

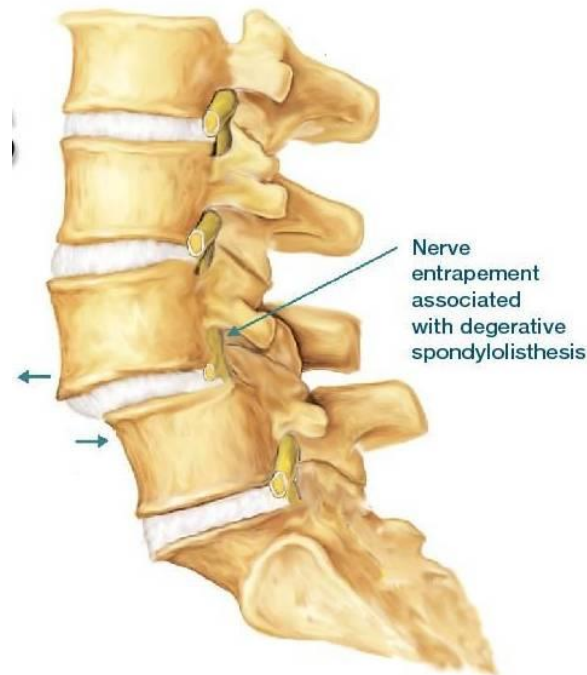
Lumbar Spondylolisthesis

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What is a spondylolisthesis?

- The spinal column is comprised of vertebral bones and discs stacked on top of one another. When bending forward and backwards the normal spine bends much like a “slinky” toy, maintaining smooth contours along the borders.
- Spondylolisthesis occurs when this smooth bending is disrupted, resulting in **one vertebra slipping in relation to an adjacent vertebra**. This abnormal movement is also referred to as ‘spinal instability.’
- In addition to the potential for significant low back pain, this misalignment results in less room available for the spinal nerves, which may result in neurologic symptoms.



What are the symptoms associated with lumbar spondylolisthesis?

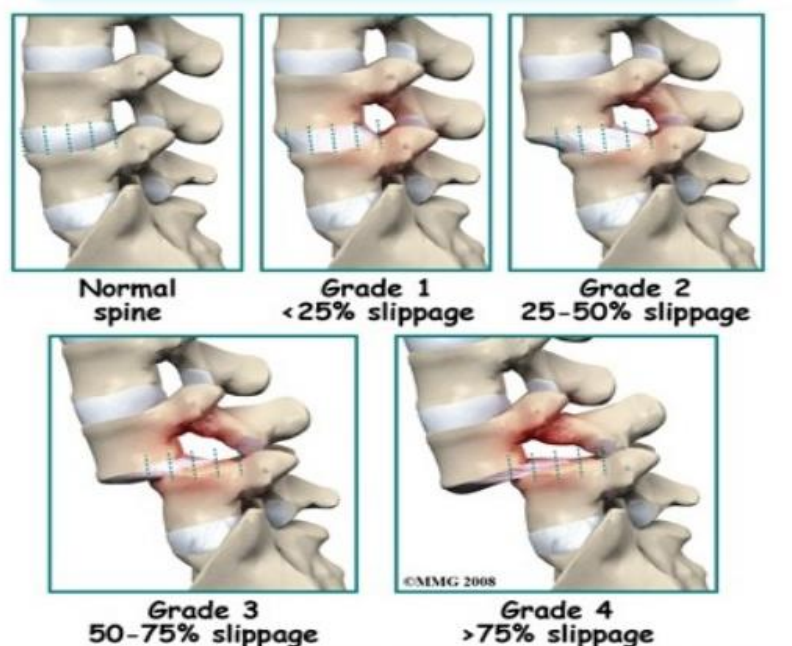
- Spondylolisthesis is one of the most common causes of **persistent, activity-related low back pain**.
- The nerves may also be compressed resulting in some combination of **pain, numbness, tingling or weakness in the legs** (sciatica).
- Other symptoms may include tightness of the hamstrings and decreased range of motion of the lower back. Although rare, severe compression of the nerves can also cause loss of control of bladder control.

What are the causes of lumbar spondylolisthesis?

- Although 6 different types of spondylolisthesis may be described, there are 2 major types that are commonly seen:
 1. **Degenerative spondylolisthesis:** Occurs as a result of age-related ‘**wear and tear**’ of spine, and hence is more common in older patients.
 2. **Isthmic spondylolisthesis:** This is due to a defect in a portion of the vertebra called the pars intertransversaris. Isthmic spondylolisthesis may be caused by repetitive trauma and is more common in athletes exposed to hyperextension motions, such as gymnasts, divers and football linemen.

How is lumbar spondylolisthesis diagnosed?

- As with all spinal conditions, diagnosis begins with a complete history and thorough physical examination.
- An MRI and upright x-rays are typically ordered, which will readily demonstrate the severity and extent of the problem. In some instances, a CT scan or EMG/Nerve conduction studies may be indicated as well.
- Lumbar spondylolisthesis is given a “**severity score**“ based on the percentage of slip of the vertebra compared to the neighboring vertebra.
 1. **Grade I** is a slip of up to 25%.
 2. **Grade II** is between 26%-50%.
 3. **Grade III** is between 51%-75%.
 4. **Grade IV** is between 76%-100%.
 5. **Grade V** occurs when the vertebra has completely fallen off the next vertebra.



What are the treatment options?

- **Non-surgical treatment**

- In most cases, non-operative treatment is the first line of treatment for lumbar spondylolisthesis.
- Options may include:
 - Physical therapy
 - Medications
 - Spinal cortisone/steroid injections

- **Surgical Treatment**

- For those with high-severity slips or whose symptoms fail to improve with conservative treatment, surgery may be an option. The type of surgery is based on the type/severity of the spondylolisthesis as well as the patient's symptoms.
- Surgery may be performed from the back (posterior) the front (anterior) or a combination approach. It is important to seek the opinion of a **fellowship-trained spine surgeon** with experience in all of these techniques in order to formulate the approach that is best suited for the specifics of your case.