

## Posture for a Healthy Back basic level

### Overview

Good posture involves training your body to stand, walk, sit and lie in positions where the least strain is placed on supporting muscles and ligaments during movement or weight-bearing activities.

If any of the following guidelines causes an increase of back pain or spreading of pain to the legs, do not continue the activity and seek the advice of a doctor or physical therapist.

### The spinal curves

Your spine has natural curves that form an S-shape. Viewed from the side, the cervical and lumbar spines have a lordotic, or slight concave curve, and the thoracic spine has a kyphotic, or gentle convex curve. The spine's curves work like a coiled spring to absorb shock, maintain balance, and to facilitate the full range of motion throughout the spinal column (see Anatomy of the Spine).

These curves are maintained by two muscle groups, flexors and extensors. The flexor muscles are in the front and include the abdominal muscles. These muscles enable us to flex, or bend forward, and are important in lifting and controlling the arch in the lower back.

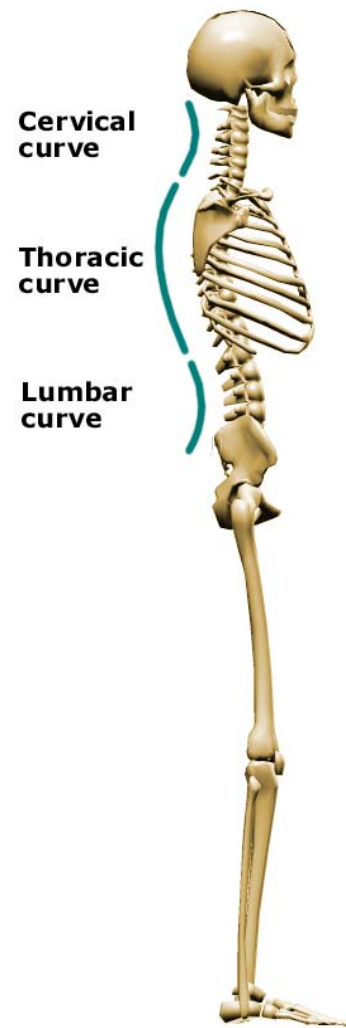
The extensor muscles are in the back. These muscles allow us to stand upright and lift objects. Working together these muscle groups act as guy wires to stabilize your spine.

### What is good posture?

Posture is the position in which you hold your body upright against gravity while standing, sitting or lying down. Good posture involves training your body to stand, walk, sit and lie in positions where the least strain is placed on supporting muscles and ligaments during movement or weight-bearing activities.

Proper posture:

- keeps bones and joints in the correct alignment so that muscles are being used properly.
- helps decrease the abnormal wearing of joint surfaces that could result in arthritis.
- decreases the stress on the ligaments holding the joints of the spine together.



The spine has three natural curves, a concave cervical and lumbar curve, and a gentle convex thoracic curve.

- prevents the spine from becoming fixed in abnormal positions.
- prevents fatigue because muscles are being used more efficiently, allowing the body to use less energy.
- prevents strain or overuse problems.
- prevents backache and muscular pain.
- contributes to a good appearance.

## Proper posture requirements

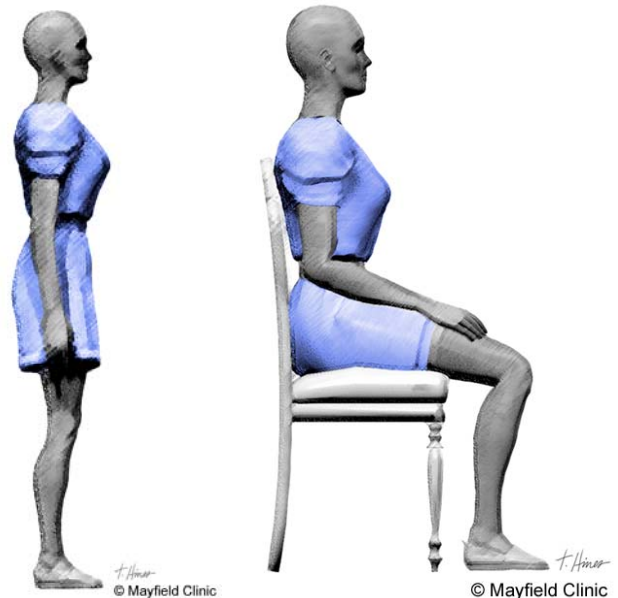
1. Good muscle flexibility
2. Normal motion in the joints
3. Strong postural muscles
4. A balance of muscles on both sides of the spine
5. Awareness of your own posture, plus awareness of proper posture which leads to conscious correction. With much practice, the correct posture for standing, sitting, and lying down (as described below and on the following page) will gradually replace your old posture.

## The correct way to stand

1. Hold your head up straight with your chin in. Do not tilt your head forward, backward or sideways.
2. Make sure your earlobes are in line with the middle of your shoulders.
3. Keep your shoulder blades back.
4. Keep your knees straight.
5. Stretch the top of your head toward the ceiling.
6. Tuck your stomach in. Do not tilt your pelvis forward or backward.
7. The arches in your feet should be supported.

## The correct way to sit

1. Sit up with your back straight and your shoulders back. Your buttocks should touch the back of your chair.
2. All three normal back curves should be present while sitting. A small, rolled-up towel or a lumbar roll can be used to help you maintain the normal curves in your back. Here's how to find a good sitting position when you're not using a back support or lumbar roll: Sit at the end of your chair and slouch completely. Draw yourself up and accentuate the curve of your back as far as possible. Hold for a few seconds. Release the position slightly (about 10 degrees). This is a good sitting posture.
3. Distribute your body weight evenly on both hips.
4. Bend your knees at a right angle. Keep your knees even with or slightly higher than your hips. (use a foot rest or stool if necessary). Your legs should not be crossed.
5. Keep your feet flat on the floor.
6. Try to avoid sitting in the same position for more than 30 minutes.
7. At work, adjust your chair height and work station so you can sit up close to your work and tilt it up at you. Rest your elbows and arms on your chair or desk, keeping your shoulders relaxed.
8. When sitting in a chair that rolls and pivots, don't twist at the waist while sitting. Instead, turn your whole body.
9. When standing up from the sitting position, move to the front of the seat of your chair. Stand up by straightening your legs. Avoid bending forward at your waist. Immediately stretch your back by doing 10 standing



backbends. You can assume other sitting positions for short periods of time, but most of your sitting time should be spent as described above so there is minimal stress on your spine.

## The correct driving position

Use a back support (lumbar roll) at the curve of your back. Your knees should be at the same level or higher than your hips.

Move the seat close to the steering wheel to support the curve of your back. The seat should be close enough to allow your knees to bend and your feet to reach the pedals.

## The best position for sleeping and lying down

The best lying or sleeping position may vary, depending on your symptoms. No matter what position you lie in, the pillow should be under your head, but not your shoulders, and should be a thickness that allows your head to be in a normal position.



Try to sleep in a position which helps you maintain the curve in your back (such as on your back with a pillow under your knees or a lumbar roll under your lower back; or on your side with your knees slightly bent). Do not sleep on your side with your knees drawn up to your chest. You may want to avoid

sleeping on your stomach, especially on a saggy mattress, since this can cause back strain and can be uncomfortable for your neck.

Select a firm mattress and box spring set that does not sag. If necessary, place a board under your mattress. You can also place the mattress on the floor temporarily if necessary. If you've always slept on a soft surface, it may be more painful to change to a hard surface. Try to do what is most comfortable for you.

Try using a back support (lumbar support) at night to make you more comfortable. A rolled sheet or towel tied around your waist may be helpful.

When standing up from the lying position, turn on your side, draw up both knees and swing your legs on the side of the bed. Sit up by pushing yourself up with your hands. Avoid bending forward at your waist.

## Preventing back pain and injury

### Self care

Using correct posture and keeping your spine in alignment are the most important things you can do for your back. The lower back (lumbar curve) bears most of your weight, so proper alignment of this section can prevent injury to your vertebrae, discs, and other portions of the spine. If you have back pain, you may need to make adjustments to your daily standing, sitting, and sleeping habits and learn proper ways to lift and bend (see Self Care for Neck & Back Pain). Your workspace may need to be rearranged to keep your spine from slouching.

Because extra pounds can make back pain worse, you should maintain a weight that is appropriate for your height and body frame.

### Exercise

Regular exercise is important to prevent back pain and injury. A program of strengthening, stretching and aerobic exercises will improve your overall fitness level. Research has shown that people who are physically fit are more resistant to back injuries and pain, and recover quicker when they do have injuries, than those who are less physically fit (see Exercise for a Healthy Back).

## Sources & Links

If you have more questions, please contact the Mayfield Spine Institute at 800-325-7787 or 513-221-1100. Additional information is available on the web.

[www.spinehealth.com](http://www.spinehealth.com)  
[www.spineuniverse.com](http://www.spineuniverse.com)

## Glossary

**disc** (intervertebral disc): a fibrocartilagenous cushion that separate spinal vertebrae. Has two parts, a soft gel-like center called the nucleus and a tough fibrous outer wall called the annulus.

**lordosis:** abnormal forward curve of the lumbar spine, also called sway back.

**kyphosis:** abnormal curve of the thoracic spine, also called hunchback.

**vertebra** (plural vertebrae): one of 33 bones that form the spinal column, they are divided into 7 cervical, 12 thoracic, 5 lumbar, 5 sacral, and 4 coccygeal. Only the top 24 bones are moveable.

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reviewed by > Bobbie Ryan, RN



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