Spine Curvature Disorders: Lordosis, Kyphosis, Scoliosis, and More

Back Pain Health Center
Types of Spine Curvature Disorders

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The spine, or backbone, is made up of small bones (vertebrae) stacked -- along with discs -- one on top of another. A healthy spine when viewed from the side has gentle curves to it. The curves help the spine absorb stress from body movement and gravity.

When viewed from the back, the spine should run straight down the middle of the back. When abnormalities of the spine occur, the natural curvatures of the spine are misaligned or exaggerated in certain areas, as occurs with lordosis, kyphosis, and scoliosis.

What are the types of spine curvature disorders?

There are three main types of spine curvature disorders, including:

- **Lordosis.** Also called swayback, the spine of a person with lordosis curves significantly inward at the lower back.
- **Kyphosis.** Kyphosis is characterized by an abnormally rounded upper back (more than 50 degrees curvature).
- **Scoliosis.** A person with scoliosis has a sideways curve to their spine. The curve is often S-shaped or C-shaped.

What causes spine curvature disorders?

There are a number of health problems that may cause the spine to curve more than normal or be misaligned.

The following conditions can cause lordosis:
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- **Achondroplasia.** A disorder in which bones do not grow normally, resulting in the short stature associated with **dwarfism**
- Spondylolisthesis. A condition in which a vertebrae, usually in the lower back, slips forward
- **Osteoporosis,** a condition in which vertebrae become fragile and can be easily broken (**compressio fractures**)  
- **Obesity,** or being extremely **overweight**
- Kyphosis. A condition marked by an abnormally rounded upper back
- Discitis. Inflammation of the disc space between the bones of the spine most often caused by infection
- Benign (harmless) juvenile lordosis

The following conditions can cause kyphosis:

- Abnormal vertebrae development in utero (congenital kyphosis)
- Poor posture or slouching (postural kyphosis)
- Scheuermann's disease, a condition that causes vertebrae to be misshaped (Scheuermann's kyphosis)
- **Arthritis**
- **Osteoporosis**
- **Spina bifida,** a birth defect in which the spinal column of the **fetus** does not close completely during development inside the womb
- Spine infections
- Spine tumors

Doctors do not know what causes the most common type of scoliosis seen in adolescents. However, children do know that scoliosis tends to run in families. A disease, injury, infection, or birth defect also may be to blame.

**What are the symptoms of spine curvature disorders?**

Symptoms vary depending on the type of spine curvature disorder and the severity of the condition.

**Symptoms of lordosis may include:**

- Appearing swayback, with the buttocks being more pronounced
- Having a large gap between the lower back and the floor when lying on your back on a hard surface does not change when you bend forward
- **Back pain** and discomfort
- Problems moving certain ways

**Symptoms of kyphosis are usually visible in nature and include:**

- Bending forward of the head compared to the rest of the body
- Hump or curve to the upper back
Fatigue in back or legs

Postural kyphosis does not typically cause back pain; however, physical activity and long periods of sitting can cause discomfort for people with Scheuermann's kyphosis.

Symptoms of scoliosis may include having:

- Uneven shoulder blades with one being higher than the other
- An uneven waist or hip
- Leaning toward one side

How are spine curvature disorders treated?

In general, treatment is determined based on the severity and type of spinal curvature disorder you have.

Mild spinal curvature, as occurs with postural kyphosis, may not be treated at all. More severe spinal curvature may require the use of a back brace or surgery.

Treatment for lordosis may include:

- Medication to relieve pain and swelling
- Exercise and physical therapy to increase muscle strength and flexibility
- Wearing a back brace
- Weight loss
- Surgery

Treatment for kyphosis may include:

- Exercise and anti-inflammatory medication to ease pain or discomfort
- Wearing a back brace
- Surgery to correct severe spine curvature and congenital kyphosis
- Exercises and physical therapy to increase muscle strength

Treatment for scoliosis may include:

- Observation. If there is a slight curve your doctor may choose to check your back every four to six months to see if the curve gets worse.
- Bracing. Depending on the degree of the curve, a back brace is sometimes prescribed for kids and adolescents who are still growing. Bracing can help prevent the curve from getting worse.
- Surgery. If the curve is severe and is getting worse, surgery is sometimes needed.

Exercise programs, chiropractic treatment, electrical stimulation, and nutritional supplements have not been proven to prevent the worsening of scoliosis. It is still ideal to keep as much as strength and flexibility to maintain normal function. This may require more effort and attention in someone with scoliosis.
What types of surgery are used to treat spine curvature disorders?

The following procedures may be used to treat spine curvature disorders:

- Spinal instrumentation. Instruments such as hooks, rods, and wire are attached to the spine to realign the bones of the spine and keep them secure following spinal fusion.
- Artificial disc replacement. Degenerated discs in the spine are replaced with artificial devices.
- Kyphoplasty. A balloon is inserted inside the spine to straighten and stabilize the affected area and relieve pain.

How do I know if I have a spine curvature disorder?

Your doctor can diagnose a spine curvature disorder by taking a medical and family history, examining the curve of your spine during a physical examination, and using imaging tests, like X-rays, to look more closely at the spine. X-rays can show if there are any abnormalities to the bones of the spine and can also measure how much curve is present.

If you or a loved one's back appears to have an abnormal curve to it, beyond just poor posture, see your doctor so that you can be evaluated and treated.

WebMD Medical Reference
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My Notes:

Further Reading:
- Quiz: What Do You Know About the Spine?
- Actor Shailene Woodley has learned to take her scoliosis in stride
- Scoliosis-Other Places To Get Help
- An Overview of Scoliosis
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