

Spondylolisthesis (lumbar)

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Spondylolisthesis occurs when one vertebra slips forward on the adjacent vertebrae. This will produce both a gradual deformity of the lower spine but also a narrowing of the vertebral canal. It is often associated with pain.

The most common symptom of spondylolisthesis is low back pain. Many times a patient can develop the lesion (spondylolysis) between the ages of five and seven and not present symptoms until they are 35-years-old, when a sudden twisting or lifting motion will cause an acute episode of back and leg pain. Usually the pain is relieved by extension of the spine and made worse when flexed. In addition to back pain, patients may complain of leg pain. In this situation, there can be associated narrowing of the area where the nerves leave the spinal canal that produces irritation of a nerve root.

Plain radiographs of the lumbar spine are best initial x-rays for diagnosing spondylolysis or spondylolisthesis. Spondylolisthesis is most easily seen on the lateral view of the spine, but in some cases specialized imaging studies such as a bone scan or CT scan (CAT scan) are needed to make the diagnosis.

A spondylolisthesis is graded according to the amount that one vertebral body has slipped forward on another. A grade I slip means that the upper vertebra has slipped forward less than 25% of the total width of the vertebral body, a grade II slip is between 25 and 50%, a grade III slip between 50 and 75%, a grade IV slip is more than 75%, and in the case of a grade V slip, the upper vertebral body has slid all the way forward off the front of the lower vertebral body. This is a special situation that is called a spondyloptosis.

The conservative non-surgical treatment for spondylolysis and spondylolisthesis is most commonly rest, followed by trunk and abdominal strengthening exercises. A physical therapist is often helpful in getting you back on your feet and can instruct you in the proper way to do these exercises without exacerbating your symptoms. If there is significant leg pain, patients can also take an anti-inflammatory medication. Braces are rarely indicated but may be helpful in reducing symptoms.

For patients with spondylolysis, surgery to repair the defect in the pars intra-articularis is indicated only after non-operative measures such as physical therapy and exercises have failed to relieve symptoms. In younger patients, surgery may be used to directly repair the pars defect; in older patients or in those with some degree of instability, a fusion may be required.

If you have spondylolisthesis with the slippage greater than 50 percent of the width of the adjacent vertebral body, then a fusion is required to stop further slippage and provide relief from the associated symptoms of instability and nerve root irritation. Surgeons using a technique called a "fusion in-situ" can do this. What this means is that the surgeon will fuse the two abnormal vertebra together to prevent further slippage, but no attempt will be made to bring the vertebrae back into their original alignment. This is an

area of considerable debate among spine surgeons, because although there are now techniques available that will allow the surgeon to "reduce" the slipped vertebra back to its normal, "anatomic" position, these techniques carry the risk of causing an injury to the surrounding nerve roots in the process. You should discuss these issues carefully with your doctor before surgery.

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