

An introduction to

Neck and back pain

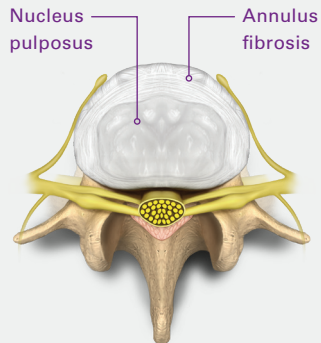
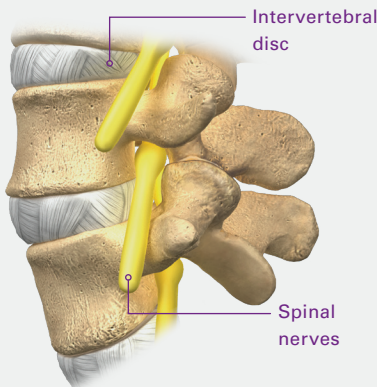
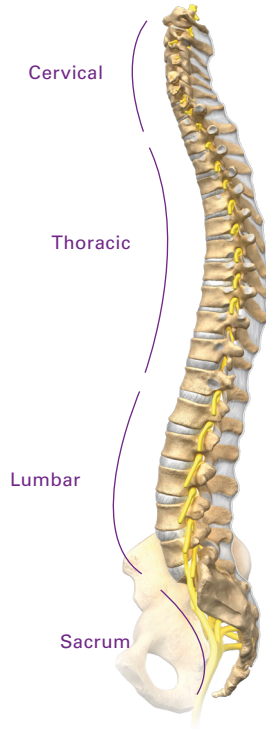
This booklet provides general information on neck and back pain. It is not meant to replace any personal conversations that you might wish to have with your physician or other member of your healthcare team. Not all the information here will apply to your individual treatment or its outcome.



About the spine

The human spine is made up of 24 bones or vertebrae in the cervical (neck) spine, the thoracic (chest) spine, and the lumbar (lower back) spine, plus the sacral bones.

Vertebrae are connected by several joints, which allow you to bend, twist, and carry loads. The main joint between two vertebrae is called an intervertebral disc. The disc is made of two parts, a tough and fibrous outer layer (annulus fibrosis) and a soft, gelatinous center (nucleus pulposus). These two parts work in conjunction to allow the spine to move, and also provide shock absorption.

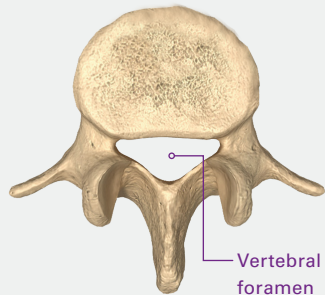
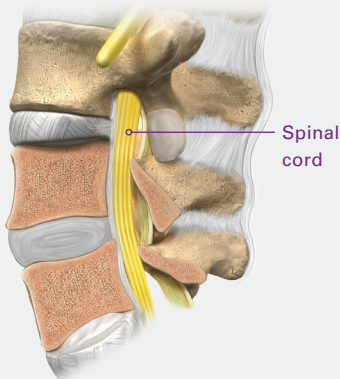
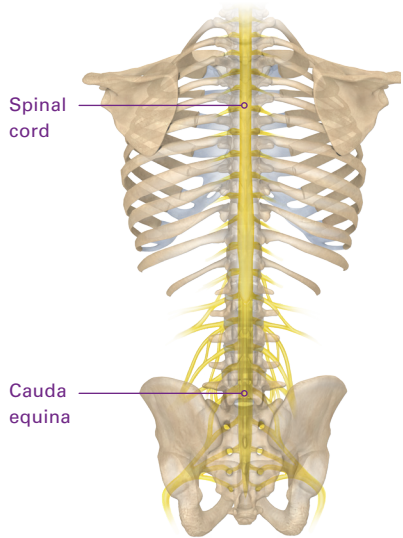


About the spinal cord and cauda equina

Each vertebra has an opening (vertebral foramen) through which a tubular nervous structure travels. Beginning at the base of the brain to the upper lumbar spine, this structure is called the spinal cord.

Below the spinal cord, in the lumbar spine, the nerves that exit the spinal cord continue to travel through the vertebral foramen as a bundle known as the cauda equina.

At each level of the spine, spinal nerves exit the bony spine then extend throughout the body.

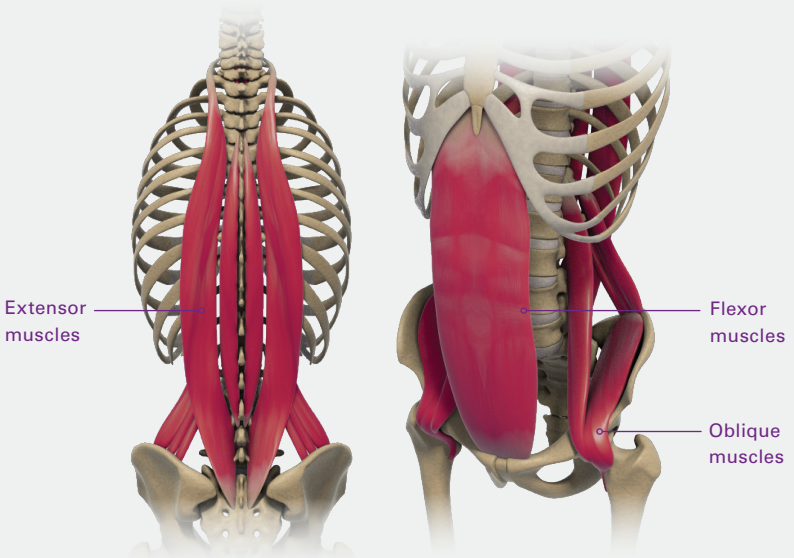


About the spine muscles

The spine is surrounded by muscles which assist in movement.

These include:

- **extensor muscles** that are connected to the back of the spine and assist in standing and lifting;
- **flexor muscles** that are connected to the front of the spine and enable flexing, bending over, lifting and arching the lower (lumbar) spine; and
- **oblique muscles** that are connected to the sides of the spine and help rotate and maintain posture.



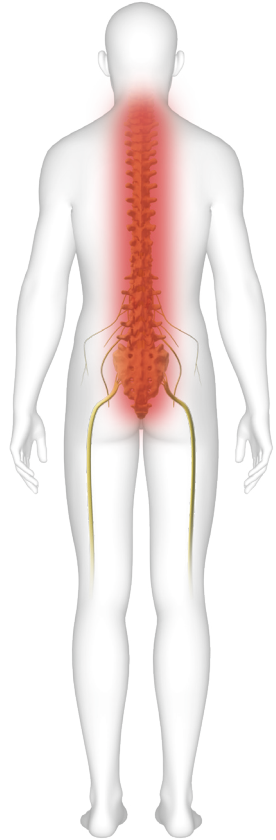
About back pain

When any of the anatomy of the spine, exiting nerves, muscles or surrounding ligaments are not functioning properly, you may experience pain. This can include back, leg and/or neck pain depending on the dysfunction.

The duration and intensity of back pain also varies. Pain can be displayed as the following:

- constant, sporadic, or in response to certain positions or activities,
- dull, sharp, piercing, burning, and/or
- localized, or radiating from the neck or back into the arm or hand, or leg and foot.

If you feel that you are experiencing any of these symptoms, you should consult a physician for an accurate diagnosis.



What causes back pain?

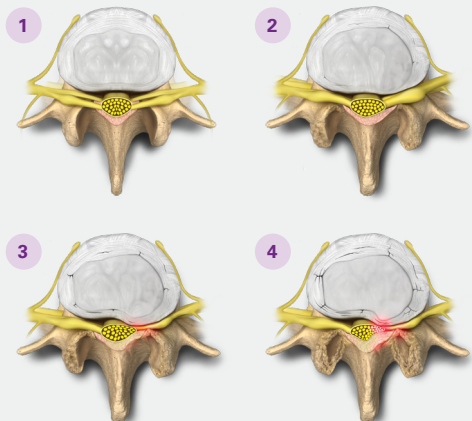
Back pain is typically a result of an injury or trauma, a disorder such as degenerative disc disease, a tumor, osteoporosis or arthritis.

This can cause:

- back, muscle or ligament strain,
- spinal instability or scoliosis,
- bulging or herniated discs,
- spinal stenosis and bone spurs, and
- spinal nerve impingement.

The root cause of back pain may vary from complications during daily activities, a hereditary or congenital abnormality or anatomical changes that take place during the natural aging process.

**Disc degeneration
with subsequent
nerve impingement**



Normal disc

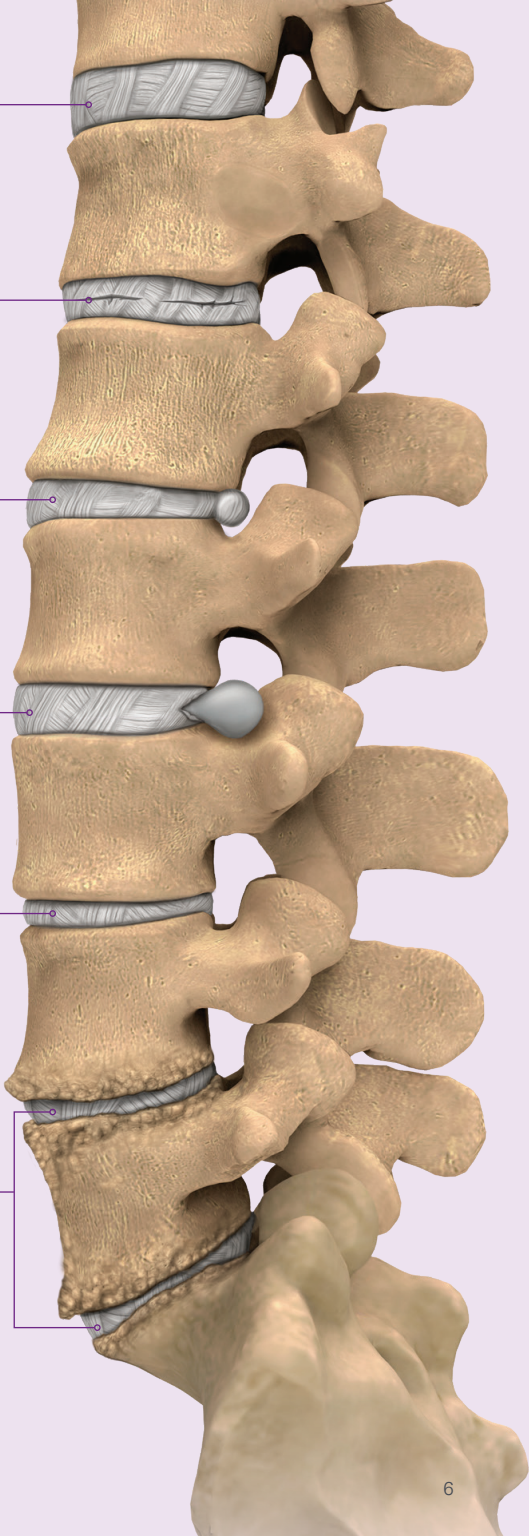
Degenerated disc

Bulging disc

Herniated disc

Thinning disc

Disc degeneration with osteophyte formation



What are treatment options?

An estimated 75 percent of Americans will experience back pain during their lifetime. A majority of patients with back pain do not require surgery and find pain relief from conservative methods.

Your doctor may recommend one or more of the following conservation treatments based on your individual diagnosis:

- physical therapy and strengthening exercises,
- rest and a restriction of physical activity,
- injections (corticosteroids) to help reduce the pain and swelling,
- medications and analgesics to reduce pain and swelling (typical medications include non-steroidal anti-inflammatory drugs, or NSAIDs), and
- application of heat and/or ice to help reduce pain, inflammation, and muscle spasms.

If your symptoms do not improve with other methods and back pain continues to diminish your quality of life, your physician may suggest spinal surgery.

Notes

Notes

Resources

For more information about neck and back pain, please visit:

nuvasive.com

If you would like to learn more about patient support and education for chronic back, leg, and neck pain sufferers and their loved ones, please visit:

thebetterwayback.org

If you have any questions about neck and back pain or spine surgery, please call or visit your physician, who is the only one qualified to diagnose and treat your spinal condition. This patient information brochure is not a replacement for professional medical advice.

About **The Better Way Back**[®]

The Better Way Back is a nationwide patient support program created by NuVasive[®], a leader in developing minimally invasive, procedurally-integrated spine solutions. The Better Way Back is a free community built on the power of empathy, and is dedicated to providing hope, support and information to individuals suffering from chronic back, leg, or neck pain.

Through its Patient Ambassador Program, The Better Way Back pairs patients considering spine surgery with patients who have previously undergone a spine procedure. Ambassadors volunteer their time to discuss their experiences in order to provide additional, first-hand perspectives.

To learn more about The Better Way Back, please



call **1.800.745.7099**



visit **thebetterwayback.org**



text "TBWB" to **858.360.8292**

Neck and back pain

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