



# Eye on Safety

## Inside this issue:

Back safety ..... 1

Safety focus: Carbon monoxide and its dangers ..... 3

Is exercise on your list of resolutions? ..... 4

## Back safety

Up and down, twist and turn, raise and lower. Most of us make movements like this every day, but continually making these repetitive motions throughout the day can cause back pain. Repeated bending and lifting can create stress, even on healthy backs. The most common causes of lower back pain are sprains and strains, often triggered by improper lifting.

### Back pain

Back pain can be caused by repeatedly lifting materials, awkward positions, sudden movements, lifting and twisting at the same time, and bending over for long periods. Poor posture, poor physical condition, stress, and repetitive trauma may also contribute to back pain.

Muscle strain is the most common source of back pain. Muscle strain is more likely if the muscle lacks strength, is tight and not warmed up, or is tired due to repetitive movement or from a position that is held too long.



### The power to prevent pain

Back pain is one of the most commonly given reasons people miss work, and the National Institutes of Health reports that 80 percent of adults will experience low back pain in their lifetimes. In addition to repetitive motions, back pain is often caused by basic lifestyle factors that can often be prevented. Experts at Harvard Medical School offer the following suggestions for keeping back pain at bay:

1. **Stay in shape.** Low-impact aerobic activities such as swimming, bicycling, or walking are ideal because they strengthen the back and abdominal muscles and also stimulate endorphins, which help kill pain.
2. **Maintain a healthy weight.** People who are overweight carry more weight on their spine and are at a higher risk of straining muscles in their backs.
3. **Don't smoke.** Aside from the countless other reasons not to smoke, scientists believe that nicotine hampers the flow of blood to the vertebrae and disks. In addition, smokers tend to lose bone faster than nonsmokers, putting them at a higher risk for pain.
4. **Lighten your load.** A purse, briefcase, or backpack could be causing back pain. Minimizing the weight in any of these items may reduce or eliminate back pain.

*(continued on page 2)*

**National Institutes of Health  
Office of Research Services  
Division of Occupational  
Health and Safety**

Providing a safe and healthy environment for employees, patients and visitors.

*“Safe science and good science go hand-in-hand.”*

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## Back safety *(continued from page 1)*

- 5. Stretch.** Take breaks to stretch and short walks to loosen up.
- 6. Sit properly.** Your feet should rest comfortably on the floor (or a small stool) when you are seated. Keep your knees a bit higher than your hips and bend them at a 90-degree angle.
- 7. Practice good posture.** Keep your ears, shoulders, and hips in a straight line, drawing your stomach in and keeping your head up.
- 8. Set up a back-friendly workspace.** Your chair should have an adjustable backrest, wheels, lumbar support, and armrests to be supportive.
- 9. Stand smart.** When required to stand for long periods of time, maintain a neutral pelvic position. Alternate placing your feet on a low footstool to take pressure off your lower back.
- 10. Be aware of how you sleep.** Sleeping on your side and curling up your body a little bit is an ideal position to prevent back pain. Your pillow should keep your head and spine level, and your mattress should be firm enough so that your spine doesn't sag in your bed.

### When to see a doctor

Sometime in your life you will likely experience back pain, if you haven't already. Back problems are one of the main reasons people visit a doctor.

Back pain can vary from a dull, constant ache to a sudden, sharp pain that makes it hard to move. There are two types of pain: acute and chronic.



**Acute pain** begins suddenly and lasts less than six weeks. This is the most common type of back pain and it is usually caused by an injury. This type of pain usually gets better on its own and doesn't require special treatment or surgery. It will usually fade away as you go about your daily routine.

**Chronic pain**, which is not as common, can last for three months

or more. It can be caused by conditions such as arthritis, fibromyalgia, or a more serious injury. Chronic back pain may require surgery, but doctors aim to avoid this route by trying nonsurgical treatments first such as exercise and hot or cold treatments.

Be sure to watch for signs that indicate back pain is signaling a more serious problem. Call your doctor if you experience pain along with any of the following:

- Numbness or tingling;
- Severe pain that doesn't improve with rest;
- Severe pain after a fall or an injury; and
- Pain in addition to:
  - difficulty urinating;
  - numbness in your legs;
  - weakness;
  - fever; and/or
  - unexpected weight loss.



### Think before you lift

The job isn't going to change, so you will continue to lift, twist, and make those repetitive motions. However, there are things that you can do to be more proactive when lifting heavy loads:

- Size up the load;
- Determine the lifting position;
- Bend the knees;
- Get the right grasp; and
- Stay strong.

### Lift that load

When lifting a heavy object, follow these step-by-step tips:

- Place your feet close to the object;
- Center yourself over the load;
- Bend your knees;
- Get a good hand hold;
- Lift straight up — smoothly;
- Allow your legs, not your back to do the work; and
- Ask for help when needed.

# Safety focus: Carbon monoxide and its dangers

Carbon monoxide (CO) is a common industrial hazard resulting from the incomplete burning of natural gas and any other material containing carbon such as gasoline, kerosene, oil, propane, coal, or wood.

Forges, blast furnaces, and coke ovens produce CO, but one of the most common sources of exposure in the workplace is the internal combustion engine.

## How does CO harm?

Breathing air contaminated with a high concentration of CO can suffocate you.

The hemoglobin in red blood cells picks up oxygen in the lungs. The bloodstream delivers this oxygen throughout the cells in the body to keep us going. Unfortunately, hemoglobin can pick up CO molecules easier than it can bond with oxygen. The body's cells must have oxygen to burn, and when they don't get it, they stop working.

Besides tightness across the chest, initial symptoms of CO poisoning may include headache, fatigue, dizziness, drowsiness, or nausea. Sudden chest pain may occur in people with angina. During prolonged or high exposures, symptoms may worsen and include vomiting, confusion, and collapse in addition to loss of consciousness and muscle weakness.

Symptoms vary widely from person to person. CO poisoning may occur sooner in those most susceptible: young children, elderly people, people with lung or heart disease, people at high altitudes, or those who already have elevated CO blood levels, such as smokers. Also, CO poisoning poses a special risk to fetuses.

## Who is at risk?

Workers may be exposed to harmful levels of CO in boiler rooms, breweries, warehouses, petroleum refineries, pulp and paper production, steel production, around docks, blast furnaces, or coke ovens; or in one of the following occupations:

- Welder;
- Garage mechanic;
- Firefighter;
- Carbon-black maker;
- Organic chemical synthesizer;
- Metal oxide reducer;
- Longshore worker;
- Diesel engine operator;
- Forklift operator;
- Marine terminal worker;

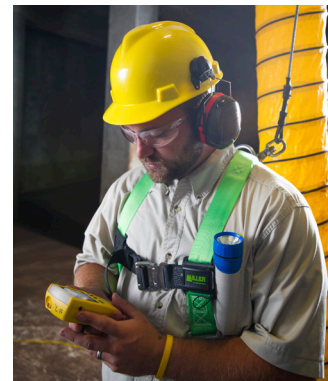


- Toll booth or tunnel attendant;
- Customs inspector;
- Police officer; and
- Taxi driver.

## Prevention

To reduce the chances of CO poisoning in the workplace, take the following actions:

- Avoid using gasoline-powered engines or tools in poorly ventilated areas.
- Use personal CO monitors with audible alarms detecting if potential exposure to CO exists.
- Test air regularly in areas where CO may be present, including confined spaces.
- Use a full-facepiece pressure demand self-contained breathing apparatus (SCBA), or a combination full-facepiece pressure demand supplied-air respirator with auxiliary self-contained air supply in areas with high CO concentrations, i.e., those immediately dangerous to life and health atmospheres.
- Use respirators with appropriate canisters for short periods under certain circumstances where CO levels are not exceedingly high.
- When working in confined spaces where the presence of CO is suspected, test for oxygen sufficiency before entering.



Furthermore, you should:

- Report any condition that might cause CO to form or accumulate.
- Be alert to ventilation problems, especially in enclosed areas where gases of burning fuels may be released.
- Avoid overexerting yourself if you suspect carbon monoxide poisoning. Physical activity increases the body's need for oxygen, which increases the danger of poisoning.
- Think carefully about smoking habits. Tobacco, when burned, releases CO, reducing the oxygen-carrying ability of the blood even before any industrial exposure is added.
- Watch co-workers for signs of CO toxicity.
- Substitute less hazardous equipment whenever possible. Use electric tools or tools with separate engines that can be located outside and away from air intakes.

NIH, OD, ORS, DOHS  
 Bldg 13, Room 3K04  
 13 South Drive, MSC 5760  
 Bethesda, MD 20892-5760  
 Phone: (301) 496-2960  
 Fax: (301) 402-0313

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## Is exercise on your list of resolutions?

When it comes to exercise, we all probably have excuses on why we can't do it. Resolve to overcome your exercise excuses by trying the solutions offered below.

*"Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it."*

~ By  
 Plato



**Resolve to exercise this year.**

Excuse	Solution
<b>"I don't have time."</b>	Plan time for exercise by getting up 30 minutes earlier or going for a walk at lunchtime or after work. The fact is, we all have 24 hours a day to do everything we need to do. It comes down to prioritizing.
<b>"I'm tired."</b>	Exercise can actually give you more energy because it increases circulation. It may even make you feel good afterwards.
<b>"I will get hurt."</b>	Talk to a health professional about appropriate exercise for your age, fitness level, and health status. A personal trainer can show you how to exercise appropriately.
<b>"I'm not coordinated enough."</b>	Choose activities you are comfortable with, such as walking, bicycling, or swimming.
<b>"I travel for work—it's impossible to exercise."</b>	Use hotel swimming pools and fitness facilities. Go for a walk after your workday.
<b>"I have to care for my children."</b>	Include your children in family bike rides or walks. Take turns watching the kids with your spouse or a friend.
<b>"I don't enjoy exercise."</b>	Find an activity you enjoy doing where exercise is a by-product (biking, swimming, tennis, cross-country skiing).
<b>"I will start tomorrow."</b>	Tomorrow never comes. Buddy-up with a friend, coworker, or your spouse and hold each other accountable. The sooner you start, the sooner you will see results.