

Curvature of the Spine

A Sometimes Painful Diagnosis

By Christopher K. Kim, MD

Gentle curves in the back are normal and help maintain balance and proper body alignment, as long as the spinal column runs straight down the middle. Some people, however, have spines that bow sideways, a condition that is known as scoliosis.

Hippocrates, a Greek physician practicing in 400 B.C., named the disease scoliosis, which means “crooked.” He attempted to treat it with manipulation and traction, something doctors now realize does not work. During the Renaissance, surgeon Ambroise Pare began using a metal corset to brace the patient. If the treatment were started early enough, he found it successful for straightening the spine.

Multifaceted Disease

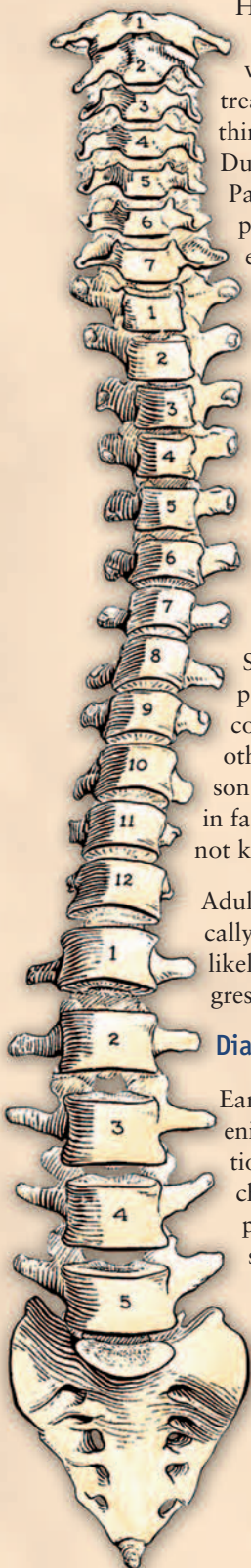
Most people with scoliosis require no medical intervention, just periodic assessments to monitor changes to the curve. Patients with mild scoliosis typically do not experience any symptoms. More severe curves can compress lungs or nerves and impair breathing, cause weakness, or produce other detrimental symptoms.

Scoliosis has been associated with cerebral palsy, muscular dystrophy, and other medical conditions. However, most cases occur in otherwise healthy children for no apparent reason. Although we know the disease tends to run in families in up to 85 percent of patients, we do not know its cause.

Adults may also develop scoliosis, but this typically reflects a late diagnosis. A mild case most likely went unnoticed in childhood and so progressed without treatment.

Diagnosis

Early diagnosis can prevent scoliosis from worsening. What makes this difficult is the condition first presents without pain. To offset this characteristic, some schools offer screening programs. Any child with an uneven waist, shoulders, or hips; shoulder blades that appear prominent; pant legs or skirt hems that look uneven; or a tendency to lean to one side warrants a visit to the doctor for complete evaluation. Other signs include dimpled or hairy skin on the back or a café au lait skin discoloration, which often suggests scoliosis caused by a birth defect.



To assess scoliosis, physicians take a detailed medical history, asking about childhood development, onset of symptoms, and family susceptibility to the condition. The physical exam includes inspecting the spine as the patient stands and bends forward. Physicians may measure arm and leg length. With a more severe curve, they may perform a neurological exam to check for decreases in strength, sensation, or reflexes. Physicians may also order x-rays, which are useful in measuring the degree of curve for future evaluation and monitoring.

Treatment

Scoliosis treatment depends on the skeleton’s maturity, the curvature’s extent, and the condition’s location and progression. For patients who experience back discomfort, physicians may order nonsteroidal anti-inflammatory drugs or other pain relievers. They may also suggest exercise to help reduce discomfort. Whether exercise can change the course of the disease remains unknown.

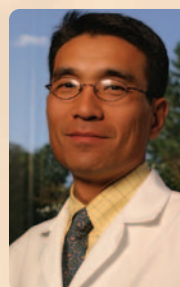
For children with scoliosis, physicians may order a brace, which the child wears 16 to 23 hours each day. The brace helps manage pain and can keep the curvature from worsening. Braces are much more comfortable now than in the past. The materials are lighter and custom fit to each patient. The newer braces are also flexible enough to allow children to participate in normal school and physical activities.

Patients with braces or parents of children with braces should watch for and report any signs of skin breakdown to a physician.

Ahead of the Curve

Some patients benefit from surgery to stabilize the spine and limit deformity. Surgeons take bone grafts from the hip, the ribs, or a bone bank and insert them between the spinal vertebrae to eliminate side-to-side curving. Physicians also use metal rods, hooks, screws, and wire to straighten the spine and hold it in place. Fortunately, most patients do not require postoperative casting or bracing.

The search is ongoing to better understand scoliosis and its treatment approach. Researchers continue to look for a cause and investigate more effective braces. They are also studying the long-term effects of surgical procedures and the risks of not treating the condition. 🤖



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