

# Adult Degenerative Scoliosis

## What is scoliosis in adults?

Scoliosis is an abnormal curvature and twisting of the spinal column. When people see an x-ray of scoliosis, the spine may look like an S or have varying degrees of an abnormal curve from one side to another.

However, what is not apparent on a plain x-ray is that scoliosis is actually a three dimensional problem with rotation along with the curvature.



## What Types of Adult Scoliosis are there?

There are two types of scoliosis that typically occur in adults. The first is when an individual has scoliosis as an adolescent, and it slowly progresses as the person becomes skeletally mature in adulthood.

The second type is scoliosis that occurs new in adulthood. This is due to spinal degeneration from arthritis, as unfortunately arthritis does not always occur symmetrically. This leads to asymmetrical degeneration and varying degrees of scoliosis present.

## Why does scoliosis occur in adults?

When an individual has scoliosis as an adolescent, surgery is not always necessary. As an individual shifts into adulthood, studies have looked at how many of those continue to progress and scoliosis gets worse.

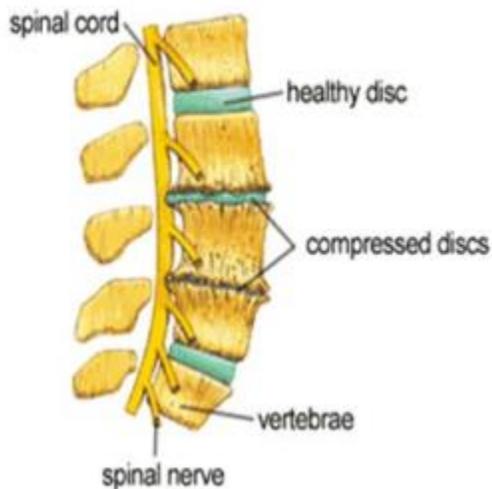
If the curve is over 40°, studies show that the curves typically get worse at a rate of 1 to 2° per year. This may not sound like much. But over a period of 40 years, that may have an individual ending up with an 80° scoliosis curvature.

It is unknown most of the time why scoliosis occurs as an adolescent. This is why the term idiopathic adolescent scoliosis came into existence. Sometimes there is an underlying reason such as a tumor, but for those who don't have an underlying reason all that may be necessary during that time is bracing.

When a person develops scoliosis as an adult and did not have it as an adolescent, it develops from progressive arthritis. Initially, the degeneration starts in the intervertebral disc. The disc begins to lose water and degenerate, which can then lead to abnormal stresses in that level and arthritis in the facet joints.

This arthritis does not occur symmetrically, and may lead to curvature beginning in the spine. This degeneration may occur at several levels, resulting in a larger curve. A person may also lose the normal curve of the spine front to back, resulting in what is known as a flatback.

## Degenerative Disc Disease





MRI showing spinal canal constriction from spinal stenosis.

### **What are the symptoms of adult scoliosis?**

The chief symptom people complain about is basically the pain. Because it is an arthritis problem, pain may flare up from time to time or it may be bothersome on a daily basis. Depending on the severity of the curve, it may be very difficult for an individual to stand up straight. If a flatback is present, it makes it even harder. The person may have to hold his or her head up higher in order to see the world straight.

The pain may be situated in various parts of the back, and may radiate into the buttock region along with the hips and the upper thighs.

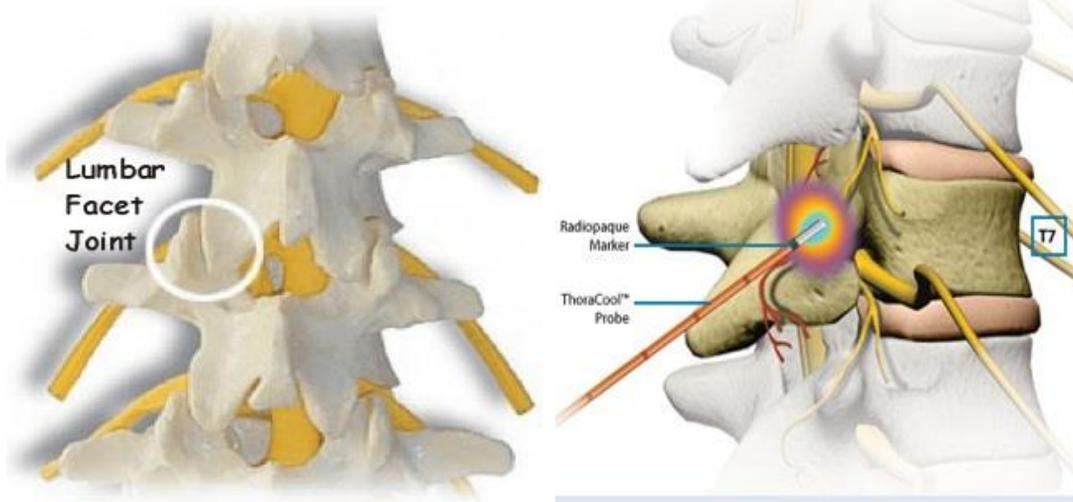
Due to the arthritis and the curvature, nerve roots may get pinched as they try to get out from the spine, resulting in what is known as spinal stenosis. This leads to leg pain either on one side or both, depending on where the nerve roots are getting compressed.

So as an overall presentation, a person may have both back pain as well as leg pain, some numbness and achiness.

### **How is adult scoliosis diagnosed?**

This is not a difficult diagnosis to make. Plain x-rays typically diagnose scoliosis in both the front-back direction as well as the side to side. To evaluate for spinal stenosis, MRI is the best test. If the person is unable to get an MRI, a CT myelogram is the study of choice.

### **What treatments are available for symptomatic adult scoliosis?**



If the person's pain is minimal it may be that no treatment is necessary. For the vast majority of individuals, scoliosis is an elective, quality of life decision that does not require surgery.

For those with significant back pain, initial first-line treatment should consist of over-the-counter anti-inflammatories and Tylenol.

For periods of exacerbation, narcotic medication may help along with some muscle relaxers. On a chronic basis, the risks of these medications start to outweigh the benefits.

For those with spinal stenosis and pinched nerve symptoms, neurogenic medications including Lyrica or Neurontin may be of benefit as well.

Physical therapy and chiropractic treatment may be very helpful in relieving pain. Therapy can strengthen up the paraspinal muscles and take some pressure off of the arthritic joints. Modalities such as ultrasound, electrical stimulation and a TENS unit may provide symptomatic relief and decrease the need for pain medication.

Interventional pain management is the mainstay of conservative treatment for adult scoliosis. For the arthritis in the facet joints, facet blocks or medial branch blocks may provide months of pain relief in the affected areas. Due to the fact that multiple levels are involved, it is not a problem to treat multiple levels at one time.

If a medial branch block works well and then wears off over time, the procedure may either be repeated or the person may have a radiofrequency ablation procedure. Radiofrequency neurotomy procedures may relieve back pain for 6 to 18 months at a time. With so many levels potentially involved, this procedure has been revolutionary in the treatment of symptomatic adult scoliosis.

If spinal stenosis is present, the preferred treatment is epidural steroid injections. These work well for over 75% of patients in controlling the buttock and leg pain. In conjunction with the treatments for back pain, a patient's pain can be well controlled and surgery may be an after thought. Spinal bracing does not help for adult scoliosis. As an adolescent, the spine remains fairly flexible. In adulthood, this flexibility goes away and bracing does not help correct the curve.

Surgery for adult scoliosis is an absolute last resort. The risk profile is very high for this procedure, and it should only be undertaken as a last resort if considerable conservative treatment fails.