

Toolbox Talks

General ergonomics and safe lifting

More and more employers are recognizing the importance of ergonomics programs as a way to prevent employees' injuries and illnesses and the related costs. The University is no exception.

Development of a successful program requires an understanding of ergonomics and how it can help.

What is ergonomics?

The term "ergonomic" is derived from the Greek words "Ergos", meaning "work", and "Nomos", meaning "laws" or "study of". Literally, ergonomics means the "laws of work."

The science of ergonomics pulls from several different disciplines to collect information on the physical attributes, abilities, limitations, and characteristics of humans, specifically as they apply in the workplace.

Ergonomists look at anatomy and body mechanics for an understanding of how the human machine operates. Also engineering, another principle of science ergonomists utilize, aids in the development of new processes, tools, and workstations.

Workplaces designed using ergonomic principles enhance the abilities of employees to work more productively. Unfortunately, injuries occur when the demands of the job exceed the abilities of the worker. The object of ergonomics is to prevent these injuries.

The general goals of an ergonomic program are quite simple:

- To reduce occupational injuries and illnesses;
- To reduce workers' compensation costs;
- To increase production;
- To improve the quality of work; and
- To decrease absenteeism.

The application of ergonomics in workplace design will assist in meeting these goals and improve the quality of life for employees.

How can ergonomics help?

Applying ergonomic principles in the workplace can reduce the risk factors for musculoskeletal disorders. Some common risk factors are:

- Awkward postures;
- Using excessive force to move objects;
- Repetitive or prolonged actions; and
- Localized pressure.

Ergonomic programs include methods to:

- Identify risk factors;
- Implement controls to reduce or eliminate identified risk factors; and
- Educate supervisors and workers on recognizing and eliminating risk factors.

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Everyone can do something to improve his or her worksites ergonomically. Here are some examples of how to address ergonomic risk factors.

Repetitive or Prolonged Actions

- Rotate workers among different tasks. Job rotation should take place a few times per day in areas where the work is highly repetitive.

Using Excessive Force to Move Objects

- Carry fewer objects at a time.
- Select tools that can help the weight to be lifted.
- Use dollies and conveyers to move heavy materials.
- Provide training on proper lifting techniques.
- Do not bend or twist at the waist when lifting any object.

Localized Pressure

- Use elongated handles on tools such as pliers and scissors.
- Choose handles and work surfaces with rounded edges.

Awkward Postures

- Change your work methods to maintain a neutral posture.
- Change body position periodically throughout the day.

- Adjust workstation height to assist in maintaining a neutral posture.

Manual lifting

One of the most common types of ergonomic injury is lower-back injuries which frequently result from poor lifting technique.

When lifting heavy loads, keep these tips in mind:

- Never bend at the waist to pick up objects. The muscles in the thigh are some of the strongest muscles in the body. Utilize them by squatting down next to the object to be lifted, and lifting with the legs rather than the back.
- Always keep the load as close to your body as possible. Avoid reaching out to lift or place objects.
- Keep the head and chin up during the lift to preserve the natural curve of the spine.
- Never twist at the waist while lifting or carrying loads.
- Get help with heavy loads, or use a mechanical lifting/carrying device like a crane, or a cart.
- If you must walk while carrying a load, be sure to check the travel path first. Look for slick spots, tripping hazards, stairs, etc.

Successful application of some ergonomic principles in the workplace requires the collaboration of employees and their employer. The result will be a safer, more productive workplace.

Office of Occupational Health and Safety

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Questions

If you have questions on this topic, please contact the Office of Occupational Health and Safety at (612) 626-5008 or uohs@umn.edu, or see the website at <http://www.ohs.umn.edu>.

Toolbox Talks

Attendance

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