

ERGONOMICS

Repetitive motion disorders (or cumulative trauma disorders) may be caused by tasks that require repeated use of the same muscles, tendons, and bones. These disorders account for many workplace injuries, lost workdays and productivity.

One way of reducing and/or eliminating these disorders is the science of ergonomics. Ergonomics is the scientific study of human work. Ergonomics considers the physical and mental capabilities and limits of the worker as he or she interacts with tools, equipment, work methods, tasks and the working environment. A goal of ergonomics is to reduce work-related musculoskeletal disorders by adapting the work to fit the person, instead of forcing the person to adapt to the work.

Ergonomic Principles for the Informed Worker (Computer Workstation)

1. Avoid any sustained bent or unnatural postures. For example, extreme wrist positions (up, down or sideways) or bending of the back.
2. Avoid excessive bending whenever possible.
3. Avoid twisting while lifting or placing objects; turn with your whole body, rather than with the torso alone.
4. Minimize forward and sideways reaches which are either above shoulder-level height or below waist height.
5. Arrange the work area so that you can work with your elbows at an angle of about 90 degrees.
6. Keep the wrists as straight as possible while working.
7. Limit the areas of frequent work to a semicircle within 10 inches of your body, the areas of occasional work to within 20 inches of your body.
8. Use tools that are task specific and that distribute forces throughout the hand/arms.
9. Use controls that are contoured or padded and allow use of maximum hand surface.
10. Avoid unnecessary repeated and rapid arm or hand movements.
11. Avoid isolated finger trigger-control motions.
12. Pad counter edges or use forearm supports to lessen the weight on the hand while performing hand-intensive work.
13. Arrange work areas to be within direct field of vision; be sure proper lighting is present at the work area.
14. Alternate standing tasks with sitting ones whenever possible.
15. Use chairs with adjustable features and good back support. Adjust chair so that hips and knees are both at an angle of about 90 degrees with feet and thighs supported comfortably and shoulders relaxed.
16. Rotate jobs/tasks whenever possible.
17. Use all available visual, auditory and tactile sensory cues to enhance information processing and safe task performance.

18. Avoid lifts directly from the floor level: use platforms or shelving that are located between the knee and shoulder heights to eliminate extreme lifting postures.
19. Position yourself as close as possible to the object to be lifted, transferred or manipulated.
20. Use pushing rather than pulling actions whenever possible.