Scoliosis

What is Scoliosis?
Scoliosis is a sideways curvature of the spine. The term scoliosis comes from the Greek word ‘skolios’, which means curved or bent.

There are two forms of scoliosis, postural and structural.

- A postural scoliosis is a curve that is due to not standing up straight due to pain, unequal leg lengths or slouching. A postural scoliosis can be self-corrected.

- A structural scoliosis is a curve that bends to the side, and also rotates on its vertical axis. These curves often have cosmetic and physiological changes that can have long-term effects. A structural scoliosis does not self-correct.

Types of Structural Scoliosis

Idiopathic
Most scoliosis curves have no known cause. These curves are named according to the age when they are identified.

- Infantile
  Children aged under 3.

- Juvenile
  Children aged 3-9.

- Adolescent
  Children aged 10+. This is the most common form of scoliosis.

Congenital
Scoliosis may occur secondary to vertebral anomalies. These curves occur in utero, and need careful monitoring from an orthopaedic surgeon.

Neuromuscular / Syndromal
Scoliosis may occur secondary to particular medical conditions such as Duchenne’s Muscular Dystrophy, Cerebral Palsy, Spinal Muscular Atrophy, Marfan’s and Prader Willi, to name a few.

Signs of Scoliosis
Scoliosis may appear as:

- One shoulder higher
- Rib asymmetry
- Deeper waist on one side
- One hip more prominent
- Uneven shoulder blades
- Trunk shift to the side

Cause of Structural Scoliosis
Some cases of scoliosis have a clear reason why it is present, such as with congenital or neuromuscular/syndromal scoliosis. Most cases however are idiopathic, that is, they have no known cause.

Idiopathic scoliosis is a growth disorder. It presents in females at around 10-14 years of age when they are in their main adolescent growth phase. 3 in every 100 girls have some degree of scoliosis but only 5-10% of those girls will need any treatment. It is 7 times less common in boys.

There is no evidence that any of the following influence structural scoliosis:
• Sport
• Inactivity
• Heavy school bags
• Carrying bags on one shoulder
• Slouching
• Soft mattresses

Treatment
If your child needs treatment, then there are a few options.

Casting
In young children, under 6 years of age, a plaster cast can be put on under a general anesthetic to help push the spine straight. The cast is worn for about 6 weeks before it is removed. Some children may need several casts one after another.

Orthoses
A thoraco-lumbo-sacral orthosis (TLSO) is a medical device that is designed to push on the body to prevent the curve from getting worse while your child is still growing. A TLSO is sometimes called a brace and is suitable for curves with an angle of 20-40°.

A TLSO is usually made from plastic, and is worn under clothes for 16-20 hours per day. There are many types of TLSO and the style will depend on a thorough assessment of your child and their curve.

Surgery
For curves where a TLSO is not suitable, your child may need surgery to stabilise the curve. Surgery involves some form of internal fixation of the spine to stop the curve getting worse over time. There are many techniques that may be used and your surgeon will discuss these with you.

How can I have my child assessed?
• The Sydney Children's Hospital, Randwick
  Orthopaedics Department, SCH
• The Children's Hospital at Westmead
  Orthopaedics Department, CHW

Resources:
• Scoliosis Australia
  www.scoliosis-australia.org/
• Scoliosis Research Society (SRS)
  www.srs.org/
• Society on Scoliosis Orthopaedic and Rehabilitation Treatment (SOSORT)
• Australian Orthotic Prosthetic Association (AOPA)
  Factsheet