

Scoliosis

Definition of scoliosis

The human spine is formed by 33 vertebrae (from cervical to coccyx). The spine as a support to your trunk, attachment point for trunk muscle, it also protect the central nervous system. The spine should look straight, up and down, when you look at someone from behind. Scoliosis means the spine has a sideways curve more than 10 degrees and form a "S" or "C" curve.



Figure 1. X ray film of patient with scoliosis

Causes of scoliosis

Most of the cause idiopathic, it means the cause is not known. It most commonly develops during the growth spurt of puberty and early adolescence and scoliosis is more common in girls

Symptom of scoliosis

In most cases the onset of the scoliosis is gradual and painless. Scoliosis is usually not noticeable until it affect the patient's appearance. Parents can refer to the early signs of scoliosis and acquire proper treatment at the early stage:

1. Imbalance of ear level
2. Imbalance of shoulder level
3. Imbalance of scapular
4. Imbalance of pelvis or waist
5. Imbalance of breast of girls

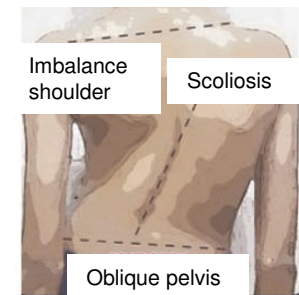


Figure 1. Symptom of scoliosis

Scoliosis is often seen when you bend forward. A bulge on the back (spine) is more obvious when bending forward.



Figure 3. Screening of scoliosis

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Affect of scoliosis

1. Disfiguring of appearance and affect psychological health
2. Back ache and pain
3. Breathing problems or heart problems may develop if the deformity in the chest region is very severe

Treatment of scoliosis

Treatment of scoliosis depends on various factors, such as severity of the curve and patient's growth stage

10-20 degrees

Exercise / physical therapy, and regular follow up (every 6 months)

20-45 degrees

Spinal brace with exercise / physical therapy. To achieve best treatment outcome, the spinal brace is tailor made based on patient's curve degrees and types

45 degrees or above

Operation is necessary for maintain or correct the curvature

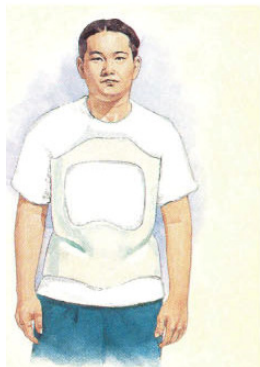


Figure 4. Patient with spinal brace

Orthotic treatment by spinal brace

The brace is designed to reduce the deformed spinal to its proper position by various biomechanical principle. A brace is worn most around 23 hours every days until the spine is full developed. Regular follow up is necessary for optimum treatment outcome.

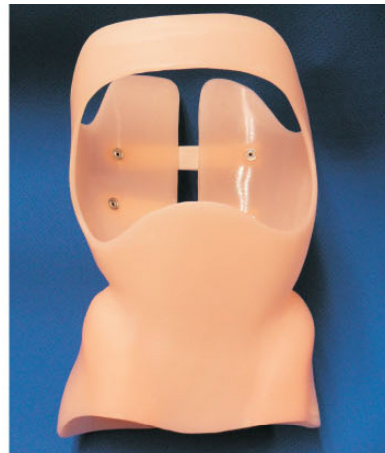


Figure 5. Spinal brace for scoliosis

Function of spinal brace

1. Prevent the scoliosis from becoming worse
2. Improve posture of the skeletal system
3. Relief pain
4. Improve the appearance
5. Improve cardiovascular function

Prevention of scoliosis

Idiopathic scoliosis is not able to be prevented. Until this moment, poor body posture and carrying heavy backpack is not proven to induce idiopathic scoliosis.

Since poor posture and heavy backpack can induce back pain and muscle fatigue, children should keep up with proper sitting posture and prevent carrying heavy backpack.



Figure 6. Proper sitting posture

You are welcome to contact us for enquiry about Prosthetic and Orthotic Services.

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