

What is Scoliosis And How Is It Treated?

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A normal spine when viewed from the back appears straight. When the spine is affected by scoliosis there is evidence of a lateral or sideways curvature and a rotation of the vertebrae. (back bone) The Scoliosis Research Center defines scoliosis as a curvature of the spine measuring ten degrees or greater on x-ray.

According to the National Institute of Arthritis and Musculoskeletal and Skin Diseases three to five out of every 1,000 children develop spinal curves that are considered large enough to require treatment. There are three different types of scoliosis that can occur in children:

- *Congenital scoliosis*- This type of scoliosis is often caused by failure of the vertebrae to form normally, absence of the vertebrae, partial formation of the vertebrae or a lack of separation of the vertebrae.
- *Neuromuscular scoliosis*- This type of scoliosis is associated with neurological conditions including cerebral palsy, spina bifida, muscular dystrophy, spinal cord tumors and paralytic conditions.
- *Idiopathic scoliosis*- The cause of this type of scoliosis is unknown and makes up 80- 85 % of all cases.

Other causes of scoliosis may include hereditary conditions, differences in leg lengths, injury, infections and tumors. Scoliosis usually develops when the bones are growing most rapidly usually from the ages of 9-14 years.

It is very important for children to be screened frequently as they will rarely feel any pain when the scoliosis is first developing. The symptoms of scoliosis may include difference in shoulder height, hip height or shoulder blade height. There may be a difference in the way the arms hang beside the body when the child is standing straight. In addition, the sides of the back may appear asymmetrical in height when the child is bending forward.

The treatment goal of all pediatric spinal deformities is to maintain function, prevent symptoms in the short term and long term and most importantly to stop the progression of the curve and prevent deformity. If the scoliosis is detected early the

child can receive treatment that may control the condition and prevent other problems. Several studies have demonstrated the relationship between trunk strength and scoliosis and the value of spinal strength training in adolescent idiopathic scoliosis with curves measuring 20 to 60 degrees. Treatment depends on the severity of the curve.

- *Mild curves* should be checked every six months by the physician. In addition, your pediatric physical therapist should recommend exercises that improve flexibility and strengthen the muscles that support the spine.
- *Moderate curves* that measure between 25- 40 degrees on an x-ray benefit from bracing in conjunction with exercises. Electric stimulation also may be successful for certain types of scoliosis.
- When bracing and exercise do not slow the progression of a *severe* curve that is 50 degrees or greater, surgery may be necessary. Surgery can usually be avoided if the condition is detected and treated early.

Early detection is crucial. If left untreated, the scoliosis can cause problems with heart and lung function.