

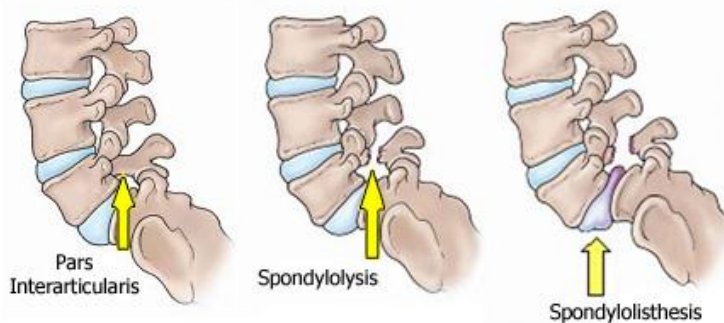
Spondylolysis

The most common cause of low back pain in adolescent athletes that can be seen on X-ray is a stress fracture in one of the bones (vertebrae) that make up the spinal column. Technically, this condition is called **spondylolysis** (spon-dee-low-lye-sis). It usually affects the fifth lumbar vertebra in the lower back and, much less commonly, the fourth lumbar vertebra.

If the stress fracture weakens the bone so much that it is unable to maintain its proper position, the vertebra can start to shift out of place. This condition is called **spondylolisthesis** (spon-dee-low-lis-thee-sis). If too much slippage occurs, the bones may begin to press on nerves and surgery may be necessary to correct the condition. When symptoms do occur, low back pain is the most common. The pain is generally worse with vigorous exercise or activity. Symptoms often appear during the teen-age growth spurt. The typical age of a person diagnosed with spondylolysis is 15 to 16 years, and males are far more affected than females. About 73 percent of people have a significant reduction in pain and can return to normal activities following early treatment of spondylolysis.

The causes of spondylolysis may include a hereditary aspect and/or an overuse component. An individual may be born with thin vertebral bone and therefore may be vulnerable to this condition. Significant periods of rapid growth (an adolescent growth spurt) may encourage slippage.

Relative to overuse, some sports, such as gymnastics, weight lifting, soccer, and football, put a great deal of stress on the bones in the lower back. They also require that the athlete constantly overstretch (hyperextend) the spine. In either case, the result is a stress fracture on one or both sides of the vertebra.



What to look for

- In many people, spondylolysis and spondylolisthesis are present, but without any obvious symptoms.
- Pain usually spreads across the lower back and may feel like a muscle strain.
- Spondylolisthesis can cause spasms that stiffen the back and tighten the hamstring muscles, resulting in changes to posture and gait. If the slippage is significant, it may begin to compress the nerves and narrow the spinal canal.
- An x-ray is needed to confirm the diagnosis

Treatment

Initial conservative treatment for spondylolysis is always nonsurgical. The individual should take a break from the activities until symptoms go away, as they often do. Anti-inflammatory medications, such as ibuprofen, may help reduce back pain. Occasionally, a back brace and physical therapy may be recommended. In most cases, activities can be resumed gradually and there will be few complications or recurrences. Stretching and strengthening exercises for the back and abdominal muscles can help prevent future recurrences of pain.

Periodic X-rays will show whether the vertebra is changing position.

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