

Sciatica

Sciatica is the term for low back pain that radiates into the buttock, hip, and down one leg to the foot. The pain often is associated with tingling, numbness, or weakness of the leg. It may be sudden in onset and can persist for days or weeks. Sciatica can be caused by a number of conditions that lead to compression or irritation of nerves as they exit the **spinal canal** (space through which the spinal cord travels) in the region of the lower back where they come together to form the sciatic nerves at the end of the spinal column. People who get sciatica are usually between the ages of 30 and 50 years. Approximately 80% to 90% of people with sciatica recover over time without any surgical intervention. The July 8, 2009, issue of *JAMA* includes an article about surgical treatment for sciatica caused by a herniated disk.

CAUSES

The most common cause of sciatica occurs when the gel-like center of the disk between the **vertebrae** (bones that make up the spine) protrudes into or through the disk's outer lining. This is called a **herniated disk**, which leads to compression of individual nerves in the lower back where they branch off from the spinal cord or to compression of the sciatic nerve itself. Other causes include

- **Degenerative arthritis** due to wear and tear of the vertebral bones. This can lead to **spinal stenosis** (narrowing of the spinal canal), which may compromise nerves as they exit the spinal canal.
- **Vascular** problems due to abnormalities of blood vessels in and around the spinal canal.
- Rarely, tumors may occur inside the spinal cord, within the **meninges** (linings around the spinal cord), or in the spaces between the vertebrae and the spinal cord. Growth of a tumor may cause compression of the spinal cord and the nerves coming from it.
- Other causes such as trauma, infection, and inflammation can affect nervous tissue.

DIAGNOSIS

A complete history is required as well as a physical examination to determine the location of the irritated nerve root. X-rays are rarely needed since they cannot detect a herniated disk. X-rays can show evidence of **spondylolisthesis** (misalignment of the vertebrae), narrowed disks, or evidence of erosion that may suggest a tumor affecting the spine. Other possible diagnostic tests include

- Magnetic resonance imaging (MRI), which produces images that allow visualization of the vertebral disks, ligaments, and muscles, as well as the presence of tumors.
- Computed tomography (CT) myelography using contrast dye injected into the spine allows visualization of the spinal cord and nerves.

TREATMENT

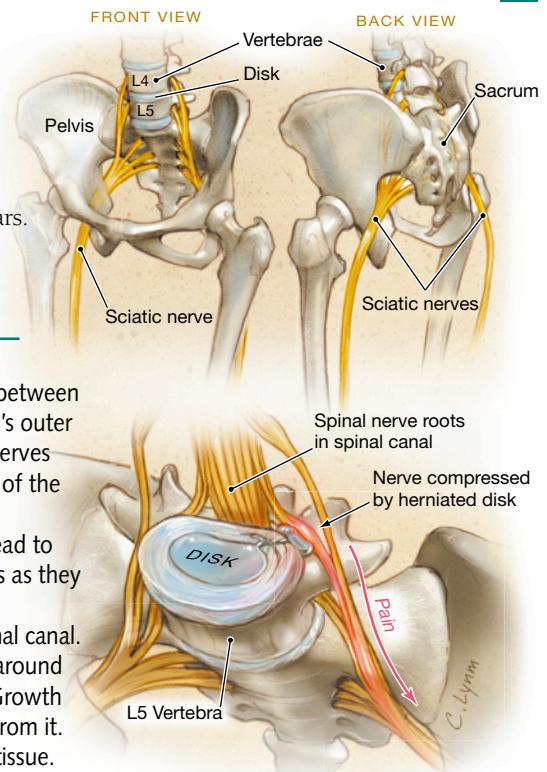
- **Analgesics** for pain including over-the-counter **nonsteroidal anti-inflammatory drugs** (NSAIDs); occasionally a physician may prescribe steroid medications for the pain or give injections of a steroid medication to help reduce the inflammation that accompanies sciatica pain
- Physical therapy to help relieve the pain and correct postural problems that cause or aggravate the pain
- Surgery, when analgesics and physical therapy have not resulted in symptom relief, if symptoms have progressed, or if bladder or bowel incontinence occurs

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- American Academy of Orthopaedic Surgeons
www.orthoinfo.aaos.org/topic.cfm?topic=A00351
- American Association of Neurosurgeons
www.neurosurgerytoday.org/what/patient_e/herniated.asp

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To find this and other JAMA Patient Pages, go to the Patient Page link on *JAMA*'s Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on herniated disks was published in the November 22/29, 2006, issue.

Sources: National Institutes of Health, American Academy of Orthopaedic Surgeons

