



# POSNA

## The Core Curriculum

### **Kyphosis - other**

#### **Objectives**

1. List 5 other causes for kyphosis other than congenital, postural, or Schererermann's kyphosis
2. Discuss the clinical significance of kyphosis occurring in the thoracolumbar or lumbar spine

#### **Discussion point**

1. How can one determine if a kyphotic deformity is amenable to bracing?

#### **Discussion**

A number of pediatric orthopaedic conditions can be accompanied by kyphotic deformity. Fortunately, two of the historically more frequent causes, post irradiation kyphosis and post laminectomy kyphosis are occurring less often now, thanks to advances in radiation therapy and the technique of laminoplasty, which replaces the posterior elements removed for access to the spinal canal.

Kyphosis can be manifest as part of the clinical picture of a number of generalized conditions. Children with high-level myelodysplasia generally develop lumbar kyphosis due to the absence of posterior structures. Two of the more malevolent mucopolysaccharidoses, Hunter and Hurler syndromes, may present with kyphosis in infancy. Thoracolumbar kyphosis also commonly affects infants with achondroplasia. Fortunately, most resolve with walking. Other unusual causes include Gaucher's disease, juvenile osteoporosis, and pseudoachondroplasia. Kyphosis in conditions accompanied by ligamentous laxity such as Ehlers Danlos syndrome and Marfan syndrome commonly affect the thoracolumbar or lumbar spine. Lumbar or thoracolumbar kyphosis is difficult to treat as junctional kyphosis above or below the instrumented portion of the spine often occurs unless excellent sagittal plane alignment is achieved. Kyphosis accompanying neurofibromatosis often is accompanied by severe rotatory deformity and can be very difficult to treat. Cervical kyphosis can be a part of diastrophic dysplasia or Larsen's syndrome. In parts of the world, where tuberculosis is prevalent, screening of children for kyphosis can aid earlier diagnosis. As children with cystic fibrosis live longer into adult life, kyphosis accompanying this condition is more often being reported.

For conditions such as juvenile osteoporosis or Maroteaux-Lamy syndrome, in which the kyphosis is flexible and radiographically corrects when the patient is placed supine over a bolster, bracing can be effective.

## References

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