VB SPINE

Patient Guide to

Sciatica

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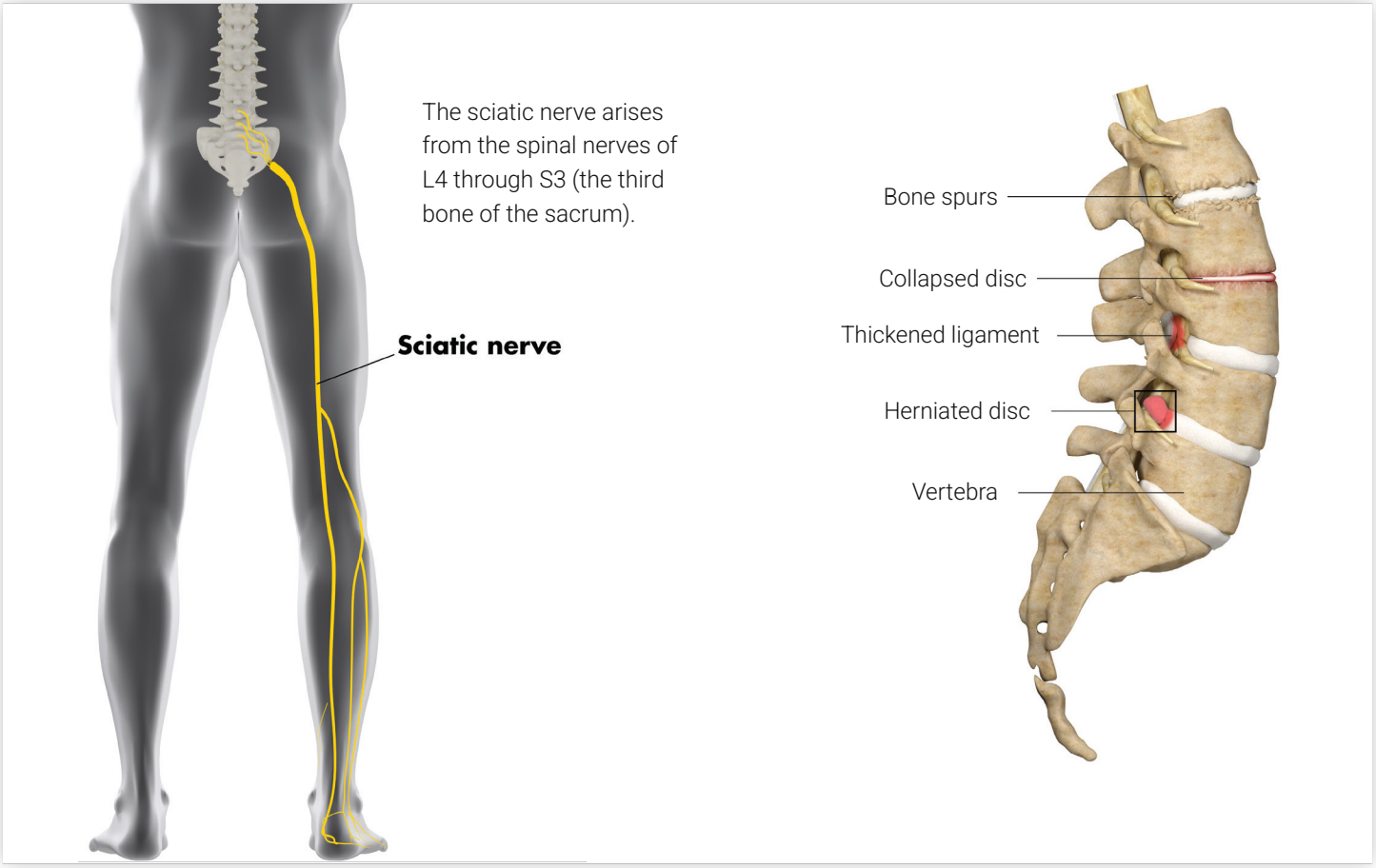
What Is the Sciatic Nerve?

The sciatic nerve is the largest and longest nerve in the human body and is formed by individual nerve roots/ fibers that come from the spinal cord. These roots exit the spinal canal on both sides of the body and join together on each side of the pelvis to form a single, large nerve. The nerves, one on the left and one on the right, then travel down the leg to the ankle and foot.



What Is Sciatica?

Sciatica is a group of symptoms that result from irritation of the sciatic nerve. Sciatica usually affects only one leg, but occasionally involves both legs. Irritation of the sciatic nerve can stem from a **herniated disc** (see Glossary), inflammation, **bone spurs** (see Glossary) or **stenosis** (see Glossary). Pain and other symptoms can occur when any or all of these conditions place pressure on the **thecal sac** (see Glossary).

What Are Some of the Possible Risk Factors for Sciatica?

- Changes in the spine that result from the natural aging process (see diagram above for examples of these degenerative changes)
- Sudden twisting, bending, or other movements
- Episode of heavy lifting or straining
- Trauma (injury) to the back

What Are Some Common Symptoms of Sciatica?

- Lower back pain that radiates through the buttock and down the leg, often below the knee to the ankle or foot
- Burning pain or electrical sensations traveling down the leg
- Numbness or tingling in the leg
- Weakness in the leg
- Loss of bowel or bladder control

What Are Some Non-Surgical Treatment Options?

Anti-inflammatory and/or pain medications, bracing, and physical therapy may be used to treat symptoms of sciatica. Occasionally, spinal epidural injections are utilized for pain relief. Surgery may be considered for patients whose symptoms do not improve, but usually only if they have associated neurological symptoms or deformity of the spine.

Surgical Treatment Options for **Sciatica**

In general, surgical treatment options presented by your surgeon are aimed at relieving pressure on nerve roots in an attempt to address pain.

Spinal Decompression (I.e., Laminectomy, Laminotomy, And/Or Foraminotomy)

A spinal decompression involves fully or partially removing the bone and soft tissues that cover and surround the nerves, including **bone spurs** (see Glossary), to enlarge the space for and relieve pressure on (compression of) the nerve roots or **thecal sac** (see Glossary).

Incision: lower back (posterior lumbar)

Decompression and Posterior Spinal Fusion

In addition to a decompression, your surgeon may perform a **spinal fusion** (see Glossary) to stabilize the back (posterior) portion of some of the spinal bones (vertebrae). A fusion procedure usually includes the placement of stabilization devices such as metal screws and rods to help hold the vertebrae together. Your surgeon will also place **natural** or synthetic **bone material** (see Glossary) to assist in the healing process.*

Incision: lower back (posterior lumbar)

Interbody Fusion Procedures

In addition to a decompression and/or posterior **spinal fusion** (see Glossary), your surgeon may choose to perform a fusion in the space at the front of the spinal column in between the spinal bones (vertebrae) called the **interbody space** (see Glossary). In these procedures, which can be done from a front (anterior), side (lateral), or back (posterior) approach to the spine, and as explained in additional detail below, your surgeon will remove the degenerated disc material and replace it with either a piece of **donor bone** (see Glossary) or an implant made of metal or plastic and filled with **natural bone material** (see Glossary).*

- ### Posterior or Transforaminal Lumbar Interbody Fusion (PLIF or TLIF)

  In a PLIF or TLIF, your surgeon will access the disc space using the same incision he/she used for the decompression and/or posterior **spinal fusion** (see Glossary).

Incision: lower back (posterior lumbar)

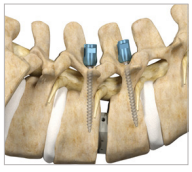
- ### Anterior Lumbar Interbody Fusion (ALIF)

  In an ALIF, your surgeon will make an incision on the front of your abdomen. He/ she will then safely move organs and other necessary tissues out of the way in order to reach the spine. Your surgeon may choose to also perform a decompression and posterior spinal fusion (described above) during the same or during a separate procedure.

Incision: lower abdomen (anterior lumbar)

- ### Lateral Lumbar Interbody Fusion (LLIF)

  In an LLIF, your surgeon will make an incision on the side of your abdomen in order to reach the spine. Your surgeon may choose to also perform a decompression and posterior spinal fusion (described above) during the same or a separate procedure.



Incision: side of abdomen (lateral lumbar)

* The placement of these implants is intended to assist in a healing process called spinal fusion (see Glossary). If successful, spinal fusion will typically take place in the weeks and months following surgery, and can be assessed by your surgeon on imaging studies (e.g. x-rays) taken during follow up visits.

Glossary

Bone spurs: bony projections that can develop as a result of the natural aging process

Donor bone: bone graft that comes from a donor and is referred to as allograft bone. Allograft bone usually comes from bone banks that harvest the bone from cadavers

Foraminotomy: surgical removal of a portion of the foramen, the opening through which the spinal nerves pass on their way from the spinal canal to the arms or legs

Herniated disc: the shift of an intervertebral disc into an abnormal position

Interbody space: space between two vertebra where the intervertebral disc is located

Intervertebral disc: soft structure found between each of the spinal bones (vertebrae), that acts as a shock absorber

Laminectomy: surgical removal of the entire lamina, a bone at the back of the spine

Laminotomy: surgical removal of a portion of the lamina, a bone at the back of the spine

Natural bone material: bone material that can come either from a patient's own body (autograft) or be donated (see donor bone) from a bone bank after being harvested from a cadaver (allograft)

Spinal fusion: stabilization or permanent connection of two or more vertebrae by joining them with instrumentation and bone material. Spinal fusion involves techniques that are designed to mimic the normal healing process of broken bones

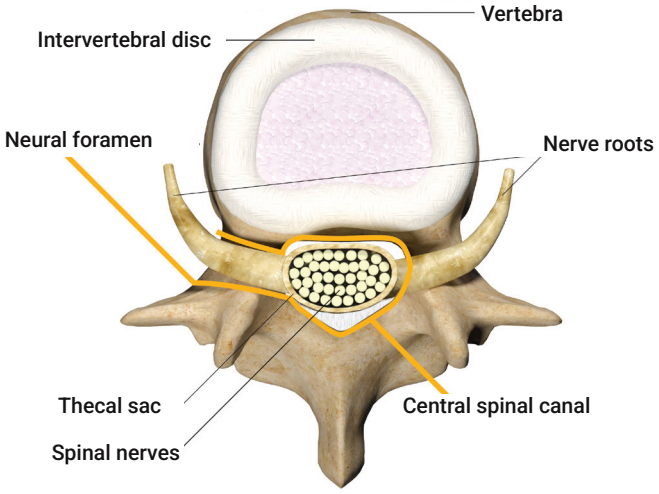
Stenosis: narrowing of the space for the spinal nerves or spinal cord

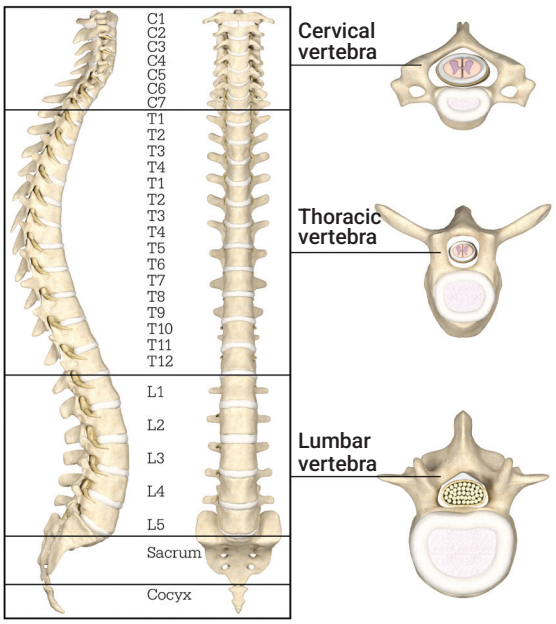
Thecal sac: soft tubular structure that contains the spinal nerves

Transforaminal: through the foramen, or opening through which the spinal nerves pass on their way from the spinal canal to the arms or legs

Vertebra/Vertebral body: spinal bone

Key Spinal Structures to Know





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