

*S*COLIOSIS

BOURASSA & ASSOCIATES
REHABILITATION CENTER

What is Scoliosis ?

▶ Scoliosis (Greek meaning "crooked") is a medical condition in which a person's spine is curved in either a "C" shape or an "S" shape.

▶ Rotoscoliosis can refer to a type of scoliosis in which the rotation of the vertebrae is quite pronounced. Generally, there is always some degree of vertebral rotation associated with scoliosis.

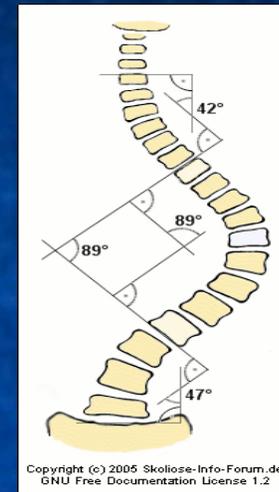


Why Does Scoliosis Occur?

- ▶ In the case of the most common form of scoliosis, “adolescent idiopathic scoliosis”, there is no clear cause. (Idiopathic meaning “of unknown cause”). However, it does tend to run in families.
- ▶ Various causes have been cited, but none have consensus among scientists.
- ▶ Scoliosis is more often diagnosed in females and tends to occur more commonly in middle and late childhood.
- ▶ Scoliosis is often seen in patients with cerebral palsy and spina bifida, although this congenital form of scoliosis is different from that seen in children without these conditions.

Diagnosis and Severity

- ▶ Once suspected, scoliosis is usually confirmed with an x-ray, spinal radiograph, CT scan, MRI or bone scan of the spine.
- ▶ The curve can then be measured by using the Cobb Method and is discussed in terms of degrees of curvature.
- ▶ A curve is considered significant if it is greater than 25 to 30 degrees. Curves exceeding 45 to 50 degrees are considered severe and can often require more invasive treatment.

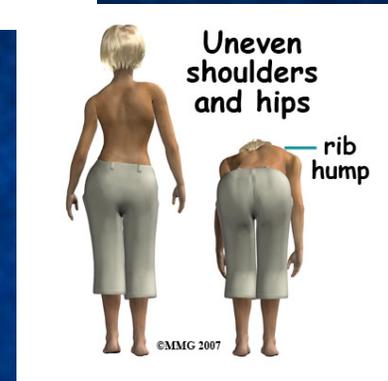


Signs and Symptoms

- ▶ Scoliosis often presents itself during the adolescent growth spurt.
- ▶ During these periods, where rapid growth can occur, there can be disproportionate growth between bones which can result in misalignment of the hips and spine.
- ▶ Pain can occur because the muscles try to adapt to the way the spine is curving, resulting in muscle spasms.
- ▶ Some severe cases of scoliosis can lead to a diminished lung capacity and restrict physical activities due to discomfort and shortness of breath.
 - ▶ However, this severity is significantly less prominent than mild scoliosis.

Signs and Symptoms

- ▶ Uneven musculature on one side of the spine.
- ▶ A rib "hump" during forward bending.
- ▶ Prominent shoulder blade, caused by rotation of the ribcage and thoracic scoliosis.
- ▶ Uneven hips and shoulder levels.
- ▶ Asymmetric size or location of breasts in females.
- ▶ Unequal distance between arms and body when viewed from front/behind.



Management

- ▶ The prognosis (future expectations) of scoliosis will depend on the likelihood of progression.
- ▶ The general rules of progression are that larger curves carry a higher risk of progression than smaller curves and that thoracic and double primary curves carry a higher risk of progression than single lumbar or thoracolumbar curves.
- ▶ In addition, patients who have not yet reached skeletal maturity have a higher likelihood of progression.

Treatment

How a physiotherapist can help

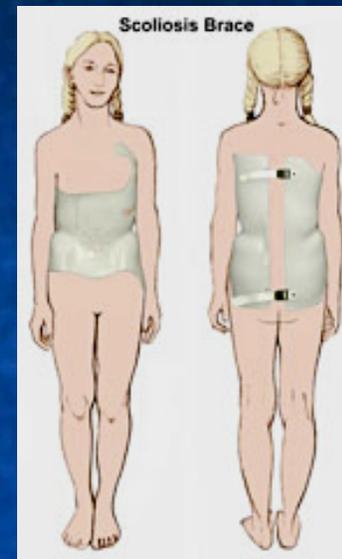
- ▶ Physical therapy can have success in treating scoliosis of most degrees having influence on exercise tolerance, postural abnormalities and pain management if present.
 - ▶ However, although having positive effects, non-surgical approaches will not address severe bone deformities associated with some cases of scoliosis.
- ▶ Physical therapists utilize joint mobilization techniques and exercise to increase a patient's flexibility and strength, which will better enable the client to have an active influence on the curvature of their spine.

Treatment - Bracing

- ▶ An appliance that fits from underarms to hips and is custom-made from fiberglass/plastic.
- ▶ Usually worn 22-23 hours a day and applies pressure on the curves in the spine.
- ▶ Brace effectiveness depends not only on brace design and orthotist skill, but on patient compliance, amount of wear per day and early detection of the condition if severe enough.
- ▶ Generally, braces are used for curves that are not significant enough for surgery, to prevent the progression of more severe curves in young children and as a preventative method prior to eventual surgery.

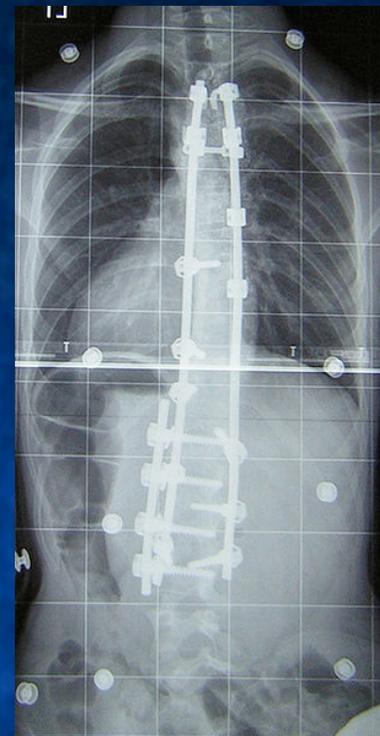
Treatment - Bracing

- ▶ The goal of bracing is to try and keep a curve from progressing.
- ▶ If the curve is greater than 25 degrees and the patient has significant time to grow, there is possibility for the curve to worsen.
- ▶ Whether bracing actually works is controversial. Some clinical studies support the use of bracing in young patients whose curves are at risk of progressing.



Treatment - Surgical

- ▶ Spinal fusion is the most widely performed surgery for scoliosis.
- ▶ Patients with fused spines and permanent implants tend to have normal lives with unrestricted activities.
- ▶ Surgery is usually considered if the spine has a curve of greater than 40 degrees.



Prevention

- ▶ Although scoliosis cannot be prevented, trained health care professionals can provide you with guidance that will help to decrease the risks of progression
- ▶ Physiotherapists can provide you with appropriate education and what you can do to lessen the signs and symptoms that go along with scoliosis.
- ▶ We can also help you with questions you may have about appropriate activities and what to expect in the future, keeping in mind that most people with adolescent idiopathic scoliosis go on to live perfectly normal lives.

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North Battleford - 982 102nd St, LifeTime
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