

What is ergonomics?

Ergonomics is defined as fitting the job or task to the worker in order to reduce the risk of musculoskeletal disorders or MSDs. These injuries develop slowly over time and occur in the soft tissues of your body like the nerves, tendons, muscles, ligaments, and joints. Examples of MSDs are low back strain, carpal tunnel syndrome, and tendonitis.

Why should we talk about ergonomics in construction?

Ergonomics can help you protect your body from injuries. Using ergonomics during work activities makes the work easier on your body and often **helps you find ways to do your work more efficiently.**

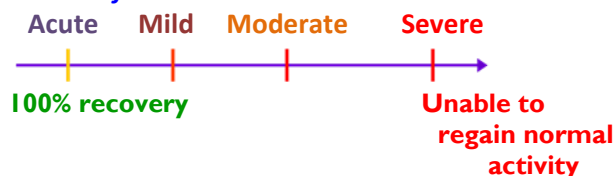
What are the phases of MSDs?

Unlike injuries from falls, electrocution, or other serious hazards, MSDs don't seem very serious when they first show up. They **start with minor discomfort** in the early stages.

These symptoms go away after a short break or at night when you don't work. But returning to the same activity the next day brings back the symptoms.

Your body can recover between these episodes of intense activity in the earlier stages when the symptoms are mild or moderate, **but** eventually your body won't be able to recover to normal. Recognizing problems with the work tasks that cause these symptoms is the first step to eliminating them.

Phases of MSD



What are the risks of MSDs?

There are 5 common ergonomic hazards — or problems with the work task — that may occur in work activities:

- ⇒ **Repetition** – doing the same task repeatedly that uses the same muscles over and over.
- ⇒ **High Force** – using high muscle power during activities such as heavy lifting, pushing items, gripping tools.
- ⇒ **Awkward Postures** – working with your body held in a poor position for a long time.
- ⇒ **Contact Stress** – when pressure from an object, such as a tool handle, is pushed on the soft body tissues.
- ⇒ **Hand-Arm Vibration** – vibration that enters the body from power tools, and some hand tools (such as hammers) and other equipment.

One of these performed over a long time can cause a problem, but activities with more than one hazard can increase the physical discomfort even more.

Examples of hazards:

- ⇒ **Repetition** – Using the same arm motion to repeatedly spread mortar for 2 or more hours.
- ⇒ **High Force** – Gripping a tile nipper with a dull blade to cut tiles.
- ⇒ **Awkward Postures** – Spreading plaster with the arm fully extended to the side and the wrist bent.
- ⇒ **Contact Stress** – Kneeling without wearing kneepads to finish cement.
- ⇒ **Hand-Arm Vibration** – Using a hand-held grinder to remove mortar joints for more than 2 hours in a shift.

What can you do to prevent MSDs?

First you must **recognize the hazards in your work tasks.**

1. What **tasks** will you be doing on this project that are uncomfortable or *difficult to perform*?
2. Are there **solutions** (work techniques, tools or equipment) that would *make the task easier* to perform?

Visit www.choosehandsafety.org to learn more about protecting your hands and wrists from MSDs and other hazards.

*Source: Washington University School of Medicine, Occupational Safety and Health Research, <http://oshr.im.wustl.edu>

Research for this Tool Box Talk was funded by CPWR – The Center for Construction Research and Training, using grant U60 OH009762 from the National Institute of Occupational Safety and Health (NIOSH). The contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH.

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