

# Congenital Scoliosis

## What is Congenital Scoliosis?

Congenital scoliosis is a sideways curve of the spine caused by a vertebral defect present at birth. Normally occurring in 1 out of 10,000 newborns, it is much less common than other forms of scoliosis. Children with scoliosis may have other health issues, or the abnormality can go un-noticed until adolescence.

## Types of Congenital Scoliosis

**Incomplete Formation of Vertebrae** - During fetal development, the spine and vertebral column develops first as a single column of tissue and later becomes segmented to form the bony vertebrae. Sometimes a vertebrae will not completely form, resulting in a hemivertebrae. This vertebrae will cause a sharp angle in the spine and a curvature that can worsen as a child grows. The abnormality can occur at one vertebrae in the spine or many vertebrae.

**Failure of Separation of Vertebrae** - If during this time of vertebral development the tissue does not fully separate, it may result in a partial fusion (bars) between vertebrae. As a result, during child growth, the connection will prevent the spine from growing evenly and properly resulting in a curve. Both failures of separation and incomplete formation can occur together.

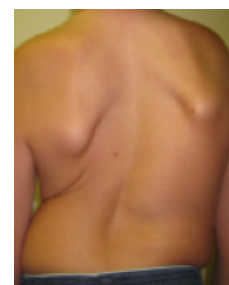
## Symptoms

Congenital scoliosis is usually not painful and is normally detected during routine exams. Physical signs include:

- Tilted, uneven shoulder
- Prominence of the ribs on one side
- Uneven hip
- Overall appearance of leaning to one side
- In some cases spinal cord function can be affected, causing weakness, numbness or loss of coordination

If your child has symptoms of congenital scoliosis, your doctor will recommend that other tests are done to check for abnormalities. These tests include:

- **X-rays** - Doctors can determine how severe the curve is and if there is an abnormal vertebrae by examining your child's back from behind and side
- **CT Scans** - Provides a detailed image of your child's spine showing the size, location, and shape of any abnormalities
- **MRI (magnetic resonance imaging)** - Provides more information about the soft tissues within the body. This test will be done at least once to check for other abnormalities not seen on x-ray.



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## Nonsurgical treatments

**Observation** - Children who present with small curves will be monitored to make sure the curve does not progress. When patients grow, the curves can get worse making the deformity more noticeable. Your doctor will have you return every 6-12 months to check your child's curve.

**Bracing/Casting** - Is rarely used to control the part of the spine that does not have vertebral defects.

## Surgical treatments

**Spinal Fusion** - The abnormal segments of the spine are fused together to create one continuous solid bone. The growth of the spine is stopped and it prevents the curve from progressing and getting worse.

**Hemivertebrae Removal** - The abnormal vertebrae is removed partially correcting the curve and metal implants are placed to help stabilize the surrounding segments as they fuse together.

**Growing Rods** - For young children with significant curves, rods are surgically placed to control the curve and to also allow for the spine to continue to grow. The rods are lengthened every 6-8 months until the child is fully grown at which time a spinal fusion is performed. The rods may be attached to the spine and/or ribs.

