Spondylosis

TERMINOLOGY (SYNONYMS)

- Central spinal stenosis
- Lateral spinal stenosis
- Narrowing of the spinal canal
- Congenital spinal stenosis
- Acquired spinal stenosis

INTRODUCTION

Spinal stenosis is a narrowing of spaces in the spine (backbone) that results in pressure on the spinal cord and/or nerve roots. The term stenosis refers to narrowing of an opening. The term spinal stenosis refers to narrowing of the central spinal canal or of the lateral openings along the side of the spine where the nerve roots exits. This disorder usually involves the narrowing of one or more of three areas of the spine: (1) the canal in the center of the column of bones (vertebral or spinal column) through which the spinal cord and nerve roots run, (2) the canals at the base or roots of nerves branching out from the spinal cord, or (3) the openings between vertebrae (bones of the spine) through which, nerves leave the spine and go to other parts of the body. The narrowing may involve a small or large area of the spine. Pressure on the lower part of the spinal cord or on nerve roots branching out from that area may give rise to pain or numbness in the legs. Pressure on the upper part of the spinal cord (that is, the neck area) may produce similar symptoms in the shoulders, or even the legs.

The primary three types of stenosis are 1) neuroforaminal stenosis, 2) central stenosis and 3) far lateral stenosis. The central spinal canal can become too narrow, reducing the blood flow to the nerves supplying both legs or on one side only. Some people are more prone to develop spinal stenosis and are at greater risk for nerve compression and developing chronic back problems because they are born with a spinal canal which is smaller than normal. An individual is at greater risk if they have a developmentally small spinal canal and they acquire degenerative changes and/or disc pathology. Spinal stenosis may be acquired or developmental (congenital).

Spinal stenosis can occur in any part of the spine, but tends to be more prevalent in the low back or lumbar region due to the presence of more advanced degenerative changes. The pain associated with lumbar (low back) stenosis is often experienced in the low back but may extend to the buttock, thigh and calf regions. X-ray studies may reveal changes suggesting the possibility of underlying stenosis, although advanced imaging in the form of CT or MRI must be performed to confirm the presence and degree of spinal stenosis involving the central spinal canal. MRI is better at representing the effects of stenosis on the spinal core and spinal nerves than convention CT scanning. The most common causes of spinal stenosis are disc herniation, bone spurs (osteophytes), bony enlargement (bone hypertrophy) and a developmentally narrow canal.

Spinal stenosis is not always associated with symptoms. It can exist in the absence of pain or neurological compromise. Narrowing of the central spinal canal (stenosis) in the neck or midback regions can lead to compromise of the spinal cord. Narrowing of the central spinal canal in the low back can lead to progressive compromise of the spinal nerves. The symptoms of lumbar central spinal stenosis often involve radiating pain extending into one or both legs. In more severe cases of nerve compromise the pain will be accompanied by varying degrees of numbness and muscle weakness. Severe lumbar stenosis can be associated with difficulty voiding the bladder. The symptoms associated with lumbar stenosis are often worse with prolonged standing or walking. Sitting and leaning forward at the low back increase the dimensions of the central spinal canal and subsequently often provide some relief of low back and lower extremity complaints.