JOB SAFETY

ERGONOMICS

Ergonomics literally means "the rules of human strength". Engineers interested in the design of work environments originated the word in the 1950's. Today, the purpose of ergonomics in the workplace is to create a better match between the worker, the work they perform, and the equipment they use. A good match increases worker productivity and reduces ergonomic injuries.

According to the Bureau of Labor Statistics, 34% of all lost-workday injuries and illnesses are work-related musculoskeletal disorders (WMSDs). WMSDs are a result of a bad match between the worker, the work they perform and the equipment they use. More common names for WMSDs include repetitive stress injuries, cumulative trauma disorders, tennis elbow, white finger, and the most common of all, carpal tunnel syndrome.

Nearly every type of work or occupation has the potential for causing WMSDs. To prevent these injuries, it is important to understand the factors that contribute to them. Ergonomic factors refer to workplace conditions that pose the risk of injury to the musculoskeletal system of the worker.

Factors that contribute to the development of WMSDs include:

- Force – the strength to perform a task.
- Repetition – the frequency or number of times a task is performed during a shift.
- Posture – positioning of the body to perform a task.
- Vibration – which might come from overuse of power hand tools.
- Temperature – extreme temperatures are more harmful to the body.
- Duration – the amount of time in a workday spent performing work tasks.
- Non-work related issues – health, lifestyle, hobbies, sports may add to the ergonomic risk factors.

Identifying and preventing WMSDs requires a careful review of these risk factors. Prevention may require modification of one or more of these factors.

- The first step is to find out which jobs may be causing problems. This can be done by looking around your workplace, talking to employees, and learning the early warning signs. Signs to look for include; employee discomfort or fatigue, employees modifying tools or equipment, poor product quality, or employee reports of problems. Another way to identify problem areas is to review the written records, i.e., OSHA 200 and 300 logs and workers compensation information. Once the jobs have been identified, make a list of these jobs.
- The second step is to look at the specific tasks that make up the jobs previously identified. When looking at each task, determine how frequent it occurs (one time per shift or twenty times per hour), and how hard is each task (from the employee's point of view).
- The third step is to observe the work tasks. Special attention should be paid to how many of the above risk factors are associated with the job task. The higher the number of risk factors associated with a job, the greater the chance that a WMSD might develop. Talking to the employees who perform the work can often provide valuable information about how the work task may be improved.

It is important to remember to observe all work tasks associated with a job, because each task may have a risk factor. WMSDs can be associated with a combination of risk factors from multiple tasks.