

## Spondylolysis

**Overview:** The spinal column is composed of a series of 24 bones called vertebrae that are separated from each other by a disk. Spondylolysis is defined as a condition that occurs when all or part of one vertebra has slipped onto another vertebra. This most often occurs in the lower back and can cause a person to experience low back pain that may spread into the back part of the thigh or lower leg.

It is unlikely that the disorder is the result of a single incident, but rather it develops gradually over time. Patients are likely to note the pain improves with extension, or straightening, of the spine and is made worse by flexing, or bending forward, at the waist. The pain can be present most of the time, however, occasionally rest may improve the symptoms. Unfortunately, severe flare-ups may strike at any time.

**Diagnosis:** During a physical examination, doctors may find an unnatural curve to the lower back along with changes over the involved vertebra. Doctors may feel tightness in the muscles of the lower back overlying or adjacent to the vertebra involved. The patient's range of motion at the waist is limited and associated with increased pain. In most cases, X-rays of the lower back will confirm the condition and locate the source of the slippage. A bone scan can be helpful in finding small fractures that may not appear on plain X-rays, or to evaluate whether infections or tumors in the spine may be causing the pain. If a pinched nerve is suspected, a MRI examination may be performed. Doctors may also use certain kinds of nerve block procedures, which involve the injection of anesthetic medicine around painful structures in the spine. These injections can help confirm the diagnosis and determine if further nerve block treatments will benefit the patient.

**Treatment:** Some patients find benefit from the use of nonsteroidal anti-inflammatory medications in addition to pain medications. Many patients find nerve block treatments to be extremely effective in helping to reduce the pain from spondylolysis over longer periods of time. These injections may reduce pain caused by irritation at the nerve root, which is where the spinal cord starts to branch out. This can help reduce the spread of pain to adjacent structures. Other injections around the joints of the lower back can help reduce pain associated with movement.

For other patients who have a strong degree of muscle irritation or spasm associated with their spondylolysis, injections of nerve branches in the muscles adjacent to the spine can help relieve symptoms. Doctors may suggest the use of therapeutic exercises to improve strength and flexibility, and assist in improving the patient's abilities to perform more of their daily life activities with less discomfort. Occasionally a corset can help during strenuous activity.

Doctors usually reserve surgery for the most extreme cases and if needed they will fuse the vertebra if all else fails.