



SECTION 3 **CHAPTER 6**

PREVENTING ERGONOMIC DISORDERS

Purpose This chapter describes the policies and procedures to identify and prevent ergonomic disorders in company employees.

Scope These regulations apply to all company facilities.

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Ergonomics Program

Purpose

This document describes

- cumulative trauma disorders
- the ergonomics program's objectives and administration

Defining cumulative trauma disorders

Cumulative trauma disorders (CTDs) cover several physical disorders including:

- carpal tunnel syndrome
- tendonitis

These illnesses:

- account for an increasingly large percentage of worker's compensation costs each year
- represent nearly half of occupational illness reported in the annual Bureau of Labor Statistics (BLS) survey

Causes of CTDs

Government officials have found that the increase in reported CTDs is due to:

- changes in process and technology that expose employees to:
 - increased repetitive strain motion
 - other ergonomic risk factors
- increased awareness
- increase in reporting



Administration of program

The company has adopted an ergonomics program that includes safety and health programs to prevent ergonomic disorders that can produce pain and disabilities in employees.

The Program is administered by the Vice President of Safety and Training for corporate employees and by Area Management for yard employees.

Why institute a program?

Instituting programs in ergonomics:

- reduces CTDs
- sometimes improves productivity

The science of ergonomics seeks to adapt the job and workplace to the worker by designing tasks and tools that are within the worker's capabilities and limitations.

Program objectives

The Program objectives are to:

- determine if ergonomic problems exist in the workplace
 - identify the problems' nature and location
 - implement measures to reduce or eliminate ergonomic problems
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Elements of the program

The company's program consists of these six elements:

- management commitment
 - employee involvement
 - worksite analysis
 - hazard prevention and control
 - medical management
 - training and education
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Responsibilities

The program provides authority and resources to all responsible parties.

Each manager, supervisor, and employee is responsible for the ergonomics program in their workplace.



Demonstrating management commitment

The company:

- values safety and health of employees as much as production
- integrates production processes and safety and health protection to assure that protection is part of the daily production activity
- encourages prompt and accurate reporting of CTDs by employees so that they can be:
 - evaluated
 - treated

Management demonstrates involvement through:

- personal concern for employee safety and health
- the priority on preventing CTDs

The program is a team approach, with management acting as the team leader.

Management must:

- be visibly involved with the program so that all employees understand that management has a serious commitment to the program
 - do whatever is necessary to assure that the objectives and means are communicated to and understood by all company employees and supervisors
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Analyzing the Worksite

Purpose This document describes the objectives and methods for analyzing the workplace for ergonomic hazards.

Objectives of worksite analysis The area manager/safety representative must oversee a worksite analysis to identify:

- ergonomic hazards
- working conditions that may produce CTDs
- operations that create ergonomic hazards
- areas where such hazards may develop

What to analyze The area manager/safety representative must apply this analysis to all of the company's:

- Yards:
 - planned
 - new
 - modified
- processes
- equipment



Identifying the development of CTDs

To identify patterns of traumas or strains that may indicate the development of CTDs, the manager/safety must:

- look at injury/illness records
- review worker's compensation claims
- oversee operations as they are performed
- question employees about ergonomic problems
- identify jobs that appear to have problems

Based on this information, management/safety identifies jobs with ergonomic risks.

Which records to analyze

When reviewing records, risk management and safety must analyze the following for evidence of CTDs:

- medical
- safety
- insurance
- OSHA-300 log

Note: The analysis must be conducted so that employee medical records remain confidential.



Performing a worksite analysis

When analyzing the worksite, the management/safety must:

- use an ergonomic analysis that includes:
 - posture
 - force
 - repetition
 - vibration
 - various upper extremity factors
- identify:
 - work positions that put employees at risk of developing CTDs
 - the risk factors involved
- determine if those risk factors have been reduced or eliminated
- verify low risk factors for light duty or restricted activity work positions

Based on this information, the area manager will assign light duty jobs.

Finding no hazards

IF no hazards are found, **THEN** do **not** implement other program elements.

We will:

- continue efforts to ensure workplace safety and health
 - monitor changes in the workplace that could produce ergonomic hazards
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Reporting Ergonomic Hazards

Purpose This document describes the procedure for employees to report ergonomic hazards and the supervisor’s responsibilities in reporting.

Policy The company encourages prompt and accurate reporting of signs and symptoms of CTDs by employees so that they can be evaluated and treated.

Employee’s responsibilities This chart shows what actions employees must take concerning CTDs in the workplace.

IF employee believes that...	THEN employee must...
he/she has developed a work-related CTD,	immediately report information to supervisor
any work conditions, including but not limited to the following, that could produce CTDs: <ul style="list-style-type: none">• work method• pace• tools• equipment• workstation,	immediately report information to supervisor



there is a way to change work methods that will reduce the potential for CTDs,	report suggestions to supervisor
submitting CTD-related information to supervisor would have a bad outcome,	<ul style="list-style-type: none">• transmit the information directly to the safety department OR• make a report anonymously and send to safety department

Supervisor's responsibilities

The supervisor must:

- promptly transmit employee reports to the appropriate manager
- inform the reporting employee of management response to the report

Supervisors and managers must not discriminate against any employee for making a report **OR** supplying information relating to:

- ergonomics
 - CTDs
 - this program
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Reducing and Eliminating Ergonomic Problems

Purpose

This document describes the methods for reducing and eliminating ergonomic-related problems through:

- designing work stations and methods
- tool selection
- work practice program
- selecting personal protective equipment
- administrative controls
- the maintenance program

Deciding on control methods

IF ergonomic hazards can be prevented by effective design of the workstation, tools, or job, **THEN** use the following to correct or control them:

- engineering controls
- work practice controls
- personal protective equipment
- administrative controls

Note: Engineering techniques are preferred over other methods.



Designing work stations

Work stations should be designed to:

- accommodate the person(s) who work on a job, **not** the “average” worker
 - be easily adjustable for specific tasks
 - be comfortable for the workers who use them
 - be large enough to allow for the full range of required movements
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Designing work methods

Work method design addresses the content of tasks performed by the workers. It requires analysis of the production system in order to design or modify tasks to eliminate stressors.

Work methods must be designed to reduce:

- postures that are static, extreme, or awkward
 - repetitive motion
 - excessive force
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Selecting tools

Employees must be able to use a variety of tool sizes to:

- achieve a proper fit
- reduce ergonomic risk

Tools, equipment, and handles must be selected to eliminate or minimize the following stressors:

- chronic muscle contraction
 - steady force
 - extreme or awkward positions of the fingers, hands, or arms
 - repetitive forceful motions
 - tool vibration
 - excessive gripping, pinching, pressing with the hand and fingers
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Work practice program

Elements of a sound work practice program for ergonomics include:

- proper work techniques
- employee conditioning
- regular monitoring
- feedback
- maintenance
- adjustments and modifications
- enforcement

Note: Some jobs require conditioning that lasts several weeks.

Changing work practice controls

Work practice controls are subject to change when the dynamics of the workplace change.

Adjustments could include changes in:

- speed
 - staffing at position
 - products handled:
 - type
 - size
 - weight
 - temperature
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Work practice monitoring

Regular monitoring must be conducted at all levels to ensure that employees continue to use proper work practices.

Monitoring must include a periodic review of:

- techniques in use
 - effectiveness of techniques
 - procedures in use compared to the procedures specified
 - reasons changes have occurred
 - whether corrective action is necessary
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**Selecting
personal
protective
equipment**

Whoever selects personal protective equipment must be aware of:

- proper fit
- wide variety of sizes
- accommodation of worker's and job's physical requirements
- avoidance of:
 - extreme postures
 - excessive forces
- protection against extreme cold to minimize stress on joints
- no increase in ergonomic stressors

Example:

Gloves should enable the employee to grasp tools while protecting the worker from injury. Gloves that are too thick, fit improperly, or are layered excessively can:

- reduce blood circulation and sensory feedback
 - contribute to slippage
 - require excessive grip strength
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Implementing administrative controls

These are examples of administrative controls:

- reducing the total number of repetitions per employee by:
 - limiting the number of hours worked doing the same thing
- providing rest pauses to relieve fatigued muscle-tendon groups
- increasing the number of employees assigned to a task to alleviate severe conditions, especially in lifting heavy objects
- job rotation

Note: The length of time required during rest pauses depends on the tasks overall effort and total cycle time.



Job rotation

Job rotation is an administrative control used to alleviate stress and fatigue on a particular set of muscles and tendons by rotating employees among other jobs that use different muscle-tendon groups.

IF job rotation is necessary, **THEN** it must be used:

- with caution
- as a preventative measure
- **not** as a response to symptoms

IF job rotation is utilized, **THEN** the job analyses must be reviewed by management to ensure that the same muscle-tendon groups are not used.

Maintenance program

Maintenance programs cover:

- yards
- equipment
- tools

They include:

- a preventative maintenance program that may include vibration monitoring to verify the proper functioning of:
 - mechanical
 - power
 - pneumatic tools and equipment
 - performing maintenance:
 - regularly
 - whenever workers report problems that can be alleviated by maintenance
 - a housekeeping program to minimize:
 - slippery work surfaces
 - related hazards such as slips and falls
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Providing Medical Surveillance

Purpose This document describes the medical management program.

Policy Medical management is necessary to:

- eliminate **OR** reduce the risk of development of CTDs through early identification and treatment
- prevent future problems by distributing information

Providing medical personnel Whenever necessary or desirable, the company will provide employees access to medical personnel who are trained to prevent and treat CTDs.

Medical management program

The medical management program must address:

- keeping records of
 - illness
 - injury
 - early recognition
 - reporting
 - evaluation
 - referral
 - professional treatment
 - conservative return to work
 - regular monitoring
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Providing Training

Purpose

This document describes:

- the different training programs for each group of workers
- the means to evaluate the effectiveness of the training programs

Policy

Training for employees potentially exposed to ergonomic hazards is a critical component of our ergonomics program.

Training allows managers, supervisors, and employees to understand:

- ergonomic hazards associated with their jobs and production processes
- hazard prevention, control, and medical consequences

Training must be presented in language and at a level of understanding that is appropriate for each group.

Who must be trained

These groups must be trained:

- all affected employees
- maintenance personnel
- supervisors
- managers



**General
employee
training**

Employees who may be exposed to ergonomic hazards must trained on:

- CTD types
- risk factors
- recognition and reporting of symptoms
- prevention

The instruction must be repeated for an affected employee as necessary.

**Job-specific
employee
training**

When placed in a full-production job, new employees and reassigned workers must receive:

- an initial orientation
 - hands-on training
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Job-specific employee training

The initial training program must include:

- use of:
 - safety equipment
 - personal protective equipment
 - use of proper lifting techniques and devices
 - on-the-job training that emphasizes:
 - employee development
 - use of safe and efficient techniques
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Supervisor training

Supervisors must go through the same training as their employees.

In addition, supervisors must be trained to:

- recognize the symptoms of CTDs
 - recognize and correct hazardous work practices
 - reinforce the ergonomic program
 - train employees about ergonomics
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Manager training

Managers must be:

- aware of their safety and health responsibilities
 - trained in ergonomic issues
 - in the production process as a whole
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Evaluating the effectiveness of the training program

To determine if those who received training understand the material and the work practices to be followed, conduct one of the following:

- employee interviews
 - testing
 - work practice observation
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Evaluating the Ergonomics Program

Purpose

This document describes how to:

- conduct a periodic survey
- write a progress report

Policy

The area manager/safety representative must conduct periodic surveys of the worksite to evaluate success in meeting the company's goals and objectives:

- annually **OR**
- whenever there are significant operational changes



Conducting a periodic survey

Evaluators must:

- conduct:
 - employee surveys
 - evaluations of job/workstation changes
 - review:
 - survey results
 - up-to-date records
 - logs of job improvements implemented
 - analyze trends in injury/illness rates
 - identify new and previously undetected risk factors
 - identify failures in work practices and engineering controls
 - assess the effects of changes in the work process
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Writing a progress report and program update

After conducting a periodic survey, the area manager/safety representative must write a progress report and program update that identifies:

- new **OR** revised job, process, and/or department goals that arise from review
 - any deficiencies
 - the means to correct deficiencies
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