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Medical Edge Newspaper Column

Surgery Not the Only Option for Treating Spinal Stenosis

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Dear Mayo Clinic:

I had an MRI of my spine and it showed I have lumbar spinal stenosis. What will this mean? Does that mean I will need surgery or is there a less invasive treatment?

Answer:

Spinal stenosis is a common condition that results from changes to the spine as aging occurs. Symptoms vary in character and magnitude, but can most often be effectively treated with nonsurgical therapies, such as medication and physical therapy. In severe cases, surgery may be necessary. Fortunately, advances in spine surgery have made the procedures less invasive, less painful, and recovery easier than in the past.

Spinal stenosis is a narrowing of the spine that typically results from spondylosis, or age-related changes to the spine. As the discs in your spine age, they gradually lose water and, as a result, shrink in height. This can sometimes produce inflammation and pain as the discs develop cracks. Our bodies respond to this loss of disc height by thickening ligaments and producing osteophytes, or bone spurs, at the attachment ligaments, which stiffen the spine. These changes can sometimes result in a narrowing of the spinal canal and pinching of the nerve roots. The condition is called lumbar spinal stenosis when it affects the lower, or lumbar, portion of the spine.

Injury to or tears in the spine's disks — the pads of cartilage that separate the bones, or vertebrae — may also cause spinal stenosis. In addition, with aging, ligaments in the back may lose elasticity and become stiff and thick. These ligament changes can shorten the spine, also narrowing the spinal canal.

Narrowing of the spine can put pressure on the spinal cord and nerves. The result can be back pain or pain in the buttocks or legs. Pain in the legs has many causes, but there are three common patterns that have an origin from the spine. For example, some patients will get a sharp pain that runs from their buttock down into their calf or foot with movement, position, or activities. When that pain follows a nerve root distribution, it is referred to as radicular pain.

Other patients will get a pain after they stand for a period of time. The pain may start in the buttock, spread to the calves and is only relieved when they lean forward or sit. These symptoms related to walking are often referred to as claudication pain. An exam by a physician or a vascular study can help distinguish this type of pain from pain that is caused by poor blood flow to the legs.

The last pain pattern is one commonly seen with paraspinal pain or beltline pain that spreads to the back of the thighs. This pain is distinct from stenosis or sciatica and is most commonly related to muscle weakness and more generalized spine arthritis.

Typically, with lumbar spinal stenosis, leaning forward or sitting down helps relieve leg or buttock pain, because pressure on nerves in the lower back is decreased.

Initial treatment for spinal stenosis is usually a combination of physical therapy and medication. An exercise program developed by a physical therapist can help build muscle strength and flexibility and increase spine stability. Aerobic conditioning along with exercises that improve balance and strengthen core muscles also can be helpful.

Nonsteroidal anti-inflammatory drugs (NSAIDs), such as aspirin or ibuprofen, can reduce spinal inflammation and pain. Analgesics, such as acetaminophen, can also alleviate pain. These medications, if insufficient, may be combined with corticosteroids injected into the area around the nerves to help reduce inflammation and decrease pressure.

If symptoms cannot be controlled, get progressively worse, or interfere with a person's ability to walk or accomplish daily activities, then surgery can be beneficial. Traditional surgery for spinal stenosis has focused on removing the thickened ligaments and bone spurs that narrow the spinal canal. This often requires a form of surgery called laminectomy, in which a surgeon removes all or part of the lamina — the back portion of the bone over the spinal canal — to create more space for the nerves and to allow surgeons to access and perhaps remove bone spurs or damaged disks. Patients who have nerve pain or claudication pain most frequently benefit from this procedure; however, challenges with back pain after the operation or collapse/instability of the area that is decompressed are not uncommon.

Recent advances in surgical laminectomy techniques and instruments allow surgeons to reduce surgical exposure related problems. Surgeons now use tubes that split the muscle instead of strip it from the spine. With use of a microscope, surgeons can accomplish the same operation with less damage to the muscle and joints, which results in fewer surgical complications and less postoperative pain.

Another new technique for spinal stenosis — inserting an interspinous device — is even less invasive than traditional spine surgery. The interspinous device is most effective for people who have positional symptoms that get worse when they lean backward or to the side and get better when they lean forward. In this procedure, a small implant, called an interspinous device, is placed between the spinous processes — the bony parts of the spine a person can feel in the middle of the back. This

creates a gap for the nerves, decreasing pressure on them. Most patients feel some immediate symptom relief and can usually return to their normal activities within several days.

Surgery is usually not the only option for treating spinal stenosis. Talk to your doctor about nonsurgical treatments or less-invasive procedures that might ease your condition.

— Mark Dekutoski, M.D., Orthopedic Surgery, Mayo Clinic, Rochester, Minn.

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