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JOHNS HOPKINS DEPARTMENT OF

# Orthopaedic Surgery

Pediatric Orthopaedics



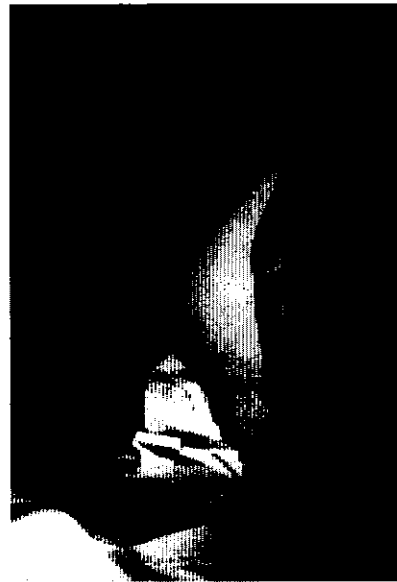
## Patients

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## Patient Guide to Kyphosis

### *What is kyphosis?*

Kyphosis is the normal curve of the thoracic (i.e. in the chest where the ribs are located) part of the spine when viewed from a person's side.



*Picture of young child with kyphosis*

Kyphosis can be thought of as an arching of the spine in which the top of the arch is seen in the back (i.e. the kind of curve seen in an angry cat) . It is normal in the thorax as long as it does not exceed a certain angle or range. Excessive kyphosis in the thorax and any degree of kyphosis in the lower back (lumbar area) or neck (cervical area) are abnormal. The condition can be caused by many things: the posture of a person, developmental abnormalities of the vertebrae which

make up the spine (i.e. as in Scheurmann's kyphosis), and fracture or infection of a vertebral body.

It is important to note that kyphosis and scoliosis are two separate conditions. Scoliosis can also affect any part of the spine, but refers to a curve noticed when looking at a patient from the front or back (not from the side as in the case of kyphosis). Please see the [Patient Guide to Scoliosis](#) for more information on that condition.

#### ***What are the signs and symptoms of kyphosis?***

Parents and friends of the patient may notice that he or she has "poor posture." This may be more noticeable when the child is bending forward which tends to exaggerate the angle of kyphosis. Back pain may be present, but rarely is severe enough to keep a patient from carrying out normal activities. When present, the pain is located over the tip of the curve in the back. Sometimes, the part of the spine not affected by kyphosis curves in the opposite direction (i.e. the point of the arch toward the front of the body) creating what is called lordosis. Sometimes a small amount of scoliosis can develop as well (see [Patient Guide to Scoliosis](#)).

#### ***What causes kyphosis?***

As mentioned above, kyphosis can be caused by various things. In children with poor postures, the ligaments of the spine can be stretched and the vertebrae form in an abnormal fashion. Of course, poor posture may also be the result of kyphosis caused by other factors.

In a condition called "Scheurmann's kyphosis," the vertebrae that make up the spine take on a wedged shape instead of the normal cylindrical shape. This usually happens during adolescence and may be due to increased pressure on the growing vertebrae, mild osteoporosis (a decrease in the density of the bones), or by abnormalities in the vertebral growth cartilage.

Congenital kyphosis refers to a curvature that is present at birth. In this condition the vertebral bodies are characterized by a triangular shape and can even be fused together in front.

An increasingly common cause of kyphosis is osteoporosis, especially in the elderly or in patients taking steroids for other medical conditions.

Infections or fractures in the vertebrae can cause structural damage and can also lead to abnormal curvature (i.e. kyphosis).

#### ***How is kyphosis treated?***

Kyphosis (except for the congenital variety) rarely produces harmful effects on the important organs and structures inside of the body. Treatment is therefore based upon the symptoms a patient may be experiencing. For example, for those complaining of pain, exercises and pain relieving medications are used. For those concerned with how the curvature appears, bracing or postural exercises may be used (see Patient Guide to Scoliosis Bracing). Surgery is only needed in severe cases of curvature. In congenital kyphosis (i.e. that present at birth) surgery should be performed if the patient is still growing. The reason that surgery is important in this group is because the curve can worsen over time and cause damage to the spinal cord.



*Kyphosis before and after surgery*

For patients who do not have any complaints about pain or deformity, no treatment is needed.

***Should I see the doctor regularly for kyphosis?***

In growing patients, the curve should be monitored every six months. Adults only need to be seen for pain or other questions or concerns.

In general, children with kyphosis live normal lives. Their life expectancy is the same as any other person and they are able to carry about full time jobs later in life. Some, however, may not be able to do jobs that are extremely physically demanding. It is also true that kyphosis tends to worsen with age and osteoporosis.

***For related information, please consult the following web sites:***

- Scoliosis Research Society: <http://www.srs.org>
- International Scoliosis Research Center: <http://www.scoliosishelp.org>