

## Scoliosis

**S**coliosis is when the spine is not straight up and down, but curves laterally from side-to-side. Mild curves are rather common, and usually require no treatment at all. About 95 percent of all curves require only periodic examination. Curves that progressively worsen, however, often need medical intervention.

Although we don't yet know exactly what causes scoliosis, we do know that it tends to run in families. We also know that, in rare cases, the disease has been caused by abnormal bones or nerves. For example, certain neurological diseases—such as cerebral palsy or muscular dystrophy—have been known to cause scoliosis.

While scoliosis affects both men and women, severe scoliosis is more likely to occur in girls. Increases in curves are most likely to occur just before puberty. For instance, a 10-year-old girl with a curve of 25 degrees—who has not yet started her period—has a 70 percent chance that her spinal curve will progress. Conversely, a 15-year-old girl with the same degree of curve—who has been having periods for two years—has a 10 percent chance that her spinal curve will progress.

Severe scoliosis often causes one shoulder to be higher than the other, the waistline to be more indented on one side, one hip to be more prominent, and one side of the back or shoulder to stand out when the person leans forward. About 4 percent of young people have some of these signs, but only a few ever need treatment.

All curves need to be monitored, but only progressive curves and curves that are severe when first discovered need treatment. Small curves are monitored with repeated exams and X-rays to determine if they are progressing to the point of needing treatment.

Without intervention, progressive curves can become noticeable enough to make some people feel self-conscious, cause clothes to fit improperly, and—if truly severe—even compress the heart and lungs. With proper early treatment, however, some curves can be prevented from developing into severe deformities.

The only effective interventions for treating scoliosis are back braces and surgery. Back braces are used for smaller curves that are getting worse. If brace treatment has failed, or if a large curve developed before treatment was begun, an operation can be done to correct some of the deformity. Bracing is generally used for curves between 20 and 40 degrees, and surgery for curves of more than 40 or 50 degrees.

When bracing is required, an orthopedic surgeon fits the brace and follows the patient through the course of treatment until he or she has stopped growing and there is no more risk of the curve progressing. There are a variety of braces, but the most common are plastic body jackets, which are custom-made for each patient. These are worn under the clothes for several hours every day.

When required, surgery involves placing metal rods along the spine to internally realign and hold the spine straight by fusing selected vertebrae. This is called spinal fusion and it usually corrects much of the curve and prevents it from progressing further. It typically involves a hospital stay of several days. After

full recovery, which usually takes a year or more, the child who has had spinal fusion surgery generally has no physical limitations and can participate in normal school and athletic activities.

Whether or not it requires treatment, scoliosis seldom causes harm in adult life. Women with scoliosis can still get pregnant and raise children even if they have had spinal fusion. The vast majority of women with any degree of curvature have no problems getting pregnant or carrying their children. Furthermore, most curves do not worsen during pregnancy.

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