

LIFTING BASICS

Techniques For Safe Lifting

Safe lifting is always important—but it's *critical* when lifting is a part of your job or everyday activities. If you've ever "thrown out" your back while doing a seemingly simple lift—moving a crate, lifting a piece of furniture, carrying a file box to the office—you know firsthand the importance of safe lifting. Safe lifting means keeping your back aligned while you lift, maintaining your center of balance, and letting the strong muscles in your legs do the actual lifting. By using the following techniques, you can learn how to lift safely and save your back from accidental strain and injury.

The Safe Way To Lift

Before you lift anything, think about the load you'll be lifting. Ask yourself: "Can I lift it alone?" "Do I need mechanical help?" "Is it too awkward for one person to handle, or should I ask a coworker for help?" If the load is manageable, follow these tips for safe lifting:



1. Tuck Your Pelvis

By tightening your stomach muscles you can tuck your pelvis which will help your back stay in balance while you lift.

2. Bend Your Knees

Bend at your knees instead of at your waist. This helps you keep your center of balance and lets the strong muscles in your legs do the lifting.



3. "Hug" The Load

Try to hold the object you're lifting as close to your body as possible, as you gradually straighten your legs to a standing position.

4. Avoid Twisting

Twisting can overload your spine and lead to serious injury. Make sure your feet, knees, and torso are pointed in the same direction when lifting.



Tips To Remember

In addition to these techniques, remember to make sure that your footing is firm when lifting and that your path is clear. And be sure to use the same safe techniques when you set your load down. It takes no more time to do a safe lift than it does to do an unsafe lift, so why not play it safe and lift it right?



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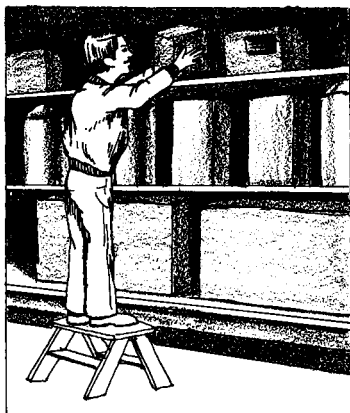
LIFTING AWKWARD LOADS

Safe Lifting In Special Situations

Most people whose jobs require lifting are familiar with the “safe” lift—bending your knees, hugging the load, and letting the strong muscles in your legs do the actual lifting. This standard way of lifting is safe, but in many situations, it’s impractical. When the load you have to lift is awkward, or is in a hard-to-reach area, a standard lift can be difficult to perform. The following tips can help you lift safely in situations where the standard lift can’t be used.

Odd-sized Loads

Long objects that are relatively light can be awkward to lift and carry. When lifting and carrying pipes, lumber, or other long, light loads don’t “hug” the load close to your body. Instead, support it on your shoulder, keeping the front end of the object higher than the rear. If the load is long or heavy enough to require two people, each of you should shoulder it on the same side and keep the object level. (Be sure to keep in step



If you have to lift an object that’s above shoulder-level, use a stepstool or ladder to avoid over-reaching.



If a load is hard to reach, stand with feet at shoulder distance apart, slightly bend your knees, and start to squat, bending at your hip joints, not at your waist. (The movement is the same one you make when you lower yourself into a chair.)

while walking.) Some over-sized loads may be light enough to carry, but can block your vision. In those situations, it’s best to use mechanical help or ask a coworker for a hand.

Hard-To-Reach Loads

Overhead loads can be difficult to lift. If you have to lift an object that’s above shoulder-level, use a

stepstool or ladder to avoid over-reaching. Test the weight of the load before removing it from its shelf. If it’s under 25 pounds or so, slide it toward you, and hug it close to your body as you descend. If possible, hand it down to a waiting coworker.

Reaching into a bin, container, or other storage area to lift an object makes the standard lift next to impossible. In these situations, stand with feet at shoulder distance apart, slightly bend your knees, and start to squat, bending at your hip joints, not at your waist. (The movement is the same one you make when you lower yourself into a chair.) Slide the load as close to your body as you can and raise yourself using your leg and hip muscles. Tighten your abdominal muscles as you lift, and if possible, rest your knees against the side of the container for additional support.

Tips To Remember

Whenever possible, use the standard lift. But, if a load is awkward, use the preceding tips to help you lift it safely. Avoid extending your upper body to lift a load—you’ll not only lose your center of balance, you’ll also risk injuring your back. Finally, use your safety sense—if a load is too awkward or hard-to-reach to lift it safely—get help!

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THE MECHANICS OF LIFTING

How Your Back Works

You may know that back injuries are the most common type of industrial accident. That's because no matter what our jobs, we are constantly using our backs—to support our bodies, to bend, sit, twist, stand, even to lie down. All of these activities put stress on our backs, but at no time are our backs more vulnerable to injury than when we're lifting. Understanding how your back works while lifting can help you avoid unnecessary strain and potential injury.

Back Basics


Your back is made up of moveable bones (called vertebrae) and shock-absorbers (called discs) between each vertebra. These structures are supported by ligaments and muscles that help keep the back aligned in three balanced curves. (You know your back is aligned correctly when your ears, shoulders, and hips are in a straight line.) When your back's three curves are not in balance, there is a greater likelihood of both back pain and injury.

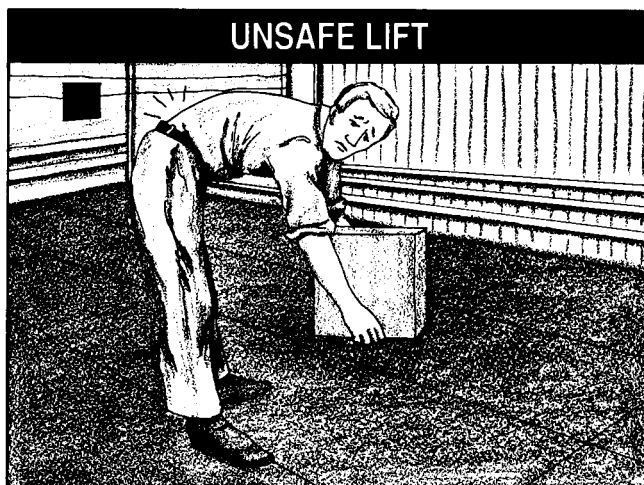
Lifting Mechanics

When you lift, it's important to keep your back in balance. If you bend at your waist and extend your

upper body to lift an object, you upset your back's alignment and your center of balance. You force your spine to support the weight of your body *and* the weight of the object you're lifting. This situation is called "overload." You can avoid overloading your back by using good lifting techniques. For example, when you bend at the knees and hug the object close to you as you lift, you keep your back in alignment and let the stronger muscles in your thighs do the actual "lifting." You do not have to extend your upper body and are able to maintain your center of balance.

Safe Lifting

Safe lifting means protecting your back (and yourself!) while you lift. Before you lift anything, think about the lift—Can you lift it alone? Do you need help? Is the load too big or too awkward? When you do lift, be sure to bend at your knees, hug the load close to your body, and raise yourself up with the strong muscles in your thighs. Remember never to twist while lifting—instead, move one foot at a time in the direction where you want to go and then turn with your leg muscles. Above all, safe lifting means keeping your back in balance and avoiding overload. When you know how your back works, it's easier to understand how you can protect it. 



If you bend at your waist and extend your upper body to lift an object, you upset your back's alignment and your center of balance.



If you bend at the knees and hug the object close to you, your back stays balanced and the muscles in your legs do the lifting.

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POSTURE PERFECT

Basic Tips For Back Health

It's true that good posture is a reflection of the way we look and feel about ourselves, but it's much more than that. Good posture is one of the simplest things each of us can do to help our backs stay healthy and pain-free. Good posture can prevent muscle pain, stiffness, and tension as well as back aches, pain, and injury.

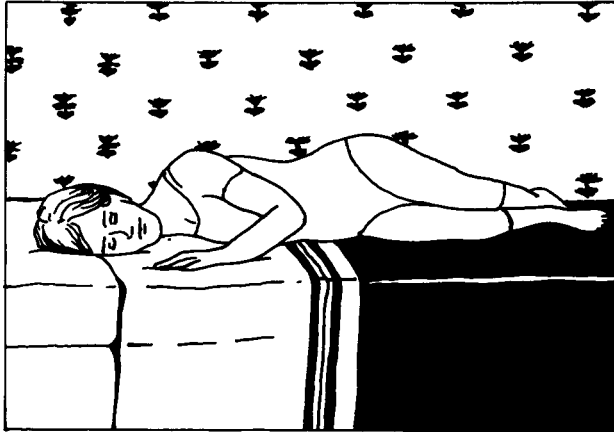
Good posture is actually quite simple. It means keeping the three natural curves of your back (neck, chest, and lower back) in balance while standing, sitting, or lying down.

Standing

Contrary to what most of us were taught, good posture does not mean standing with shoulders thrust back, chin forward, and spine straight as an arrow. Actually, you're using good standing posture when your ears, shoulders, hips, knees, and ankles are "stacked" in a straight line. (Note: Your shoulders should be relaxed and your knees slightly bent.)

Sitting

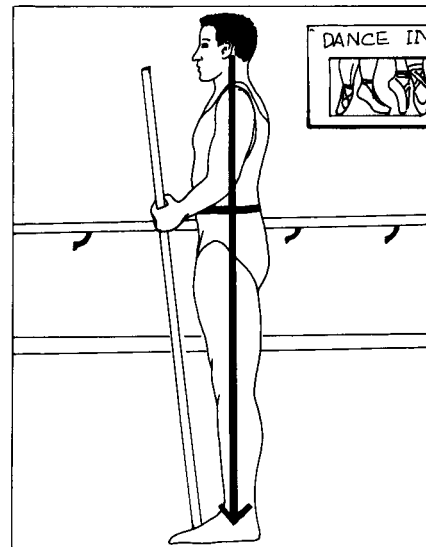
While sitting, you can keep your spine balanced by again "stacking" ears over shoulders and shoulders over hips. To prevent lower back strain, place a lumbar roll (or rolled-up towel or sweater) between your



When lying down, rest on your side in a modified "fetal" position (knees slightly bent toward chest).

lower back and the back of your chair. Keep your buttocks resting against the chair back, and if your feet don't reach the floor, rest them on a footstool or box.

While sitting, "stack" ears over shoulders and shoulders over hips. Use a rolled-up towel or sweater to support your lower back.




You're using good standing posture when your ears, shoulders, hips, knees, and ankles are "stacked" in a straight line.

Lying Down

When lying down or sleeping, try resting on your side in a modified "fetal" position (knees slightly bent toward chest) or on your back with a pillow placed beneath your knees. Sleeping with more than one pillow under your head can exaggerate your neck curve and can place undue stress on your back. Choose a firm mattress for adequate back support.

A Healthier Back

By using good posture throughout your day, you can help keep your back balanced and reduce your risk of back problems and injury. You'll not only feel better, you'll look better, too. 

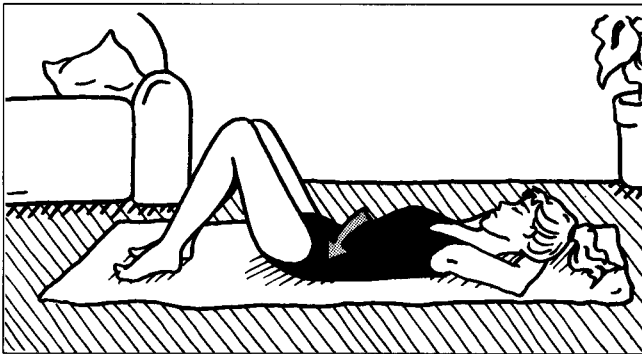
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BACK EXERCISES

Making Your Back Work For You

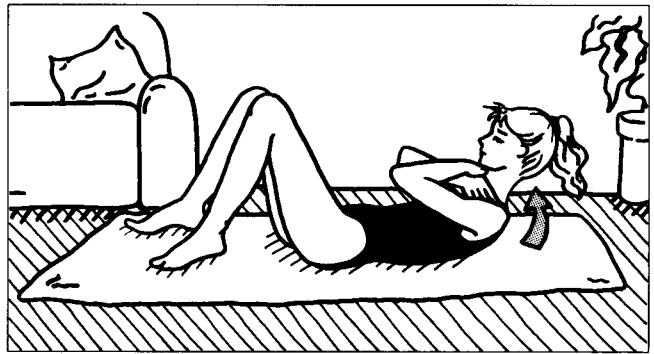
No matter what our jobs, all of us use our backs every day when we're sitting, standing, lifting, even lying down. A back injury can result in pain, disability, and even loss of income if it prevents us from doing our jobs. Together with proper lifting techniques, back exercises are one of the most important things each of

us can do to strengthen our backs and help protect them from accidental injury. The following exercises, when done on a daily basis, can help keep your back in condition. (Remember, though, if you are experiencing back pain of any sort, check with a healthcare professional before doing these or any exercises.)



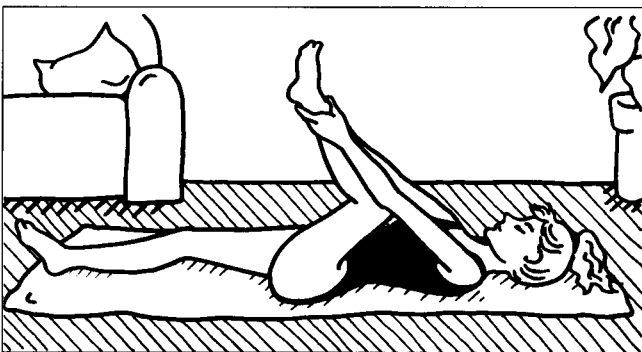
Pelvic Tilt

Lie as shown with knees bent and feet flat on the floor. Slowly tighten your stomach and buttocks as you press your lower back onto the floor. Hold for 10 seconds and then release. Repeat the sequence 5-10 times.



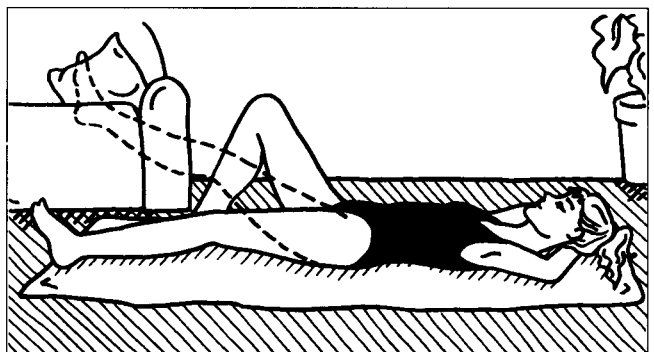
Bent-Knee Sit-Ups

Lie as shown with knees bent and feet and lower back on the floor. Place your arms as shown and slowly raise your shoulders, using your stomach muscles. (Do not stretch with your neck or arms.) Hold for 10 seconds. Relax. Repeat 5-10 times.



Hamstring Stretch

Lie on your back with one leg straight in front of you and the other bent. Hold onto the ankle of your bent leg and slowly try to straighten your leg. (Keep your lower back on the floor.) Hold for 10 seconds. Relax. Repeat 5-10 times, then switch sides.



Leg Lift

Lie on the floor with one leg straight in front of you and the other bent as shown. Slowly raise your straightened leg as far as you can. Hold for 10 seconds. Slowly lower your leg to the floor. Relax. Repeat 5-10 times, then switch sides.

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HOW NOISE AFFECTS HEARING

Understanding Hearing Loss

Hearing loss is a normal part of the aging process. Throughout our lives we are exposed to loud noises and physical conditions that add up to gradual loss of hearing. But many of us lose our hearing prematurely by failing to protect ourselves from excess noise both at home and at the workplace. Understanding how hearing works can help you realize the importance of protecting your hearing now, before it's too late.

How Hearing Works

The ear is composed of numerous delicate structures designed to carry sound waves to the brain. The hair cells in the inner ear are particularly important because they stimulate the auditory nerve which transmits impulses to the brain. The brain translates auditory impulses into the sounds that we hear. When the ear's hair cells become damaged due to excess noise exposure, the auditory nerve is not sufficiently stimulated, the brain does not receive the appropriate sound signal, and we fail to hear correctly. And, when hair cells are damaged by prolonged over-exposure to loud noise, they "die" and cannot be replaced, resulting in permanent hearing loss.


Excess Noise Exposure

Noise is measured in units called decibels (dBs or dBAs) Excess noise is generally considered to be exposure to 85-90 decibels or more

Activity/Situation	Decibels
Normal Conversation	60
Auto traffic	75
Sanding	85
Subway	90
Woodworking	100
Drilling (pneumatic)	100
Power saw	110
Gunfire	120

over an 8-hour period. A typical automobile horn can be as loud as 120 decibels, but hearing a horn honk for 10 seconds is unlikely to cause hearing loss. If you had to listen to the horn blast for 8 hours straight, though, you could very well experience gradual, permanent loss of hearing. Or, if you work in a factory and are exposed to 80 decibels of noise over a 4-hour period, you might not be at risk. But, if you then went home and operated a power mower or tools, listened to high-volume music, or perhaps practiced at the shooting range, you could very well exceed your safe noise exposure limit.

Protecting Your Hearing

On or off the job, you can protect your hearing by wearing the appropriate personal protective equipment recommended for your tasks. Ear muffs, plugs, and canal caps can all reduce the amount of noise your ears are exposed to. It also helps to know the decibel range or noise level of some common activities and situations to see if you may be exposing yourself to too much noise. Remember that even loud vacuum cleaners, dishwashers, and home power tools can create excessive noise, so protect your hearing wherever you are. 

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