

BACK RELIEF

# POSTURE & ERGONOMICS

Helping you walk away from back pain.®



Poor posture causes more back pain than most of us realize. A lot of these back problems can be prevented, if we understand the two basic principles of good posture:

The spine was designed to move gently and frequently rather than remaining in one position for long periods of time.

Ideal posture involves maintaining the two natural curves of the spine, called the lordotic curves, rather than exaggerating or flattening them.

When the lordotic curves are maintained, the back is at its strongest and less prone to injury.



lordotic curves

## Good Posture ● ● ●

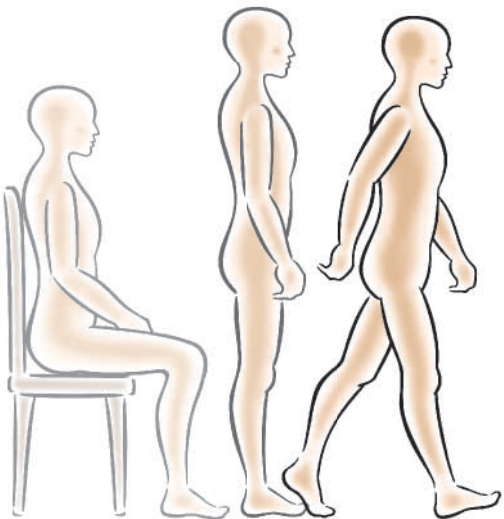
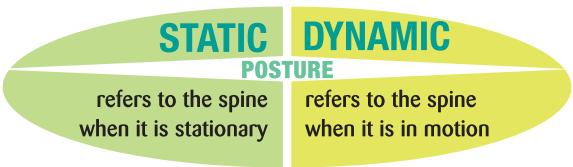
If the principles of good posture are to be of value, they must be incorporated into daily life, which can be a challenge. It is easy to stand for a few minutes with your spine in its natural position, but the task becomes more daunting when you have to do it for a long period of time.

**This is where the science of ergonomics is important.**

**Ergonomics is:** An applied science that seeks to adapt a job (tools, tasks, environment) to meet the needs of the worker rather than forcing the worker to fit the job. Its purpose is to increase the productivity and efficiency of a particular task by reducing worker discomfort.

The ergonomic chair is the best-known example. It was created when sitting (which is particularly hard on the back) became such a large part of modern lifestyle - largely because of the increase in the use of computers and cars.

When health care professionals discuss posture, they divide the topic into two categories - **static** and **dynamic**:





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# THE STATIC POSTURES



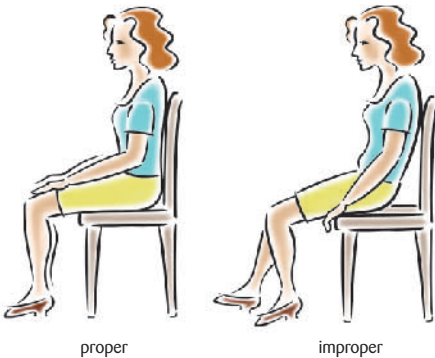
**In this section:**

- **Sitting**
  - Ergonomic Chairs & Workstation Set-Up
  - Stretches at Your Desk
- **Standing**
- **Sleeping**

## Sitting ● ● ●

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Because so many of us lead sedentary lifestyles, sitting has become the cause of more back pain than any other posture, including lifting. If the back of your chair does not support your spine, the job will fall to your back muscles, which were not designed for this purpose. When back muscles get tired and begin to ache, the natural tendency is to slouch in an attempt to alleviate the pain. This causes the curve in your lower back to flatten out, increasing strain on the ligaments and spinal discs. This leads to even more back pain.



## Ergonomic Chairs ● ● ●

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If you must sit for long periods of time, it is important to acquire an ergonomic chair and learn how to use it correctly.

When choosing an ergonomic chair it is important to:

- find a model with a backrest whose height and shape will give you the support you need to maintain your spine's two lordotic curves
- ensure that the chair allows you to change positions (for example, lean back) without sacrificing proper support
- find a chair that allows you to sit with both feet flat on the floor
- ensure that your weight is evenly distributed. Allow for 5-8 cm (2-3") of space between the seat cushion and the back of your knees

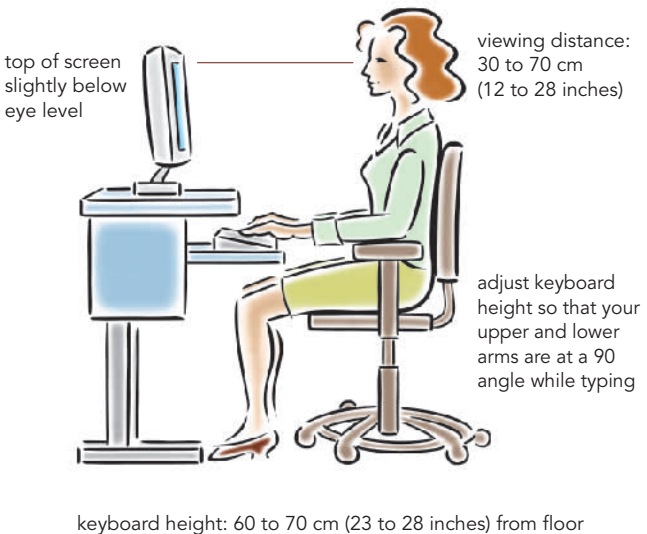
While it is important to find a good ergonomic chair, it is equally important to learn how to use its features. Ensure that you read the instructions that come with your chair so that you know how to adjust:

- the height and tilt of the backrest, including the mechanism that locks and unlocks it
- the height and tilt of the seat
- the height of the armrests

If you can make these adjustments easily, it is more likely that you will use the features that will help improve your posture.

## Workstation Ergonomics ● ● ● —

A properly adjusted ergonomic chair provides the basis for good posture but the set-up of your workstation is also critical. This illustration shows the basic rules:

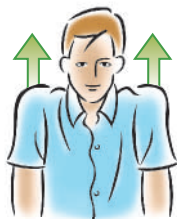


## Stretches at Your Desk

Since sitting is such a large part of our daily life, it is important to take short, frequent breaks. If possible, get up every hour and walk around for a few minutes. Between breaks it is also important to do some light stretching at your desk. The following exercises will help to reduce muscle tension caused by sitting:

1

- Let your arms hang loosely by your sides. Shrug your shoulders up as high as possible.
- Hold stretch for 10 seconds.
- Relax and repeat 10 times.



2

- Sit comfortably; pull your shoulder blades back as far as you can.
- Hold stretch for 10 seconds.
- Relax and repeat 10 times.



3

- Hunch your shoulders forward.
- Hold stretch for 10 seconds.
- Relax and repeat 10 times.



4

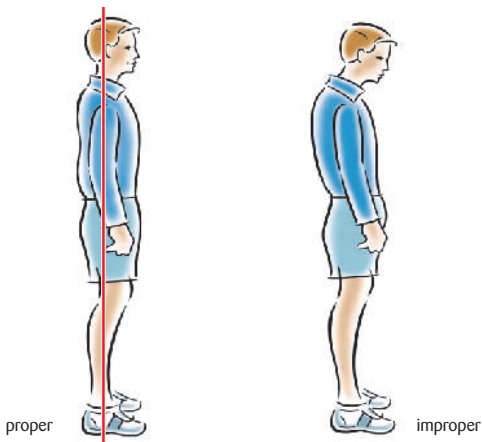
- Stretch your arms above your head with your fingers interlocked and your palms up.
- Hold stretch for 10 seconds.
- Relax and repeat 10 times.



## Standing ● ● ●

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If you assume a natural posture, standing can be less stressful on your back than sitting. To avoid putting stress on the lower back, stand tall with your chest up, stomach muscles tight and your feet shoulder-width apart. Keep your ears, shoulders, hips and ankles aligned (see diagram). Do not lock your knees. They should be slightly bent to prevent your hips from rotating forward.



### When standing, remember to:

- maintain proper posture at all times
- change positions regularly - sit down, move around, or shift your weight from foot to foot
- wear shoes that provide good support and are no more than one inch in height (high heels can cause an overextension of the lower back)

If you must stand for long periods of time, elevate one foot by using a foot rest. Alternate feet every half hour.

## Sleeping ● ● ●

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Since approximately one-third of our life is spent sleeping, the principles of good posture apply to sleeping as well. If possible, sleep on your back or side since sleeping on your stomach can put stress on the lower back and neck. If you must sleep on your stomach, try placing a pillow beneath your stomach to prevent an overextension of the lower back.

### **Sleeping on your Back**

- Ensure that your pillow properly supports your head and neck so that they are aligned with the rest of your spine.
- Place a small pillow under your knees to help maintain the natural posture of, and reduce stress on, the lower back.



### **Sleeping on your Side**

- Ensure that your pillow properly supports your head and neck so that they are aligned with the rest of your spine.
- Place a small pillow between the knees to help keep your lower back in proper alignment.



### **Choosing a Pillow**

- For proper neck support, your pillow should fill the space created by the natural curve of your neck.
- Cervical pillows are often a good choice because they conform to the contours of the head and neck and provide good support.

### **Choosing a Mattress**

- Find a moderately firm mattress rather than one that is very hard or very soft.
- A mattress that is too firm does not support the body evenly it tends only to support the heaviest parts.
- A mattress that is too soft will sag and limits the spine from maintaining proper posture.
- When shopping for a mattress, take time to try it out. Spend at least 10 minutes lying down in the position you usually sleep in before rating it for comfort.



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# THE DYNAMIC POSTURES



**In this section:**

- Walking
- Lifting Tips
- Standing Up

## Walking

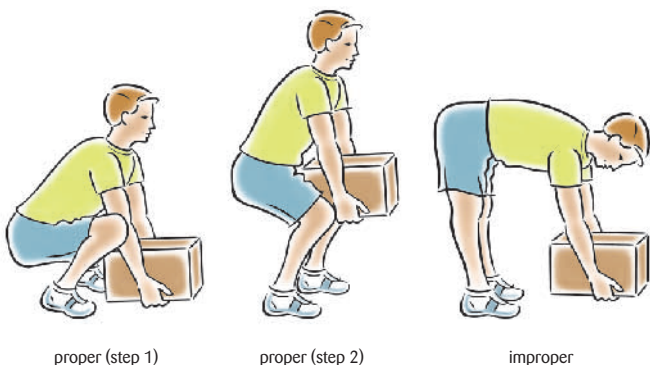
Studies show that most back pain sufferers walk with an abnormal gait. Podiatrists (foot specialists) believe this happens because people unconsciously re-distribute their weight in an attempt to alleviate their discomfort. The problem is that the imbalance increases the stress on your spine and when you try to compensate - perhaps by twisting slightly - a vicious cycle is set into motion.

Shoes that provide proper support usually help. If they don't, over-the-counter or custom-built orthotics (shoe inserts) are also an option.

## Lifting Tips

**When lifting or carrying it is important to maintain the two lordotic curves of the back. To do this:**

- bend your knees and keep your arms straight down
- establish a firm grip and hold the object as close to your body as possible
- lift the object gradually and smoothly without twisting your body
- pivot with your feet
- if possible, find a partner to help you lift heavy objects
- if you have to lift an object to shoulder level, do so in two stages: first lift it to waist level, then to shoulder level.



## Standing Up

A simple example of dynamic posture that most of us rarely think about is moving from a sitting position to a standing position.

**To avoid injury when getting out of a chair, it is important to:**

- have one foot in front of the other
- move yourself to the edge of the chair
- keep your head straight and bent forward slightly
- use your leg muscles and arms to push yourself straight up



step 1



step 2

Visit: [www.backrelief.com](http://www.backrelief.com)



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Helping you walk away from back pain.®