

Back to Your Health

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This article will explore the benefits and means of keeping your back healthy on the job. I will talk about bending, lifting, and twisting (not the dance move) and how to do so to minimize strain on your back.

Author's note: this month the author decided not to write an article about health safety (i.e. disease prevention) as there are so many better resources through our public health system than a short article can present. Contact your local public health resource or the CDC at www.cdc.gov. Stay safe and be well.

Scope of the Issue

The Bureau of Labor Statistics (BLS) (2018 data) show approximately 1 out of 5 injuries/illnesses are back injuries. National Safety Council estimates that there were over 400,000 back injuries in the workplace in 2013, which translates to a cost of between \$6 billion to \$8 billion¹.

Therefore, it is not unreasonable to assign a risk factor to back injuries of moderate to high for all employees in all jobs and acknowledge that the prevention of back injuries should be addressed.

Prevention

The first thing to realize is to ask the simple question, do I need to lift that manually by myself? There are many resources available to move loads. If there is equipment to move something, then use it. Such items are a forklift, jack, lift table, and cart. This is using Engineering Controls to reduce risk. Don't forget the assistance of others. Even holding a door is helpful. Or asking the delivery driver to place the package on the cart, instead of on the floor. Also, remember your accessories like straps, grips, and slings to get a good grip on the item to be lifted. Therefore, cast iron weights are made with handles. Add to the control by using a glove with a good grip and fit. Same with the bail handle on a 5-gallon hand-held test measure (I have worked in the lab too much to call them cans.) Add a rubber grip for a firm handhold. Finally, see if the load can be reconfigured, such as opening the case and taking out the smaller boxes and moving each box one at a time.

Person Protective Equipment (PPE) for back support (i.e. back belts, back braces) can be considered after studying the task (formal or informal job safety analysis), review, and training on the PPE. Remember, PPE is not a substitute for proper lifting technique and PPE can only be effective when used in conjunction with proper lifting technique.

The 6 L's of Lifting*

You have probably heard several versions of this. I prefer this one as it is easy to remember, it covers the bases and is easy to understand.

#1 Load

- Check the load before your lift! It could be bulky or have an uneven weight that may shift during the lift.
- Know the weight of the load and get help if it is too heavy (team lift or lift equipment).

#2 Legs

- Lift with your legs, not your back!
- Your large leg muscles are made for lifting and squatting. Your back muscles are thin and long, and they run along your spine. They are not suited to lifting.
- A bit of anecdote: When I was athletic, I could leg press 3 times my body weight, squat 2 times, and only bench 1.5 times. (Fact I picked up in training; fitness level being equal, a woman can leg press a greater percentage of her body weight than a man. Them Legs!)

#3 Lungs

- Exhale when you do something difficult!
- Before lifting, tighten abdominal muscles. Breathe out through tightened lips as you lift.
- Remember to breathe.

#4 Low Back

- Do not slouch your shoulders! Maintain the hollow of your lower back.
- Keep your upper back straight throughout the lift.

#5 Lever Arm

- Keep the load close to your body! Since $\text{Force} = \text{Weight} \times \text{Distance}$, the closer the load is to your body, the less it weighs. If possible, re-box/reconfigure load.
- Move as close to the load as possible; spread your legs apart and carry the load as close to you as you possibly can.

#6 Look Up

- Look up just before your lift! Your body follows the posture of your neck and head, so looking up will keep your back aligned correctly. Looking down will slouch your back.

Remember

1. Do not twist the back! Pivot feet instead of twisting your back-especially when moving a load. This prevents back injuries caused by twisting. Know where obstacles are before your lift as you will not be able to see your feet once you have lifted the load and trying to look down will twist your back or neck.
2. Push. Don't pull! Always push if you have that option. Pulling usually requires you to twist your back to watch where you are going.
3. Pace yourself! Do not try to do everything at once. Once you get tired, you will probably get sloppy with your lifting technique, causing injury. Be sure to take breaks and stay rested. Acknowledge this time before you start a job, so you are not tempted to rush to finish. Don't be tempted to overload yourself.
4. Modify when needed! It is nearly impossible to do each of the 6 L's every time you lift. It is important to understand the 6 L's so you can modify your technique to prevent back injuries.
5. By using these easy-to-follow techniques, you can reduce your risk of a painful back injury. So, take the time to think about what you are lifting and try to apply these principles whenever possible.

What to Avoid

Back issues result from exceeding the capability of the parts of the back; muscle, tendon, and disc. Also, there may be a cumulative effect of multiple contributors.² Here are some items to consider both on and off the job as your back is always helping you.

- Reaching/Twisting/Bending while lifting.
- Poor posture--how one sits or stands. Also maintaining bent posture.
- Bad body mechanics--how one lifts, pushes, pulls, or carries objects.
- Repetitive lifting of awkward items, equipment, or other.
- Heavy lifting.
- Fatigue.
- Lifting with forceful movement.
- Poor design of job or workstation.
- Poor footing such as slippery floors, or constrained posture.
- Vibration, such as with forklift drivers, truck drivers, etc.
- Poor physical condition, losing strength and endurance to perform physical tasks without strain.
- Stressful living and working activities. Includes staying in one position for too long.

I hope this helps you with the challenges you face in the workplace. I encourage you to help your health by keeping safety on your mind and using the 6 L's of Lifting.

¹Acknowledgment to National Safety Council (NSC) public material tip sheets for June 2013 National Safety Month.

Hint: June is National Safety Month. Each June NSC provides posters, tip sheets, articles, and graphics for the public.

²Acknowledgment to BLR Safety Tips “Back Safety in the Workplace” 2020
<https://www.blr.com/safetytips/back-safety>