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A.D.A.M. Medical Encyclopedia. Atlanta (GA): A.D.A.M.; 2011.

Kyphosis

Scheuermann's disease; Roundback; Hunchback; Postural kyphosis

Last reviewed: September 4, 2012.

Kyphosis is a curving of the spine that causes a bowing or rounding of the back, which leads to a hunchback or slouching posture.

Causes, incidence, and risk factors

Kyphosis can occur at any age, although it is rare at birth.

Adolescent kyphosis, also known as Scheuermann's disease, is caused by the wedging together of several bones of the spine (vertebrae) in a row. The cause of Scheuermann's disease is unknown.

In adults, kyphosis can be caused by:

- Degenerative diseases of the spine (such as arthritis or disk degeneration)
- Fractures caused by osteoporosis (osteoporotic compression fractures)
- Injury (trauma)
- Slipping of one vertebra forward on another (spondylolisthesis)

Other causes of kyphosis include:

- Certain endocrine diseases
- Connective tissue disorders
- Infection (such as tuberculosis)
- Muscular dystrophy
- Neurofibromatosis
- Paget's disease
- Polio
- Spina bifida
- Tumors

Kyphosis can also be seen with scoliosis. Each cause has its own risk factors.

Symptoms

- Difficulty breathing (in severe cases)
- Fatigue
- Mild back pain
- Round back appearance
- Tenderness and stiffness in the spine

Signs and tests

Physical examination by a health care provider confirms the abnormal curve of the spine. The doctor will also look for any nervous system (neurological) changes (weakness, paralysis, or changes in sensation) below the curve.

Other tests may include:

- Spine x-ray

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- Pulmonary function tests (if kyphosis affects breathing)
- MRI (if there may be a tumor, infection, or neurological symptoms)

Treatment

Treatment depends on the cause of the disorder:

- Congenital kyphosis requires corrective surgery at an early age.
- Scheuermann's disease is treated with a brace and physical therapy. Occasionally surgery is needed for large (greater than 60 degrees), painful curves.
- Multiple compression fractures from osteoporosis can be left alone if there are no nervous system problems or pain. However, the osteoporosis needs to be treated to help prevent future fractures. For debilitating deformity or pain, surgery is an option.
- Kyphosis caused by infection or tumor needs to be treated more aggressively, often with surgery and medications.

Treatment for other types of kyphosis depends on the cause. Surgery is needed if neurological symptoms or persistent pain develop.

Expectations (prognosis)

Adolescents with Scheuermann's disease tend to do well even if they need surgery, and the disease stops once they stop growing. If the kyphosis is due to degenerative joint disease or multiple compression fractures, surgery is needed to correct the defect and improve pain.

Complications

- Decreased lung capacity
- Disabling back pain
- Neurological symptoms including leg weakness or paralysis
- Round back deformity

Prevention

Treating and preventing osteoporosis can prevent many cases of kyphosis in the elderly. Early diagnosis and bracing of Scheuermann's disease can reduce the need for surgery, but there is no way to prevent the disease.

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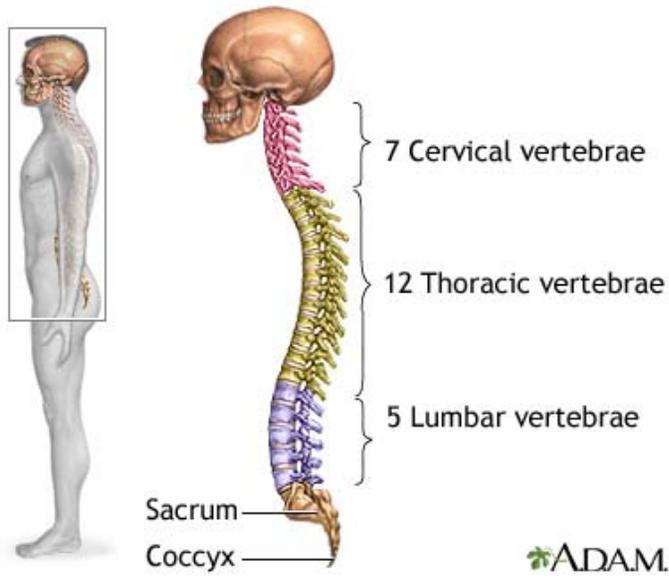
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Reviewed by: Thomas N. Joseph, MD, Private Practice specializing in Orthopaedics, subspecialty Foot and Ankle, Camden Bone & Joint, Camden, SC. Review provided by VeriMed Healthcare Network. Also reviewed by David Zieve, MD, MHA, Medical Director, A.D.A.M. Health Solutions, Inc.

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Figures



Skeletal spine

The spine is divided into several sections. The cervical vertebrae make up the neck. The thoracic vertebrae comprise the chest section and have ribs attached. The lumbar vertebrae are the remaining vertebrae below the last thoracic bone and the top of the sacrum. The sacral vertebrae are caged within the bones of the pelvis, and the coccyx represents the terminal vertebrae or vestigial tail.

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Kyphotic spine



Normal spine



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Kyphosis

Kyphosis is a curving of the spine that causes a bowing of the back, such that the apex of the angle points backwards leading to a hunchback or slouching posture.

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