

## Elements of an Effective Musculoskeletal Disorder (MSD) Prevention Program

### MUSCULOSKELETAL DISORDERS

An MSD is an injury that affects the muscles, nerves, tendons, ligaments, joints, or bones.

Some examples of MSDs include Carpal Tunnel Syndrome (CTS), muscle strain and sprain, Lateral Epicondylitis (Tennis Elbow), tendonitis, and spinal disc degeneration. These injuries may also be referred to as Cumulative Trauma Disorders (CTDs), Repetitive Strain Injuries (RSI), or Repetitive Motion Injuries (RMI).

MSDs are caused or aggravated by repeated exposure to or insufficient recovery from a combination of risk factors, including: exertions (force), repetition, awkward postures, vibration and direct contact stress. Personal factors such as age, fitness level, or certain conditions and diseases can also make some people more susceptible to MSDs than others.

### APPLYING ERGONOMICS TO MSD PREVENTION

One way to address the costs and consequences of MSDs in the workplace is to implement an MSD prevention program that applies ergonomic principles to workstation design and work processes.

The goal of ergonomics is to enhance human performance by improving the fit between workers and their tools, tasks, and environments.

**The following are considered the essential elements of an effective ergonomics or MSD prevention program:**

**The Experienced  
Workers'  
Compensation  
Specialist**

### Management Commitment

The management of a business is responsible for the safety and health of the employees on the job. This responsibility includes the control of work-related MSDs. Documenting the program, and program activities, in writing provides the basis by which the organization can evaluate its goals and accomplishments.

Develop a formal, written plan that addresses:

- Program objectives
- Tasks necessary to attain the objectives
- A list of responsible persons
- Specification of training
- Specification of resources
- A schedule of implementation
- Provision for a periodic program review

### A System for Early Detection of MSD Risk

It is possible to identify employees who are symptomatic or at risk for MSDs for work or medical interventions. The elements of an early detection system include:

1. Analysis of existing records i.e., OSHA logs and workers' compensation records
  - a) Three-year retrospective is recommended
2. Recording employee reports of symptoms, concerns or recommendations
  - a) Employee concerns should trigger an ergonomic job survey (EJS), to identify any potential MSD risk factors
  - b) Employee reports of MSD symptoms should result in a medical evaluation and EJS

3. Proactive EJSs or more extensive ergonomic job hazard analysis (EJHAs)
  - a) When new jobs or new equipment is introduced
  - b) Initially and when a job or task changes substantially
  - c) When there is an unexplained high rate of turnover for a specific job

### A System for Analyzing Jobs to Identify MSD Hazards

MSDs are associated with exposure to one or more risk factors or hazards. It is possible to identify, and to some degree quantify, risk factors that may cause MSDs. For more information on ergonomics and a strategy for analyzing jobs, see Zenith's Risk Management Bulletin, "An Employer's Guide to Ergonomics."

EJHAs should be performed when:

- It has been determined that an MSD is work-related
- A trend of MSDs is seen across similar jobs
- A problem job is identified from a records review or proactive EJS

During the design phase of equipment, processes or jobs, an EJHA should consider the magnitude, frequency, duration and recovery associated with any existing MSD risk factors.

### A System for Controlling MSD Hazards

It is possible to develop and implement control measures for suspected or established work-related

risk factors that may cause MSDs. Interventions to control MSD hazards are used:

- To eliminate or reduce risk factors as much as technically and practically feasible
- Until health and job survey data indicate that the problem is under control

Risk factor controls that should be considered include:

1. *Engineering controls* such as
  - a) Work station redesign
  - b) Adjustable fixtures
  - c) Tool redesign
2. *Administrative controls* such as
  - a) Job rotation
  - b) Work pacing
  - c) Work breaks

### Employee Involvement

Employee involvement is a key factor in the acceptance of ergonomic changes and the ultimate success of any MSD prevention program. Failure to involve employees in the process may result in either a less effective solution or lack of acceptance by employees.

Employee involvement should be encouraged by:

- Recording employee suggestions and complaints
- Encouraging discussions
- Conducting employee surveys
- Assembling formal teams and meetings

ERGONOMIC ASSESSMENT PROCESSES	
<p><b>Ergonomic Job Survey (EJS)</b> — An EJS generally involves simple observations of the work. Often checklists are used. The EJS is designed to be a "quick check" of the work to quickly identify obvious problems.</p>	<p><b>Ergonomic Job Hazard Analysis (EJHA)</b> — An EJHA involves a more in-depth assessment of a job than an EJS. An EJHA employs relatively detailed data gathering activities such as physical measurements of work stations and work processes. Often an EJHA will include the use of "scoring" tools to semi-quantitatively score or rank a job's ergonomic risk.</p>

Employee responsibility should be fostered by encouraging:

- Participation in the MSD control process
- Participating in the MSD education and training program
- Proper use and operation of tools and work equipment
- Notification of the employer of suspected work-related MSDs
- Cooperation with the treatment plan prescribed by the health care provider

### Employee and Management Training

Effective training needs to be general, as well as job-specific.

Minimum training requirements include:

- Recognition of signs and symptoms of MSDs
- Procedures for reporting MSDs or MSD risk factors
- Procedures for access to the health care provider
- Recognition of MSD risk factors
- Basic principles of EJSs and EJHAs
- Proper use, adjustment and maintenance of tools and work equipment
- MSD controls and best work practices for minimizing MSD risk

### Medical and Disability Management

The duration and severity of the disability associated with MSDs is often related to how the cases are managed. It is possible to effectively manage MSD cases and minimize MSD severity with early evaluation and appropriate treatment by a qualified health care provider (HCP). The employer's medical and disability management program should:

- Ensure that employees are not discouraged from prompt reporting of potential MSDs or MSD risk factors
- Facilitate a prompt evaluation by a qualified HCP

- Provide the HCP the opportunity to become familiar with jobs and job tasks, including a copy of the EJHA and/or job description
- Select HCPs with experience and/or training in the evaluation and treatment of MSDs

### Program Evaluation and Follow-Up

An effective MSD prevention program must be evaluated on a regular basis to ensure that control strategies are working as anticipated. This on-going evaluation should include feedback from employees to make certain that MSD risk factors are being addressed and other elements of the MSD prevention program, such as education/training, are effective.

A fully implemented MSD prevention program can significantly improve the quality of the work environment and reduce the cost of unnecessary illness and injury due to poor ergonomics.

Your Zenith Safety & Health consultant can assist you in designing and implementing an MSD prevention program for your operation.