

Adult Scoliosis

Scoliosis is a condition in which the spine develops one or more abnormal, side-to-side curves that in turn may affect the body's overall balance and alignment, as well as possibly lead to other physical and health problems. Most often diagnosed in childhood or during the early teenage years, the condition also may develop in adults.

What Is Adult Scoliosis?



A certain degree of curvature is normal in the human spine. When you look at your body from the side, you can see the gentle inward and outward curves of the neck, upper back and lower back, which are necessary for keeping the body properly balanced and aligned over the pelvis. But when viewed from the back, the vertebrae of a healthy spine should form a straight line.

In someone with scoliosis, the spine looks more like an “S” or a “C” than an “I”. The vertebrae involved in the curve also may rotate to some degree, which can further contribute to the appearance of an uneven waist or shoulders.

There are several warning signs that may signal the development of adult scoliosis. They include:

- Shoulders at different heights; one shoulder blade more prominent than the other
- Head is not centered directly above the pelvis
- Appearance of a raised, prominent hip
- Rib cages are at different heights
- Uneven waist
- Leaning of entire body to one side
- Clothing no longer seems to “hang right” on the body; hemlines of shirts, skirts and pants may appear longer on one side than the other

There are a variety of reasons why scoliosis may develop in adults. Curvature in the mature spine may be:

- **Secondary** – Developed in response to other spinal conditions that affect spinal alignment and balance, such as osteoporosis or degenerative disc disease. Scoliosis that develops as a result of spinal degeneration typically is called **degenerative adult scoliosis**.
- **Idiopathic** – Resulting from no specific cause.
- **Congenital** – Caused by a condition present at birth but previously undetected
- **Paralytic** – The result of paralysis caused by a spinal cord injury. When the muscles surrounding the spine no longer work, the vertebrae of the spine may become unbalanced.
- **Myopathic** – Similar to paralytic curvature, in that the muscles no longer work properly, but as a result of a muscular or neuromuscular disease, such as muscular dystrophy or cerebral palsy.

How Is Adult Scoliosis Diagnosed?

Should you notice any one or more of the above potential indicators of scoliosis, please make an appointment with your doctor for a thorough spinal and physical examination.

If scoliosis is suspected, the diagnosis can be confirmed using diagnostic tools such as x-rays, computed tomography (CT) and magnetic resonance imaging (MRI). To determine the extent to which a curve has progressed, it's measured using the **Cobb Method** and categorized in terms of degrees. Generally speaking, a curve is considered significant if it is greater than 25 to 30 degrees. Curves exceeding 45 to 50 degrees are considered severe and often require more aggressive treatment.

How Is Adult Scoliosis Treated?

For those who have already reached skeletal maturity, the considerations and goals of treatment are somewhat different than those whose bones are not yet fully formed. There are a variety of options for treating adult scoliosis, including surgery. However, most surgeons view surgery as a last resort, and usually recommend **non-surgical treatment**, such as **medication, exercise, physical therapy** and/or **bracing** as the first line of defense against the pain and physical symptoms that may accompany a curved spine.

Spine surgery for scoliosis is a major undertaking for adults, and the likelihood of post-surgical complications following spinal surgery for adult scoliosis tends to increase with age. With advancing age, degenerative changes may lead to stiffening of the spine, making it less amenable to realignment and correction. If osteoporosis is a factor, as it frequently is for people - especially women - over age 65, it may be difficult for surgeons to successfully attach the instrumentation required for the surgical procedure to the vertebral bodies.

Your surgeon may consider surgical correction if:

- You're experiencing chronic, debilitating pain that has failed to respond to conservative treatment;
- If your curve has contributed to the development of spinal stenosis (narrowing of the spinal canal that causes pressure on the spinal cord);
- Your spinal curve continues to get worse and has progressed to more than 40-45 degrees. (For curves above 60 degrees, the twisting of the torso can lead to more serious lung and heart conditions.); and
- If physical deformity has become unbearable to you for other physical or aesthetic reasons.
- If you have progressive, neurological changes such as numbness, tingling or weakness, or decreased tolerance for walking. (This may indicate neurocompressive disease in addition to spinal curvature.)

Surgical goals for treating adult scoliosis typically include:

- Reducing the curve (straightening the spine as much as possible);
- Stopping the progression of the curve;
- Removing pressure from the nerves and spinal cord; and
- Protecting the nerves and spinal cord from further damage.



- In older patients, allowing nerve decompression to improve neurological function of the lower extremities.



Toward this end, your spine surgeon may recommend **spinal fusion**, the goal of which is to correct the spinal deformity as much as possible and fuse, or join together, the vertebrae in the curve to be corrected. The procedure involves approaching the spine either from the front (anterior approach), the back (posterior approach) or both. Your procedure may be minimally invasive, and/or also involve a **discectomy** (removal of disc material, a procedure that may be included in an anterior approach) to relieve pressure on the spinal cord.

The decision to treat adult scoliosis surgically requires careful consideration between you and your doctor. Factors to be considered include your specific condition and overall physical health. Discuss your condition thoroughly with your doctor and rely on his or her judgment regarding which treatment option is most appropriate.

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