Back Injury Prevention

Back injuries are extremely painful, difficult to heal, and have an effect on everything you do. After suffering one back injury, you are much more likely to experience another later on. It is important to learn how to avoid injuring or re-injuring your back. You can learn proper lifting techniques and the basics of back safety, saving yourself a lot of pain and a lifetime of back problems.

WHY DO BACK INJURIES OCCUR?

- The lower part of the back holds most of the body's weight.
- Every time you bend over, lift a heavy object, or sit leaning forward, you put stress on your spine.
- Over time, the discs between your vertebrae can start to wear out and become damaged.
- Repetitive bending and lifting can quickly cause back problems.
- Even leaning forward while sitting at a desk or table can eventually cause damage and pain.

The following are contributing factors, and related tips to prevent back injury:

POOR PHYSICAL CONDITION, EXTRA WEIGHT, AND INACTIVITY

- Your stomach muscles provide a lot of the support needed by your back.
- If you have weak stomach muscles, your back may not get all the support it needs, especially when you're lifting or carrying heavy objects.
- Good general physical condition is important for preventing strains, sprains, and other injuries. Exercise regularly and try to develop good tone in your abdominal (*stomach*) muscles.
- The more you weigh, the more stress is placed on your back every time you bend over, at a ratio of 10:1. For every pound of weight, 10 times that amount of pressure is placed on the back.
- Regular aerobic exercise (walking, jogging, biking, swimming) has been shown to decrease back injuries.
- Exercises that increase balance and strength can decrease your risk of falling and injuring your back or breaking bones. Exercises such as tai chi and yoga, or any weight-bearing exercise that challenges your balance, are good for increasing balance and strength.
- Stretching and strengthening exercises can also reduce the risk of injuries.
- Maintaining your ideal body weight is also important for having a healthy back.

DIET

- In order to keep your spine strong, you will need to get enough calcium and vitamin D in your diet, to help prevent osteoporosis (*bones becoming full of pores and weak, with age or diet deficiency*).
- Osteoporosis is responsible for many bone fractures that lead to back pain.
- Calcium can be found in dairy products, green, leafy vegetables, and products with calcium added (*fortified*), like some orange juices.
- Although your skin makes vitamin D when you are in the sun, you can also get it from your diet.
- Vitamin D is found in milk and foods that have this vitamin added (*fortified*).
- Many adults do not get enough calcium and vitamin D in their diet.
- You should talk to your caregiver about how much calcium and vitamin D you need per day. Consider taking a nutritional supplement or a multivitamin.

POOR POSTURE

- Sit and stand up straight.
- It is best to try to maintain the back in its natural slight "S" shaped curve.
- Avoid leaning forward (unsupported) when you sit, or hunching over while you are standing.
- A chair with good lumbar (*low back*) support helps protect the back when you sit.
- If you work at a desk, sit close to your work so you do not need to lean over. Keep your chin tucked in. Keep your neck drawn back and elbows bent at 90 degrees to your spine.
- Sit high and close to the steering wheel when you drive. Add a lumbar support to your car seat, if needed.

- Avoid sitting or standing too long in one position. Sitting can be hard on the lower back. Take breaks, get up, stretch and walk around frequently (at least every hour).
- Avoid sleeping in an unnatural position. Sleep on your side (with knees slightly bent), or on your back (with a pillow under your knees). Do not sleep on your stomach.

OVER-EXERTION AND SUDDEN TWISTS OR MOVEMENTS

- Avoid working in odd, uncomfortable positions, such as when gardening, kneeling, or doing tasks that require you to bend over for long periods of time.
- **STRETCH BEFORE EXERTING:** If you know you will be doing work that might stress your back, take the time to stretch and loosen your muscles before starting, just like an athlete before a workout. This will help you avoid painful strains and sprains.
- **SLOW DOWN:** If you're doing a lot of heavy, repetitive lifting, work slowly. Allow yourself more recovery time between lifts. Over working your back will cost you more time later, when you need medical attention or when you find every movement painful.
- It is important to recognize your physical limitations and abilities.
- Do not hesitate to say, "This is too heavy for me to lift alone."
- Many people have injured their backs because they were afraid to ask for help. **ASK FOR HELP!**
- Certain actions, motions and movements are more likely than others to cause or contribute to back injuries.
- Avoid heavy lifting, especially repetitive lifting over a long period of time.
- Avoid twisting at the waist, while lifting or holding a heavy load.
- Avoid reaching and lifting over your head, across a table, or for an object on an elevated surface. Do not lean forward and lift heavy objects that are far from your body.
- Concentrate on keeping your shoulders pulled back and your low back straight.
- Never bend over without bending your knees.
- Bend at your knees, instead of your back, when you pick up objects. Instead of using your back like a crane, let your legs do the work.
- Try not to lift heavy things higher than your waist, or reach for objects on shelves above your head.
- **WHEN LIFTING:**
  - Take a balanced stance, with your feet about shoulder width apart. One foot can be behind the object and the other next to it.
  - Squat down to lift the object, but keep your heels off the floor.
  - Get as close to the object to be lifted as you can.
  - Lift gradually, without jerking, using (*tightening*) your leg, abdominal and buttock muscles. Keep the load as close to you as possible.
  - Keep your back straight.
  - Keep your chin tucked in, to maintain a relatively straight back and neck line.
  - Once you're standing, change directions by pointing your feet in the direction you want to go and turning your whole body. Avoid twisting at your waist while carrying a load.
  - When you put a load down, use these same guidelines in reverse.
- **REDUCE** the amount of weight lifted. If you're moving books, it is better to load several small boxes rather than one heavy box.
- Use handles and lifting straps.
- Do not turn or twist while holding an object. Turn at your feet, not your back.
- Avoid lifting or carrying objects with awkward or odd shapes. Get help if the shape is too awkward for you to lift and move by yourself.
- The use of wide elastic belts, that can be worn and tightened to "pull in" lumbar and abdominal muscles, to prevent low back pain, is controversial.

STRESS

- Tense muscles are more vulnerable to strains and spasms.
- Mental stress that you experience is directed to your muscles, neck, and back.
- Find constructive ways, including exercise and other relaxation techniques, to decrease the stress you

experience and decrease its impact on your body.
- Massage can help reduce the stress built up in your muscles and back.

ENVIRONMENTAL CAUSES AND SOLUTIONS

- You could injure your back from slipping on a wet floor or ice. Avoid wet and newly mopped surfaces, and make sure that ice around your home and office walkways is removed or treated.
- Sleeping on a mattress that is too soft or too hard can hurt your back. If too soft, consider inserting a large plywood board between your mattress and box spring, or replacing your mattress. Mattresses and box springs should be replaced every 10 to 15 years, depending on the product.
- Place, store, and position objects up off the floor. That way, you will not need to reach down to pick them up again.
- Raise or lower shelves, so you do not need to reach, or twist your back, neck, and shoulders.
- Put heavier objects on shelves at waist level, and lighter objects on lower or higher shelves.
- Use carts and dollies to move objects, rather than carrying them yourself.
- It is better to push a cart, dolly, lawnmower, or wheelbarrow, than it is to pull it. If you do need to pull it, force yourself to tighten your stomach muscles and try to maintain good body posture.
- Use cranes, hoists, a lift table, or other lift-assist devices whenever you can.

Your caregiver can provide additional information about preventing back (and other injuries) when you seek care, to avoid a first or recurrent back injury.

IF YOU INJURE YOUR BACK, VISIT YOUR CAREGIVER SO YOU CAN BE ASSESSED AND TREATED.

Document Released: 01/25/2006 Document Re-Released: 12/06/2010
ExitCare® Patient Information ©2011 ExitCare, LLC.