



Pediatric scoliosis is a sideways curvature of the spine in the shape of an S or C. It occurs most often in children aged 10 to 12 during the growth spurt that occurs just before puberty.

Scoliosis is more common than you think

- About 2-3% of the American population is affected by scoliosis
- Idiopathic Scoliosis, or scoliosis with an unknown cause, accounts for 80% of all cases.
- Adolescent Idiopathic Scoliosis (AIS) is most common and often first seen in prepubescent children between the ages of 10 and 12.
- Scoliosis accounts for 20% of all cases of spinal deformity and 48% of cases in children.
- Nearly 600,000 medical visits each year are due to pediatric scoliosis.
- Of those whose relatives have scoliosis, 20 – 30% will develop the condition themselves.

Diagnostic testing for scoliosis includes:

- **Adams Forward Bend Test:** This is the most common physical screening used for scoliosis and is often performed by school nurses. During the exam, a child will bend forward at the waist with arms reaching straight toward the toes and palms together, emphasizing the spine and its shape.
- **Scoliometer:** A scoliometer is essentially a level for the back with a cutout for the spine. For this test, a child should bend just as they would for the Adams Forward Bend Test. Then, the device is placed over any deformities at a right angle and centered above the curve for a measurement of the degree of rotation.
- **Leg Length:** A discrepancy in leg length can be a contributing factor to functional scoliosis.
- **X-Ray:** This is the standard imaging test used to identify and diagnose all forms of scoliosis. During the x-ray, a patient will stand as images are captured from front, back, and side angles. Side bending images will then be captured from both the front and back to assess spinal flexibility.
- **Additional Imaging Tests:** While not used to diagnose scoliosis, CT scans or MRI tests may be used in some cases to provide enhanced visualization for the assessment of various spinal pathologies.

Early scoliosis causes few symptoms

While severe cases of scoliosis may cause pain or heart and lung problems, most patients suffer from milder forms and notice more subtle symptoms such as:

- Ill-fitting clothes that hang unevenly
- One shoulder blade or one side of the rib cage sticking out further than the other
- Hips, waist or legs that appear uneven
- Changes in walking or uneven gait
- Visual curvature of the spine when bending
- Fatigue after long periods of sitting or standing

Treatment of Scoliosis Depends on Severity

- **Observation:** If the spinal curve is determined to be under 25 degrees, observation and repeated examination will be used to monitor the progression of the condition. Factors such as skeletal growth and skeletal maturity will dictate if the curve progresses beyond 25 degrees, at which point, additional intervention is indicated.
- **Bracing:** Back braces for scoliosis are either worn full-time or only at night, depending on severity. For double curves or curves greater than 35 degrees, full-time braces are typically used for 16-23 hours per day. For single curves or curves less than 35 degrees, night-time braces may be used for 8-10 hours per night. When used with full compliance, curve progression can be stopped in as many as 80% of cases with bracing.
- **Surgery:** Spinal fusion surgery involves the fusing of vertebrae into a single, solid bone with the use of bone grafts and metal rods. Surgery is typically only used in cases where the spinal curvature exceeds 45 degrees. In most cases, the curve can be successfully reduced to less than 25 degrees.