Overexertion Injuries

National Business Group on Health

Overview

Overexertion is the most common work-related disability injury.[1,2] An overexertion injury involves working the body or one body part too hard, causing damage to the muscle, tendon, ligament, cartilage, joint, or peripheral nerve (e.g., common cause of strains, sprains and twisted ankles).[1] This category includes overexertion from lifting, pushing or pulling, or from excessive force.[1] In 2009, more than 3.2 million overexertion injuries occurred, averaging one overexertion injury per 100 people in the United States.[1] Almost 27% of occupational injuries are caused by overexertion, and they are most common among the youngest workers.[3,4]

Costs and Impact

- In 2005, overexertion injuries cost businesses $12.7 billion in direct costs.[2]

- In 2007, nonfatal, unintentional overexertion injuries resulted in 3.5 million visits to hospital emergency rooms in the U.S.[5]

- Depending on where an overexertion injury is treated, costs can range from $699 for a doctor's office visit and up to $12,405 for a hospital visit [2000 dollars].[6]

- In 2000, sprains and strains resulted in $40 billion in lost productivity.[6]

- A study estimated that each controlled or eliminated repetitive motion injury saves a company $27,700.[9]

Employer Strategies for Prevention

- **Examine your claims and workers' compensation data to determine which conditions are contributing most to higher costs**

  – Review employee surveys, examine incident records and note areas where employees leave or transfer to other areas of the organization. These are places to start looking for repetitive and high exertion motions.[9]

  – Look specifically at back and neck pain as these are typically two of the top sources of claims costs.[10] If this is true for your organization, consider allocating more resources to prevention education and claims for these injuries.

- **Consider offering on-site exercise and wellness programs**

  – Offer discounts or incentives for gyms, nutrition programs, exercise classes, fitness coaching and/or personal training to help employees lose weight and stay active. Heavy physical exertion can trigger the onset of a serious heart attack, particularly in people who are habitually sedentary.[11]

  – Remind employees that overexertion is the most common cause of back injuries, and back pain is more common among people who are not physically fit.[12,13]

  – Consider creating or allocating a stretching space for post-injury

Back pain costs employers an estimated $7.4 billion annually, and leads to 100 million lost work days annually.[7,8]

rehabilitation. After an overexertion injury, doctors usually suggest exercising the injured area. This helps to prevent stiffness and increase strength. Employees may require time during the day to exercise the injured area or go to physical therapy.[14]

• **Prioritize safety in the organizational culture**

– Encourage employees to promptly report all concerns about aches or pains due to repetitive tasks. Repetitive motion injuries can often be healed quickly if promptly reported.[9]

– Consider taking an employee off the task to allow the injury to heal as soon as an employee reports a repetitive motion or overexertion injury, and/or pain and swelling.[9]

– Reinforce the message to employees that they should not nor are expected to lift something that is too heavy.[14]

– Use evidence in prevention. For example, a comprehensive study found no evidence that back belts reduce back injury or back pain for retail workers who lift or move merchandise, and can in fact do more harm. This is because employees who use back belts tend not to engage their back muscles, which leads to their muscles weakening.[15]

• **Educate employees, managers and supervisors about proper lifting and moving techniques**

– Remind employees of simple changes in their movements that can reduce exertion, for instance, that it is better on the body to push rather than pull.[9]

– Encourage employees to lift with the arms and legs, not the back, and to use slow and smooth movements instead of hurried, jerky ones.[16]

– Allow employees to take small breaks when lifting multiple objects repetitively.[14]

– Train employees to carry loads in the space between the shoulder and the waist. This puts less strain on back muscles.[16]

– Remind employees that proper lifting techniques should also be used when lifting groceries or children, both on the job and in the home.

• **Implement methods for reducing excessive reach among employees**

– Use bins with fold down lids or doors so less reaching over the top is required.[17]

– Consider technology that fits the needs of employees, such as an adjustable-height pallet jack with turn table for jobs requiring frequent pallet unloading.[17]

– Reduce shelf height so that most items are stored between knee and shoulder height.[17]

– Encourage and allow supervisors to cross train employees, and vary their tasks throughout the day or week.[9]

• **Ask about risk factors and history of overexertion injuries during a health assessment**

– Smoking increases the risk of osteoporosis, a condition that causes weak, porous bones, which can lead to painful fractures. Smoking can also slow healing, prolonging pain for people who have had injuries or broken bones.[13]

– Target health and prevention communications on programs such as disease/condition management, exercise, stress and weight management and online courses to people who are at higher risk for overexertion injuries (people who are overweight, smoke and have a history of sprains/strains/back pain, etc).[13]

– Work with providers to ensure they are prepared to counsel employees on ways to reduce overexertion at work and at home.

• **Implement ergonomic programs in the workplace**

– Proactive ergonomic programs focus on addressing workplace design issues that may cause stress and strain on employees, potentially leading to or exacerbating musculoskeletal problems.[12]

– Ergonomic programs include ensuring proper selection and use of tools, job methods, materials and workstation layouts.[13]

– Supervisors should be trained to help evaluate workstations and

monitor work areas for proper ergonomic practices.[9]

- **Educate employees about lifestyle approaches to reducing the risk of sprains and strains**

  – Maintain a healthy weight and eat a well-balanced diet to keep muscles strong.[14]

  – Take steps to avoid falling at home (for example, put sand or salt on icy spots on front steps or sidewalks).[14]

  – Wear shoes that fit well and get new shoes if the heel wears down on one side.[14]

  – Warm up gradually to increase your heart rate before playing a sport or engaging in other vigorous exercise.[14]

  – Exercise regularly but avoid exercising or playing sports when tired or in pain.[14]

Useful Resources

- The Mayo Clinic: *Back Pain at Work: Preventing Aches, Pains, and Injuries*.

- National Safety Council: *Preventing Overexertion Crossword Puzzle* and *Answer Key*.

- Washington State Department of Labor and Industries: *Ergonomics Idea Bank*.

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