UC **Safety Spotlight**

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September 2014

Back Injury Prevention

TYPES OF BACK PAIN:

Short-Term or Acute: Short-term low back pain is very common and lasts no longer than three months. Most of this minor back pain is the result of overuse or straining of the muscles or ligaments. If properly treated, the pain will resolve within a few weeks.

Long-Term or Chronic: Long-term back pain lasts more than three months and may cause severe disability.

POSTER OF THE MONTH

Safe Lifting Techniques

INCHES

By: Victor Duraj

Inches: Back Muscles

Two inches is the approximate distance between your spine and your back muscles. Your back muscles pull down behind your spine to keep your torso from flopping forward. Your back muscles also pull down to allow you to lift or hold items in front of your body. The mechanics can be complicated, but here is the basic issue: small changes in the loads in front (your torso, the weight of the object you're lifting, how far in front of your body the item is located) result in big changes to the forces on your back muscles. A teeter-totter is a good simplified analogy.

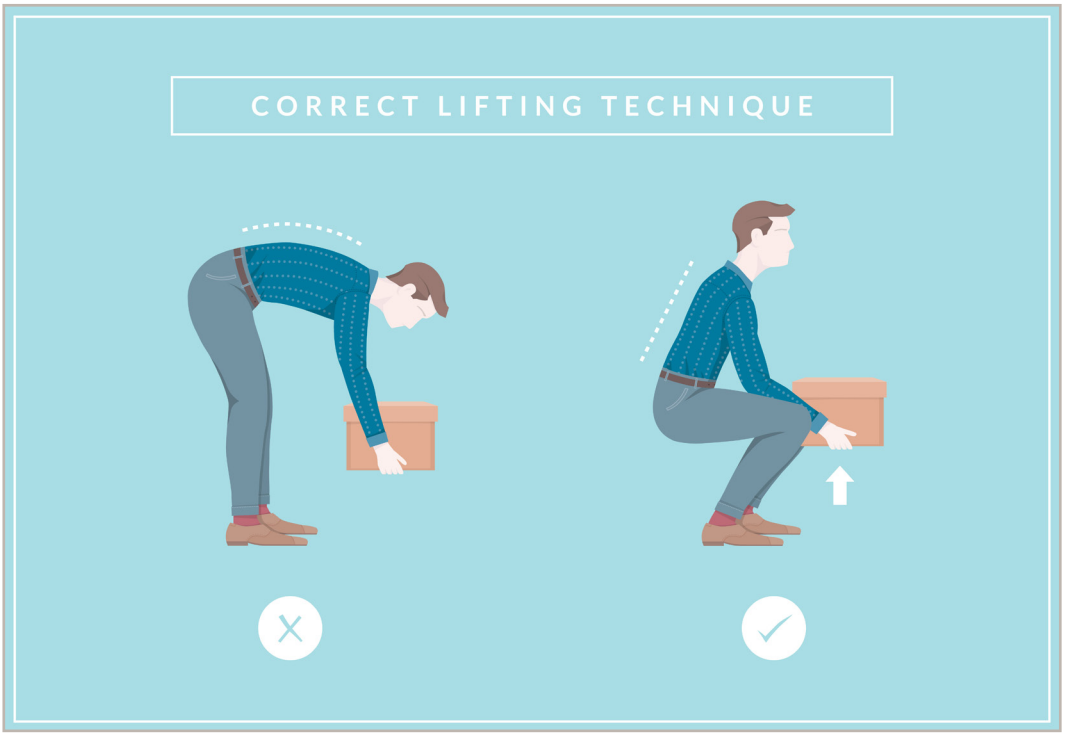
In the middle is our spine. On the right is the center of force of our torso. On the left are the back muscles. The back muscles counteract the torso and other weight in front. This is all about the leverage or "force times distance" being equal on both sides. Because the distance to the torso center is greater than to the back muscle, the back muscle has to exert more force to keep things equalized. So, imagine if someone's torso is larger, their center of force is further away from the spine, and the back muscles have to work even harder. Or, imagine you are holding something in front of you. The further away you hold it, the greater the leverage. This applies to lifting things in all sorts of ways: from the floor, from a shelf, even off of a wide or long table. And in all of this, what doesn't change really is the 2" but what does change a lot is the ultimate force on your back muscles. Staying fit helps. Also, avoid situations where an unprepared or "unable" back muscle is asked to do too much. The result is easily a pulled muscle, in basic terms, or otherwise a hurt back.

The closer you keep things to the front of your body, and the less weight you lift or carry, then the better off your back will be. Research in wine grape harvesting showed a huge improvement in worker-reported back symptoms when the workers were given smaller tubs that reduced the average weight of a full tub from 57 pounds to 46 pounds. (http://www.cdc.gov/niosh/docs/2001-111/) Do you lift at work? Does your position description indicate a weight limit? If you are not sure, check it out. Also, regardless of that limit, be aware of your capabilities. You'll reduce the chances of an instantaneous debilitating injury and you'll reduce the chances of some later injury (acute or chronic) related to accumulated wear and tear. Take proper care now.

PREVENTION AND RELIEF OF BACK PAIN

Ouch to Couch!

By: Victor Duraj



Why stay active?

A common and sometimes harmful myth is that all activity should be avoided when experiencing back pain. Many people are afraid that activity will only make the pain or injury worse. For most back problems, light activity helps speed the healing process. Gradual activity and stretching may reduce future back pain and reduce the likelihood of re-injury.

How stretching helps

You can minimize and prevent back pain with stretches that make the muscles in your back, hips and thighs flexible. Stretching activities also:

1. **Reduce Injuries** - When you stretch, muscles relax and lengthen. Relaxed muscles withstand stress better than tight ones. Typically, the more flexible you are, the less likely you are to suffer back pain.

2. **Improve Performance** - Stretching can increase your range of motion, making you more effective at work and in other activities. It may help you become more efficient in performing your daily tasks.

Deciding to make a simple lift a successful, injury-free lift, happens in just the blink of an eye. This is important because a simple lift can become a pain in the back, with that ouch sending you to the couch, doctor's office, the ER or worse.

Avoiding back injuries is also important for the bottom line, as these injuries commonly cost tens of thousands of dollars in direct costs and lost productivity. Your employer should not only insist that you take the necessary time to understand and use safe lifting practices, but more importantly your employer should recognize their key role in obtaining tools and equipment to assist with your lifting efforts whenever reasonable. When they are unaware of new or changed work practices, use the Suggestion Box or other communication tools to point out a concern or a need. It is important to use assistive handling devices, such as a cart or a forklift. Using such equipment reduces the strain on you and lets the equipment do the work. When the appropriate equipment is not available, consider asking a co-worker to help. Don't feel pressured by a real or perceived deadline; safety should always come first. A poor lifting decision can result in discomfort, pain, or even disability. Always ensure you have the proper tools for the job.

There are many devices available to choose from, and your Job Hazard Analysis or Job Safety Analysis should have introduced you to some of them. You should also look on your campus safety or ergonomics program web sites for ideas and information. Talk with your safety and ergonomics professionals who are always willing to provide advice and guidance. The Be Smart about Safety program generated many ideas and applications for back safety.

For immediate access to something that you need to get the job done, you might look to your campus' shops and shipping and receiving departments. They are often helpful with devices such a hand truck, wagon, cart, dolly, pallet jack, engine hoist, rollers, prying bar, cardboard for sliding, straps, elevating table, pickup truck with a lift gate, assistance with forklifts, overhead crane, kneeling pad, gloves, reaching gripper, step stool and more! Back injuries can happen when lifting, lowering, twisting or lifting and twisting at the same time (see Safety Spotlight, June/July 2013). Back injuries happen a lot of different ways, so arm yourself with the tools and knowledge to push back against that ouch that can send you to the couch.

CONNECT

Know where to turn on your UC campus for the information you need to keep yourself, your workplace and your environment safe and secure. Click on the campus links below to connect to local program, educational and informational resources.

UC Berkeley	UC Merced	UC Santa Barbara
UC Davis	UC Riverside	UC Santa Cruz
UC Irvine	UC San Diego	UCOP
UCLA	UC San Francisco	UC ANR

Healthy Back Care - Posture and a Healthy Back

A neutral spine is like a long, stretched out S, with two curves to the front and one to the back. When your back is not in this neutral position, the muscles, ligaments and joints have to work harder. Fatigue, discomfort and injury can result.

Good Posture - Seated: Awkward sitting postures greatly increase the stress to your lower back. To reduce stress to your lower back:

- Support the low back along the curve. Use a lumbar support or small pillow for low back support if needed.
- Sit back against your chair. The seat back should be positioned so that you lean back slightly ~95- to 100- degree angle.
- Keep your feet flat and comfortably supported on the floor or on a footrest.
- Keep knees level or slightly lower than hips.
- Adjust your seat so your low back is fully supported and you are not leaning forward.
- Avoid leaving a wallet in your back pocket; it places extra pressure on the nerves, and can cause or increase back pain.
- Stretch often and vary positions to decrease fatigue.
- Don't forget to move! 3-4 minutes of movement every hour can reduce fatigue and tight muscles.

Good Posture - Standing: Your standing posture while working and performing daily activities has a direct effect on your back health. To reduce stress to your lower back:

- Avoid bending or leaning forward to work.
- When working with heavy objects or on tasks that require great force, keep the work slightly below waist level.
- Lighter, detailed work should be slightly higher than waist level.
- Face work "straight on" - avoid twisting.
- Alternate tasks and postures, such as sitting, standing and working with a foot elevated.
- If you find it difficult to maintain a good standing posture, alternate standing with sitting and movement.

From OSHA.gov

LINKS & RESOURCES

- Back Safety: Sitting
- Back Safety: Pushing & Pulling
- Back Safety & Lift Techniques
- Back Safety in the Workplace
- How to Lift & Carry: Safe Facts & Tips
- Prevention of Musculoskeletal Disorders in the Workplace
- Federal Occupational Health: Back Safety
- Back Pain at work: Preventing pain and injury

COMING SOON

Fire Prevention

Check out our October 2014 edition to learn how to stay safe with fire prevention tips!

FEEDBACK, PLEASE

Send an email to **safetyspotlight@ucdavis.edu** to submit your comments on the September edition or to suggest content ideas for future issues. We look forward to hearing from you!

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