

SECTION	II.	General Safety and Health
Chapter	5.	Ergonomics
Revision Date		02/01/2010
Review Date		

ERGONOMICS

INTRODUCTION

PURPOSE

The purpose of the Ergonomics Program is to improve employee well-being through the reduction of workplace discomfort and through the identification and control of ergonomic hazards that may result in personal injuries or illnesses. This program applies to all Duke University employees and consists of the following elements:

- Management leadership
- Employee participation
- Job hazard analysis and control
- Training and education for all employees
- Program evaluation
- Medical management

DEFINITIONS

Employee Participation – Participation is demonstrated by active employee involvement in the implementation, evaluation, and future development of the Duke Ergonomics Program.

Ergonomics - Ergonomics is the science of matching jobs to workers and products to users. An Ergonomist is an expert in an area of engineering focusing on human movement, musculoskeletal function, and how humans interact with their environment. Ergonomists apply this knowledge to evaluate the workplace and help make peoples' jobs easier, safer, and more efficient.

Ergonomic Hazards - Workplace conditions that pose a biomechanical stress to the worker. Such hazardous workplace conditions include, but are not limited to, faulty workstation layout, improper work methods, improper tools, and job design problems that include aspects of workflow, speed, posture, force requirements, and work/rest cycles. They are also referred to as "stressors".

Job Hazard Analysis and Control - The division of the complete working environment into components including personnel, workstation, workplace layout, equipment, supplies, and procedures for the purpose of identifying possible hazards and developing solutions for eliminating or controlling these hazards.

Management Leadership – Management leadership is demonstrated by an effective MSD reporting system and prompt reports to MSDs, clear program responsibilities, and regular communication with employees about the program.

Medical Management – Medical management is the process of eliminating or materially reducing the risk of developing MSD signs and symptoms through early identification and conservative treatment.

Musculoskeletal Disorder (MSD) – Disorder of the muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels, or spinal discs. These typically occur in the neck, shoulder, elbow, forearm, wrist, hand, abdomen (hernia), back, knee, ankle, and foot and include muscle strains and tears, ligament sprains, joint and tendon inflammation, pinched nerves, and spinal disc degeneration.

Program Evaluation – Program evaluation is demonstrated by regular reviews of the elements of the program and of the effectiveness of the program as a whole.

RESPONSIBILITIES

Departments shall:

- Provide sufficient resources and support for ergonomic efforts including staff time for training, and a budget for ergonomic-related expenditures.
- Ensure that recommendations for reducing ergonomic hazards are implemented in a timely manner.

Workplace Supervisors shall:

- Be familiar with the concept of ergonomics and identifying workplace conditions that can cause or contribute to injury.
- Ensure that employees receive initial training in ergonomics awareness and refresher training every three years afterwards.

- Assist with the prevention of workplace injury or illness through the implementation of recommendations designed to abate hazardous workplace conditions.
- Ensure that employees who report MSDs or signs/symptoms of MSDs fill out an accident/injury report or Safety Reporting System (SRS) report and seek appropriate medical attention.

Employees shall:

- Report hazardous conditions or unsafe work practices and all work-related injuries or illnesses to their supervisors as soon as possible.
- Know the ergonomic risk factors associated with their jobs.
- Actively participate in prevention of MSDs by using safe work practices and the tools provided to perform their job safely.
- Know the signs and symptoms of MSDs.
- Know how to report an MSD and report MSDs early.
- Participate in the evaluation, implementation and future development of the Duke Ergonomics Program.

The Occupational and Environmental Safety office (OESO) shall:

- Assess the nature and extent of ergonomic hazards or issues which affect the health, efficiency, and morale of employees and recommending ways of minimizing or controlling these hazards.
- Provide accurate and timely information to Employee Occupational Health and Wellness (EOHW) and Workers Compensation to facilitate recognizing, evaluating, and promoting the correction of health problems related to ergonomics.
- Provide training to employees about ergonomic concepts, emphasizing tasks in their particular field of work.
- Support managers with education, consultation, and direction regarding equipment design, workstation design, ergonomic implications of work processes, and other aspects of ergonomics related to health, productivity, and employee relations.

(The above are provided to all Duke employees at no cost to employees or departments.)

Employee Occupational Health and Wellness (EOHW) is responsible for medical management of work-related injuries to ensure early identification, evaluation and treatment of signs and symptoms. This includes systematic evaluation and referral of employees, consistent treatment, conservative return to work, and systematic monitoring of medical cases.

PROCEDURES

Ergonomic evaluations are initiated by Duke health care providers (EOHW and private), physical and occupational therapists, Workers' Compensation, department heads, managers, and supervisors at their discretion. Employees may request evaluations of their non-computer work areas with the approval of their supervisor. Employees should use self-help tools for computer work areas. If an employee has been injured and believes it to be work-related, EOHW or another health care provider should be contacted who can then request an ergonomic consult.

All ergonomic evaluations seek to identify workplace risk factors that may cause or aggravate work-related musculoskeletal disorders. If specific workplace risk factors are observed during the evaluation, written recommendations for controlling or abating the risk factors are provided to the requestor(s) and to the employee's supervisor. Recommendations typically consist of both engineering and administrative controls. Supervisors are responsible for implementation of recommended controls.

Lumbar support belts, also known as back belts, abdominal belts, or back supports, are discouraged for use unless specifically prescribed by EOHW for the individual employee. See Supplement D for more information.

TRAINING

In the Health System, ergonomics training is mandatory for all new employees within 10 days of employment. Refresher training is required for these employees every three years. The same level of training is recommended for University employees.

Ergonomics training is provided at:

- New Employee Orientation (scheduled every two weeks)
- On-line at www.safety.duke.edu
- During annual safety update training
- On-site (by appointment)

Supervisors may request additional training for groups of employees or EOHW may recommend training for individuals. Job-specific training courses are available for employees and are strongly recommended. Examples of available topics are:

- Office Ergonomics
- Ergonomics Training for Supervisors
- Ergonomics in the Laboratory
- Patient Handling
- Manual Materials Handling

REFERENCES

American National Standards Institute (ANSI) Z-365, *Control of Work-Related Cumulative Trauma Disorders (Working Draft)*

American National Standards Institute /Human Factors Society (ANSI/HFES) 100-2007, *Human Factors Engineering of Computer Workstations*

National Institute for Occupational Safety and Health (NIOSH), Technical Report 94-122, *Workplace Use of Back Belts*

National Institute for Occupational Safety and Health (NIOSH), Technical Report 81-122, *Work Practices Guide for Manual Lifting*

National Technical Information Service (NTIS), Publication No. PB91-226274, *Scientific Support Documentation for the Revised 1991 NIOSH Lifting Equation*

Occupational Safety and Health Administration (OSHA) Guideline No. 3123, *Ergonomics Program Management Guidelines for Meatpacking Plants*