

The High Cost of Overexertion



Overexertion injuries are more common in retail than any other private sector establishment. How retailers can reverse the trend and save valuable resources.



Overexertion injuries are among the most costly and disabling work-related injuries in the United States. According to the 2007 Liberty Mutual Workplace Safety Index, overexertion injuries were responsible for \$12.7 billion in direct costs to U.S. employers in 2005—more than any other type of injury.

Liberty Mutual defines overexertion injuries as those related to lifting, pushing, pulling, holding, carrying or throwing. The insurance company notes that historically, overexertion injuries have accounted for more than one-quarter of the total direct costs of the top 10 most disabling workplace injuries.

“Most disabling” injuries are defined as those that cause an employee to miss six or more days of work.

Within private sector retail establishments, the U.S. Bureau of Labor Statistics (BLS) reported a total of 47,350 overexertion-related injuries resulting in days away from work in 2006. While the direct costs of an overexertion injury may be covered by a retail merchandiser’s insurance company, the indirect costs are typically picked by the employer. Such indirect costs may include the costs of recruiting and training a replacement worker, decreased productivity while a replacement worker learns the injured employee’s job, a decrease in the quality of work, and time spent processing claims and communicating with insurers, the injured worker, and his or her doctor.

How overexertion injuries occur

An overexertion injury occurs when a person works beyond his or her physical capacity or, more specifically, when the physical forces required to perform a task exceed the tolerances of the body’s soft tissues. Such factors as poor physical condition, aging and its related loss of body flexibility, and obesity affect these tolerances.

Overexertion injuries generally fall into two categories: sprains (stretching or tearing ligaments) and strains (stretching or tearing tendons or muscles). These types of injuries have been associated with lifting, repeated bending at the waist with twisting, long term bending at the waist, pushing/pulling, carrying, reaching, long term poor posture (either sitting or standing) and sitting while absorbing vibration through the body (for example, while driving a truck).

Overexertion injuries resulting in shoulder and back injuries are the leading musculoskeletal disorder complaint, the most costly, and frequently the basis for the most days away from work. The following are just a few examples of how overexertion injuries within retail establishments may occur:

- Repeated bending, stooping and overhead reaching when storing and retrieving merchandise on

shelves in retail stores.

- Improper lifting (bending at the waist, instead of at the knees) when carrying or moving merchandise.
- Manually lifting heavy objects (particularly those weighing 50 pounds or more) without the assistance of a co-worker or a manual or mechanical lifting device.
- Failing to take short breaks when repetitive work that can result in overexertion injuries is required.

Although the total number of BLS reported overexertion injuries in retail establishments decreased each year over the four years from 2003 through 2006, the rates per 10,000 full-time employees were clearly higher in retail businesses than for all private sector establishments, where the 2006 rate leveled off at approximately 31 per 10,000 full-time employees. (See accompanying “Overexertion Injuries” chart for more information.)

Reducing the risk of overexertion injuries

The National Institute for Occupational Safety and Health (NIOSH) is involved in a number of activities designed to educate retail employers on reducing the risk of overexertion injuries among employees. The following are some suggestions for retail owners/managers from NIOSH and from other sources:

- Identify all of the tasks your employees perform that could result in shoulder, back, or other overexertion-related injuries. Once these are identified, determine whether there are ways to modify the work environment or change how tasks are performed in order to reduce the risk. For example, can heavy merchandise be stored on lower shelves to reduce the need for overreaching when stocking or retrieving it? Can shelf depth be reduced or can objects regularly needing to be retrieved be placed closer to the edge of the shelf to reduce overreaching? Can you modify the work environment to reduce the need for twisting the body, bending or working in other awkward positions?
- Provide manual or mechanical lifting devices to assist employees with heavy loads. Such devices may include dollies, carts, hand trucks, forklifts or skid-steer loaders. Various pneumatic and mechanical carts and dollies have been designed to reduce excessive bending. Be sure to train your employees in how to properly use lifting devices.
- Prohibit employees from manually lifting or carrying loads that weigh 50 pounds or more. Require them to use a lifting device or to get assistance from a co-worker. Note: Lifting or carrying loads that weigh 50 pounds or more increases a person’s risk for back injury.
- Ensure that any lifting requirements are part of the job description when hiring new employees. (See the accompanying “Resources” article for a link to information on NIOSH’s revised lifting equation.)
- Require employees to take short breaks when lifting is a regular part of their job. One NIOSH-funded study at Ohio State University found that employees who lift for a living need to take longer or more frequent breaks than they currently do to avoid back injury. Researchers William Marras and Dr. Gang Yang found that workers, such as those who stock store shelves, who were not taking frequent breaks were especially at risk for back injury at the end of the day when their back muscles were fatigued. Note: Employees are more productive when they are not fatigued, so allowing short, frequent breaks can also increase productivity.
- Encourage the early reporting of work-related overexertion injuries. Early treatment for an employee back injury or other overexertion-related injury can reduce the risk of recurrence and reduce your workers’ compensation claims costs.

The following are some safe lifting tips you can pass onto your employees:

- Size up the load. Determine whether you will need assistance.
- Split up loads when possible to reduce weight.
- Know when to get help. If an object is heavy, awkward or bulky, seek assistance from a co-worker or use a manual or mechanical lifting device (such as a dolly, cart, hand truck, forklift or skid-steer). Never attempt to lift or carry an object by yourself if it weighs 50 pounds or more.
- Ensure that you are wearing sturdy shoes or boots with good traction.
- Get a firm footing. Then part your feet and put one foot slightly in front of the other.
- Get as close to the load as possible and keep it close to your body when you are carrying it.
- Bend at your knees – not at your waist – and lift with your legs.
- Keep your back as straight as possible.
- Get a good grip on the object. Grasp it firmly.
- Don't let the object bounce around.
- Don't twist your body.
- Don't carry objects higher than chest high.
- When setting the object down, remember to again bend at your knees—not at your waist.

Resources

A number of Web-based resources are available on estimating the costs and reducing the risk of overexertion-related injuries. Among these are the following:

- National Institute for Occupational Safety and Health (NIOSH) Program Portfolio: Wholesale and Retail Trade. www.cdc.gov/niosh/programs/wrt. This Web page describes the work of NIOSH's Wholesale and Retail Trade Sector and includes links to various publications and research on musculoskeletal disorders, including overexertion injuries. Among these are: "Back Belts: Do They Prevent Injury?" (NIOSH Publication No. 94-127) – www.cdc.gov/niosh/pdfs/94-127.pdf and "Elements of Ergonomics Programs: A Primer Based on Workplace Evaluations of Musculoskeletal Disorders" (NIOSH Publication No. 97-117)
- NIOSH Safety and Health Topic: Ergonomics and Musculoskeletal Disorders. www.cdc.gov/niosh/topics/ergonomics. This Web page includes links to additional research, presentations and publications on such topics as "Ergonomic Guidelines for Manual Material Handling" (NIOSH Publication No. 2007-131) – www.cdc.gov/niosh/docs/2007-131, "Applications Manual for the Revised NIOSH Lifting Equation" (NIOSH Publication No. 94-110) – www.cdc.gov/niosh/docs/94-110 and "[Ergonomics: Effective Workplace Practices and Programs](#)"
- Washington State Department of Labor and Industries. An excellent PowerPoint presentation (Department of Labor and Industries, Washington State, SHARP Program, 2005) entitled "Overexertion Injuries: What they are, how they happen" is available for downloading [here](#).
- [Occupational Safety and Health Administration \(OSHA\) Safety and Health Topics: Ergonomics](#). This

Web page includes links to various OSHA ergonomic etools, OSHA guidelines, “success stories” and additional resources.

- Public Broadcasting Service (PBS) Television Show on the Costs of Occupational Injuries. A PBS show entitled “Frontline: Dangerous Business: Costs of Occupational Injuries and Illnesses” can be viewed on this [Web page](#).
 - Journal of Occupational Environmental Medicine Article on the Costs of Occupational Injuries. For further information on the costs of occupational injuries and illnesses per worker across states, see the [Journal of Occupational Environmental Medicine](#), Volume 46, No. 10, October 2004. A study on the estimated costs of occupational injuries and illnesses appears on Pages 1084-1095.
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