! Strong abdominal muscles help support the spine.
- Stop smoking! Nicotine restricts blood flow needed to deliver oxygen and nourishment to the spine.
- Healthy eating habits help keep body weight moderate to reduce excessive stress to the spine.
- Common sense rules! Learn how to safely lift and carry items, apply ergonomic principles by selecting spine-friendly chairs, always wear a seat belt when traveling, and wear protective equipment during sports so fun can be safe and injury free.

Take time to learn, adjust, and adopt habits that will help preserve your spine for the future.

Last Updated: 10/27/2008