



# Back Injury Prevention

As the WorkSafe People™, we're experts at helping our customers keep their workers safe and their costs down. A trusted name in workers' compensation for a century, Accident Fund is a strong and stable subsidiary of AF Group.

One way to promote workplace safety is through back injury prevention.

## By the Numbers

The fact is back injuries can be a major issue in the workplace if preventative measures aren't taken. The most recent data available indicates that in 2008, more than 222,000 workplace injuries were those to the back, including the spine and spinal cord. During that same time, an average of six working days were lost per injured employee.\*

Further data indicates that on average:

- 2% of all employees have a compensable back injury each year.
- 33% of workers' compensation payments and medical costs each year stem from back injuries.
- 29% of all injuries are from handling and carrying objects.
- The most common causes of workplace back injuries are awkward postures, the weight of the object and the distance of the lift.

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## Basic Areas of Back Injury Prevention

### Reaching

- Do not overstretch yourself. Reach only as high as it is comfortable for you.
- Use a stool or ladder if you need it.
- When reaching down, support your body with one arm.
- Do not over reach across a workbench; move the load closer by keeping the back straight.

### Bending and Sitting

- Bending safely means kneeling down on one knee, not bending at the waist.
- Use your whole palm or hand when gripping.
- Bend your hips and knees — not your back.
- When reaching forward, move your whole body, not just your arms.
- Maintain a straight posture.

### Standing Working Position

- Keep your knees slightly bent with the pelvis tilted forward.
- Place one foot on a lower stool to balance body.
- Give employees the option of sitting or standing.
- Provide a floor mat for standing to relieve the back and legs.

## Proper Lifting is Key

Because lifting is one of the most common ways employees sustain back injuries, it's important to focus on techniques that help avoid back strain in the first place.

Remember, lifting injuries aren't just back injuries; lifting can lead to strains and sprains and accounts for:

- 43% of back injuries
- 30% of shoulder injuries
- 22% of elbow injuries
- 13% of hand and wrist injuries\*

\* Source: SHARP technical report No. 40-6-2002

### Get close

The further the load is from the center line of your body, the greater the strain imposed on your back. If need be, squat down to lift the load and pull it between your legs. This gets it closer to the center of your body and helps prevent the need to bend at the waist. However, since your leg muscles are the largest muscles in your body, they are the biggest energy consumers. Repeated squatting can be very fatiguing, and reduces a person's ability to lift in this manner for any length of time. For repeated lifting, other strategies must be used.

### Avoid heavy objects below the knees

Try to see that heavy objects are placed and stored above knee level and below shoulder level. If you suspect the load is too heavy to be lifted comfortably, don't chance it. Use a mechanical aid, break the load down into its component parts, or get help. The most common cause of back injury is overloading.

### Keep your back straight

This means don't bend at the waist when reaching to lift an object. Keep the natural arch in your lower back, which distributes the load evenly over the surface of spinal disks and is less stressful than if the disk is pinched between vertebrae. Bending principally from the hips is acceptable if you maintain the arch in your back, rather than bending at the waist.

### Use mental glue

If you carry a load in one hand, such as when carrying a tool box, place your free hand on the outside of your thigh and mentally "glue" it into position. This will help you maintain correct back alignment rather than lifting and tilting to one side. When carrying a heavy load, side bending can be just as stressful to the spine as bending forward.

### Move your feet

If you lift a load and need to place it off to one side, turn by moving your feet. After repeated lifts, you might find yourself getting a bit sloppy and forgetting to move your feet. You can overcome this tendency if the place you set the load down is at least one step away from where it is lifted.

## Loosen up

Research has shown that trunk flexibility and mobility is significantly lower in the morning than later in the day, increasing the number and severity of back strains at this time. A few minutes of stretching can warm up cold stiff muscles and tendons and help you avoid an injury. All professional athletes know this — “industrial athletes” should too!

## Other solutions for reducing lifting injuries:

- Substitute plastic pallets for wooden ones. This reduces heavy lifting by substituting plastic pallets for wooden ones.
  - Standard 40” x 48” plastic pallets weigh between 13 to 30 pounds while traditional wooden 40” x 48” pallets weigh about 60 pounds.
  - Plastic pallets can save you money. While they cost about \$30 more per unit, savings are realized through reductions in shipping costs (empty pallets are nestable so more can be shipped back in one trailer) as well as with reduced pallet repair and replacement costs (plastic is easier to clean when used in food processing).
- Increase the weight of the load. Why would you want to increase the weight of the load to reduce the hazard?
  - Bulk tote bags weigh 2,000 pounds, so obviously workers would need to use a forklift or other mechanical assistance to move, instead of potentially injuring themselves when moving lesser loads by hand.
  - Benefits:
    - Reduced raw materials cost when buying in bulk (tens of thousands of dollars per year).
    - Reduced labor costs (less time required to load one big bag instead of twenty 100-pound bags)
    - Greatly reduced risk of injury.
- Use mechanical assistance. Use a mobile pneumatic conveyor to move powdered and granular materials from any type of container (bags, barrels, bins, totes, etc.) to a hopper or other part of a mixing system. You can also use pallet jacks, hand carts or a vacuum lift.
- Reduce the duration of lifting. Rotating workers among a variety of duties can be one of the easier solutions to implement, although sometimes additional training is required (especially for things like operating a forklift). To be effective, the rotation should allow for recovery from lifting. The best type of recovery is light activity, rather than completely sedentary work, although some opportunities to rest can be beneficial.



## Want to know more?

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- Safety-training modules accessible 24/7 for policyholders' employees
- Loss control booklets and other printed materials available to print and order from our website
- Low-cost safety-training videos from our online library

Check them out today at [AccidentFund.com](http://AccidentFund.com).

## Exercise is Key

One significant way to help avoid back injuries is through proper exercise and methods of reducing common back conditions. As with any exercise program, check with your physician prior to starting. When performing any exercise follow these basic steps:

- Continue to breathe normally.
- Stretch only to a comfortable point — don't stretch to the point of pain.
- Hold the stretch for a slow 5 count — don't bounce.

### Get and stay in shape

A protruding stomach is an extra load carried away from the center line of the body — it prevents you from keeping a lifted object close, which is the No. 1 rule for back care. In addition, a “pot belly” puts extra, stressful weight on the spine.

Exercises most helpful for back injury prevention

A regular, balanced program of flexibility, relaxation, strength building and aerobic exercise can be extremely beneficial to back injury prevention. Walking, swimming and bicycling, in particular, are excellent for your back.

### Rules for proper exercise

First, start slowly to warm up stiff muscles. Then, gradually increase exercise speed and intensity. Finish slowly to allow your muscles and other body systems to relax and cool down.

### Exercises good for “sway-back”

“Sway-back,” an abnormal sagging of the spine, usually results from a combination of weak abdominal and back muscles. Exercises that strengthen and flex both of those areas include:

- Pelvic Tilt — While lying on your back on the floor, tighten the abdominal muscles and the buttock muscles at the same time.
- Curl — Curl and uncurl the back while sitting on the floor.
- Knee-to-Chest — Draw one knee up to your chest while lying on the floor and then alternate to the other knee.

### Exercises good for “flat-back”

“Flat-back,” a loss of the normal curvature of the lumbar spine, usually results from lack of lower back flexibility caused by excessive forward bending or slouching. Improvement of this condition requires an exercise to counteract forward bending:

- Lie face down and push up with your arms while leaving your thighs flat on the floor — this will facilitate the desired mild backward bending.
- The desired effect can also be achieved in a standing position by placing your hands on the back of your hips and gently bending backwards at the waist.

### Other beneficial exercises

#### Side bends:

- Sit or stand with your hands clasped overhead.
- Stretch as far as you comfortably can to one side; this stretch should be felt from the shoulders to the waist.
- Hold this position for five seconds and repeat three times.

#### Back release:

- Sit with your feet approximately shoulder width apart.
- Curl down slowly relaxing your neck; this stretch should be felt from the shoulders to the hips.
- Hold this position for five seconds and repeat three times.

