Spinal stenosis can limit your daily activities, but regaining a better quality of life may be possible with the right treatment.
WHAT IS SPINAL STENOSIS?

Spinal stenosis is a disorder that is caused by a narrowing of the spinal canal. This narrowing happens as a result of the degeneration of both the facet joints and the intervertebral discs. In this condition, bone spurs (also called osteophytes) grow into the spinal canal. The facet joints also enlarge as they become arthritic, which contributes to a decrease in the space available for the nerve roots. This condition is known as facet arthropathy.

The ligaments of the spinal column, especially the ligamentum flavum, become stiff, less flexible, and thicker with age, which also contributes to spinal stenosis. These processes narrow the spinal canal and may begin to impinge and put pressure on the nerve roots and spinal cord, creating the symptoms of spinal stenosis.

Stenosis may occur in the central spinal canal (central stenosis) where the spinal cord or cauda equina are located, in the tract where the nerve root exits the central canal (lateral recess stenosis), or in the lateral foramen (foraminal stenosis) where the individual nerve roots exit out to the body.

Some distortion of the spinal canal will occur in virtually every person as they age, but the severity of the symptoms will depend on the size of a person’s spinal canal and the encroachment on the nerves. The rate of deterioration varies greatly from person to person, and not everyone will feel weakness or pain.
WHAT CAUSES SPINAL STENOSIS?

Spinal stenosis may be caused by a number of processes that decrease the amount of space in the spinal canal available for the nerves. Degenerative causes are the most common, but stenosis can occur in individuals who were born with a spinal canal smaller than normal (congenital stenosis) or have rare conditions such as tumors and metabolic conditions.

WHAT ARE THE SYMPTOMS?

The reason why stenosis causes weakness and pain is the subject of a significant amount of debate and medical research. Pain in the buttocks or leg, which is a common symptom of lumbar spinal stenosis, may be associated with the compression of the microvascular structures carrying blood flow to the nerve roots. At the same time, the symptoms of spinal stenosis may be the direct result of physical compression of the nerve roots. Each of these processes may interfere with the normal function of the nerve roots and decrease the effectiveness and endurance of the spinal nerves.

Some people with degenerative disease of the spine may have no symptoms at all, some may complain of mild discomfort in the lower back, and others may not even be able to walk. In people who have significant spinal stenosis, they will begin to notice pain in the buttocks, thigh or leg that develops with standing or walking, and improves with rest. In some cases, a person will complain of leg pain and weakness without having any back pain.

More severe symptoms of the disorder include numbness, tingling, and weakness in the lower extremities. Certain positions can alleviate the symptoms of spinal stenosis by increasing the amount of space available for the nerves. These positions usually involve flexion (bending) of the lower spine and bending forward. For instance, most people with spinal stenosis can ride a bike and walk...
up an incline or flight of stairs without any pain. They can often walk for extended distances if they have something to lean on, like a shopping cart. However, if they are walking down an incline or flight of stairs, or if they have to give up the shopping cart, their symptoms will often reappear. The presentation and severity of the symptoms of spinal stenosis depends on several factors, including the original width of the spinal canal, the susceptibility of the nerves involved, and the unique functional demands of the person and their individual pain tolerance.

HOW IS IT DIAGNOSED?

The diagnosis of spinal stenosis begins with a complete medical history and physical examination. Your doctor will determine what symptoms are present, what makes them better or worse, and how long they have been present for. A physical examination is essential for determining how severe the condition is, and whether or not it is causing weakness or numbness in certain parts of the body. Abnormalities in the strength and sensation of particular parts of the body that are found with a neurological examination provide the most objective evidence of chronic nerve root compression caused by spinal stenosis. The examination is also used to rule out other conditions such as those associated with hip and knee arthritis or diabetes.

There are no laboratory tests that can detect the presence or absence of a stenosis, but they may be helpful in the diagnosis of unusual causes of nerve root and spinal cord dysfunction. MR scanning or CT scanning can visualize the canal where the nerves live and quantify the degree of narrowing as well as rule out other causes.
Treatments can vary depending on the severity of your symptoms and how much they limit your everyday activities. Here are some treatments you may want to discuss with your doctor, depending on your level of pain:

- **Non-surgical treatments** – For mild to moderate pain, more conservative treatment methods can include medications, physical therapy, and steroid injections.

- **Less invasive back surgery** – For moderate to severe pain, decompression can be achieved through less invasive surgical procedures like interspinous spacers.

- **Traditional back surgery** – For moderate to severe pain, decompression or spinal fusion may be considered when more conservative treatments aren’t successful at relieving pain.

- **Targeted drug delivery** – For severe chronic pain from spinal stenosis, targeted drug delivery may be a treatment option when more conservative treatments are not helping to relieve pain.
Please see the package insert for the complete list of indications, warnings, precautions, and other important medical information.

Consult instructions for use at this website: www.medtronic.com/manuals.

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