

# TAKE 5 Ergonomics

A 5-Minute Safety Training Aid

HS99-149C (12-20)

An increasing number of companies are developing workplace ergonomic programs to reduce injuries, illnesses, and workers' compensation costs. Creating a successful program requires understanding what ergonomics is and why it is important.



## What is ergonomics?

**Ergonomics** is the science of work. The term **ergonomic** comes from the Greek words *Nomos*, meaning "the study of," and *Ergos*, meaning "work." Literally, ergonomics means "the study of work." In the workplace, ergonomics means designing a job to fit the employee, so the work is safer and more efficient.

The science of ergonomics pulls from the disciplines of **physiology** to understand how human anatomy and body mechanics operate and **engineering** to help develop new processes, tools, and workstations. **Ergonomists** -- people who study ergonomics -- use ergonomic principles to design workplaces that increase employee comfort, safety, and productivity.

Injuries occur when the demands of a job exceed the abilities of the worker. The object of ergonomics is to prevent these injuries.

The general goals of an ergonomic program are:

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

Applying ergonomics in workplace design helps meet these goals and improve the quality of life for employees.

## Why is ergonomics important?

Ergonomics is important because when employees are doing a job and their body is stressed by an awkward position, extreme temperature, or repeated movement, their musculoskeletal system is affected. Their body may begin to have symptoms such as fatigue, discomfort, and pain, which are often the first signs of musculoskeletal disorders.

**Musculoskeletal disorders** affect a person's muscles, joints, tendons, ligaments, and nerves. These disorders can develop over time or can occur immediately due to overload.

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 risk factors; and
- educate supervisors and workers on spotting and removing risk factors.

## How can companies reduce ergonomic risk factors?

All workers and employers can do something to improve the ergonomics of their worksites.

### **Reduce repetitive or prolonged actions**

- Use electric tools instead of mechanical tools.
- Reduce the quantity of work performed in a given period.
- Rotate workers among different tasks.
- Vary the work throughout the shift.

### **Reduce the need to use excessive force to move objects**

- Carry fewer objects at a time or use tools that help lift the weight. Get help lifting hefty or bulky objects.
- Use hand trucks, dollies, or conveyors to move heavy materials.
- Supply training on proper lifting techniques.
- Do not bend the waist or twist the torso when lifting or handling any object.

## How can companies reduce ergonomic risk factors?

### **Reduce localized pressure**

- Use elongated handles on tools such as pliers and scissors.
- Consider using padded handles or thick gloves.
- Choose handles and work surfaces with rounded edges.

### **Reduce awkward postures**

- Change work methods to allow employees to maintain a neutral posture.
- Provide adjustable workstations to help employees maintain a neutral posture.
- Encourage employees to change body positions periodically throughout the day.

For more information on ergonomic solutions, download the Texas Department of Insurance, Division of Workers' Compensation-Workplace Safety's (DWC) free publication, [Ergonomics for General Industry Workplace Safety Program](#), or contact a DWC Safety Training Specialist at [www.txsafetyatwork.com](http://www.txsafetyatwork.com) or 800-252-7031, options 2.



*Safety Violations Hotline*

**1-800-452-9595**

[safetyhotline@tdi.texas.gov](mailto:safetyhotline@tdi.texas.gov)

The Texas Department of Insurance,  
Division of Workers' Compensation (DWC)  
E-mail [resourcecenter@tdi.texas.gov](mailto:resourcecenter@tdi.texas.gov)  
or call 1-800-687-7080 for more information.

Disclaimer: Unless otherwise noted, this document was produced by the Texas Department of Insurance, Division of Workers' Compensation (DWC)-Workplace Safety using information from staff subject specialists, government entities, or other authoritative sources. Information contained in this fact sheet is considered accurate at the time of publication. For more free DWC publications on this and other safety topics and for free occupational safety and health audiovisual loans, visit [www.txsafetyatwork.com](http://www.txsafetyatwork.com), call 800-252-7031, option 2, or email [resourcecenter@tdi.texas.gov](mailto:resourcecenter@tdi.texas.gov).