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# *BACK SAFETY*



# The Body Works Like A Machine



The human body works much like a machine:

- Joints are hinges
- Bones are levers

And, like a machine, we need to make sure that our body is always “maintained” adequately. Eating right, getting enough exercise and making sure we don’t put excessive stress and strain on our bodies are all very important.

Back injuries are one of the most common problems we can have with our body. They affect all types of people... big or small... heavy or light... young or old.

Back injuries occur in all types of jobs. You can be a truck driver, secretary, sales person or work in a factory... no matter what job you have, you usually end up lifting, twisting, turning... putting pressure on your back in any number of ways.

Back injuries can even occur at home or at play. You can strain your back mowing the lawn, vacuuming the living room, washing the car or lifting the baby. And all sports, from baseball to bowling, put some type of pressure on your back.

## QUIZ

1. How many of us will develop back problems at some point in our life?  
• 20%    • 60%    • 80%    • 90%
2. Approximately how many people experience back injuries on the job each year?  
• 100,000    • 400,000    • 600,000
3. What are the “cushions” between the vertebrae called?  
• Flanges    • Discs    • Metacarpals
4. A healthy shape for our spine looks like what letter?  
• “L”    • “S”    • “I”    • “J”
5. True or False... When sitting, you should keep your knees bent, and lower than your hips?  
• True    • False
6. Which of the following can adversely affect your back?  
• Stress    • Diet    • Lifting Habits
7. True or False... You can lift a 30-pound object from an over head shelf just as easily as you can pick it up from the floor?  
• True    • False
8. True or False... When carrying an object around a corner, first turn with your back, then have your feet follow?  
• True    • False

Answers: # 1 — 80%, # 2 — 600,000, # 3 — Discs, # 4 — “S”, # 5 — False, # 6 — All, # 7 — False, # 8 — False.

## Remember. . .

- Back injuries are one of the most common problems we can have with our body.
- Back injuries can be painful, and result in medical bills, lost work time and even permanent disability.
- The back is a complex mechanism made up of many parts... each susceptible to injury.
- Back problems can be caused in a number of different ways.
- Posture is very important in any position.
- You should exercise regularly to strengthen your back and keep it flexible.
- Using proper lifting techniques is a big part of back safety.



Your back is one of the most important parts of your body. It is a fragile mechanism... and can be injured easily... but with a little work you can keep your back safe and healthy! 14

## Back Injuries Impact Us All

Most people don't realize how frequently back injuries occur. Eighty percent of us will develop back problems at some point in our lives.



Over 600,000 people experience back injuries on the job every year. It is estimated that these injuries cost businesses more than \$31 billion in lost productivity and health-care payments.



Even more importantly, a back injury can have a major impact on our lives. If you injure your back, you often have to deal with:

- Frequent pain
- Long rehabilitation
- Lost time from work

Many back injuries even result in some type of permanent disability.

None of us want to have our income reduced, or have to give up many of the activities that we enjoy. So it is important to know how our back works... and what we can do to protect it from injury.

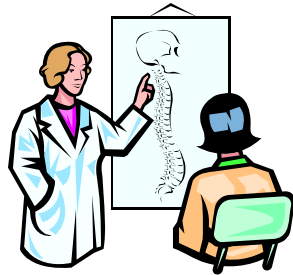
# The Back is Made Up Of Four Major Parts

In many ways, our back is the central part of our body. It connects to many other important parts of the body, and serves a number of purposes.

Our back anchors our legs, hips, ribs, arms and head. As a result, if you have problems with your back, all these other areas can be affected as well.

The back is made up of four major parts:

- The spine
- The spinal cord
- The spinal nerves
- Supporting muscles



The spine has interlocking bones called vertebrae. These vertebrae are separated by “discs”, which act as cushions... protecting the vertebrae from each other.

The muscles of the back and abdomen hold the vertebrae together and shape the spine. The shape the spine takes on is very important, and should look much like the shape of the letter “S”.

# Some Situations Require Help

Some objects or situations may require that you get help. You need to look for assistance if an object is unusually heavy, or awkward to handle.



Sometimes all you need is another person. In these situations, make sure you lift in “unison” (counting out loud helps to coordinate your efforts).

Some loads will require the use of equipment such as a dolly, pallet-jack or forklift. If you aren’t sure what to use, ask your supervisor.

Lifting objects that are high off the ground requires special procedures:

- Use a platform or ladder if need be
- Get as near to the object as possible
- Test the object’s weight before lifting it.

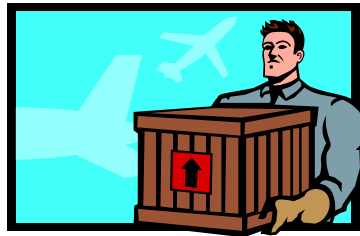
Remember, you cannot lift as much weight when an object is over your head. Reaching upward takes power from your legs, and reduces the weight you can support

# Use Proper Lifting And Carrying Techniques

Once you are well positioned, you need to use proper lifting and carrying techniques to protect your back.

To lift:

- Slowly straighten your legs
- Keep the object close to your body
- Bring your back to a full, up right position



There are also rules for carrying objects:

- Move slowly and smoothly
- Always turn with your feet, never twist your back
- Just reverse the steps you used to lift the object when you put it down

Using these techniques will keep as much weight off your back as possible. Most of the strain of lifting and carrying will be shifted to your legs, which are stronger and less prone to injury.

You should be thinking about what you are doing whenever you are lifting or carrying an object. Eventually, the proper habits will become second

# Back Injuries Can Result From Many Things

Back injuries occur for a number of reasons. Back strain and fatigue are probably the most common problems.

A number of things can cause strain and fatigue, including:

- Bad posture
- Awkward positions
- “Over-reaching”



Back strain is a muscle injury and is usually very painful. Thankfully, it can often be cured through prolonged rest and careful exercise.

More serious back injuries can occur from slips or falls. These injuries can include:

- Fractured vertebrae
- Damaged spinal cord nerves

Improper lifting can also cause back injuries. It most often results in tears in the discs between the vertebrae... or pressure on spinal nerves.

Lastly, disease can weaken the back. Arthritis, cancer and various types of infections can all lead to back problems. Many times this results in fractured or ruptured discs.

# “Shape” Is Important To A Healthy Back

The “shape” of your back is very important. A healthy back consists of a series of curves, which are maintained by the back muscles. There are three major curves in the back. They are the:

- Cervical Curve—this is a small curve at the neck
- Thoracic Curve—the first large curve, in the middle of the back
- Lumbar Curve—a second large curve, in the lower back



In a healthy back these three curves make up an “S”. This “S” shape distributes the body’s weight most effectively among the vertebrae and discs in the spine. This weight distribution allows for free movement and makes the back less susceptible to injury..

# Preparing For A Lift Is Especially Important

Proper lifting is also very important to back safety. The majority of on-the-job back injuries are caused by bad lifting habits.

Whenever you lift any object you should use good lifting techniques. Properly “preparing” for a lift is especially important.

Always think before you lift:

- Examine the object
- Decide where to grasp it
- Determine how to hold it
- Have a clear path to your destination
- Take your time



Initial positioning is also important:

- Stand close to the object
- Place your feet comfortably apart
- Bend at the knees
- Keep your back straight
- Get a good grip

Remember to follow these steps each time you go to lift something. No matter how good your lifting techniques are, if you are not positioned correctly

# Regular Exercise Can Make A Major Difference



Exercise is also very important to maintaining a healthy back. A good exercise program can help build a strong back and keep it flexible.

Your exercises don't need to be complicated... simple ones often work best. And you only need to devote a few minutes a day to make a difference.

There are a number of good back exercises, such as sit-ups. Other common ones include:

## Pelvic Tilt:

- Lie on the floor
- Link your fingers around your knees
- Slowly pull your knees toward your chest
- Hold for a count of ten
- Repeat ten times

## Press-up:

- Lie on your stomach
- Put your arms out to the sides
- Use your hands to "press" yourself up from the waist
- Hold for ten seconds
- Repeat ten times.

# Poor Posture Is A Common Problem

Three conditions cause the majority of back injuries... poor posture, a sagging stomach and unsafe lifting. Of these three, problems with posture may be the most widespread.

Everyone sits and stands differently. No matter what position you are in, if you have good posture your back will maintain the "S" curve shape. This provides the proper "balance" to the spine.



Let's look at a correct "standing" posture.

To maintain the best balance you should:

- Stand tall
- Hold your head high
- Tilt your hips forward
- Tuck your chin in

If you find yourself standing for long periods of time, place one foot in a slightly elevated position... changing the high foot periodically. This will help maintain the "S" alignment in your spine.

## Posture Is Also Important When Sitting And Lying Down

Your posture is with you all the time, not just when you are standing. It is also important to maintain proper posture when you are sitting or lying down. Depending on what type of job you have, you can spend 40% to 90% of your time in these two positions.



Sitting is one of the most stressful positions our body can be in. For good sitting posture:

- Keep both feet flat on the floor
- Have your knees above your hips
- Keep your back against the support of the chair

When sitting for prolonged periods, get up and stretch (remember these points when driving, too).



For the best sleeping posture:

- Use a firm mattress
- Sleep on your side, with your knees bent... or
- ...on your back, with a pillow under your knees

## Other Factors Can Affect The Back As Well

Other factors can also affect the health of our bodies... and therefore our backs as well. Just maintaining a good posture isn't enough.



Stress can be a major cause of back problems. When you are tense and feel under pressure, muscles are more easily strained and fatigued.

Overwork can also adversely affect the back. If your job involves physical labor, working the back more than normal... and not giving it an opportunity to rest... can lead to back injuries. Working long hours at any type of job can cause tiredness and fatigue, which can frequently weaken back muscles.

The food we eat... both what kind and how much... is also important to our back's health. If we don't have a nutritious, balanced diet the muscles, bones and cartilage in the back won't receive needed nourishment. Without this nourishment, they are more susceptible to injury.

Being overweight puts continual strain on the back (think what it would be like to carry a 15 or 20 pound box around all day!). Just losing a few pounds can make your back feel a lot better.