

King's

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King's College Hospital London



CORE Services at School

Scoliosis Screening Programme



SCOLIOSIS SCREENING PROGRAM AT SCHOOLS

The Children's Orthopaedic and Rehabilitation Centre of Excellence (CORE) at King's College Hospital Dubai offers regular screening programs for spinal deformities. Postural deformities, kyphosis and most importantly Scoliosis develop commonly in children aged 9 to 15 years. Girls are more affected than boys.

Screening programs for early detection of scoliosis are recommended by the Scoliosis Research Society (SRS), the American Association of Orthopaedic Surgeons (AAOS), Pediatric Orthopaedic Society of North America and the American Association of Pediatrics (AAP) as a result of documented benefits to early detection and non-surgical treatment of Scoliosis as well as improved surgical outcome in the management of early detected severe scoliosis.

What is scoliosis?

Scoliosis describes a curvature of the spine to either side. Although it can occur at any age it is commonly diagnosed in children after aged 9. Scoliosis, especially the more severe type is more common in girls and in families with a history of spinal deformity. Progression occurs during phases of growth but generally become stable once the child has completed growth. Children with scoliosis generally do not have pain, however clinical signs can become apparent and should lead to a professional assessment.

What are the signs of Scoliosis?

Following signs can help you identify a scoliosis in your child in a child. In a standing child you might identify the following:

- Body does not look symmetrical
- Spine appears curved, with the body leaning to one side
- One shoulder appears to be higher than the other
- One shoulder blade is more visible (sticks out more) than the other
- One hip is higher than the other
- There is more space between arms and body
- One side of the chest or breast may appear more prominent than the other (in girls)

What causes Scoliosis?

Most of the time, the cause of scoliosis is unknown. This type of scoliosis is termed “idiopathic” and is the most common. Idiopathic scoliosis is considered a partially genetic condition and in about 30% scoliosis occurs in the family. Less commonly, scoliosis can occur due to underlying conditions affecting the muscles and nerves or due to a malformation of different parts of the spine, such as the vertebra.

Poor posture, heavy school bags, Vitamin D deficiency or specific sports activities are not known to be the cause for scoliosis.

Is scoliosis preventable?

Often the cause of scoliosis is not known which makes prevention impossible. With the correct treatment however, worsening of the curve can be prevented or slowed. Early detection therefor is key to the successful management of scoliosis. School screening programs as offered by CORE and regular assessment by Pediatric Orthopaedic Surgeons and scoliosis trained physiotherapists are the first steps towards optimal management of spinal deformities in children

Will my child be able to lead a normal life?

The School Health Screening Programs for Scoliosis have proven to be successful in diagnosing spinal deformity at an early stage. Early non-surgical treatment can be effective in preventing potential progression and the need for more significant interventions.

In almost all cases children with scoliosis can lead a normal healthy and active life. In fact, sports activities are encouraged during non-surgical treatment of scoliosis. Children undergoing surgery however do sometimes show restriction of movement in the lumbar spine that can lead to some limitations in extreme sports. Day-to-day activities however tend not to be affected even following surgery.

What does the screening process look like?

Screening for scoliosis is best provided by a physiotherapist, doctor or nurse trained in the detection and management of scoliosis and other spinal deformities. Boys should ideally be examined bare chested, girls should either wear a sports bra or a snug T-shirt to allow for a reliable evaluation. The examiner will look for asymmetries of the shoulders, the shoulder blades and waist and if the head is not centered over the pelvis. The Adam's Forward Bend Test is usually performed as well in which the child is asked to stand straight and tall followed by bending forward at the waist while the spine is evaluated. The examiner looks for one side of the back to be higher than the other or if there is any other asymmetry. A scoliometer, which resembles a water spirit, may be used to help determine the severity of the curve. If any of these findings are present your child may be referred for further evaluation with a Pediatric Orthopaedic Surgeon.

The specialist will evaluate your child further and most likely order an x-ray of the spine. Scoliosis is definitively diagnosed with an x-ray and the degree of curvature can be measured. At CORE Center of Excellence, King's College Hospital the imaging can take place with the newest EOS Imaging technology. Although the image is very similar to a conventional x-ray it can reduce the exposure to radiation by up to 80 percent.

In some few cases an MRI of the spine might be recommended.

EOS image of spine with scoliosis



Is there a treatment for Scoliosis?

The treatment for scoliosis depends on the type of scoliosis, the severity of the deformity and the child's bone age, which defines the stage of bone maturation. In mild cases observation and monitoring might be all that is needed. Often however treatment will be recommended which might include physiotherapy according to a spine specific exercise program and/or bracing. In some cases of severe deformity surgery can be required. Fortunately only 0.1% of Adolescents present with curves above 40° and require surgery if curve progression is identified. For all types of scoliosis however, early detection has shown to be helpful in the treatment of scoliosis and has therefore been advocated by all major Orthopaedic and Pediatric societies.

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