Ergonomics & Tools

Ergonomics is the science of designing the job, equipment, and workplace to provide safety and comfort for the worker. Proper ergonomic design is important to prevent discomfort, fatigue, and repetitive strain injuries. The goal of an ergonomics program is to reduce work-related musculoskeletal disorders that can affect your muscles, joints, tendons, ligaments, and nerves. You can develop these disorders when a major part of your job involves activities like: applying continuous force with your hands; repeatedly reaching, lifting heavy objects, or bending; working with vibrating equipment; or performing repetitive motions.

Think about the tasks you usually perform. Do they involve any of these kinds of activities (sometimes called stressors)? Your job is labor intensive and involves handling heavy, awkward materials and using hand tools and power tools for extended periods of time. To protect yourself from musculoskeletal disorders, you must use the right tool for the job and be sure the tool is the right fit for you.

Ergonomically designed tools should fit comfortably in your hand and should make your work easier—not harder. When you choose a tool for any task, it's important to make sure that the tool fits your hand. You want to be able to grasp it without straining. If a screwdriver is too small, your fingers may interlace which can put stress on your hand. If a wrench is too big and barely fits in your hand, you'll have to put a lot of effort into holding onto it. Think about the number of times you use a tool and repeat the same movements. For instance, a carpenter swings his hammer thousands of times each day. The immediate result of a bad fit or unbalanced hammer may be a blister. The long-term result could be carpal-tunnel syndrome.

Keep the following list of safety tips in mind and try to reduce your chances of suffering a musculoskeletal injury:

- Whenever possible, reduce the weight and size of objects that you handle repeatedly.
- Avoid tools that create pressure on the base of your palm, which can obstruct blood flow and nerve function.
- Select equipment and power tools with features designed to control or limit the transmission of vibration to your hands.
- Take a break from repetitive activities before you start to feel pain. Rest and stretch your joints.
- When you replace old tools or buy new ones, select ones that have been ergonomically designed.
- Wear gloves that fit properly but remember that gloves can reduce your grip and dexterity. Tight-fitting gloves can also put pressure on your hands.

SAFETY

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SAFETY REMINDER

The best tools have a center of gravity that aligns with the center of the gripping hand. Tools that are front heavy require more effort to use. Long-term use can cause injury.