

Safe lifting

Safe lifting means fewer injuries

Top 10 causes of disabling
workplace injuries

OSHA updates COVID-19
workplace guidance

OSHA, NIOSH revise handbook
for small businesses

Information and resources to help your employees work safely

In This Issue

Training Blueprint3

Use this blueprint to inform and train employees on safe lifting techniques

Employee Handout: Plan ahead when lifting.5

Share safe lifting techniques with employees

2021 Workplace Safety Index6

Top 10 causes of disabling injuries

OSHA updates COVID-19 workplace guidance6

Expands information on protecting workers in high-risk workplaces

OSHA, NIOSH revise handbook for small businesses7

Includes self-inspection checklists for various work processes in general industry

Expert Help7

Where can I find the OSHA regulations on safe lifting? How can we use training to help prevent back injuries?



MESSAGE FROM THE EDITOR

Safe lifting techniques keep your back in action

Although back problems are common sources of pain and disability — and the Bureau of Labor Statistics reports that more than 136,000 workers in private industry suffered back injuries in 2019 — most of these problems are preventable through the use of proper lifting techniques.

There are a variety of stresses that improper lifting, twisting, or bending can put on the back. Back problems can include:

- Strains and sprains
- Torn ligaments
- Herniated or slipped disks
- Muscle spasms

Twisting and turning while lifting adds strain to the back's disks, muscles, ligaments, and tendons. Keeping the back as straight as possible keeps it properly aligned so it can work as it was intended to.

Although no approach totally eliminates injuries caused by lifting, an effective training program, along with ergonomically designed work tasks and equipment, will help to prevent injuries.

This month's Training Blueprint has an outline you can use to provide employees with information and training on the importance of safe lifting. The Employee Handout and Quiz can be used to reinforce learning. ♦



Rachel Krubsack

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TRAINING BLUEPRINT — SAFE LIFTING

Safe lifting means fewer injuries

Injuries caused by overexertion during manual lifting activities continue to be a leading occupational health and safety issue. Although no approach totally eliminates injuries caused by lifting, an effective training program, along with ergonomically designed work tasks and equipment, will help to prevent injuries.

Overview

There is no federal OSHA regulation specifically on back safety, safe lifting, or ergonomics, all employers are covered by the Occupational Safety and Health Act if they have one or more employees. The Act requires covered establishments to provide a safe and healthful workplace. If your facility fails to protect its employees from back hazards, OSHA can still cite you under the General Duty Clause (Section 5(a)(1)) of the Act. It's important to identify tasks that present back hazards, so that you can implement ways to control those hazards and prevent back disorders.

Specific training elements

1. Discuss the number of work-related injuries related to lifting.

It's pretty common to have to lift items at work. Manual lifting, however, is a source of many injuries.

Overexertion while lifting can result in strains, sprains, torn ligaments or muscles, and ruptured or slipped disks. The Bureau of Labor Statistics reports that more than 136,000 workers in private industry suffered back injuries in 2019.

2. Outline some factors that contribute to the risk of injury.

The weight of the load is obviously a factor in whether material can be lifted safely. Other lift factors include:

- The force needed to perform the lift,
- The frequency of lifting,
- The duration of lifting activities, and
- Postures and body motions during the lift.

Concerning the force needed to perform the lift, there may be increased risk for injury if:

- The lift involves pinching to hold the object,
- Heavy lifting is done with one hand,
- Very heavy items are lifted without the assistance of a mechanical device, or



- Heavy items are lifted while bending over, reaching above shoulder height, or twisting.

The following postures and motions can contribute to the risk:

- Bending or twisting the back while lifting or holding heavy items;
- Lifting objects out of, or putting them into, cramped spaces;
- Leaning, bending forward, kneeling, or squatting during lifting activities;
- Lifting or carrying materials with the hands below the waist, above the shoulders, or to the sides of the body; or
- Carrying or holding lifted materials with the arms or hands in the same position for long periods of time without changing positions or resting.

Repetitive lifting for an extended period of time without a break can add to the risk. Individual variables such as sex, age, body size, state of health, and general physical fitness also influence the risk of injury.

3 Describe how engineering controls reduce the risk.

The most effective way to prevent injury is to redesign the work environment and work tasks to reduce lifting hazards. Engineering controls are used to redesign a job so employees do less strenuous manual lifting. These controls often involve the use of mechanical lifting equipment.

Engineering controls include:

- Reducing load weight or size;
- Adding handles to material packaging so that workers can get a strong, comfortable grip;

- Adjusting the work environment so workers can keep loads close to the body and between shoulder and knee height, without having to twist; and
- Installing mechanical lifting aids and material handling equipment (conveyors, slides, chutes, hoists, adjustable lift tables, and hand trucks).

4. Introduce the use of administrative and work practice controls.

Implementing administrative and work practice controls involves carefully selecting and training workers so they know how to safely perform lifting tasks.

Administrative and work practice controls include:

- Setting weight, size, and frequency limits on manual lifting tasks;
- Training employees to use proper lifting techniques; and
- Determining the need for using two-person lift teams when mechanical lifting aids are not available.

TRAINER'S NOTE: Tell the trainees about the engineering and other controls your facility has in place to help prevent injuries.

5. Explain how the NIOSH lifting equation helps determine safe lifting tasks.

Employers can analyze the hazards of a lifting job. In 1994, NIOSH issued a revised lifting equation to help determine a recommended weight limit (RWL) for specific lifting conditions. The NIOSH lifting equation is:

$$RWL = LC \times HM \times VM \times DM \times AM \times FM \times CM$$

The RWL is determined by the load constant (LC) and the six multipliers. The RWL value is the maximum weight that should be lifted under the six conditions of the lift.



If the RWL value is exceeded, the risk of injury should be reduced by changing work practices or job design.

The LC, load constant, is equal to 51 pounds.

The other multipliers in the equation consider other lifting factors such as the horizontal distance and

vertical height the object is moved, the total distance moved, the amount of twisting involved, the number of lifts, and the strength of the grip on the load. When one of these factors is less than ideal, the value of the multiplier for that factor in the equation is equal to a number less than one.

Depending on these multipliers, the RWL may decrease to less than 51 pounds. In other words, when conditions are less than optimal, the amount of weight that can safely be lifted is reduced. The RWL value will never exceed 51 pounds.

TRAINER'S NOTE: Download the NIOSH Lifting Equation App to help you explain how the lifting equation can analyze lifting jobs in your workplace.

6. Demonstrate the procedures for safe lifting.

Employees should use these guidelines every time they have to do manual lifting:

- Size up the load before you lift. If you don't know the load's weight, test it by moving one of the corners. Split up large loads into smaller units. If it's heavy, an awkward shape, or if you can't get a good grip, use a mechanical lifting aid; or get help from another worker. When in doubt, don't lift alone!
- Plan ahead. Make sure you have a clear path to carry the load, and a place to set it down, before you begin the lift.
- Place your feet close to the object and center yourself in front of the load.
- Bend your knees to allow your stronger leg muscles to lift the load.
- Get a good grip.
- Lift straight up, keeping the load close to your body. Let your legs do the work. If you are lifting with a partner, use a signal so you both lift at the same time.
- Do not twist or turn your body once you have made the lift. Initiate turns by moving your feet, not by twisting your shoulders and hips.
- If you start to lose your grip, set down the load.
- Set the load down properly. Lower the load into place by bending your knees. ♦

TRAINER'S NOTE: After a few demonstrations, allow time for trainees to practice safe lifting techniques.



Key to remember: Although no approach totally eliminates injuries caused by lifting, an effective training program, along with ergonomically designed work tasks and equipment, will help to prevent injuries.



Employee Handout — Plan ahead when you lift

Whether you're at work or at home, you know you're going to have jobs that involve manual lifting. It's easy

to remember safe lifting rules when the load is heavy, but any load can cause an injury. Pay careful attention to how you lift, every time you lift.

Is it too heavy?

There is no standard weight that is safe for everyone to lift in any situation. But, according to a lifting equation developed by the National Institute for Occupational Safety and Health (NIOSH), a recommended weight limit will never be more than 51 pounds. Several factors, such as twisting motions and postures, can reduce this weight recommendation to keep the lift safe.

In other words, if you need to extend your reach, lift overhead, move loads repeatedly, or are unable to get a good grip on a load, you increase your risk for injury. In that case, the load should be made lighter, or you should get help to lift it.

Follow your facility's manual lifting weight restrictions. Use hoists, dollies, carts, conveyors, and other mechanical lifting aids when possible. If you must lift manually, follow safe lifting techniques.

Use safe lifting techniques

Remember, and follow, these basic safe lifting techniques:



1. Size up the load before you lift. If you don't know the load's weight, test it by moving one of the corners. Split up large loads into smaller units. If the load is heavy, an awkward shape, or if you can't get a good grip, use a mechanical lifting aid or get help from a coworker. When in doubt, don't lift alone!



2. Plan ahead. Make sure you have a clear path to carry the load, and a place to set it down, before you begin the lift.



3. Place your feet close to the object and center yourself in front of the load.



4. Bend your knees to let your stronger leg muscles lift the load.



5. Get a good grip.



6. Lift straight up, keeping the load close to your body. Let your legs do the work. If you are lifting with a partner, use a signal so you both lift at the same time.



7. Do not twist or turn your body once you have made the lift. If you start to lose your grip, set down the load.



8. Setting the load down is just as important as lifting it. Lower the load into place by bending your knees. ♦



Quiz — Plan ahead when you lift

For each question, show if the statement is **True** or **False**.

- Safe lifting techniques only apply to heavy loads.
True False
- Twisting or reaching overhead to lift increases your risk for injury.
True False
- Use a hoist or dolly if you can't get a good grip on a load.
True False
- If two people lift a load, always set down one end of the load first.
True False
- The NIOSH recommended load weight limit never exceeds 51 pounds.
True False



NAME: _____

DATE: _____



2021 Workplace Safety Index shows top 10 causes of disabling injuries

The top 10 most disabling workplace injuries cost employers more than \$1 billion a week, according to the 2021 Liberty Mutual Workplace Safety Index. Employers may consider conducting training or refresher training for employees based on the top 10 list, ergonomic assessments, and/or job hazard analyses to help mitigate the potential for injuries.

Injury	Annual Cost (billions \$)
Handling objects	\$13.30
Falls on the same level	\$10.58
Falls to lower level	\$6.26
Being hit by objects	\$5.61
Awkward postures	\$4.71
Vehicle crashes	\$3.16
Slip or trip without fall	\$2.52
Colliding with objects or equipment	\$2.46
Caught in equipment or machines	\$2.01
Repetitive motions involving microtasks	\$1.66



The annual Liberty Mutual Workplace Safety Index is based on information from Liberty Mutual, the U.S. Bureau of Labor Statistics (BLS), and the National Academy of Social Insurance (NASI).

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Source: www.libertymutualgroup.com/researchinstitute

OSHA updates COVID-19 workplace guidance

On August 13, OSHA issued updated COVID-19 workplace guidance. It expands information on appropriate measures for protecting workers in higher-risk workplaces with mixed-vaccination status workers, particularly for industries such as manufacturing; meat, seafood, and poultry processing; high volume retail and grocery; and agricultural processing, where there is often prolonged close contact with other workers and/or non-workers.

OSHA's latest guidance:

- Recommends that fully vaccinated workers in areas of substantial or high community transmission wear masks in order to protect unvaccinated workers;
- Recommends that fully vaccinated workers who have close contacts with people with coronavirus wear masks for up to 14 days unless they have a negative coronavirus test at least 3-5 days after such contact;
- Clarifies recommendations to protect unvaccinated workers and other at-risk workers in manufacturing, meat and poultry processing, seafood processing, and agricultural processing; and
- Links to the latest guidance on K-12 schools and CDC statements on public transit.

OSHA continues to emphasize that vaccination is the optimal step to protect workers and encourages employers to engage with workers and their representatives to implement multi-layered approaches to protect unvaccinated or otherwise at-risk workers from the coronavirus. ♦



OSHA, NIOSH revise handbook for small businesses

OSHA has collaborated with the National Institute for Occupational Safety and Health (NIOSH) to revise a handbook on workplace safety and health information for small business employers.

The Small Business Safety and Health Handbook highlights the benefits of implementing an effective safety and health program, provides self-inspection checklists for employers to identify workplace hazards and review important workplace safety and health resources for small businesses.

The handbook includes self-inspection checklists for various work processes in general industry workplaces, such as fire protection, hazard communication, permit-required confined spaces, respiratory protection, and walking-working surfaces. The checklists are not intended for construction or maritime industries. ♦



Answers to quiz on page 5:

1. False; 2. True; 3. True; 4. False; 5. True.



Next Month's Topic: Occupational noise exposure

OSHA expects employers to reduce employee exposures to hazardous noise levels through the use of feasible engineering and administrative controls. A hearing conservation program is required if these controls don't adequately reduce exposures.

Expert Help: Questions of the Month

Question: Where can I find the OSHA regulations on safe lifting?

Answer: There is no OSHA regulation that specifically addresses safe lifting procedures. If, during an OSHA inspector's review of an employer's records or as the result of an employee complaint, a great number of lifting injuries are uncovered which the employer has not taken steps to resolve, the employer may be cited under the General Duty Clause, Section 5(a)(1) of the OSH Act.

Use the NIOSH revised lifting equation to evaluate manual lifting tasks and ensure that your workers are lifting safely.

Question: How can we use training to help prevent back injuries?

Answer: Communicating to employees the hazards of certain types of movements and methods to avoid them can help cut down on back injuries. Employee training should go over:

- Back hazards and their causes;
- Proper use of equipment and how employees should perform tasks (proper posture/lifting);
- Stretching and warm-up exercises to be performed prior to lifting tasks;
- How to recognize symptoms of back disorders; and
- Who to contact to report hazards and back disorders. ♦

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Policyholders with as
near perfect protection,
as near perfect service
as is humanly possible,
and to do so at the
lowest possible cost.”***

***Co-founder H.O. Hirt
Our Founding Purpose***