

# spondylolysis

Spondylolysis is a frequent cause of low back pain in children and adolescents. It is a fracture in a vertebra in the lower back. The spine is made up of vertebral bones stacked on top of each other:

- Seven cervical vertebrae in the neck region
- Twelve thoracic vertebrae in the mid back area
- Five lumbar vertebrae in the lower back
- The lowest portion is comprised of vertebrae fused together to form the sacrum and tailbone

In spondylolysis, a stress fracture develops in a portion of a vertebra known as the pars interarticularis. Each individual vertebra has a pars interarticularis on the right and left side. The fracture can occur on one side of the vertebra or both. Spondylolysis occurs most commonly in the lumbar spine, most often in the fifth lumbar vertebra.

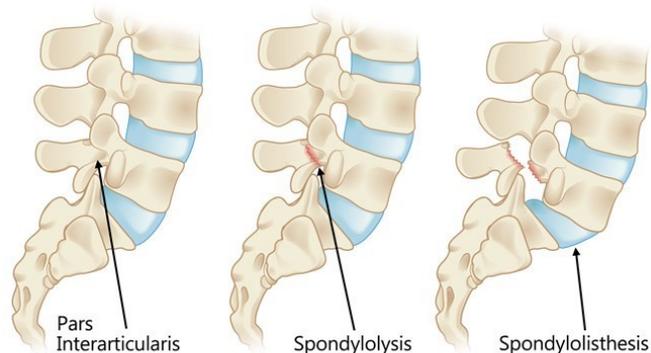


Image from SPARCC Tucson: [sparcctucson.com/2017/02/10/spondylolysis-in-dance-and-gymnastics/](http://sparcctucson.com/2017/02/10/spondylolysis-in-dance-and-gymnastics/)

## how does the fracture happen?

The pars interarticularis is a naturally thin portion of the vertebra. This makes it a weak area that can be hurt from overuse type injuries.

- Children and adolescents can get this condition because they are still growing and their spine is not yet mature.
- Sometimes, a child may have a hereditary or genetic factor resulting in an even thinner and weaker vertebra.
- More frequently, young athletes who perform hyperextension or back bend type motions get this fracture. Activities associated with spondylolysis include but are not limited to: gymnastics, basketball, weightlifting, football, soccer, volleyball, cheerleading, golf, baseball, softball, wrestling, ballet, ice skating, diving, rowing and fencing.

## what are symptoms of spondylolysis?

- Main complaint: Pain in the lower back
- Sometimes stiffness in the back
- Sometimes tightness and spasms in the hamstring muscles
- Pain may be worse with running, jumping and hyperextension movements
- Pain can run down into the buttocks and down the back of the upper legs

*(continued on reverse)*



### **how is spondylolysis diagnosed?**

Spondylolysis is diagnosed based on history, physical exam and an X-ray of the lower spine. In certain circumstances a bone scan, CAT scan or MRI may be ordered to confirm the diagnosis.

### **how is spondylolysis treated?**

Treatment for Spondylolysis begins with rest. It is important to avoid the activities involving hyperextension movements, and to limit physical activity that causes pain. Other treatments include:

- A back brace: Limits motion in the lower back
- Nonsteroidal anti-inflammatory medicines (ibuprofen/naproxen): Help to relieve pain and to decrease swelling.
- Physical therapy: Used once pain is under control to improve flexibility in the legs and increase strength in the back and abdominal muscles.

### **how quickly does spondylolysis heal?**

Healing time will vary between individuals. Significant healing usually occurs within six to eight weeks but may take as long as three to twelve months. The long-term goal is progression back to activities and prevention of re-injury. Periodic X-rays may be ordered to evaluate healing.

### **what is spondylolisthesis?**

In some cases, the fracture in the vertebra is more severe and the vertebra may shift or slip out of place. When the fractured vertebra slips forward on the vertebra below it, this is called spondylolisthesis. Only around five percent of children with spondylolysis will progress to spondylolisthesis.

There is an increased risk for spondylolisthesis during an adolescent growth spurt, and when the pars interarticularis fracture occurs on both sides of the vertebra.

Symptoms may include pain with activity, pain at rest or tingling, numbness or weakness in the legs or feet.

The degree of slippage of the vertebra helps to determine treatment. Minimal slippage can heal with rest and therapy. A moderate to severe slip may require surgery. Surgery is performed to stabilize the spine, relieve symptoms and to prevent further slippage.

