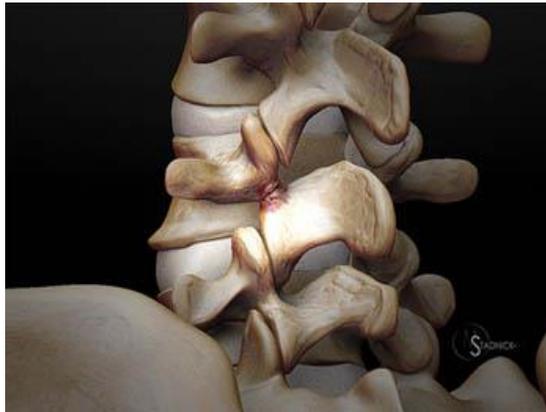
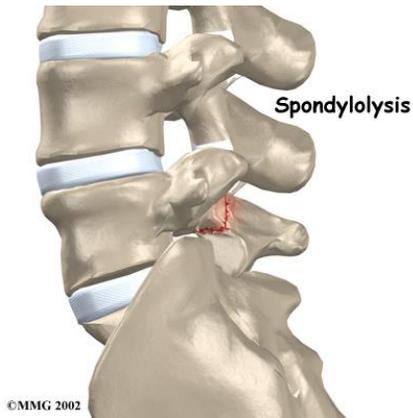




Spondylolysis (aka “Spondy”)

What is it?

Spondylolysis is a “*stress fracture*” of the vertebrae in the lumbar spine (90% are at L5). It’s located in a potentially weak part of the vertebrae called the “*pars interarticularis*”. Spondylolysis often appears during the teen-age growth spurt and is a common cause of chronic low back pain in teenagers and young adults who play sports. It can be unilateral or bilateral. Patients with bilateral pars defects can progress to *Spondylolisthesis* (or slippage of the spine).



What causes it?

Spondylolysis is often caused by *repeated micro-trauma & stress* of the spine. It is most common in athletes who participate in sports with repetitive back extension (like football lineman, tennis, diving, gymnastics, and dance). Spondylolysis can also run in families. It can also be congenital.

How is it Diagnosed?

Most X-rays of the lumbar spine *don't* show Spondylolysis. However, an *MRI* can better visualize subtle findings of the stress fracture. Sometimes other tests are ordered, like a CT or SPECT scan.

Treatment:

Early diagnosis is key to a faster recovery and return to sport. There is some controversy about the best way to treat the condition, but I recommend the following:

- **Rest** – *the most important treatment is complete rest* from sports, exercise, and all aggravating activities for about **3 months** or until the pain is gone (to allow the fracture to heal).
- **Bracing** - wearing a special TLSO back brace (ie: “*Boston Brace*”) is somewhat controversial. The brace reduces extension of the lumbar spine. It is unclear if the brace actually helps the fracture heal faster or better. However, the brace may enable athletes to return to sport & improve their pain faster (than rest alone). Bracing is NOT mandatory. Braces can be expensive and purchased at specialty bracing stores.

- **Physical Therapy** - early Physical Therapy can help speed the pain and healing response. Physical therapy can help strengthen core muscles & improve flexibility. Patients may also start stationary bike and easy swimming.
- **Important!** *Athletes should avoid extension and rotation exercises and activities while healing!*

When can I return to sports?

When the patient has been “pain-free” after about **3 months**, they may gradually return to sport in a step-wise fashion. If the patient has re-aggravation of pain, they should continue a longer period of rest from sport to allow healing.

Can I play sports in my brace?

Yes. If an athlete chooses to wear a brace, they can play sports in the brace as long as they continue to be pain-free in the brace. However, some sports may be difficult to play while in the brace (like diving, gymnastics, etc). Some patients have faster relief of pain when they wear a brace, but we don't think it improves healing rates.

How long do I have to wear the brace?

Most patients wear the brace about 3 months, depending on their symptoms and fracture healing. They may remove the brace for showering and doing physical therapy and core exercises/stretches. After 1-2 months, they may take off the brace during sleep at night.



Can Spondylolysis be prevented?

We don't know how to best prevent Spondylolysis. Keeping your back and abdominal muscles strong may help support the lower back and prevent future stress fractures. If you have Spondylolysis, it is important to choose activities and sports that do not place your lower back at risk for injury.

Exercises & Stretches:



Hip flexor stretch:

Kneel on one knee. Sit up straight while tightening buttock muscles. Slowly push pelvis forward



Prayer Stretch:

Reach forward and rest bottom on heels.



Hip flexor & low back stretch:

Pull knee to chest. Keep opposite leg straight. Press lower back against floor.



Hamstring stretches:



Adductor stretches:

Lean forward with legs spread.