OVERVIEW
Your child has been diagnosed with postural kyphosis. Other names for this condition include hunchback or round back deformity. Kyphosis is the term used to describe an increased forward curvature of the thoracic spine when viewed from the side. Often parents recognize that their child has "poor posture". Slouching and poor posture can relate to weakness in the spinal extensor muscles and stretching of the posterior spinal ligaments, leading to an increase the natural forward curve of the spine. For postural kyphosis, x-rays show normally shaped bones and confirm the increased curvature. If other causes of kyphosis are ruled out, postural kyphosis can be effectively corrected with postural training and physical therapy. The physical therapist will provide instruction for posture and twice daily exercises to strengthen the back and abdomen muscles and stretches for the hamstrings. With daily participation with the program, posture improves and the kyphosis naturally gets better.

CAUSES
Increased forward curvature of the thoracic spine may be structural due to abnormally shaped bones and joints, or due to weak muscles and ligaments that maintain the alignment. Kyphosis due to bone or joint abnormalities can result from trauma, developmental problems, or degenerative disease. Kyphosis can occur at any age, although it is rare at birth. One type of kyphosis that can occur in adolescents is called Scheuermann’s kyphosis, and is due to anterior growth disruption leading to wedging of the vertebrae. In adults, kyphosis can be a result of fractures, osteoporosis, or disk/joint degenerative disease. Other less common causes include endocrine diseases, spina bifida, neuromuscular disorders, infection, and tumors. Postural kyphosis is due to weak extensor spinal muscles and stretching of the posterior ligaments, with the vertebral bones being normally formed.

DIAGNOSIS
Physical examination confirms the abnormal increased curvature of the thoracic spine. There should be good flexibility for bending and rotation. With forward bending, there should be a smooth contour to the back. While standing, the spine above and below the kyphosis will show increased compensatory
curvatures. A sideways curvature or scoliosis may also be present, but is usually mild and of little or no consequence. Back pain at the apex of the curve may be present, but if present is usually mild and not activity limiting. The exam should also show good neurologic function and normal reflexes. A spine xray can be done to document the severity of the curve and allow comparison for follow-up measurements to be performed. If there is any concern about pain or neurologic findings, an MRI may be ordered to examine the spinal cord. The other causes of kyphosis must be ruled out.

**TREATMENT**

Postural kyphosis usually responds well to a physical therapy program for postural training and strengthening of the muscles that support good posture. The physical therapists will create a series of exercises and stretches for the trunk, abdomen, shoulder girdle, and lower extremities. The spinal alignment improves as the strength and flexibility improves. Doing the exercises and stretches daily are the key to improvement. While a spinal brace can be prescribed, it is done after a good trial of physical therapy and is used only for extreme cosmetic concerns as a supplement to the physical therapy program. Because the natural history and long-term sequelae of postural kyphosis are generally benign, more aggressive treatment including surgery is never indicated for this condition.

**PROGNOSIS AND COMPLICATIONS**

In growing patients, the kyphosis should be monitored every 4-6 months. With consistent participation in the postural training program, most patients show good improvement. Even uncooperative patients rarely show progression. Patients who continue with bad habits and poor posture may have future back and neck pain. However, this is uncommon and almost all patients live normal lives with no more back problems than other people. Pulmonary function and life expectancy are not affected.

**MORE INFORMATION**

Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at [www.aaos.org](http://www.aaos.org) and [www.emedicine.com](http://www.emedicine.com).

**FEEDBACK**

If you have questions or comments, please contact the office or submit them to the web site at [www.pedortho.com](http://www.pedortho.com).