

ERGONOMICS

What is Ergonomics?

Ergonomics is the planning and adapting of equipment and tasks to promote the comfort and efficiency of workers. It involves the study of people's performance and well-being in relation to their job tasks and environment. Ergonomics also seeks to improve the interaction between humans and the machines and tools they use to perform their work. It involves the application of knowledge about human capacities and limitations to the design of workplaces, jobs, tasks, tools, equipment, and the environment.

DOD Requirements:

On 4 February 1997, the Deputy Under Secretary of Defense issued a memorandum establishing interim requirements and procedures for the control of work-related musculoskeletal injury and illness within the DOD. Based on the standards set forth in this memorandum, the May 1998 revision of DOD Instruction 6055.1, which regulates the DOD Occupational Safety and Health Program, also includes ergonomics requirements.

Program Goals:

The goal of an ergonomics program is to eliminate or reduce exposure to ergonomic risk factors, and ----

- Improve the health and well-being of the worker.
- Improve productivity and quality
- Prevent injuries and illnesses (work-related musculoskeletal disorders or WMDs) by reducing or eliminating worker exposure to occupational hazards.

Program Elements:

Five critical program elements must be accomplished to successfully implement an ergonomics program at any installation:

- Worksite Analysis.
- Hazard Prevention and Control
- Health Care Management
- Education and Training
- Program Evaluation

Role in the Ergonomics Program

Management Commitment:

- Coordinating with trained ergonomics, safety, and health personnel to reduce risks and support the overall ergonomics program.
- Holding personnel accountable for failure to follow safe work practices.
- Recognizing initiatives in improving operating conditions and procedures.
- Ensuring personnel are aware of their benefits and responsibilities.
- Reviewing work areas, tasks, and tools and equipment on a routine basis for potential workplace risk factors. This also means maintaining effective schedules for facility, equipment, and tool maintenance, adjustments, and modifications.
- Ensuring personnel are trained, and that they can recognize and report hazardous work practices.
- Encouraging personnel to report all injuries and illnesses as soon as they occur or when sign or symptoms of WMSDs appear.
- Showing personal concern for worker safety and making the elimination of ergonomic hazards a priority.
- Considering safety and health to be as important as production. Safety and health protection should be built into daily production activities.

Worker Involvement:

Supervisors should encourage workers to participate in the ergonomics program and in decisions that effect their safety and health by—

- Providing a procedure for complaints or suggestions.
- Allowing workers to bring their concerns to management without fear of reprisal
- Providing a procedure for workers to report signs and symptoms of WMSDs so they may be evaluated and treated.
- Allowing safety and health committees to make recommendations for corrective action when they receive and analyze information on ergonomic problem areas.
- Encouraging worker groups to identify and analyze jobs for ergonomic stress and recommend solutions.

Workplace risk factors do more than cause WMSDs; they also create fatigue and poor work performance. This cuts into productivity and quality. Therefore, improved worker performance and well-being generated through ergonomic implementation can help management meet their goals of increased productivity and quality, which are the ultimate measures of a supervisor's success.

Work-related Musculoskeletal Disorders ---

- Arise from repeated stress to the body encountered in the workplace.
- Can result in a variety of injuries or illnesses of the muscles, tendons, ligaments, nerves (outside the brain and spine), joints, cartilage, bones, and supporting blood vessels in either the upper or lower extremities of the back.
- Can cause, over a period of time, permanent damage to muscles, tendons, and tendon sheaths, and related bones, muscles, and nerves.
- Can result in permanent disability.
- Result from the cumulative effect of repeated traumas associated with specific workplace risk factors. Task-related, workplace risk factors that contribute to WMSDs include:
 - Posture
 - Repetition
 - Force
 - Mechanical compression or contact stress
 - Vibration, and
 - Temperature

Why Now?

One consequence of the automation and information technology revolution is that jobs have changed dramatically. Workers spend a great deal of time sitting or standing in one position – at computer terminals, control panels, and assembly lines. The arrangement of machinery, tools, and equipment often forces the worker to repeatedly assume awkward and extreme postures. Because of these problems, the number of workers with WMSDs is increasing as are the associated workers' compensation and medical costs.

WMSDs account for nearly half of the occupational illnesses reported in the annual Bureau of Labor Statistics survey and an increasingly large percentage of annual workers' compensation claims.

WMSDs are a significant problem for the DOD because they result in duty or work limitations, decreased readiness, and increased workers' compensation costs. Therefore, preventing WMSDs not only protects the work force, but it also makes good business sense. The production-related costs of an injured worker are at least 8 to 10 times more than their medical costs. Injured service members or employees force units to deal with decreased output, replacement costs, retraining, increased errors, and an increased demand on the rest of the work force.

Bottom Line:

Work-related musculoskeletal disorders can be very costly, with the average cost of surgery to correct carpal tunnel syndrome between \$22,000 and \$30,000, the average cost of a lost-time back injury over \$24,000, and the average cost of a back injury requiring surgery \$180,000. Workers' compensation costs are approximately four times the medical costs.

How Do I report possible WMSD injury or illness?

Report WMSDs the same way you would any other work related injury, which is:

Report the injury or illness as soon as you become aware of it to your supervisor,

Using the FD Form 1326-R (Accident/Illness Reporting) report to Occupational Health for a medical evaluation.

Have your supervisor notify the Installation Safety Management Office if an ergonomic survey is needed to identify cause and corrective action.