

I. Introduction

The Company takes all reasonable precautions to protect the health and safety of its employees, the public, and the environment. As part of this commitment, the Company has implemented this Ergonomics Program, which is intended to accomplish our primary objective of preventing injuries and illnesses in the workplace. Other components of the program include: work area evaluation, selection and use of appropriate equipment, and education and training.

This document describes the Company's Ergonomics Program and its components. Contained herein are precautions for preventing upper-extremity injuries and illnesses, roles and responsibilities for all workers, basic ergonomics principle and practices, and the resources available to workers and supervisors for identifying and resolving ergonomics problems. Additional precautions and requirements for preventing injuries from lifting are given in our company's written Injury and Illness Prevention Program.

The term "ergonomics" refers to the relationship between individuals and their work environment. The problems addressed by ergonomics include improper fit of the workplace, poorly designed or improper tools, and poor body mechanics when lifting or performing repetitive tasks (including computer keyboard use).

The Company's Ergonomics Program applies to all workers at the Company including contract employees, supplemental labor and labor-only workers. All Company employees are fully protected by the preventive measures of this program.

A. Program Effective Dates and General Compliance Information

Effective immediately, the following Ergonomics Awareness and Musculoskeletal Disorder Prevention elements will be implemented in our workplace:

1. We will provide each current and each new employee basic information about:
 - a) Common musculoskeletal disorders (MSDs) and their signs and symptoms;
 - b) The importance of reporting MSDs and their signs and symptoms early and the consequences of failing to report them early;
 - c) How to report MSDs and their signs and symptoms in our workplace; and
 - d) The kinds of risk factors, jobs and work activities associated with MSD hazards;
2. We will provide ergonomics information in written form to all current employees by using our Workplace Ergonomics handouts.
3. We will provide these handouts to all new employees upon hire.

4. We will post in our workplace a poster entitled “What You Need to Know About Musculoskeletal Disorders (MSDs).” This information will be posted in a conspicuous place in the workplace (e.g. employee bulletin board).

B. Company Response to Employee Report of MSD or MSD Symptoms

When an employee reports an MSD or signs of an MSD in our workplace:

1. We will promptly determine whether the reported MSD or MSD signs or symptoms qualify as an MSD incident. A report is considered to be an MSD incident in the following two cases:
 - a) The MSD is work-related and requires days away from work, restricted work, or medical treatment beyond first aid; or
 - b) The MSD signs or symptoms are work-related and last for 7 consecutive days after the employee reports them.
2. If the employee has experienced an MSD incident, we will determine whether the job meets our company’s pre-defined Action Trigger as directed by part C of this section listed below.
3. If we determine the employee has not experienced an MSD incident, we will take no further action at that time.

C. Determinant of Action Trigger

We will consider a job to meet the Action Trigger if:

1. An MSD incident has occurred in that job, and
2. The employee’s job routinely involves, on one or more days a week, exposure to one or more relevant risk factors at the levels described in the Basic Screening Tool (See Basic Screening Tool in the forms section of this program).

D. Actions to Be Taken When Action Trigger Is Met

1. We will immediately implement a “Quick Fix” for any job that yields an MSD incident when no previous MSD incident has occurred in that job. To ensure that we immediately address such injury, we will:
 - a) Provide MSD management as appropriate, to the employee promptly after we determine that the employee’s job meets the Action Trigger;
 - b) Talk with the employees in the job and their representatives about the tasks the employees perform that may relate to the MSD incident;

- c) Observe employees performing the job to identify which risk factors are likely to have caused the MSD incident;
 - d) Ask the employee(s) performing the job and their representatives to recommend measures to reduce exposure to the MSD hazards identified;
 - e) Within 90 days of our determination that the job meets the Action Trigger, we will implement controls in the job in accordance with our written ergonomics program that control the MSD hazards or reduce MSD hazards in accordance with or to the levels below those in the hazard identification tools in the “Appendices” section of this Manual and train the employee(s) in the use of these controls;
 - f) Within 30 days after we implement the controls, we will review the job to determine whether our controls have reduced the MSD hazards to acceptable levels; and
 - g) Keep a record of the Quick Fix process for each job to the levels specified in the OSHA standard. We will keep the record for 3 years.
2. If we determine that we have reduced the MSD hazards to the levels that will prevent future MSD incidents of a similar nature, we will then take no further action except to maintain all controls, all related training procedures, and all recordkeeping.
3. If we have not reduced MSD hazards to acceptable levels using our Quick Fix, we will then implement our full ergonomics program as specified in Part II of this program (“Controls For Minimizing Ergonomics Hazards”).

II. Controls for Minimizing Ergonomic Hazards

A. Identifying a Possible Ergonomics Problem

Many ergonomic disorders are felt as strains and sprains. Acute or chronic muscle strain can be an indication that the capacity of the body to accommodate physical stressors has been exceeded. Acute muscle strain occurs when a concentrated episode has overstressed the musculoskeletal system. Chronic strain and cumulative trauma disorder (CTD, or as referred to in this program, "MSD/CTD") result from less-intense stresses that accumulate over time, reducing the rate of recovery of the musculoskeletal system.

1. Acute Muscle Strain

The signs and symptoms of acute muscle strain generally may include pain within 24 hours of an injury to the musculoskeletal system.

Most acute muscle strain injuries can be prevented. To prevent injuries:

- a) Use mechanical devices or additional personnel when lifting and moving heavy loads.
- b) Use proper body mechanics.
- c) Establish limits for lifting heavy objects.
- d) Avoid excessive fatigue from repeated forceful activities.
- e) Be in good physical condition.

Workers should report symptoms of acute muscle strain to their work supervisor and then report to the Human Resources Department to determine if the pain is work related.

2. Cumulative Trauma Disorder

The signs and symptoms of MSD/CTD of the upper extremities include pain, numbness, and tingling of the fingers, wrist, elbow, or shoulder. Chronic back and neck problems may result in pain, numbness, or tingling that radiates to the arms or legs, as well as limited back motion. Doing the following usually can prevent these problems:

- a) Use ergonomically designed tools and workspaces (e.g., furniture that has adjustment flexibility and allows for proper posture).
- b) Educate workers to adhere to ergonomically appropriate work habits (e.g. maintaining the proper posture and using a light touch when doing keyboard work).

- c) Vary physical activities appropriately to allow frequent, short rest periods during which tendons and muscles are not subjected to repetitive strain or sustained contraction (see “Alternate Work Periods” in Section C).
- d) Assess, intervene, and evaluate symptoms early. Early intervention is essential to quick recovery and long-term prevention of MSD/CTD.

Note to Section A: It is extremely important for workers to report any recurrent symptoms of MSD/CTD (e.g., pain, numbness, tingling, or tenderness) to their work supervisor and the Human Resources Department.

B. Computer Workstation Evaluation Procedure

A work supervisor is responsible for ensuring that each worker's workspace is arranged properly. However, workers with concerns may request that their work supervisor provide a workstation evaluation.

In general, the work area ergonomic evaluator assigned by a manager should complete workstation evaluations. The duties required to fulfill the role of a work area ergonomic evaluator are defined in Part III of this Program (“Responsibilities”) and should assist workers in identifying risk-related work habits (see Section C— “Ergonomic Design and Practices”—for more information).

The work area ergonomic evaluator completes an ergonomics evaluation form (see Section 6 of this Manual: “Workplace Evaluation Forms”) or equivalent, reviews the form with the worker and his/her work supervisor, and provides both a copy of the form. The evaluator should also retain a copy. If a health problem is noted, the worker shall be referred to the Human Resources Department.

Workers and their supervisors shall make furniture adjustments or order furniture or other equipment to resolve problems identified during the evaluation. If the work area ergonomic evaluator is not available or cannot resolve a concern, the work supervisor should contact an outside consultant or industrial safety engineer. If a worker has medical symptoms, the work supervisor shall advise him/her to report to the Human Resources Department. The Human Resources Department can perform workstation evaluations for individuals who have an established injury or illness.

C. Ergonomic Design and Practices

1. Computer Ergonomics

A frequent contributor to MSD/CTD is improper configuration and use of computer workstations. Changes to a workstation may require simply repositioning furniture or equipment or purchasing ergonomically appropriate replacements. Figure 1 shows a well-designed computer workstation. In addition, some key items of a properly designed computer workstation are described in this section and should give workers a general idea of how to set up their workstations correctly. Plant

Engineering also is available to assist in the planning and design (or redesign) of work areas.

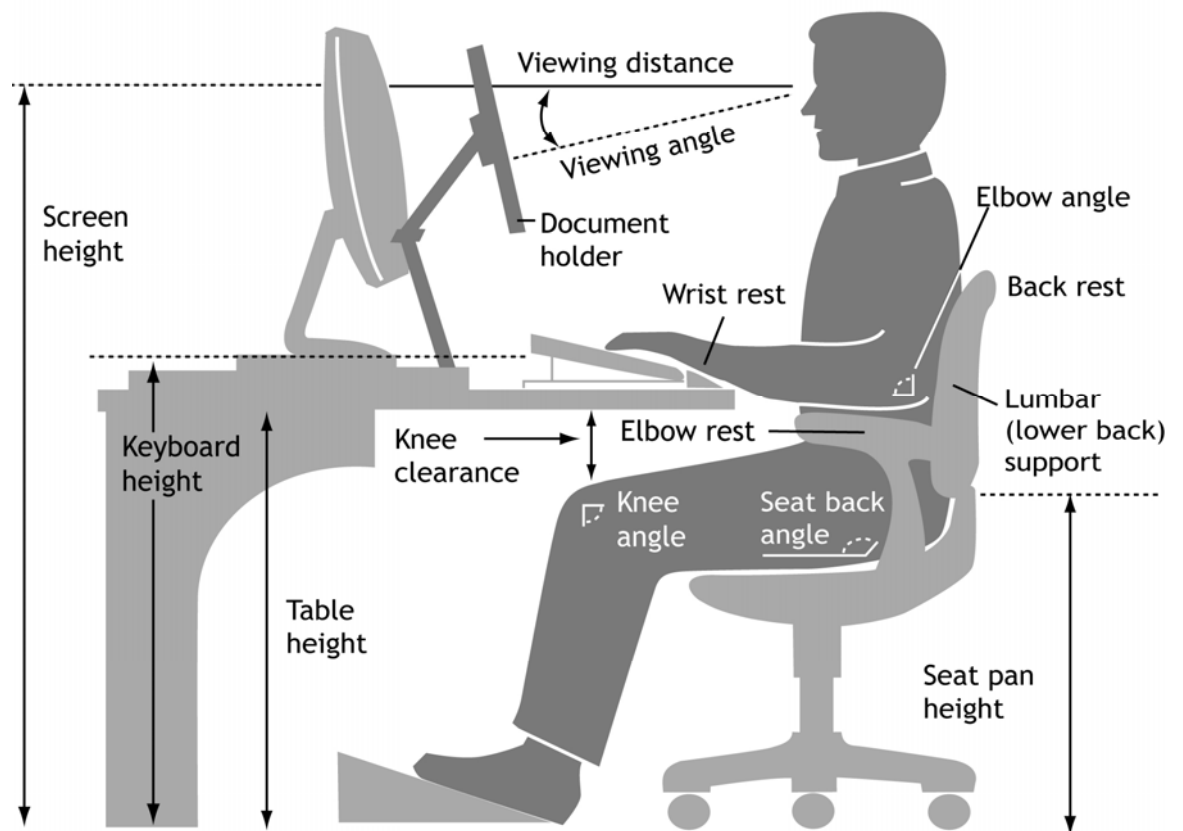


Figure 1. A well-designed computer workstation.

- a) **Chair.** A chair should have an adjustable back that provides support for the lumbar region of the back and trunk. Each chair should also be easily adjustable in height to permit the feet to rest flat on the ground with the legs parallel to the floor. Some people may need a footrest to achieve this position. Chairs should have a five-star base and casters compatible with the floor surface. Armrests should be of a padded material and adjustable in height. The seat pan should be large enough to be comfortable.
- b) **Work surface.** A work surface should be large enough to accommodate all computer equipment including a wrist rest in front of the keyboard and input device. A keyboard tray can be used to increase the depth of the workstation and viewing distance from the monitor. Sufficient room should be provided under a work surface to allow free leg movement. The height of

the work surface should allow the forearms to be parallel with the floor while working at the computer.

- c) **Keyboard and input device.** A keyboard and input device (mouse or trackball) should be at the same level and in front of the operator. The height of the keyboard and input device should allow the operator to position his/her forearms and hands parallel to the floor during operation. This position can be achieved by adjusting the height of the chair, armrest, or table or by using an adjustable tray. A wrist rest for a keyboard and input device should be used to prevent the operator's wrists from coming in contact with the work surface when the arms are at rest.
- d) **Terminal.** A terminal (i.e., monitor) should be located directly in front of the operator, and the top of the screen should be approximately at eye level or slightly lower.
- e) **Vision.** Although often overlooked, vision is a critical part of the workstation composition. An annual eye examination is recommended to ensure that any changes in vision are detected and corrected. The viewing distance (i.e., the distance between an operator's eyes and a monitor) should be about an arm's length, and operators should periodically look away from the computer to a distant object to relax the eye muscles.
- f) **Lighting and glare.** A monitor should be positioned in a location where outside or overhead light does not reflect off the screen. Blinds, drapes, or glare screens may be used to reduce glare. Light bulbs can be removed from light fixtures to reduce brightness or glare. Generally, a monitor should be placed at a right angle to a window.

2. Hand Tool Ergonomics

Below are some key points to remember when selecting or purchasing hand tools. Following such points can help prevent MSD/CTD.

- a) Avoid tools that produce a bent wrist position. The ideal wrist position is neutral (i.e. straight). This position should be maintained while performing work. Figure 2 shows the correct position of the wrist when using hand tools.

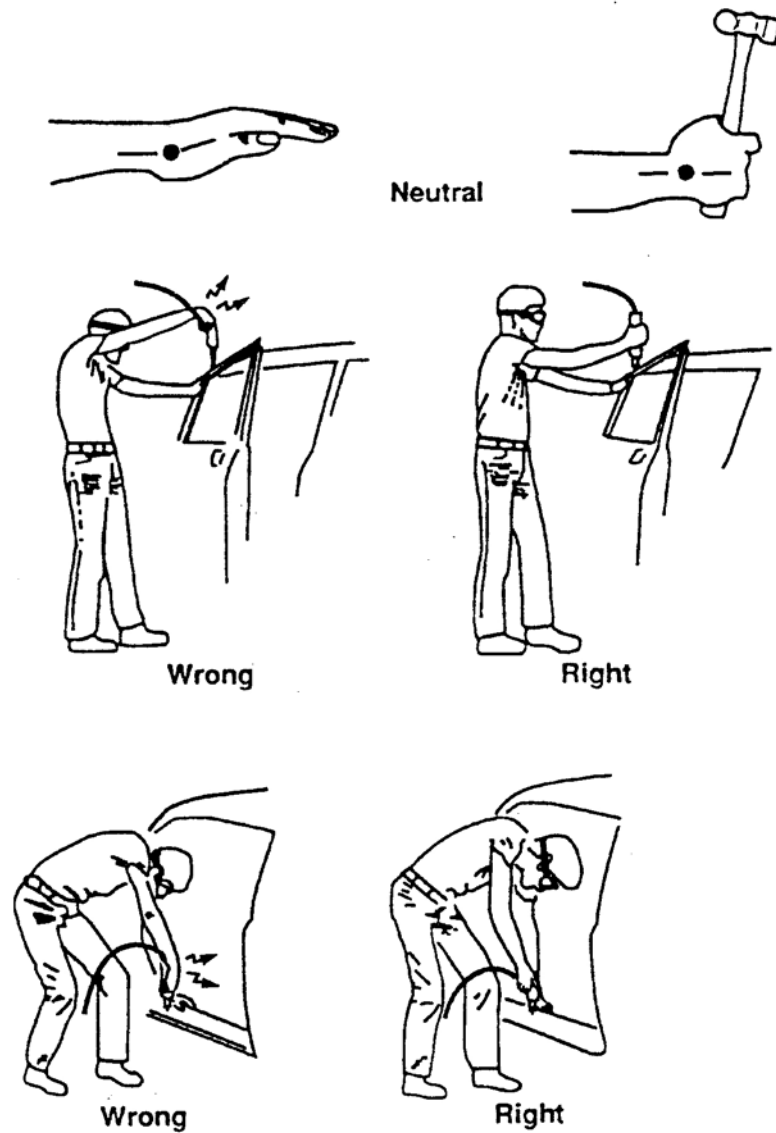


Figure 2. Correct positions for holding hand tools

- b) Select hand tools that fit workers' hands (see Fig. 3). A tool that is too large or too small produces stresses in the hand and wrist. As a general rule, the ideal handle diameter is 1.5 inches for a man and 1.3 inches for a woman.
- c) Do not select a tool so large as to be difficult to hold.
- d) Select power or pneumatic tools with built-in vibration dampening (see Fig. 4).

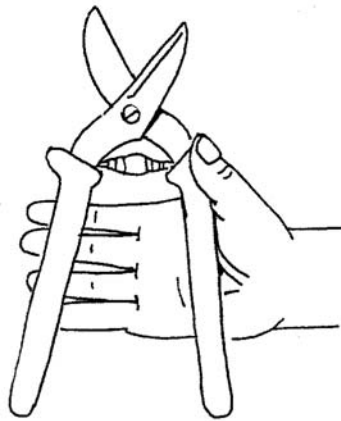
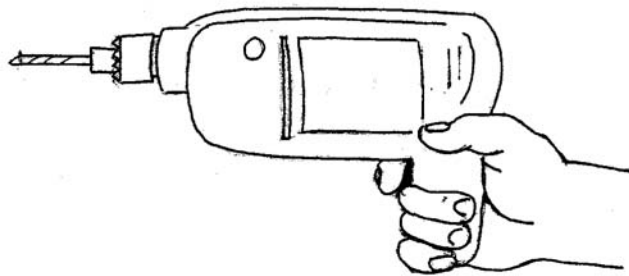


Figure 3. Reasonable hand grip for tool



Vibration dampening material can be designed into tool

Figure 4. Power or pneumatic tool with built-in vibration dampening.

- e) For tools that are activated by a trigger, choose a grip size that allows activation with the middle part of the fingers. Activation with the fingertips can create nodules on nerve sheaths and cause a type of MSD/CTD known as trigger finger.
- f) Use a soft covering on a tool handle to protect the hands from heat and cold and to help reduce pressure points, vibration, and slipperiness of the grip. Such covering encourages a more relaxed hold on the tool (see Fig. 5).

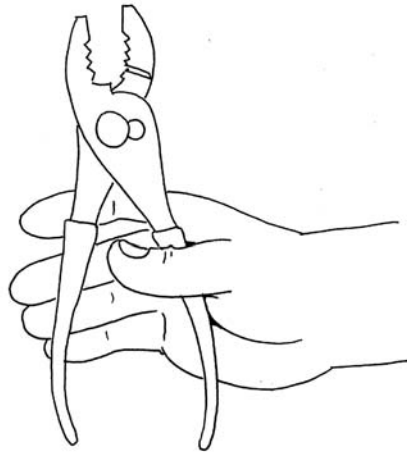


Figure 5. Soft covering for tool handle.

For more information on hand tools please ask your supervisor or the safety manager for help.

3. Other Workplace Ergonomics

In addition to computer workspaces, there are many other work settings (e.g., material fabrication, circuit-board fabrication, painting, gardening, office moves, custodial work etc.) where ergonomic practices are important and the effects of MSD\CTD are evident. The basic ergonomic guidance provided below may help avoid MSD\CTD.

- a) Respect pain. If an activity causes pain or discomfort, stop and evaluate the activity to look for alternative approaches. Change positions if the activity is causing pain or discomfort.
- b) Alternate tasks during the workday to interrupt repetitive activities.
- c) Keep the wrists in the neutral position whenever possible.
- d) Use two hands whenever possible, even when handling light objects or doing small tasks.
- e) Make several trips with lighter loads. Use a cart or dolly if necessary.
- f) To avoid the use of a sustained, forceful grip, use a vice, clamp, or jig to stabilize objects.

Back injuries represent a significant number of MSD\CTD cases. Therefore, a review of our companies back injury prevention program will be helpful in preventing this serious type of injury. For workspace evaluations, contact our Safety Manager.

4. Alternate Work Periods

Workers who have the highest risk of developing MSD\CTD include those who perform continuous, high-intensity, repetitive tasks that cause stress on the same body parts. An alternate work activity totaling five minutes for every 30 minutes of work is necessary for such individuals.

Alternate activities allow the muscles and tendons time to recover from repetitive motion tasks and do not include repetitive motion activities, such as keyboarding, use of hand tools or floor buffers, material handling, or other similar work. If necessary, hazards control industrial safety engineers or other types of safety consultants are available to assist supervisors in determining which workers fit into this high-risk category (Please see guidance for evaluating these types of work assignments).

D. Ergonomic Management by the Human Resources Department

Company employees with symptoms of MSD\CTD or acute injuries to the musculoskeletal system (including early signs of MSD\CTD) are required to report promptly to the Human Resources Department for an evaluation and, if needed, treatment.

The Human Resources Department provides the following services through outside consultants, medical clinics and health care providers:

1. Diagnosis, treatment, and management of acute musculoskeletal injuries and MSD\CTD, including return-to-work evaluations.
2. Worksite evaluations for workers with ergonomics-related injuries or illnesses.
3. Consultation on complex ergonomic problems and ergonomic program development.

For more information about the medical services offered for ergonomic injuries, contact the Human Resources Department

E. Recordkeeping

Records of workplace evaluations performed by a work area ergonomic evaluator or industrial safety engineer shall be retained in accordance with OSHA regulations and for a period of at least three years from date of report.

The Human Resource Department maintains a database that includes information relevant to ergonomic injuries and illnesses (including the injury and illness logs required by OSHA). The Human Resources Department also maintains the Company's employees' medical records which are confidential.

F. Program Evaluation

The Company's Ergonomics Program is evaluated periodically to determine whether established objectives are being met and if revisions to the program are necessary. The program's primary objective is to reduce ergonomic injuries and illnesses in the workplace. The relevant indicators are monitored and evaluated.

G. Education and Training

Education and training are key aspects of the Company's Ergonomic Program. Supervisors and workers should receive sufficient information and education to recognize ergonomic risk factors, to understand the nature of ergonomic injuries and illnesses, and to be aware of potential corrective measures and the resources available.

The Company has placed posters outlining our ergonomics prevention program throughout our facility and other notices as required by OSHA regulations that summarize workplace safety and health requirements under OSHA's General Duty Clause.

The Company will set aside each year in its fiscal budget an amount it deems necessary to help train supervisors and other company personnel in the proper techniques to evaluate and prevent workplace ergonomic hazards and MSDs.

The following video educational courses are recommended for supervisors:

1. Back Care
2. Video Display Terminal (VDT) Ergonomics
3. Working With Hand Tools
4. Preventing Repetitive Motion Injuries
5. How to Prevent Musculoskeletal Disorders (MSDs)

For more specific details on the availability of the above courses, please contact Personnel Concepts at (800) 333-3795.

III. Responsibilities

General responsibilities for all workers are described in the “Company’s Safety and Health Policies,” “General Worker Responsibilities,” and “Safety Management” sections in our Company Injury and Illness Prevention Program.

Specific responsibilities with regard to the Company’s Ergonomics Program are listed under each title below.

A. Management Representative

1. Implement ergonomic-related health and safety programs.
2. Ensure that ergonomics are considered when conducting hazard or risk assessments and root-cause analyses.
3. Support corrections to ergonomic problems by ensuring that the proper education and resources are available to supervisors and workers.
4. Ensure that programs are in place to evaluate the workplace for proper ergonomic practices and conditions.
5. Maintain a sufficient number of trained ergonomic evaluators to conduct workstation evaluations. The availability of a trained individual in a work area makes it possible to perform simple workstation evaluations and resolve complicated problems in a timely and cost effective manner.
6. Ensure that new furniture or equipment purchased for workstations has adjustment flexibility.

B. Supervisors

1. Payroll Supervisor

Ensure that workers receive appropriate ergonomics education this including giving each employee our company ergonomics pamphlet and summary at time of hire and at least once a year with each employees payroll check (see Part II, Section G of this Program: “Education & Training”).

2. Work Supervisor

Note that the following responsibilities apply to the work supervisor. However, the payroll supervisor also may be responsible for these activities. In some cases the work supervisor may also be the payroll supervisor.

- a) Respond to workers' concerns regarding ergonomic problems.
- b) Seek assistance from the Human Resources Department

- c) Ensure that computer workstation evaluations are conducted, as necessary.
- d) Implement ergonomic recommendations in consultation with the Human Resources Department and provide follow-up.
- e) Promptly refer all injured or ill employees to the Human Resources Department.
- f) Ensure that workers who engage in intensive, highly repetitive work (as defined in Part II, Section C, Paragraph #4: "Alternate Work Periods") have the opportunity for frequent, short, alternate work activities.
- g) Ensure that the work environment is appropriately evaluated for proper ergonomic practices and conditions.
- h) Make ergonomic evaluations a part of ongoing workplace assessments.
- i) Apply ergonomic principles when workplace changes are being considered.
- j) Coordinate workspace furniture purchasing with personnel qualified in ergonomics planning.

3. Plant Manager or Office Manager

We will engage the services of competent safety and health professionals whenever necessary to ensure our ergonomics program is effective and to facilitate our company in areas we are not qualified to administer. The following is a list of general responsibilities for front-line managers:

- a) Conduct workstation evaluations in specific work areas as assigned.
- b) Refer complicated workstation evaluations to a Hazards Control industrial safety engineer (outside consultant) or the Human Resources Department.
- c) Provide educational materials to workers and serve as a work-area informational resource person.
- d) Refer employees complaining of pain or discomfort to the Human Resources Department.
- e) Retain copies of workstation evaluations in accordance with OSHA record-keeping laws.
- f) Make recommendations for ergonomic improvements in the workplace.

4. Workers

- a) Promptly report ergonomic problems or concerns to your work supervisor. Prompt implementation of workplace changes can significantly reduce the potential for severe injuries or illness.
- b) Follow ergonomic work practices and guidance provided by the Company.

5. Safety Manager

- a) Provide guidance in modifying the workspace to minimize the potential for injuries and illnesses.
- b) Provide information about ergonomic issues to increase the awareness of workers, supervisors, and managers.
- c) Analyze injuries and illnesses to determine potential ergonomic causes.
- d) Maintain Department-generated workstation evaluations and ergonomics records in accordance with OSHA Requirements
- e) Evaluate individual workstations as requested.
- f) Evaluate and advise workers and supervisors on the selection of ergonomically sound workstation furniture and equipment.
- g) Assist supervisors, if necessary, in determining which workers require education (see Section G of Part II – “Training and Education”) or alternate work activities.

6. Human Resources Department

- a) Provide diagnosis, treatment, and medical management of MSD\CTD and acute strains to the musculoskeletal system.
- b) Evaluate the workstations of individuals with injury or illness.
- c) Provide consultation and analysis for complex ergonomics problems.
- d) Work with our Workers Compensation Carrier to help reduce injuries

7. Plant Engineering

Our Vendors usually provide Plant Engineering Furniture/Interior Design Services or advice on the selection of ergonomically sound workstation furniture and processes of furniture purchases.

8. Workers Comp Carriers, Risk Management Office, Human Resources Department

The Risk Management Office of our workers compensation carrier helps provide management oversight of the Company’s Workers Compensation Program,

including costs for medical treatment and services and other related workers compensation costs.

IV. Resources for More Information

A. Recommended Web Sites

The following internet web sites provide additional information on workplace ergonomics.

1. www.osha.gov - The Occupational Safety and Health Administration.
2. www.cdc.gov/niosh/homepage.html - The National Institute for Occupational Safety & Health (NIOSH)
3. www.personnelconcepts.com - Personnel Concepts

B. Recommended Distributors of Ergonomics Products

Personnel Concepts
3200 East Guasti Road
Suite 300
Ontario, CA 91767
Phone: (800) 333-3795

C. Recommended Safety Consultation Services

State Compliance & Safety
Phone: (800) 766-8192