# THE POSTURE GUIDE

## The Essentials of Good Posture

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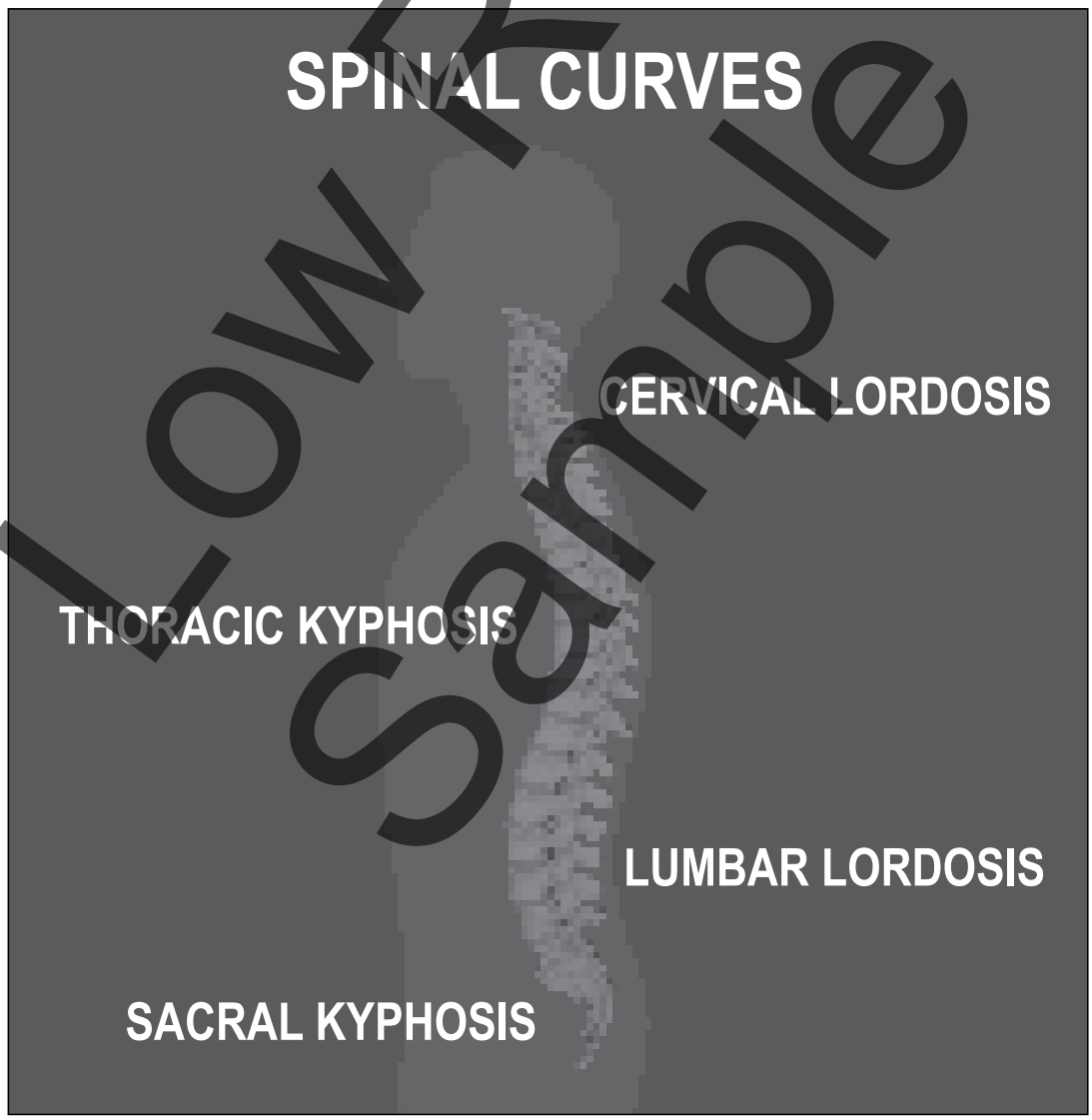
# THE SPINE

The normal healthy spine has a naturally curved shape. Like a coiled spring, these curves help to absorb some of the forces that are placed on your spine while standing erect. When looking at the spine from the side, there are four normal curves, two anterior curves (Kyphotic curves) and two posterior curves (Lordotic curves).

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Maintaining good posture allows you to maintain these healthy curves in your spine and reduces the long term stress placed on the spinal joints. Keeping good posture can make a considerable difference to the long term health of your spine. With degenerative changes the bones of the spine actually start to deform. Once degenerative changes have taken place, it is very difficult and often impossible to restore the spine back to full health.

## DEGENERATIVE CHANGES OF THE SPINE

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Degenerative arthritis of the neck

Degenerative arthritis of the low back

Proper posture is essential for reducing the risks of developing degenerative changes in your spine.

# STANDING

**The ears should be directly above your shoulders.** The head weighs approximately 10 pounds. When positioned directly over the shoulders this weight is balanced and causes minimal stress on the spine. If your head is forward it can put excessive stress on the joints in the lower neck which over long periods of time can lead to degenerative changes. The lower neck is where the nerves that feed the arms exit the spine. Degenerative changes in this region can therefore cause serious arm problems.

**The shoulders should be back.** Slouching draws the head forward and leads to increased stress on the lower neck.

**The hips should be over the ankles.** Some people sway the abdomen forward. This leads to an increased curve in the low back which can increase the stress on certain low back joints. The low back is naturally the area of highest stress in the spine and most prone to problems. Poor posture increases the stress on this already vulnerable area. The low back is also the region where the nerves that feed the legs exit the spine. Low back degeneration can therefore lead to serious leg problems.

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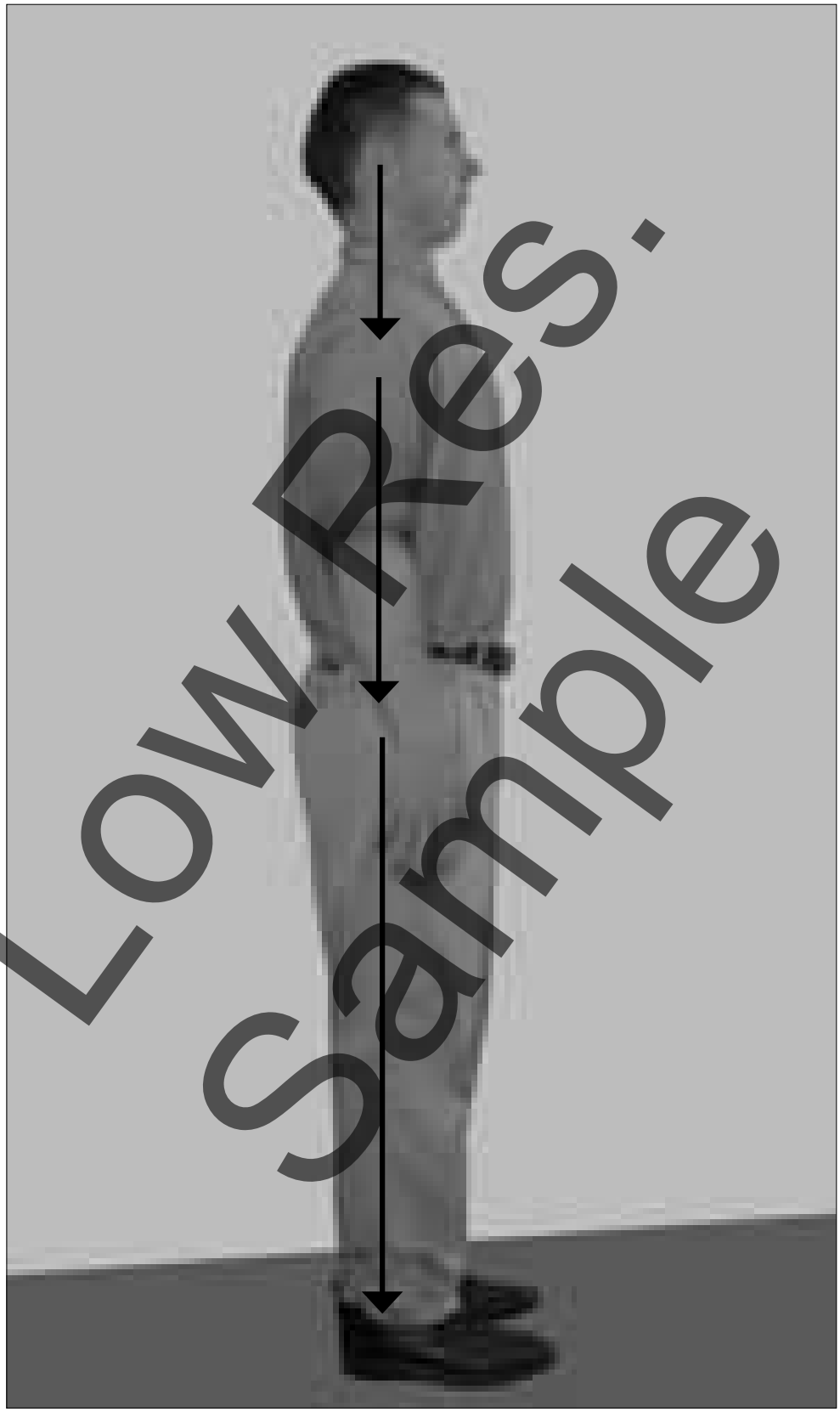
# STANDING



# SEATED

Proper posture while sitting should preserve the natural curves in your spine. Many people slouch when they are in a seated position. This is an easier way to sit because it allows the muscles of the back to relax and transfers all the stress to the non-muscular, ligamentous tissues of the body. Our ligaments, if pulled on for long periods of time, will become permanently lengthened which can lead to instability around the joints they stabilize. This is why it is recommended that you sit up straight and use your muscles to support your posture as you sit. Although this is more tiring, it takes the stress off the ligaments of the spine. Proper posture takes awareness and effort.

Using a chair with a built in lumbar support or purchasing a lumbar support will help to maintain the lumbar lordosis during prolonged sitting. It is also essential to keep the head over the shoulders to reduce the stress on the neck. There is a tendency to round the back and shoulders and bring the head forward. This posture leads to increased low back and neck stress.

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# WORKSTATION ERGONOMICS

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Head up over shoulders.
Back straight and low back supported with a lumbar support.
Eyes level with top of monitor.
Hands and wrists relaxed and in a neutral position.
Shoulders back and relaxed and elbows resting at the side.
Thighs and forearms perpendicular to the floor.
Feet resting on the floor.
Monitor 18 - 30 inches away and directly in front.
Take regular breaks when sitting for prolonged periods.

# IN THE CAR

Many people notice increased low back symptoms when driving in the car, especially for extended periods. Here are some tips for reducing the stress on the spine while driving.

**1. Use a lumbar support to maintain the proper curve in the low back.**

If your car does not have a low back support built in, it is a good idea to consider purchasing one. Many car seats are not designed with posture in mind. The rounded seats found in many cars do little to support the natural curves of the spine.

**2. Do not sit too far away from the steering wheel.**

You arms should comfortably reach the steering wheel without having to stretch your arms out in front of you. Your shoulders should be back and relaxed. If you can't reach the steering wheel without rounding your shoulders forward, you are sitting too far from the steering wheel.

**3. Stop and take breaks when driving long distances.**

Getting out of the car and stretching your back on occasion will help to avoid excessive stress from being in one position for a prolonged period of time.

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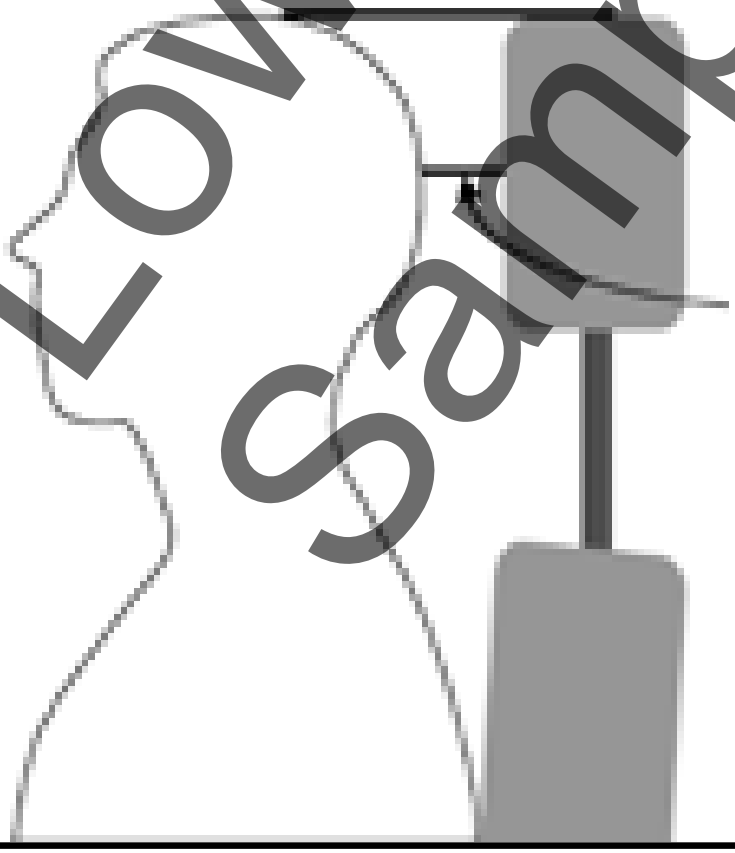
**4. Your head rest should be adjusted to the proper position.**

Whiplash is a very common cause of neck injury and can be very serious. You can reduce your risk of whiplash by properly positioning your headrest. Your head should be positioned no more than 7 cm in front of your head rest and the top of your head should be level with the top of your head rest.

## PROPER HEAD REST POSITION

The top of your head should be level with the top of the head rest.



Your head should be no more than 7cm in front of the head rest.

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# SLEEPING

We spend approximately 1/3 of our lives sleeping, so there is no doubt that incorrect posture while sleeping can negatively impact the health of our skeletal system. Just as with standing and sitting, it is important to consider the natural curves of the body when sleeping and make sure that they are supported. Purchasing a high quality mattress that will provide good support while you sleep is a wise investment.

**Sleeping on your back**

Lying on your back allows you to maintain your spine in a relatively neutral position. When lying on your back, your knees should be bent in order to reduce the stress on the low back. Keeping your legs straight causes an increased lordosis in the low back. Over long periods of sleeping this increased stress can lead to problems. It is therefore recommended to place a pillow under your knees to help maintain them in a bent position throughout the night. A cervical pillow can also be used to help support the natural curve of the neck as you sleep.

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**Sleeping on your side**

Sleeping on your side also allows you to maintain your spine in a relatively neutral position. The back should be straight and not rounded. Placing a pillow between the knees can help to maintain a neutral position of the pelvis.

When sleeping on your side or on your back a cervical pillow can be used to help support the contours of the neck.

**Sleeping on your stomach**

Sleeping on your stomach is not recommended. If you sleep on your stomach, your head must be turned considerably to one side or the other. This can put excessive stress on the ligaments of the neck. Sleeping on the stomach also puts a lot of stress on the low back. Some of this stress can be reduced by bringing one leg out to the side and lying in a semi prone position. Although this reduces stress on the spine, sleeping on the back or side are considered more ideal sleeping postures.

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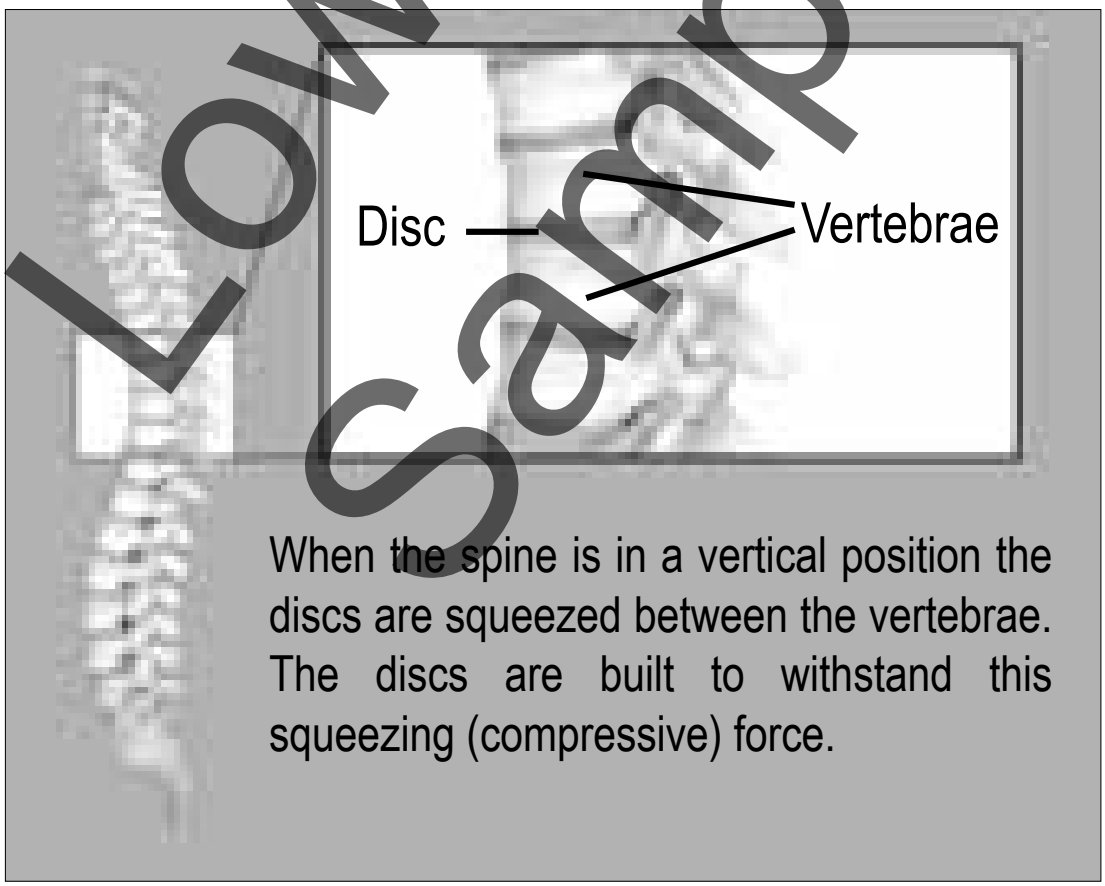
# LIFTING

The spine is a remarkable structure combining strength, protection and flexibility. This complex array of bones and joints however, is not without its limits. When we lift it is important that we do not exceed the limits of the spine. In order not to exceed its limits, we must consider its weaknesses. What are the vulnerable areas of the spine? Particularly vulnerable while lifting, are the discs of the spine. The discs are made to absorb the shock of standing with an erect posture. They are very effective shock absorbers and difficult to injure as long as the spine is kept in an untwisted vertical position.




When the spine is in a vertical position the discs are squeezed between the vertebrae. The discs are built to withstand this squeezing (compressive) force.

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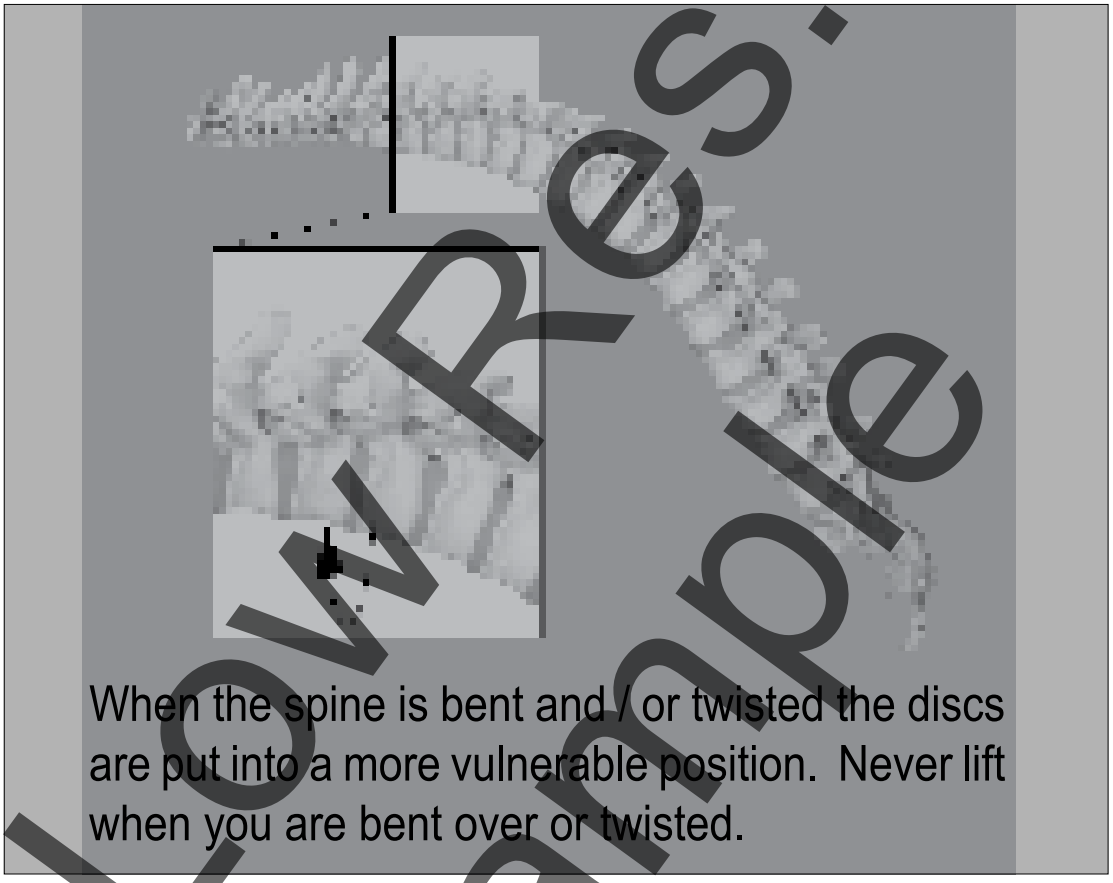
# LIFTING

If the spine is bent or twisted the discs are put into a more vulnerable position. If we attempt to lift things when the spine is bent over or twisted we increase the risk of injury to the disc.



When the spine is bent and / or twisted the discs are put into a more vulnerable position. Never lift when you are bent over or twisted.

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Injuries often occur from simple activities done with poor biomechanics: lifting a baby from a car seat, lifting groceries from the back of a car, reaching and pulling weeds. These activities, if performed properly, should not create excessive stresses. It is important to realize that relatively small loads can become dangerous to the discs when the spine is in a compromised position.

# LIFTING

# LIFTING

Bend at the knees so you can keep the back straight.
Never bend or twist while lifting.
Avoid quick, jerking movements.
Keep the load close to your body.
Place heavier loads somewhere they will be easy to pick up.
If it is too heavy, get help.
Lift smart, use a pull cart etc.
Lift loads symmetrically - carry equal weight in each hand.
Think before you lift - many injuries occur when people get careless with everyday loads. Make it a habit to always lift with proper posture.



Avoid bending over and twisting while lifting.

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# CHECK YOUR SYMMETRY

Stand in front of a mirror and assess your postural symmetry. Close your eyes and march on the spot for 2 or 3 seconds. Stop marching, put your feet shoulder width apart and open your eyes.
Check the following:

1. Is your head shifted or tilted to one side or the other?
2. Are your ears level? Can you see both ears equally?
3. Are your shoulders the same height?
4. Can you draw a straight line from between your eyes, through the center of your nose, the center of your chin, your sternum, your belly button and down to between your feet?
5. Do your arms hang evenly at your sides? Is there equal space between your arms and body on both sides.
6. Are your hips level?
7. Do your hips and knee caps face straight ahead?
8. Do your feet point straight ahead?

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# CHECK YOUR SYMMETRY

There are many different reasons why your body may not be perfectly symmetrical: leg length inequalities, structural abnormalities, muscular imbalances, etc. If you notice considerable imbalances, a professional may be able to assist in correcting some of these. Chiropractors, physiotherapists, and massage therapists, are all well trained in postural assessment and use a combination of techniques to assist in restoring your body back to balance.

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# SUMMARY

**Standing**

Keep ears over shoulder, shoulders over hips and hips over ankles.

Stand as though there is a string pulling the top of your head toward the ceiling.

Put one leg up and change positions if standing for prolonged periods in one position.

**Sitting**

Keep the curves of your back supported.

Sit up straight and do not slouch.

Make sure your work station is adjusted properly.

Make sure your head rest is adjusted properly in your car.

Use a book stand when reading.

**Sleeping**

Sleep on your back or side.

Use a cervical pillow to support your neck.

Keep the curves of your spine in a neutral position.

Make sure your mattress provides appropriate support.

**Lifting**

Keep your back straight by bending at the knees.

Do not twist or jerk quickly.

If it is heavy, get help.

Keep items being lifted as close to the body as possible.

Do not place heavy things where they will be difficult to pick up.

Lift smart - use a cart - take more than one trip.

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# REFERENCES

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