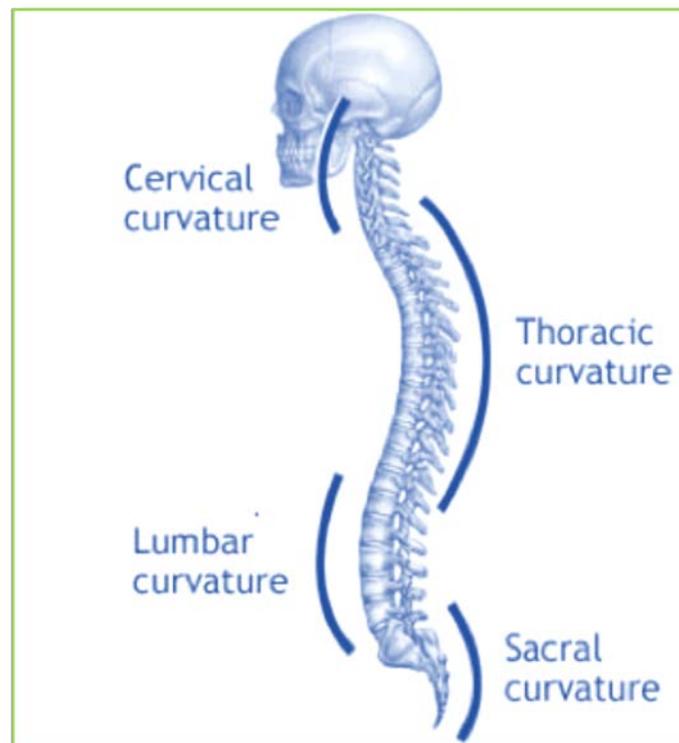


## Body Mechanics

### Posture

A healthy back has three natural curves: a slight forward curve in the neck (cervical curve), a slight backward curve in the upper back (thoracic curve), and a slight forward curve in the lower back (lumbar curve). With these curves present, your spine is in **neutral alignment—the position of least amount of stress**. Prolonged positions or repetitive movements without these curves present, stresses the spine. These stresses can lead to constricted blood vessels and nerves, as well as muscle, disc and joint problems. Imagine bending your finger backwards and holding it for an extended period. OUCH!

### The Spinal Curves



## What is the correct way to sit?

**-All three normal back curves need to be present while sitting**

-If the back of the chair does not help maintain the proper lumbar curve of your low back, use a **lumbar support**, or rolled-up towel. If your low back is not in good alignment, it is impossible to have your mid back and neck aligned! Do not slump! This erases the lumbar curve.

-Make sure to sit as far back in the chair as possible. You may have the best chair, but if you are not **all the way back against the back rest**, you will not benefit from the available support.

-Keep your shoulders back, and your **head aligned over your shoulders**. Your head weighs about 10 pounds; think of how much heavier 10 pounds feels when you hold it out, away from your body!

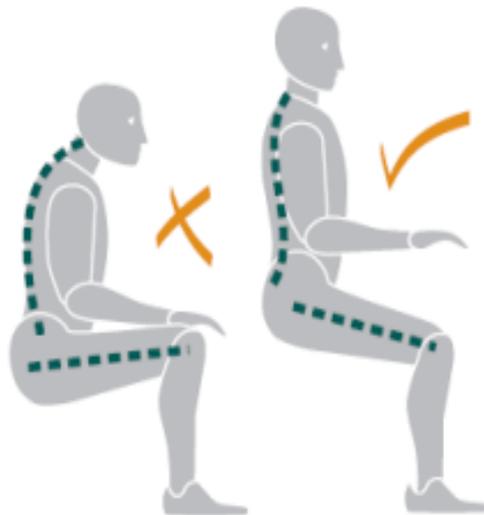
-Avoid sitting with your knees crossed.

-Keep your **knees even with, or slightly lower than the hips**.

-Keep feet flat on the floor.

-Rest arms on chair arms or desk, keeping your shoulders relaxed.

**-Limit static postures to 30 minutes or less.** Get up, move, and stretch – healthy joints need frequent movement.





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## Proper Bending and Lifting Techniques

Improper lifting techniques account for a large percentage of back injuries both at home and at work. Poor lifting technique causes cumulative trauma to the low back—you may not feel pain the first 50 times you lift or bend, but with each repetition, damage can start to occur and that makes your back more prone to injury. This explains why someone's back "goes out" when bending over to pick up a pencil!

Many times each day, we have to bend forward to pick things up, whether it is a small child, a toolbox, or a shoe off of the floor. **The most common mistake** made with bending and lifting is using the back to bend. Make sure to *lift with your hips and legs*.

When bending, whether you are leaning forward to wash dishes in the sink, vacuuming, or picking up a box from the floor, you should **always** include these steps:

- Get a steady base of support with your feet shoulder width apart and one foot positioned slightly in front of the other.
- Tighten your stomach muscles, and **maintain the normal arch of your back** as you lean forward. If you're doing this correctly, your chest and buttocks will be sticking out – it means that you are keeping your back straight.

### What about lifting and carrying?

- Plan ahead—clear your path ahead of time so you don't need to maneuver around barriers.
- Stand close to the object you are planning to lift, tighten your stomach muscles, bend at the knees and try to keep your back as vertical as you can while you lift the object with your legs.
- The closer you hold the object to the body, the less stress there is on your back.
- It is safer to push a heavy object than it is to pull.
- Before and after bending and lifting, support your low back with your hands, and bend backwards a few times.



### Do Not:

- Do Not** lift and twist at the same time. Move your feet to turn.
  - Do Not** sit for long periods of time and then lift.
  - Do Not** lift something that is too heavy or awkward for you. If you can't lift an object *slowly*, with good control and mechanics, you shouldn't be lifting it. Instead, get help and/or use available devices—dollies, lifting tools, etc. to get the job done.
- Do Not** assume that a lifting belt will allow you to lift more. Studies have shown consistently that lifting belts help *remind* people to keep their back straight, but they *do not prevent injury*.
- Do Not** relax with poor sitting posture after the job is done. Sitting slumped in your favorite chair after moving objects is a recipe for disaster.

## Proper Sleeping Position

### General guidelines:

- Sleep so that your back is in a neutral position. This position helps maintain the 3 spinal curves.
- Place a pillow under your knees when sleeping on your back. You may also try a towel roll to support your lower back.
- Place a pillow between your knees when sleeping on your side.
- To prevent neck pain, use a pillow that maintains the normal neck curve.
- Your head should not be forced forward when you lie on your back.
- Your nose should align with the center of your body when you lie on your side.

