



SPINE ANATOMY & LOW BACK PAIN

Understanding the anatomy of the spine can be helpful in determining the possible source of your symptoms and educating yourself so that you can have more informed conversations with your doctor.

About the spine

The human spine is divided into 4 distinct sections of bones known as “vertebrae”. At the top of the spinal column, the cervical spine (or neck) is made up of 7 vertebrae. Just below with 12 vertebrae, the thoracic spine comprises the mid-torso section of the human body. Below that is the lumbar spine with 5 vertebrae. Finally, at the very bottom of the spinal column—in the area of the hips—is the sacrum, the triangular-shaped portion made up of 5 fused bones.

THE CERVICAL SPINE (The Neck)
THE THORACIC SPINE (Mid-Torso)
THE LUMBAR SPINE (Lower Back)
THE SACRUM (The Pelvis)

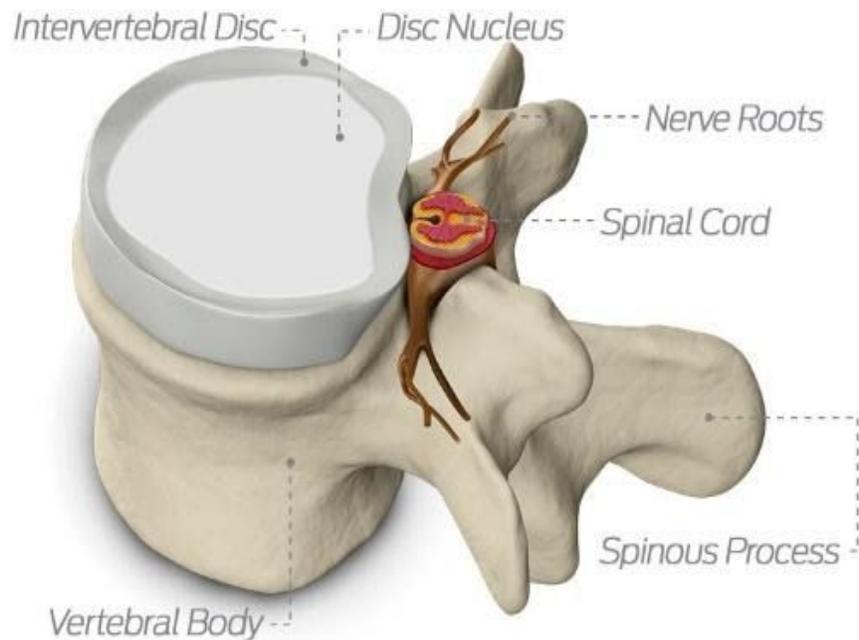


All voluntary movement in your body is controlled by the brain, whose main communication pathway to the muscles is a large bundle of nerves collectively known as the spinal cord.

Protection for this critical pathway is provided by the bones of the spinal column.

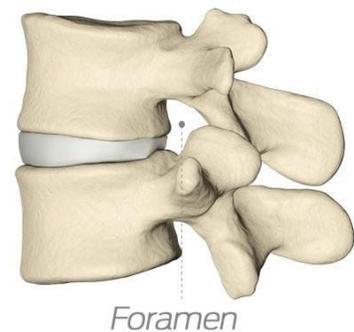
These bones, or vertebral bodies, have a number of important functions—one is to encircle and guard the spinal cord against trauma and another is to provide the skeletal support we need to walk upright.

YOUR SPINAL DISCS



Between each pair of vertebrae is a spinal disc that acts like a shock absorber and provides flexibility during your daily activities.

The combination of the spinal disc and the attached vertebral bodies is called a spinal segment or level. At each spinal segment, nerves branch from the spinal cord and pass through openings between the vertebrae called foramen. These nerves travel to the arms and legs to control movement and relay sensation back to the brain.



What causes lower back pain?

Lower back pain develops when there's damage or deterioration of the vertebrae, the tissues surrounding them, or both.

Typical causes of lower back pain include falls and other injuries, sudden or awkward movements, overreaching yourself, lifting heavy weights incorrectly, repeating similar actions for prolonged periods, or generally having poor posture.

What conditions cause lower back pain?

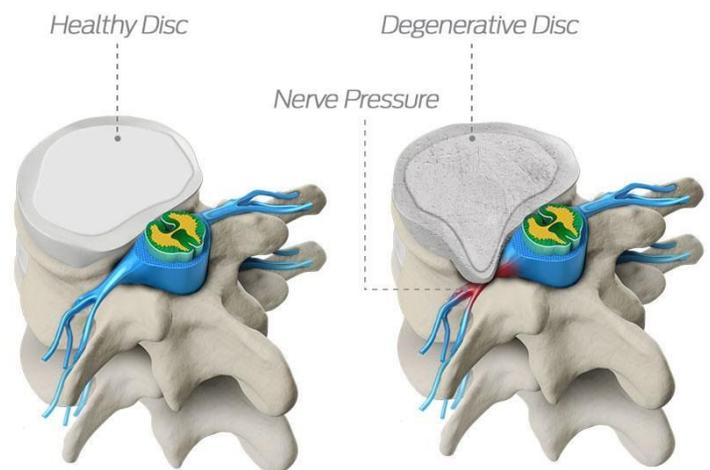
Conditions that commonly cause lower back pain include:

- Degenerative changes of the spine
- Osteoarthritis

Degenerative changes, most often osteoarthritis, of the spine occur from natural aging associated with pathological changes of the vertebral bodies, intervertebral discs, ligaments, and vertebral joints. These changes can greatly limit both the mobility and stability of the spine. The stability of the spine can also be compromised by unnatural weight distribution caused by a hereditary abnormality, or a lack of movement associated with a sedentary lifestyle. Any previous operation or trauma to the spinal column can also cause a loss of stability. Any form of instability can progress to become a pain generator.

Degenerative Disc Disease, or "DDD", is not a disease at all

Your spinal discs act as a cushion to absorb shock between the vertebrae during movement. As a result of aging or injury, sometimes the spinal disc loses its cushioning effect which may result in a loss of disc height. This loss of disc height reduces the distance between the vertebral bodies and may cause irritation or pinching of the nerves. The spinal disc may also bulge or herniate, where the disc material contained within the intervertebral disc is pushed into the spinal canal. This may cause inflammation and pressure on the local nerve.



The loss of disc height and/or bulge of the disc may result in the following symptoms:

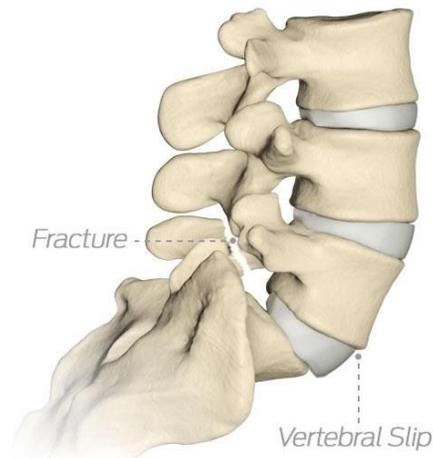
- Pain or discomfort in the neck or back
- Tingling or loss of feeling in arms or legs
- Shooting pain or discomfort in one or both legs
- Discomfort that worsens upon standing or activity

Spinal Stenosis

A narrowing of the spinal canal that can put pressure on the spinal canal and nerves in your spinal cord. It can be due to the effects of degenerative conditions like osteoarthritis, trauma, degenerative disc disease or in more rare situations tumors or infections. The result is that the space left for your spinal cord and the nerves coming off it becomes so narrow the nerves suffer from compression that causes the symptoms of spinal stenosis. Please see section on Spinal Stenosis for further details.

Spondylolisthesis, or "SPONDY" for short

Spondylolisthesis is a condition usually caused by a sports-related injury. Genetics may play a role in the likelihood of a spondy occurring in a person that plays football, gymnastics, or a similar sport. A spondy usually occurs in the lumbar spine or low back and is described as one bone or vertebra slipping or sliding forward over the vertebra below it. This forward or anterior position may lead to the spinal cord or a nerve being compressed or squeezed.



Sometimes when a vertebra slips out of place, there may be no symptoms or a delay in the onset of symptoms. Patients with a spondy may experience the following symptoms:

- Pain in the low back or buttock area
- Pain may increase with coughing or sneezing
- Weakness, numbness or pain in one or both legs
- Hamstrings may feel tight
- Leg muscles may feel tight or weak
- Patients may limp or waddle
- Posture may change and the patient may lean forward
- Trying to stand may be painful or difficult to achieve
- Loss of bladder or bowel control may occur

So what are my treatment options?

The good news is there are several treatment options available to you.



Every person responds to treatment differently and it's important to educate yourself and work with your doctor(s) to find the options that work best for your situation. Whether you're exploring conservative care or seeking a surgical solution, our practice has information for you.

What are the options for treating low back pain?

Dr. Jankowski first examines you, obtains a detailed chronology of symptoms and appropriate imaging studies to diagnose the cause of your lower back pain. Once he knows the cause, he can prescribe the most appropriate treatments. In the early stages, these are likely to be conservative therapies, such as:

- Pain medication
- Physical therapy
- Massage
- Acupuncture
- Pain injections or nerve root blocks

Most patients who have lower back pain benefit from a combination of these treatments and don't require surgery. If conservative forms of treatment fail to relieve your symptoms, then surgery may be presented as an option.

What surgery might I need for lower back pain?

The type of surgery you might need for lower back pain depends on the cause of your condition. Dr. Jankowski has vast experience in performing complex spine surgeries to minimally invasive procedures to treat various spine pathologies. Some of these procedures are listed below. If you don't see a procedure listed please call the clinic for further information.

- Cervical and Lumbar disc replacement
- Anterior lumbar interbody fusion (ALIF)
- Direct lateral interbody fusion (DLIF)
- Posterior lumbar interbody fusion (PLIF)
- Lumbar corpectomy and fusion
- Lumbar laminectomy
- Minimally invasive lumbar discectomy (MILD)
- Posterolateral lumbar fusion
- Transforaminal lumbar interbody fusion (TLIF)



Dr. Jankowski has built a team of specialists that are present during and after your surgery to ensure a safe procedure, and a speedy recovery.

If you need help with your lower back pain, call Dr. Jankowski today or book an appointment online.