

SPINAL (CANAL) STENOSIS

Overview of Spinal Stenosis

Spinal stenosis is a narrowing of spaces in the spine that results in pressure on the spinal cord and/ or nerve roots. This disorder usually involves the narrowing of one or two areas of the spine:

1. The spinal canal (central stenosis)
2. The intervertebral foramen (lateral stenosis)

Causes

May be caused by soft tissue, bone or both compromising space leading to inadequate room for the spinal cord or cauda equina. This disorder is most common in people over 50 years of age, however it may occur in younger people. Spinal Stenosis may be caused by inherited or acquired conditions

- Inherited
 - scoliosis
- Acquired
 - disc herniation
 - ligamentum flavum thickening
 - spondylolisthesis
 - compression fracture
 - combination
 - spinal segmental instability
 - secondary effects of aging

Symptoms or Problems

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 may produce similar symptoms in the shoulders, or even the legs.

Maybe asymptomatic.

Treatment

There is little that can be done for this condition. Occasionally, surgery may be indicated to correct the causes if appropriate.

Exercise Considerations

- Avoid aggravating the condition by avoiding extension or rotational movements
- Literature suggests flexion is better than extension as it opens diameter of spinal canal
 - During flexion the Ligamentum Flavum 'bulges' into the canal on extension.
 - Panjabi et al, (1983) reported 20% ↓ in the x-sectional area of the intervertebral foramina in extension position

References and further reading.

- Bodack MP, Monteiro M. (2001) **Therapeutic exercise in the treatment of patients with lumbar spinal stenosis.** *Clinical Orthopaedics & Related Research.* (384):144-52
- Inufusa A, An HS, Lim TH, et al(1996) **Anatomic changes of the spinal canal and intervertebral foramen associated with flexion-extension movement.** *Spine* 21:2412–2420, 1996.