Prevention of Overexertion Injuries in the Workplace

by Ben Moore

Before You Begin
Review your loss reports and business operations to identify recent overexertion injuries and tasks that expose workers to risk factors. Develop an ergonomics policy that includes documented procedures for identifying overexertion risk factors and developing, implementing and evaluating ergonomic solutions. Encouraging early reporting of musculoskeletal pain and discomfort will also help you identify tasks that pose a risk and allow for interventions that will prevent escalation to more severe injuries.

What Will You Learn
- What is an overexertion injury?
- Why do overexertion injuries occur?
- How do we prevent overexertion injuries?

Introduction

Overexertion injuries typically result in strains or sprains to the muscles, tendons or ligaments. They can occur from a single lift or forceful exertion when the task performed exceeds the strength of the active muscle group (Chengalur, Rodgers & Bernard, 2004). Muscle tension, poor physical conditioning and cumulative stressors can also increase potential for strains and sprains.

According to the Bureau of Labor Statistics' 2012 national figures, there were 408,760 claims involving overexertion injuries. In Ohio, 22 percent of all workers' compensation claims that were reported in 2012 were overexertion claims with an average cost of $8,147. Additionally, 33 percent of claims that resulted in eight days or more of lost time were overexertion claims with an average cost of $26,061 (BWC).

Discussion

How do we prevent overexertion injuries? First, we need to identify the specific risk factors that are associated with overexertion injuries. Then, we need to brainstorm improvements that will reduce those risk factors.

The primary risk factors we look for when assessing the risk for overexertion injuries are:
- Forceful exertions;
- Awkward postures;
- Rapid movements;
- Unanticipated muscle loading.

Forceful exertions

Manual material handling tasks such as pushing, pulling and lifting typically require forceful exertion. Such exertion may result in back pain or other musculoskeletal disorders. However, other tasks such as using hand tools and operating equipment can also require forceful exertions on a particular muscle or group of muscles.

Ways to reduce forceful exertions include:

- Use mechanical assistance to move heavy loads when possible;
- Use power tools to avoid high forces;
- Reduce the weight of loads that need to be handled manually;
- Reduce the resistance that the worker must act against when pushing/pulling.

What tasks in your workplace require the greatest amount of forceful exertion? Brainstorm and discuss possible improvements with employees.

Awkward postures

Awkward postures are any non-neutral body postures that are either repeated or sustained. Bending and twisting any of the body parts in an unnatural manner increase potential for overexertion injuries, especially when combined with forceful exertions.

Ways to reduce awkward postures when lifting, pushing and pulling include:

- Design jobs to minimize the need for bending, reaching and twisting when exerting force;
- Provide adequate space so the worker can get in good position;
- Keep loads that need to be lifted manually in a range from knee to chest height;
- Push instead of pull when possible;
- Avoid the need for lifting, pushing and pulling off to the side of the body;
- Reinforce the importance of using good body mechanics at all times.

What types of awkward postures are required in tasks performed in your workplace? Brainstorm and discuss possible improvements.

Rapid movements and unanticipated muscle loading

These increase the potential for overexertion because they do not allow the body to apply muscle strength in an efficient manner. Slipping, rushing or reacting to the sudden movement of a load, activates muscles quickly. Such action can result in strains and sprains because it is difficult to use the various supporting muscle groups in a coordinated, effective manner.

Ways to reduce rushing and sudden, unexpected muscle loading include:

- Avoid forced pacing – provide adequate time and buffer space;
- Minimize the potential for loads to shift during handling;
- Avoid the need for "catching" loads or using the body to stop the movement of loads;
- Minimize tripping and slipping hazards;
- Provide well-designed handles on loads and carts;
- Avoid having to open doors or climb steps when pushing/pulling or carrying loads;
- Reinforce the importance of warming up and loosening up before performing physical exertions.

What types of tasks or conditions in your workplace require rapid exertions or applications of force? Brainstorm and discuss possible improvements with employees.

Temperature extremes

Temperature extremes can also have an impact on the potential for overexertion injuries. Working in a hot environment under high metabolic load, can lead to heat stress, whole body fatigue and/or cardiovascular strain. Working in a cold environment can result in reduced blood flow and muscle tension, which makes muscles more susceptible to strains.

Does your workplace expose employees to temperature extremes? Brainstorm and discuss with employees.

Conclusion

Ensuring employees at all levels in the organization understand the risk factors for overexertion injuries will aid in identification of improvements that you may have otherwise overlooked. Employee involvement is extremely helpful in the development of ergonomics improvements and the overall ergonomic process.

Therefore, it is important to get employees engaged in the prevention of overexertion injuries in various ways. Forming an ergonomic improvement team, conducting Kaizen events, facilitating brainstorming sessions and using interviews and surveys are ways to get employees involved when identifying problem areas and developing potential solutions.

It is also recommended that employers stress the importance of maintaining good physical condition and practicing good posture and body mechanics at all times.

References

Bureau of Labor Statistics. *Nonfatal Occupational Injuries and Illnesses Requiring Days Away From Work*, 2012 (2013, November 26). Retrieved from: http://www.bls.gov/news.release/osh2.nr0.htm.

Chengalur, Rodgers and Bernard. (2004). Kodak's Ergonomic Design for People at Work, 2nd Edition, John Wiley & Sons, Inc., New York.

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