

# **Degenerative Spondylolisthesis**

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What is Spondylolisthesis?

Spondylolisthesis is defined as a forward slip of vertebrae in relation to the one below it. The spine is made up of many individual bones called vertebrae. These vertebrae interlock via 1) a complex system of bony protrusions called facets, 2) muscles and ligaments, and 3) soft jelly-like material called discs.

Why does spondylolisthesis occur?

There are two main kinds of spondylolisthesis: Isthmic and Degenerative (see diagram below). In isthmic spondylolisthesis, a fracture in the posterior part of the vertebrae leads to instability or a slip. In the case of degenerative spondylolisthesis, the failure is generally either where the facets join together to form the “joints” in the spine or in the surrounding ligaments. If the joints or ligaments become lax, vertebrae can slip forward over the one below it.

How common is Degenerative Spondylolisthesis?

Women are affected much more frequently than men. It is estimated that 10% of the female population has this condition.

What kind of symptoms can one develop as a result of the slip?

Oddly enough, there are people who have spondylolisthesis and are completely asymptomatic. If it does become symptomatic, the most common complaint seems to be low back pain. However, a Radiculopathy (pain radiating down the thigh and/or leg) may also occur if the patient develops spinal stenosis. In general, both the low back pain and the Radiculopathy improve with rest and are exacerbated by standing and walking. Activities such as bending and twisting can also make the symptoms worse.

What is spinal stenosis? Does it always occur with spondylolisthesis?

Spinal stenosis is defined as a narrowing of the spinal canal resulting in inadequate space for the spinal cord or the end of the spinal cord. When this occurs a patient may get tired in the legs or have a heavy feeling in the lower extremities. Frequently, there is severe pain that can travel to specific areas in the lower extremity. Spinal stenosis can occur with or without spondylolisthesis. When both are present, the problem is often harder to treat. In addition, the spondylolisthesis, or slip, often contributes to further narrowing of the spinal canal.

How are these two problems treated?

In general, non-operative care is initiated unless the pain is unrelenting and /or the patient is developing progressive neurologic deficits. Non-operative care may include anti-inflammatory medications, short course of steroids and/ or narcotics (prescription pain medications), and physical therapy. A series of Epidural steroid injections may also be prescribed when there is a significant lower extremity pain most patients seem to improve to their satisfaction with these non-operative treatment methods.

Surgery is reserved for those patients who are not happy with their progress with the above measures. In addition, surgery is also recommended for those few patients that develop a neurologic deficit or have progression of their neurologic deficits.

What are the types of Surgeries performed?

There are several different types of surgeries performed for degenerative spondylolisthesis. If there is symptomatic spinal stenosis associated with the slip, then a laminectomy and a fusion is performed. A laminectomy is defined as the removal of the back part of the vertebrae (lamina and part of the facet joint and supporting ligament) in order to create more space for the neural elements. In essence, you “unzip” the spine to make more room for the nerves. A fusion is often performed with the laminectomy to prevent further slippage of an already unstable vertebrae. It is felt by most surgeons that a slip can progress further with the destabilizing effects of the laminectomy. A fusion is defined as a deliberate surgical union of two or more vertebrae such that motion is prevented between these fused vertebrae. Bone graft, screws, rods, and cages are used to achieve this union. Once the fusion occurs, the vertebrae can no longer slip and the nerves can no longer be pinched.

How successful is the surgery in relieving my back and/or leg pain?

The surgery is done very frequently due to the vast number of older patients who have this problem. In general, the lower extremity pain is more successfully treated than the low back pain. Most patients experience complete resolution of their lower extremity symptoms. The relief of back pain is not as predictable. Patients who have not had chronic (long-term) back pain generally do better than ones who have had low back trouble for years and years.