



NEUROSURGERY AND SPINE

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SPONDYLOLISTHESIS

Spondylolisthesis is a condition of the spine where a vertebrae (spinal bone) displaces either forward or backward compared to the vertebra above or below it.

If an upper vertebrae slips forward over a lower one, it is called **anterolisthesis**.

If the slippage is backward, it is called **retrolisthesis**.

Spondylolisthesis can lead to deformities in the spine as well as narrowing of the central spinal canal or compression of nerve roots.

When the spinal canal is affected by this narrowing, the diagnosis is called **central spinal stenosis**.

When the nerve roots are compressed, the diagnosis is called **foraminal stenosis** (the foramen is the hole where the nerve roots exit).



WHAT CAUSES SPONDYLOLISTHESIS?

There are four major causes of spondylolisthesis:

- **Dysplastic spondylolisthesis:** caused by a congenital (meaning you are born with it) defect in the formation of part of the vertebrae called the facet, allowing it to slip forward.
- **Degenerative spondylolisthesis:** caused by aging, it is arthritic changes in the joints of vertebrae due to cartilage degeneration in vertebral joints.
- **Traumatic spondylolisthesis:** due to direct trauma or injury to vertebrae such as a fracture.
- **Pathologic spondylolisthesis:** caused by defects in the bone caused by abnormal bone such as a tumor.