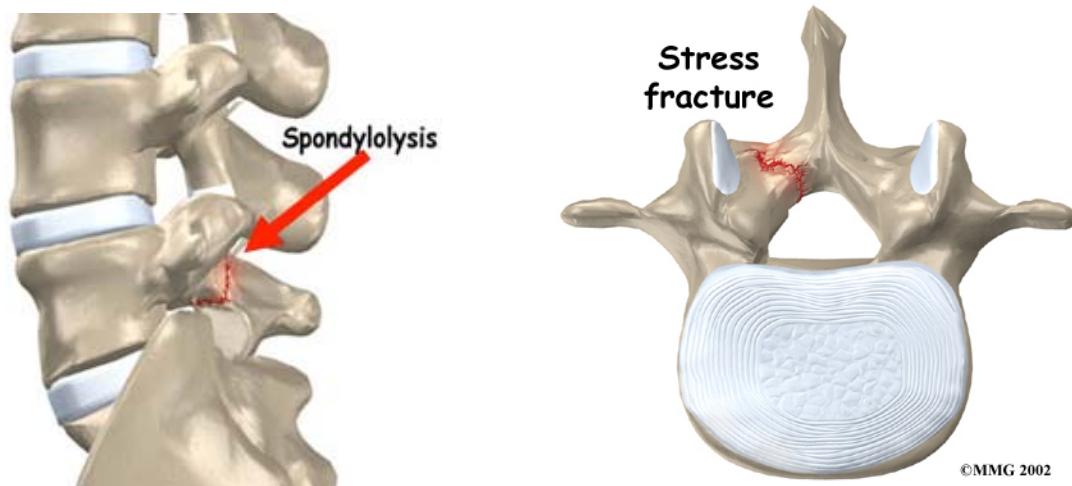


## Lumbar Spondylolysis

Spondylolysis occurs when a crack forms in the bony ring on the back of a vertebrae in the spinal column. Most commonly, this occurs in the low back at level L5. In this condition, the bone that protects the spinal cord develops a stress fracture as a result of excessive or repeated strain over time. The area affected is called the pars interarticularis, so doctors sometimes refer to this condition as a pars defect.

This condition appears in six percent of children. It mainly affects young athletes who participate in sports in which the spine is repeatedly bent backwards, such as gymnastics, but we are seeing it more and more in sports such as soccer due to repeated stresses of impact on hard surfaces and twisting with direction changes.

Children and adolescents are most susceptible. This is because their spines are still developing, and the pars is the weakest part of the vertebra.



## Lumbar Spondylolysis

The crack may affect only one side of the bony ring. However, it is equally common for the defect to occur on both sides. When this happens, the vertebra is no longer held firmly in place by the facet joints on the back of the ring. As a result, the vertebra is free to slip forward over the one below. This slippage, which is closely related to spondylolysis, is called spondylolisthesis.

People with spondylolysis may feel pain and stiffness in the center of the low back. Bending fully backward increases pain. Symptoms typically get worse with activity and go away with rest.

Individuals may eventually experience pain that radiates down one or both legs due to pressure and irritation on the nerves that exit the spinal canal near the fracture. This can also produce weakness in the leg and reflexes can become slowed. The person may also notice a pins and needles sensation or numbness in the skin where the spinal nerve travels into the leg. This can be very serious.

### Symptoms

- Complaints of low back pain increased with activity and better with rest
- Pain in the low back which may radiate down one or both legs
- Pins and needles or numbness in one or both legs

### Signs

- Tenderness over the area of pain to touch – central low back
- Pain elicited with lumbar extension
- Pain elicited with nerve tension tests
- Weak lower extremity muscle testing and diminished reflexes



## Lumbar Spondylolysis

### Treatment

- X-ray / bone scan / CT Scan / MRI to assess amount of bony damage and compromise on neural structures
- Protect, rest, ice – reducing activity is a must
- Physiotherapy to control pain and muscle spasm and a home program including exercises
- NSAIDs (non-steroidal anti-inflammatory drugs) prescribed by a physician
- When ready, a comprehensive core strengthening program and progressive functional strengthening regime

In severe cases:

- Apply a brace to stabilize the spine for 6-8 weeks
- Surgery to stabilize the vertebrae
- Only in severe cases are patients counseled to completely discontinue participating in their sport

### Prevention

- Proper warm-up:

A pre-training and pre-game stretching, core strengthening, and a soccer-specific movement routine is important. The Sherwood Park Sports Physiotherapy ACL Injury Prevention Warm Up is ideal for this.