



## **PEDIATRIC CLINIC**

### **Scoliosis (Idiopathic Scoliosis)**

#### **What is scoliosis?**

Scoliosis means that the spine curves somewhat from side to side rather than being straight down the back. There is also the possibility of the spine rotating or “twisting” as well as curving from side to side in an “S” shape.

The spine is made of bones called vertebrae that normally stack one on top of the other in a straight line. Scoliosis develops gradually as your child grows. Scoliosis is usually noticed just before or during puberty when your child is going through a growth spurt.

Girls get scoliosis more often than boys. Usually parents do not notice the gradual changes caused by scoliosis. The curvature is usually discovered by a doctor on annual well child exam or school nurse. However, teens and parents may notice that one shoulder is higher than the other or the child’s waist creases are uneven when viewed from the back when they are wearing a bathing suit.

#### **Risk Factors**

- Family History of Scoliosis in Parents, Grandparents, or Siblings
- Congenital Heart conditions
- Congenital Hip conditions
- Congenital Kidney conditions
- Club Feet at birth
- Cerebral Palsy and developmental delay
- Muscular Dystrophy or other neurologic conditions

At first, the symptoms are painless and not always easy to recognize. A child with scoliosis may:

- have uneven shoulders or waist
- have a hump on one side of the back
- have one or both shoulder blades sticking out
- lean slightly to one side.
- have one pant leg noticeably shorter than the other
- recurring back pain
- persistent poor posture

#### **What is the cause?**

There are many causes of scoliosis. Sometimes vertebrae are incompletely formed or misshapen. Sometimes children who have legs of different lengths will develop a curvature of the spine which is easily addressed by placing a lift in the shoe of the shorter limb. Other times, diseases may cause scoliosis. However, in healthy children and teens the cause is most often unknown. When a cause for the scoliosis cannot be found, it is called idiopathic scoliosis.

In idiopathic scoliosis some of the vertebrae are rotated. This causes the ribs on one side of the back to stick out more, causing a hump. The muscles attaching the vertebrae to the ribs on either side may not be pulling with equal

forces. This may cause one set of rib muscles to pull harder and twist the vertebrae causing them to move out of a straight line down the back.

## **How is it diagnosed?**

Standing X-rays are taken to diagnose scoliosis. Xrays taken lying down will often not show the true severity of the curvature. Proper x-rays show the amount of curvature and sometimes helps to identify a cause. Your child's legs may be measured or even x-rayed to make sure they are the same length.

## **What are the complications?**

The amount of curvature varies widely. However, the younger your child is when the curvature starts, the worse it is likely to become. The curving of the spine usually continues to get worse until a child's bones are done growing (around age 14 for girls and age 16 for boys).

Girls tend to have more severe scoliosis than do boys. Scoliosis curves in girls generally begin to increase within 6 months before they start their menstrual cycle (their "period.") So depending upon when they begin puberty, you should be on the look-out for spinal curvature, especially if scoliosis tends to run in your family.

Boys are different. Their scoliosis curves tend to increase in the 6 months prior to finishing growth, which on average is around age 16 yrs. Boys tend to have more "hump back" appearance, otherwise known as "kyphosis." This, too, should be evaluated with X-rays and frequent reassessment by your doctor.

Children who have neurologic health problems (developmental delay, cerebral palsy, muscular dystrophy) can develop scoliosis very early and it can progress very rapidly around the time of puberty. Those children should be followed by a Pediatric Orthopedic Surgeon regularly.

A curvature in the upper back tends to get worse faster than one in the lower back. Some curvatures, if allowed to continue, can cause serious health problems or back pain later in life.

## **How is it treated?**

If your child has a slight curvature less than 25 degrees on X-ray, she just needs regular checkups by the doctor. If the curvature continues to get worse, your doctor may recommend a brace. This is a light-weight durable lined plastic shell that will hug her torso (under her clothes) and help to keep the scoliosis from progressing. Some very flexible teenagers may even experience an improvement in their curve. Usually these braces should be worn full-time, but your Orthopedic doctor will be able to determine what is best.

Another means of helping with scoliosis curves is certain types of Physical Therapy. Your Orthopedic doctor will be able to tell if your child's scoliosis curve is the type that will respond to therapy.

## **Surgery**

When a scoliosis curve is greater than 40%, then your Orthopedic doctor will discuss with you whether or not surgery may be necessary to keep the curve from becoming much worse and debilitating for your child. A lot depends on how much growth your child has left, if they have any other health problems, or if their curve is affecting their self-esteem. If a curve is over 50% and the child still has growth left, then surgery is almost always necessary to keep it from growing bigger. Curves over 50% can continue to worsen to 60, 70, or even 80% and will interfere with functioning.

Curves that have a lot of rotation can twist inward and begin to squeeze the heart and lungs causing circulation or breathing problems. So, rotation, and not just curvature, must be taken into consideration with bracing and the possibility of surgery.

If Scoliosis runs in your family, please have your pediatrician begin to investigate and follow your child's spine growth and development early. If scoliosis appears during Adolescence, then it should be followed every 6 months with exam and/or Standing X-rays to determine how the curve and rotation is progressing. Most teenagers never have to have a brace or surgery, but early intervention is very important if there is a change the curve might progress.

**Call Your Child's Physician During Office Hours If:**

(719) 526-7653

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