

# Sports Injuries: Spondylolisthesis

February 2017

As long as sports are being played, there will always be a risk for injury. The injury that most often occurs in gymnasts, football players, and weight-lifters is a crack or stress fracture in one of the vertebrae, called spondylolysis. This fracture occurs because of overstretching (hyperextension) of the lumbar spine from overuse. When the vertebra fails to maintain its proper position in the spine – and the vertebra starts to shift or slip out of place – this condition is called spondylolisthesis.

Spondylolisthesis is a condition that affects the lower vertebrae. It develops when one of the lower vertebrae slips forward onto the bone directly beneath it. This condition can be painful and sports aside, the causes vary based on age, heredity, and lifestyle habits. Spondylolisthesis patients who have severe or “high-grade” slips may experience tingling, numbness, or weakness in one or both legs. These symptoms result from pressure on the spinal nerve root as it exits the spinal canal near the fracture.

## Symptoms

It's important to know that spondylolisthesis may not cause symptoms for years after disc slippage has occurred. However, symptoms may include:

- Persistent low back pain
- Stiffness in your back and legs
- Low back tenderness
- Thigh pain
- Tight hamstring and buttock muscles
- Difficulty standing and walking

## Diagnosis

Like any condition, physical exams are the first step in diagnosing spondylolisthesis. If you have this condition, you are likely to have difficulty raising your leg straight up or outward during simple exercises. If the pain is severe, the doctor may recommend an MRI (magnetic resonance imaging) scan to clearly display the soft tissue structures of the spine (including the nerves and discs between the vertebrae) and their connection to the cracked vertebrae and (if any) disc slippage.

## Non-Surgical Treatment

The treatment for spondylolisthesis depends on the severity of pain and vertebral slippage, but non-surgical treatments can help ease pain and guide your bones back into their appropriate location. In addition to ultrasound therapy, electrical muscle stimulation, hot-and-cold therapy, and massage, your

doctor may recommend a physical therapy regimen. During physical therapy, an individualized treatment plan is developed to keep you pain-free and assist you in healing. At first, the exercises you perform may include gentle stretches or posture changes to reduce back pain, hamstring pain, or other leg symptoms. However, as your legs get stronger, more vigorous exercises will be introduced to the process such as stationary biking or swimming. The goal of each exercise is to improve flexibility, strength, endurance, and the ability to return to your daily activities.