

Back Safety

Our workplace is full of hazards, hazards that can hurt us or kill us. One such hazard is the risk of suffering a back injury due to improper lifting or poor posture. Practicing safe lifting techniques and maintaining neutral posture can prevent injuries.

HOW THE COMPONENTS OF THE BACK WORK

- Preventing back injuries begins with an understanding of how the back works and how it can be injured.
- The spine is composed of 33 cylindrical bones called vertebrae. These bones are stacked from your waist to your neck to form the spinal column. When healthy, this column has a natural “S” shaped curve.
- The vertebrae are separated from one another by intervertebral discs. These discs contain a jelly-like center and serve as shock absorbers for the vertebrae when we lift, stand or sit.
- They also provide space between the vertebrae to allow nerves to enter and exit the spinal cord through the spinal canal, which is a hollow passage through the vertebrae.
- The vertebrae and discs work with muscles, ligaments and tendons to provide a foundation that is rigid enough to support our bodies but is also flexible enough to allow us to bend over.

HOW BACK PAIN & INJURIES OCCUR

- Improper lifting techniques and poor posture puts stress on various parts of the spine, which can lead to injury.
- One improper technique that places added stress on the back is holding a load away from your body while lifting it and carrying it. The extra leverage this generates places more force on your spine and focuses that force on just a few discs.
- This can result in ruptured, or herniated, discs if repeated over time.
- Bending at the waist rather than bending your knees and squatting to pick up a load can also be damaging to the lowest two disks in your spine. Most ruptures occur in these two discs because they are involved in most of the heavy lifting we do.
- Bending at the waist creates a lever arm that places a large amount of force on the lower back.
- Twisting while lifting can be very harmful to your back. Not only can it cause strained muscles and sprained ligaments, it can also cause the discs to grind between the vertebrae.
- When a disc ruptures and the jelly-like contents leak out, the vertebrae can rub against one another and nerves can become pinched. Pinched nerves in the spine can cause excruciating pain, cramps, numbness and tingling in all the muscles from your waist to your toes.



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- A damaged disc may also develop a bulge. A bulging disc can also place pressure on the nerves, causing intense pain.
- Be aware that most back problems are caused by a gradual degeneration of the discs over time instead of a single event. The point is that when you first begin lifting improperly, you may not feel any pain or notice anything is wrong, but there is a cumulative, damaging effect of improper lifting and poor posture that will cause back problems if these poor practices are continued.
- Back pain can also be caused by chronic diseases that affect the spine, such as spinal stenosis, osteoporosis and arthritis. All of the adverse symptoms related to these diseases can be compounded by improper lifting and poor posture.

PROPER LIFTING TECHNIQUES

- It's a good idea to do some stretching exercises to loosen up your back muscles, ligaments and tendons before lifting a heavy object. This will make your spine much more flexible.
- Before lifting, decide if you can lift the object safely by yourself. Not only can an object be too heavy, but it may also be too bulky or hard to grasp.
- If you can't lift it safely, get a co-worker to help or use a mechanical lifting device such as a dolly or hand truck to lift and move it.
- Prior to lifting any load, inspect the travel path to your intended destination and remove any obstacles that may cause a slip or a trip.
- Make sure you and the load can safely fit through doorways and other passages without damaging it or smashing your fingers.
- Protect your hands from sharp-edged or rough materials with heavy cloth or leather gloves before lifting or carrying.
- One key to lifting safely is to put yourself into a safe, strong posture before lifting. Lifting from a weak or awkward position can easily lead to injury.
- When preparing to lift a load, take a wide stance and bend your knees. This will enable you to get close to the load.
- Get as close to the load as possible prior to lifting. Remember that staying close to the load reduces the force that leverage places onto your lower back.
- Approaching a load at its corner can also help to keep the load close while lifting.
- When assuming your pre-lift posture, try to visualize and maintain your spine's natural "S" shaped curve.
- Lifting and raising your head and chest as you get into position will also help maintain your back's natural neutral posture.
- It's important to establish a good grip on the load prior to lifting. For items with no place to grip, such as a box, try tilting it toward your body and then take a firm grasp of the edges.



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- Once a firm grip is established, use the strength of your legs to rise into a standing position. Avoid bending your back as you get to your feet.
- When traveling with the load, keep it close to your body and make sure that you can see over it.
- Face the direction of travel and avoid any bending or twisting motions. If you need to change direction while lifting or carrying a load, make sure to turn by moving your feet. Using your feet to turn helps avoid the harmful twisting motion we described earlier.
- When setting down the load, take a wide stance and bend the knees to lower the load to the floor. Again, try to visualize and maintain your spine's natural "S" shaped curve while lifting your head and chest.

ATYPICAL LIFTING SITUATIONS

- Not all lifting scenarios are simple and straightforward. You must make it a point to analyze each lift and determine a method that allows you to lift the load safely.
- Avoid reaching with your arms above your shoulders as this is extremely stressful to your neck and lower back.
- If an object to be lifted is located above your shoulders, use a ladder or step stool so you may reach it more easily.
- When lifting a load that is in a cabinet, under a shelf or other low hard-to-access location, go down on one knee close to the load. Then pull the load toward you and onto your thigh. While supporting the weight of the load on your thigh, push down on the load to assist you in rising up.
- Various types of assist devices may also be used to safely move hard-to-reach loads into a better position for lifting.
- If you can't figure out a safe way to lift a load, stop and seek input from others. It could be that a crane, forklift or similar device may be required to lift an awkward or hard-to-reach load.

MAINTAINING A NEUTRAL POSTURE

- In addition to practicing proper lifting techniques, maintaining a neutral posture is also crucial in keeping your spine healthy. Be aware that sitting and standing for long periods of time without maintaining your back's natural "S" shaped curve can be just as harmful to your back as improper lifting.
- When sitting, make sure your ankles, knees, thighs and elbows are at right angles to maintain neutral posture.
- Keep your head balanced over your shoulders and not protruding in front of your body or leaning to the sides. Relax your shoulders so they aren't hunched.
- Your chair should support the lumbar, or lower, region of the spine. If needed, a support cushion placed between your chair rest and lower back will help you maintain good posture.



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- Make sure your feet rest flat on the floor. If your feet don't reach the floor, get a footrest to put them on.
- If you use a computer, make sure you don't have to stretch forward to read the monitor or reach the mouse or keyboard.
- If you use a work table to do your job, avoid having to overreach by keeping tools and supplies within easy reach.
- When standing, keep your body straight and avoid hunching over. You may need to raise the work surface to maintain your back's natural "S" curve.
- If you must stand for long periods of time, alternate propping one foot on a stool or foot rest to alleviate strain on your lower back.
- Configure your work area to minimize such actions as reaching above shoulder height, bending, twisting or other movements that stress the components of your spine.

RESPONDING TO BACK PAIN

- Even if you make a conscious effort to always practice proper lifting techniques and maintain neutral posture, keep in mind that almost everyone experiences some type of back pain in their lives. If you are suffering from back pain, you should take action immediately to prevent the problem from getting worse.
- If you are experiencing a backache, resist the temptation to be immobile. Being immobile can lead to stiffness, weakness and may delay healing.
- Instead, make it a point to keep moderately active while maintaining good posture; however, if you are experiencing severe pain or have an injury that is slow to heal, seek proper medical attention