



Environmental Health & Safety
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What to Know About Ergonomics

Frequently Asked Questions

What is Ergonomics? According to OSHA, ergonomics is the science of fitting the job to the worker. When there is a mismatch between the physical requirements of the job and the physical capacity of the worker, musculoskeletal disorders (MSD) may result. For example, workers that repeat the same motion, work in an awkward position, use a great deal of force in their jobs, repeatedly lift heavy objects or a combination of these are likely to develop MSDs.

Prolonged exposure to ergonomic risk factors, particularly in combination or at high levels, is likely to cause or contribute to an MSD or aggravate the severity of a pre-existing MSD. The longer and more often the exposure to ergonomic risk factors, the longer the time needed to recover from the exposure to ergonomic risk factors.

What are musculoskeletal disorders (MSDs)? Musculoskeletal disorders are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs. They do not include injuries resulting from slips, trips, falls or similar accidents. Examples include carpal tunnel syndrome, tendinitis, sciatica, herniated disc and low back pain.

How serious a problem are work-related MSDs? According to OSHA, work-related musculoskeletal disorders account for more than 1/3rd of all occupational injuries and illnesses that are serious enough to result in days away from work. These injuries cost business over \$15 billion in workers' compensation costs each year. Total direct costs may run as high as \$45 billion or more.

Women suffer high rates of work-related MSDs because of the types of jobs in which they often work. A large number of women work in jobs associated with high levels of repetitive motions, heavy lifting, awkward postures, and other physical work activities such as lifting patients in nursing homes, sewing clothing and other apparel, or using a keyboard.

What are the solutions to eliminate or reduce MSDs and related costs? MSDs are often easy to prevent. Adding a book under a monitor, or padding a tool handle are typical of the fixes used in ergonomics programs. Solutions that fit the work to the worker are achieved by companies that implement an ergonomics program. Ergonomic solutions may include:

- Adjusting the height of working surfaces to reduce long reaches and awkward postures.
- Putting work supplies and equipment within comfortable reach.
- Providing the right tool for the job and the right tool handle for the worker.
- Varying tasks for workers (e.g., job rotation).
- Encouraging short authorized rest breaks.
- Reducing the weight and size of items workers must lift.
- Providing mechanical lifting equipment.
- Using telephone headsets.
- Providing ergonomic chairs or stools.
- Supplying anti-fatigue floor mats.

Do we need laws requiring improvements in ergonomics? According to OSHA, work-related musculoskeletal disorders (MSDs) are now a leading cause of lost-workday injuries and workers' compensation costs.

- MSDs account for 34% of all lost-workday injuries and illnesses (Bureau of Labor Statistics) with more than 620,000 lost-workdays reported each year (BLS). Each year MSD account for more than \$15-\$20 billion in workers' compensation costs. Total direct costs add up to as much as \$60 billion.
- Carpal tunnel syndrome (CTS), one form of MSD, results on average to more days away from work than any workplace injury. The median days away from work for CTS are 25 days, as compared to 17 days for fractures and 20 days for amputations.
- Workers with cases of severe injury can face permanent disability that prevents them from returning to their jobs or handling simple, everyday tasks like picking up their child, combing their hair, or pushing a shopping cart.
- MSDs are preventable