

# DLA Ergonomics Program

This document provides guidance for establishing the Primary Field Level Activity's (PLFA's) ergonomics program component as an integral part of the safety and occupational health program.

Applicability. This document applies to all DLA components.

Chapter 1. Outlines specific procedures for establishing a PLFA ergonomics program.

Chapter 2. Addresses organizational involvement in preventing illnesses and injuries by eliminating or reducing occupational risk factors.

Chapter 3. Discusses development of an ergonomics plan that focuses on the identification and control of improper workplace process design.

Chapter 4. Details the primary ergonomics program functions of worksite analysis.

Chapter 5. Describes hazard prevention and control.

Chapter 6. Discusses health care management.

Chapter 7. Outlines education and training.

Chapter 8. Describes internal and external ergonomic program evaluations.

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## Chapter 1 Introduction

### 1-1. Purpose

This document provides guidance for establishing an ergonomics program as part of the safety and occupational health (SOH) program.

### 1-2. References

Associated publications and referenced forms are listed in Appendix A.

### 1-3. Explanation of abbreviations and terms

Abbreviations and terms used in this document are explained in the glossary.

### 1-4. Background

#### a. An effective ergonomics program can:

- (1) Prevent workplace injuries.
- (2) Reduce medical and associated costs of work-related musculoskeletal disorders (WMSDs).
- (3) Improve productivity through enhanced employee morale and physical well being.

#### b. Ergonomics programs are required by:

- (1) Department of Defense Instruction (DODI) 6055.1, DOD Occupational Safety and Health Program.
- (2) Memorandum, Office of the Under Secretary of Defense (Environmental Security), Acquisition and Technology, February 4, 1997, subject: Ergonomics Program Requirements

### 1-5. Scope

This document applies to all DLA PLFA organizations and includes guidance on work-site analysis, hazard prevention and control, occupational health care management, and education and training.

### 1-6.

#### Specific procedures

In addition to the general responsibilities for implementing the SOH program, described in the DLA Safety and Health Instruction DLAI 6055.1, the following procedures are needed to implement the ergonomics program.

#### a. Primary Level Field Activity Commanders

- (1) Demonstrate commitment to the ergonomics program.
- (2) Establish an ergonomics committee as part of the SOH council as described in the DLA Safety and Health Instruction 6055.1. The SOH Council will be chaired by the commander or the commander's designee who will be a senior management official. A recognized union representative will be on any PLFA ergonomics committee.

- (3) Integrate ergonomics into the SOH program.
- (4) Approve the PLFA's ergonomics plan based on the recommendations of the SOH Council, after consultation and negotiation with appropriate union representatives.
- (5) Provide sufficient funds and other resources to carry out all responsibilities related to this program.
- (6) Work with installation personnel, unions, and appropriate regulatory authorities to effectively address ergonomics issues.
- (7) Require that appropriate reporting and record keeping procedures be followed.

b. The SOH Official/Manager:

(1) Designates a PLFA ergonomics officer (EO) and recommends members of the ergonomics committee (a committee of the SOH council) based on recommendations from the EO and other qualified professionals.

(2) Obtains and forwards the following records to the PLFA EO:

- (a) Injury and illness reports, Log of Federal Occupational Injuries and Illnesses or equivalent.
- (b) Federal Employee Compensation Act (FECA) claims.
- (c) Sanitized mishap reports.
- (d) Sanitized medical and safety records (as appropriate).
- (e) Work force reports (including civilian pay reports of lost duty time as a result of injury or illness).

(3) Provides reports to the PLFA's command group.

(4) Advises the commander on ergonomic issues.

c. Medical Staff:

(1) Provide medical components of the ergonomics program.

(2) Perform or assist in performing in-depth ergonomic assessments as needed.

(3) Advises the SOH Official/Manager on appropriate individuals for membership on the ergonomics committee.

(4) Ensures a written protocol is developed for the early recognition, evaluation, treatment, and follow-up of WMSDs among personnel (see Chapter 6).

At facilities where the installation medical authority (IMA) is directed by their command to comply with the host regulations, provision (1) through (4) above will be coordinated by the PLFA EO.

(5) Facilities where the Installation Medical Authority (IMA) is directed by their command to comply with the host regulations, provision of (1) through (4) above will be coordinated by the PLFA EO.

(6) Keep accurate records of identified WMSDs and high-risk work areas and solutions. Provide these records to the ergonomics committee for review and tracking. The tracking records will be stored in SHIRS. Note: Diagnosis of disease concerning reported symptoms is only done by a physician and the work relatedness of disease is determined by the US. Department of Labor.

d. The PLFA EO:

(1) An industrial hygienist, occupational health nurse or other qualified health or safety professional who has received at least 40 hours of formal ergonomics training (Paragraph 7-2a).

(2) Advises the SOH Official/Manager on appropriate individuals for management membership on the ergonomics committee.

(3) Chairs the ergonomics committee, providing an interface between the ergonomics committee and the SOH Council.

(4) Develops and implements the PLFA's ergonomics plan, with the assistance of the ergonomics committee and approval of the SOH council.

(5) Manages, or actually performs the worksite analysis, and ensures its completion.

(6) Ensures accurate record keeping for ergonomics committee.

e. The ergonomics committee:

(1) Under the SOH Council, assists in developing and implementing the PLFA's ergonomics plan.

(2) Plans, oversees and participates in:

(a) Gathering and evaluating injury, lost work time, trend, productivity and complaint data on work sites and work processes.

(b) Identifying existing and potential WMSDs.

(c) Conducting worksite evaluations.

(d) Setting priorities for abatement of identified WMSDs.

(e) Implementing corrective actions.

(f) Providing appropriate worker training.

(3) Develops methods to evaluate the effectiveness of the corrective actions and documents the results.

(4) Works with medical personnel in the identification of potential WMSDs and advises medical personnel on ergonomic changes related to the workstation, tasks, and tools.

(5) Provides semiannual reports to the SOH Council and shall publish the reports so they are available to the PLFA local presidents.

f. Trained ergonomics personnel who have met the minimum standards as specified in the glossary should:

(1) Serve on the PLFA ergonomics committee.

(2) Assist with the identification and control of WMSDs (alone or as members of the ergonomics committee).

(3) Perform in-depth ergonomic assessments of identified problematic work areas, tasks, and tools to determine WMSD risk factors.

(4) Document all evaluations, recommendations, and actions related to ergonomics and the effectiveness of the actions.

(5) Provide ergonomics training and education for personnel. Persons tasked to provide training should obtain refresher ergonomics training to maintain expertise.

(6) Work with medical personnel as a team member to identify potential WMSDs and inform medical personnel on ergonomic changes related to workstations, tasks, and tools.

(7) Participate in the ergonomics committee's semiannual ergonomics program evaluation and review.

(8) Keep accurate records of identified WMSDs and high-risk work areas and solutions. Provide these records to the ergonomics committee for review and tracking. The tracking records will be stored in SHIRS.

g. Industrial hygiene (IH) personnel:

(1) Serve on the ergonomics committee.

(2) Consider WMSDs during routine worksite evaluations.

(3) Perform or assist in performing in-depth ergonomic assessments as needed.

(4) Assist in solving problems related to identified WMSDs.

(5) Keep accurate records of identified WMSDs and high-risk work areas and solutions. Provide these records to the ergonomics committee for review and tracking. The assessments will be tracked in the SHIRS.

(6) Provide ergonomics training and education to personnel. Trainers should obtain refresher ergonomics every three years or as specified by OSHA, DoD, or DLA standards.

(7) Work with medical personnel in the identification of potential WMSDs and inform medical personnel on ergonomic changes related to the workstation, job tasks, and tools.

h. PLFA's safety personnel trained in ergonomics:

(1) Should serve on the PLFA's ergonomics committee.

(2) Oversee the safety aspects of the ergonomics program.

(3) Coordinate the annual SOH visit required by DLAI 6055.1 with the other key ergonomics program personnel, and consider or evaluate WMSDs during the safety inspection or survey.

(4) Maintain appropriate injury and illness records, such as accident reports and the log of Federal occupational Injuries and Illnesses.

(5) Review injury and illness records in SHIRS related to WMSDs, develop trend analyses, and report results to the ergonomics committee.

(6) Provide or assist with ergonomics training and education. Trainers should obtain refresher ergonomics every three years or as specified by OSHA, DoD, or DLA standards.

(7) Perform or assist in performing in-depth ergonomic assessments as needed.

(8) Assist in solving problems related to identified WMSDs.

(9) Keep accurate records of identified WMSDs and high-risk work areas and solutions. Provide this information to the ergonomics committee for review and tracking. Record identified potential WMSDs and corrective actions in the SHIRS.

(10) Work with medical personnel in the identification of potential WMSDs and inform medical personnel on ergonomic changes related to the workstations (processes, tasks, tools etc.).

NOTE: Diagnoses of reported WMSDs is only done by the employee's doctor. The work relatedness of a disease is determined by the US Department of Labor.

i. Medical and occupational health care personnel trained in ergonomics

(1) A representative from specific health care areas (for example, physician, nurse, occupational and physical therapists) should serve on the PLFA's ergonomics committee.

(2) Develop and conduct baseline medical screening for new personnel whose positions have specific medical standards, physical requirements, or are covered by a medical evaluation program established under applicable regulations (5 CFR 339.301).

(3) Develop a written protocol for the early recognition, evaluation, treatment, and follow-up of WMSDs among personnel (see Chapter 6).

(4) Assist trained ergonomics personnel to identify modified or restricted-duty jobs.

(5) Make specific recommendations to the Human Resources Customer Support Unit (CSU) on the assignment of injured workers to modified or restricted-duty jobs. (See paragraph 5-6e for clarification on modified or restricted duty.)

(6) Assist in ergonomics training and education.

(7) Conduct ergonomic job evaluations when required.

j. The CSU staff:

(1) When assisting in the placement of employees with WMSDs, will take into account the recommendations and concerns of local health care personnel, and the ergonomics committee.

(2) Ensures newly appointed supervisors, managers, and personnel receive appropriate ergonomics training within one year so that they are made aware of the benefits and their responsibilities.

(3) Maintains the statistical data on lost duty time as a result of injury or illness and provides this information for review by the ergonomics committee.

(4) Appoints at least one representative to serve on the ergonomics committee. This person should be the Injury Compensation Program Administrator (ICPA), (i.e. FECA collateral duty personnel).

k. The chief of equipment contracting, or equivalent:

(1) Appoints an advisory or support representative to serve on the ergonomics committee.

(2) Implements the recommendations of the ergonomics personnel to reduce WMSD risk factors when feasible.

(3) Ensures the integration of ergonomic considerations into the purchase of new equipment, and furniture .

l. The Chief of Facilities Management or equivalent:

(1) Integrates ergonomic considerations into facility modifications and construction.

(2) Implements recommendations from trained ergonomics personnel to reduce WMSD risk factors when feasible.

(3) Appoints an advisory or support representative to serve on the ergonomics committee.

(4) Ensures engineers and maintenance personnel:

(a) Prevent and correct WMSDs through job and workstation design and proper maintenance.

(b) Apply ergonomics concepts to conditions at the facility.

- m. The chief of logistics operations, installation engineering support or equivalent:
  - (1) Ensures the integration of ergonomic considerations into the purchase of new operations equipment.
  - (2) Implements recommendations from trained ergonomics personnel to reduce WMSD risk factors when feasible.
  - (3) Consults with trained ergonomics personnel to assist in the evaluation of equipment and furniture for ergonomic design.
  - (4) Appoints an advisory or support representative to serve on the ergonomics committee.
- n. Recognized union representatives:
  - (1) Serve as members of the ergonomics committee.
  - (2) Encourage personnel to recognize and report WMSDs.
- o. The supervisor:
  - (1) Supervises work practices of employees:
    - (a) Ensuring that personnel are trained to recognize and report hazardous work conditions.
    - (b) Recognizing early symptoms of potential WMSDs and report concerns through the appropriate channels.
  - (2) Routinely review work areas, tasks, and equipment for potential WMSD risk factors.
  - (3) Supports the ergonomics program by coordinating with trained ergonomics personnel to reduce risks to the workers.
  - (4) Maintains effective schedules for facility, equipment, and tool maintenance, adjustments, and modifications.
  - (5) Holds personnel accountable for following safe work practices and recognizes employee initiatives to improve operations, conditions and procedures through official recognition and incentives where appropriate.
  - (6) Shall report to the Safety Office all employee reports of symptoms of WMSDs or WMSD risk factors in the workplace and assists employees in completion of OWCP claim forms in connection with a suspected WMSD. Note: the supervisor cannot require an employee to file or not to file a claim.
- p. Employees:
  - (1) Modify work practices as recommended to minimize WMSDs.
  - (2) Notify supervisors of WMSD risk factors in the workplace.
  - (3) Recognize and report symptoms of WMSDs early.
  - (4) Perform recommended conditioning activities.
  - (5) Actively participate in the suggestion process
  - (6) Routinely review work areas, tasks, and tools for potential WMSD risk factors.

#### 1-7. Technical support

Technical assistance may be requested through command channels to the DLA Director, Attention Chief of the Environmental Safety and Policy Office (CAAE).

## Chapter 2 The Ergonomics Program Component

### 2-1. Goals

The goals of the ergonomics program are to:

- a. Prevent injuries and illness by eliminating or reducing worker exposure to WMSD risk factors.
- b. Reduce the potential for fatigue, error, and unsafe actions by adapting the job and workplace to be within worker's capabilities and physical limits.
- c. Increase the overall productivity of the workforce.
- d. Reduce workforce compensation claims and associated costs.
- e. Early identification and prevention of WMSDs to preserve and protect DLA's work force while decreasing related costs.

### 2-2. Organizational involvement

A cooperative partnership among all levels of the working community is essential in achieving the goals of the ergonomics program. Command emphasis, management commitment, and demonstrated involvement provide the motivation needed and organizational resources to implement a sound ergonomics policy. All levels of personnel (manager, supervisor, and worker) are responsible for injury prevention through the identification and resolving WMSDs.

### 2-3. Effects of work-related musculoskeletal disorders

a. Health effects. Repeated biomechanical stress and Microtrauma cause or aggravate WMSDs. Over time, repeated microtrauma can evolve into a painful, debilitating condition involving muscles, tendons, tendon sheaths, and nerves.

Examples of WMSDs are:

- (1) Tendinitis.
- (2) Tenosynovitis.
- (3) Bursitis.
- (4) Chronic muscle strain.
- (5) Nerve entrapment syndromes (carpal tunnel syndrome).

b. Economic effects. The expense associated with a poorly designed workplace is considerable and includes both direct and indirect costs.

- (1) Direct costs include medical treatment, rehabilitation, and workers' compensation costs.
- (2) Indirect costs include lost work time, decreased productivity, decreased work quality, retraining costs, and diminished morale.

### 2-4. Occupational risk factors

a. Research identifies the following as specific workplace conditions that can contribute to the development of WMSDs.

- (1) Repetitive motions (especially during prolonged activities).
- (2) Sustained or awkward postures.
- (3) Excessive bending or twisting of the wrist.

- (4) Continued elbow or shoulder elevation (for example, overhead work).
- (5) Forceful exertions (especially in an awkward posture).
- (6) Excessive use of small muscle groups (for example, pinch grip).
- (7) Acceleration and velocity of dynamic motions.
- (8) Vibration.
- (9) Mechanical compression.
- (10) Restrictive workstations (for example, inadequate clearances).
- (11) Improper seating or support.
- (12) Inappropriate hand tools.
- (13) Machine-pacing and production-based incentives.
- (14) Extreme temperatures.
- (15) Extended exposure to hazardous or annoying noise.

b. The combined effect of several risk factors in one job or workstation may lead to a higher probability of causing a WMSD.

## Chapter 3 The PLFA Ergonomics Plan

### 3-1. Focus

The PLFA ergonomics plan focuses on the identification and control of improper workplace and work process design to protect personnel from injury and illness due to exposure to occupational risk factors, as defined in (para 2-4).

### 3-2. Practical effects

Implementing an PLFA ergonomics plan will help reduce the number of WMSDs and related medical compensation claims, resulting in improved product quality, productivity, and personnel morale as well as decreased costs.

### 3-3. Development and approval

a. The PLFA EO and the ergonomics committee develop, document and maintain the PLFA ergonomics plan. They may:

(1) Solicit input to the plan from health care providers, including physicians, nurses, occupational therapists, physical therapists, and physician assistants.

(2) Coordinate the plan with the installation or activity Health Promotion Coordinating Committee and wellness program coordinator as appropriate.

b. The installation SOH Council recommends the ergonomics plan to the commander for approval and communicates the plan to all managers, supervisors, and workplace personnel.

### 3-4. Outline

a. The PLFA ergonomics plan should reflect the needs and requirements of the individual activities of the PLFA. The PLFA EO and the committee may use the structure and content provided in this document in developing an PLFA ergonomics plan that addresses each of the items.

(1) Program goals and objectives.

(2) Program interface with existing programs.

(3) Specific critical program elements for ergonomic intervention:

(a) Worksite analysis (Chapter 4).

(b) Hazard prevention and control (Chapter 5).

(c) Health care management (Chapter 6).

(d) Education and training (Chapter 7).

(e) Ergonomics program evaluation (Chapter 8).

b. The extent of involvement in each of the five critical program elements in paragraph 3-4a(3) will vary according to the hazards and concerns at each activity; however, some degree of activity in each of the five critical program elements is required for an effective program.

## Chapter 4 Worksite Analysis

### 4-1. Problem identification

Use the following passive and active surveillance to identify jobs or work sites with WMSD risk factors.

a. Systematic passive surveillance. This procedure involves the analysis of data provided in existing monthly or quarterly reports. This analysis can identify WMSD problems, set intervention priorities, and organize the ergonomics effort. The office responsible for maintaining logs, or reports will perform the systematic passive surveillance and communicate upon request the results to the EO and the ergonomics committee.

Sources of data include:

- (1) Routine injury and illness reports, including DLA Form 1591 Mishap Reports.
- (2) Log of Federal Occupational Injuries and Illnesses or equivalent.
- (3) FECA claims from HROC and from SHIRS.
- (4) Medical and safety records.
- (5) Work force reports (including civilian and active-duty personnel and pay reports of lost duty time as a result of injury or illness) and suggestions.

b. Systematic active surveillance. This procedure involves focused and active efforts to gather information about WMSD hazards at work sites and to identify workers at risk of developing a cumulative trauma disorder (CTD). Trained ergonomics personnel (see glossary) will perform active surveillance in conjunction with IH or safety surveys or regular training.

(1) Examples of active surveillance procedures include:

(a) Questionnaires and surveys. Supervisor and worker questionnaires and symptom or body part discomfort surveys provide information about WMSD hazards, often before actual injuries occur. Employee questionnaires and surveys will be coordinated with the local union representative prior to use. Trained ergonomics personnel can administer these surveys during walk-through surveys or as part of regular training.

(b) Observation. Direct observation by trained ergonomics personnel conducting regular walk-through IH or safety surveys can identify WMSD hazards. Worker interviews during these surveys can identify tasks or situations that are uncomfortable and may indicate WMSD risk factors. For example, workers note that cold temperatures make it difficult to grip hand tools.

(c) Sentinel event or incident reporting. Specific acute health or performance events, such as wrist pain, back pain, or increased errors, may be indicative of WMSD risk factors. Use a specific reporting procedure to facilitate reports.

(d) Case referrals. Use case referrals to identify a work area with potential WMSD risk factors. For example, a laboratory technician seeks medical care for hand and wrist pain and provides an occupational history that indicates possible worksite risk factors.

(2) The presence of one WMSD via symptoms, FECA claims etc. should trigger an active surveillance survey using appropriate questionnaires or surveys. Trained ergonomics personnel will perform systematic active surveillance at all work sites or re-evaluate the worksite at least once per year. Also, trained ergonomics personnel will

perform walk-through surveys for any new or significantly changed job, process, equipment, or method.

(3) In many cases, corrections to the WMSD hazards or risk factors are simple, quick, on-the-spot workplace changes. Trained ergonomics personnel conducting regular walk-through surveys can identify and implement the solution immediately. Chapter 5 provides information on hazard prevention and control. More complex problems will require prioritization and detailed analysis.

(4) If a worksite or job is identified as high risk, special medical surveillance may be indicated. Chapter 6 provides information on health care management.

#### 4-2. Prioritization

The ergonomics committee or the appropriate committee member (for example, IH, safety, occupational health nurse, etc.) will prioritize activities and work-sites for detailed analysis based on the passive and active surveillance information. The prioritization may be based on incidence rates (see glossary), the number of workers affected, direct costs, lost work time, or severity of cases. Calculate incidence and prevalence rate by unit, work section, or job series to identify high-risk areas. Use FECA claims information to identify high cost injuries and high-risk work areas.

#### 4-3. Detailed analysis

a. Upon request, management shall provide an analysis of continuing job requirements for lifting to establish lifting requirements.

b. To further evaluate those jobs or work sites having WMSD risk factors as determined by systematic passive and active surveillance, complete a more detailed analysis. When conducting the detailed analysis, trained ergonomics personnel should systematically:

(1) Consider the concept of multiple causation (see glossary) and the degree of WMSD risk.

(2) Look for trends, including age, gender, work task, and time of injury.

(3) Identify the work tasks or portions of the process that contain risk factors.

(4) Identify both problems and solutions.

c. The following data, analysis tools, and methods may be helpful during a detailed analysis:

(1) Incidence rates (Log of Federal Occupational Injuries and Illnesses or equivalent), accident and injury reports, and lost work time or absenteeism reports by job, unit, department, or facility.

(2) Checklists, questionnaires, and interview.

(3) Direct observation, videotape analysis, and job analysis.

(4) Tests, such as:

(a) Revised National Institute for Occupational Safety and Health (NIOSH) Equation for the Design and Evaluation of Manual Lifting Tasks.

(b) Static and dynamic strength testing.

(c) Timed activity analysis.

(d) Biomechanical analysis and cardiovascular measurements.

## Chapter 5 Hazard Prevention and Control

### 5-1. Intervention hierarchy

The primary method of preventing and controlling exposure to WMSD hazards is through effective design (or redesign) of a job or work-site. Paragraphs 5-2 through 5-7 define intervention methods in order of priority.

### 5-2. Process elimination

Elimination of the demanding process essentially eradicates the WMSD hazard. For example, eliminate the use of the hand-held bar code scanner for inventory management personnel by providing an automatic bar code scanner.

### 5-3. Engineering controls

Ergonomic engineering controls redesign the equipment or work-site to fit the limitations and capabilities of workers. Where an ergonomic evaluation determines that engineering controls or accommodations are required, such controls or accommodations shall be provided at no cost to the employee. Equipment or work-site redesign typically offers a permanent solution. For example, provide a video display terminal workstation that can be adjusted to a wide range of anthropometric dimensions.

### 5-4. Substitution

Substituting a new work process or tool (without WMSD hazards) for a work process with identified WMSD hazards can effectively eliminate the hazard. For example, replace hand tools that require awkward wrist positions (extreme wrist flexion, extension, or deviation) with tools that allow a neutral wrist posture.

### 5-5. Work practices

Practices that decrease worker exposure to WMSD risk factors include changing work techniques, providing personnel conditioning programs, and regularly monitoring work practices. Also included are maintenance, adjustment, and modification of equipment and tools as needed.

a. Proper work techniques include methods that encourage:

- (1) Correct posture.
- (2) Use of proper body mechanics.
- (3) Appropriate use and maintenance of hand and power tools.
- (4) Correct use of equipment and workstations.

b. Personnel conditioning refers to the use of a conditioning or break-in period.

New and returning personnel may need gradual integration into a full workload, depending on the job and the person. Supervisors, trained ergonomics personnel, and health care personnel should identify those jobs that require a break-in period. Health care personnel should evaluate those personnel returning from a health-related absence and define the break-in period for each individual person (5 CFR 339.301).

c. Regular monitoring of operations helps to ensure proper work practices and to confirm that the work practices do not contribute to cumulative trauma injury or hazardous risk factors.

d. Effective schedules for facility, equipment, and tool maintenance, adjustments, and modifications will reduce WMSD hazards. This includes ensuring proper working conditions, having sufficient replacement tools to facilitate maintenance, and ensuring effective housekeeping programs. Tool and equipment maintenance may also include vibration monitoring.

#### 5-6. Administrative controls

Where engineering controls are not feasible, consider using administrative controls to limit the duration, frequency, and severity of exposure to WMSD hazards. Examples of administrative controls include, but are not limited to...

a. Instituting job rotation as a preventive measure, with the goal of alleviating physical fatigue and stress to a particular set of muscles and tendons. Do not use job rotation in response to symptoms of cumulative trauma. This can contribute to symptom development in all personnel involved in the rotation schedule rather than preventing problems. Trained ergonomics and health care personnel should conduct an analysis of the jobs used in the rotation schedule.

b. Reducing the number and speed of repetitions by having worker input regarding production speed (that is, using worker-based rather than machine-based production speed).

c. Providing rest breaks to relieve fatigued muscle-tendon groups. Determine the length of the rest break by the effort required, total cycle time, and the muscle-tendon group involved.

d. Increasing the number of personnel assigned to the task (for example, lifting in teams rather than individually).

e. Providing modified- or restricted-duty assignments to allow injured muscle-tendon groups time to rest, assisting in the healing process. Make every effort to provide modified- or restricted-duty assignments when physical limitations (as identified by a health care provider) allow the worker to return to work performing less than his or her normal work requirements. In regard to modified- or restricted-duty assignments:

(1) A health care provider should specifically identify assignments or job tasks for the individual worker based on his or her symptoms, capabilities, and limitations.

(2) Health care providers with specific knowledge in both occupational demands and cumulative trauma injuries should cooperate with trained ergonomics personnel to develop a list of jobs with low WMSD risk.

(3) Civilian personnel representatives and supervisors, in conjunction with health care personnel, should identify modified-duty assignments and tasks and write descriptions for these assignments and tasks that conform to documented requirements. A combination of tasks from one or more jobs can be used as a modified duty assignment. The description for each modified duty assignment should consider WMSD risk factors and muscle-tendon groups required to perform the job.

#### 5-7. Personal protective equipment

Personal protective equipment (PPE) is not necessarily recommended for controlling exposure to WMSD hazards, since little research has been conducted to support claims of its usefulness.

a. Appliances, such as wrist rests, back belts, back braces, etc., are not considered PPE. Before purchasing such devices, discuss their effectiveness with trained ergonomics personnel. The Office of The Surgeon General (OTSG) does not support the blanket use of back belts as a back injury preventive measure. Anti-vibration gloves are an example of PPE that addresses WMSD hazards.

b. Consider WMSD hazards when selecting PPE. The PPE:

- (1) Should be properly worn or used according to manufacturers' specifications.
- (2) Should be available in a variety of sizes.
- (3) Should accommodate the physical requirements of personnel and the job.
- (4) Should not contribute to WMSD hazards.

## Chapter 6 Health Care Management

### 6-1. Written protocol

A written protocol should be developed for the early recognition, evaluation, treatment, and follow-up of WMSDs. The procedural aspects of the protocol will be coordinated with the local union representative. This chapter provides the structure and much of the content of this protocol. The protocol includes communication with supervisors and personnel to identify work-site problems and implement recommendations.

### 6-2. Early evaluation of employees with symptoms

Early recognition and health care management of WMSDs are critical to reduce the impact of injury on both personnel and the DLA activity.

a. Common symptoms of WMSDs can include (but are not limited to) pain, tingling, numbness, stiffness, and weakness in the neck, shoulders, arms, hands, back, and legs. Other symptoms can include headaches, visual fatigue, and increased errors.

b. Personnel with symptoms of WMSDs should report to health care personnel for an evaluation.

(1) Active-duty military personnel should report to their primary care provider.

(2) Civilian personnel should report to OH with the appropriate forms:

Department of Labor (DOL) Form CA-2 (Notice of Occupational Disease and Claim for Compensation) for all WMSDs except back injuries which require DOL Form CA-1 (Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation) and DOL Form CA-16 (Authorization for Examination and/of Treatment).

c. Supervisors should encourage personnel with WMSD symptoms to report for a medical evaluation in a timely manner.

d. Supervisors may not place disincentives as an impediment to personnel reporting WMSDs.

### 6-3. Medical evaluation

The initial medical evaluation of a patient with a possible WMSD should include a detailed medical and occupational history and a physical examination. A standardized questionnaire is a useful tool for obtaining the history. The following information should be obtained from Agency or outside sources as appropriate. Health care personnel, within their approved scope of practice, will:

a. Complete a medical and occupational history that includes:

(1) Job title or series, and number of years and months at that job.

(2) Prior work history.

(3) A detailed description of current job tasks and the amount of time normally spent on each task.

(4) A detailed description of symptoms to include location, character (such as burning, sharp, dull, pins and needles), severity, onset, duration, and exacerbating and relieving factors.

(5) Lost time or limited duty due to symptoms.

(6) Prior evaluation, diagnosis, and treatment of symptoms.

- (7) Other existing medical conditions and history of trauma and surgery.
- (8) Activities and hobbies outside of work.
- (9) Current medications.
- b. Conduct a physical examination that includes, but is not limited to:
  - (1) Appearance (swelling, muscle atrophy, erythema, ecchymosis).
  - (2) Range of motion and muscle strength.
  - (3) Neurologic assessment (motor, sensory, reflexes).
  - (4) Vascular assessment (pulses, capillary refill).
  - (5) Evaluation for pain and tenderness.
  - (6) Special tests, such as median nerve percussion (Tinel's sign) and the wrist flexion test (Phalen's test) when appropriate.
- c. Perform additional testing as indicated, such as nerve conduction velocities, laboratory tests, and radiographic procedures.

#### 6-4. Treatment

Encourage civilian personnel with a suspected WMSD to seek evaluation and treatment in a servicing medical treatment facility where possible. Health care personnel will usually try conservative therapy before invasive treatment.

#### 6-5. Modified or restricted duty

Health care personnel will coordinate with trained ergonomics personnel to recommend duty assignments that will not aggravate a patient's condition, see (para 5-6).

#### 6-6. Follow-up

Personnel (healthcare or other trained personnel) will perform regular follow-up for employees being treated for WMSDs to monitor the efficacy of therapy and work-site intervention.

#### 6-7. Medical surveillance

a. Work-related musculoskeletal disorders do not require a general screening medical surveillance program. Instead, use the methods of problem identification as described in chapter 4. Health care personnel should cooperate with members of the ergonomics committee:

(1) Where health care personnel are located on site, it is recommended that they participate in the systematic work-site walk-through survey when practical. Participation will add to the effectiveness of the survey, help to maintain proficiency and knowledge about local operations and work practices.

(2) Provide written documentation of the walk-through survey to the as determined by the PLFA EO. Documentation should include date, area(s) visited, risk factors identified, actions taken (if any), and any needed prioritized follow-up.

b. Special medical surveillance may be indicated for:

- (1) Specific jobs where a high incidence of WMSDs has been demonstrated.
- (2) Specific jobs that have been identified as high risk based on systematic active surveillance and detailed analysis as discussed in Chapter 4.

(3) Employees returning to work after a work related injury or other serious injury/illness.

c. Where deemed prudent, maintain baseline and periodic health assessment results in Employee Medical File (EMF). Pay attention to any changes that could indicate a WMSD.

#### 6-8. Reporting

Occupational health, safety, and health care personnel will use the following forms to document WMSDs and perform passive surveillance. These findings will be reported to the ergonomics committee in a descriptive or statistical format that will protect the privacy of the employees.

- a. SHIRS Log of Occupational Injuries and Illnesses or equivalent.
- b. DOL Form CA-2 (all WMSDs (where symptom are reported) except back injuries).
- c. DOL Forms CA-1, CA-16, and CA-17 (Duty Status Report)
- d. Standard Form (SF) 600 (Chronological Record of Medical Care) in the medical record.

Note: Information obtained regarding an employee's medical condition or history "shall be treated as confidential except that supervisors and managers may be informed regarding necessary restrictions on the work and duties of the employee and necessary accommodations" 29 C.F.R. 1630.14(c).

#### 6-9. Work-site evaluation referrals

Health care personnel who treat a patient with a suspected WMSD will request a workstation evaluation for the patient. Trained ergonomics personnel, together with healthcare personnel, should conduct the workstation evaluation.

## Chapter 7 Education and Training

### 7-1. . Education requirements

#### a. The PLFA EO will have--

(1) A minimum of 40 hours of formal ergonomics training. Formal training is classroom instruction, exercises, supervised workstation assessment, and individual learning assignments.

(2) The technical knowledge to anticipate, recognize and evaluate hazardous conditions, and recommend corrective actions.

#### b. Key trained ergonomics personnel (typically occupational health professionals and other safety or health care personnel) will have--

(1) A minimum of 40 hours of formal ergonomics training.

(2) The technical knowledge to anticipate, recognize and evaluate hazardous conditions, and recommend corrective actions.

c. Ergonomics committee members, and other personnel (e.g. managers, supervisors, collateral duty safety monitors) providing assistance in recognizing WMSDs will receive basic ergonomics training, to include elements listed in paragraph 7-3c(2), from trained ergonomics personnel or as outlined by the SOH Manager/Officer in the PLFA Ergonomics Plan.

d. For information on available courses, request assistance through DLA-CAAE. Information and training is also available from USACHPPM.

### 7-2. Training requirements

Personnel responsible for administering the installation ergonomics program will receive appropriate special training. Training is necessary for all levels of personnel to understand and recognize potential WMSDs and actively participate in the ergonomics effort.

#### a. Personnel requiring training.

(1) All personnel who are exposed to WMSD hazards.

(2) Supervisors.

(3) Managers.

(4) Engineers and maintenance personnel.

(5) SOH personnel.

(6) Collateral duty safety personnel.

#### b. Personnel who may conduct training.

(1) Trained ergonomics personnel.

(2) Health care personnel conducting specific portions of training, such as those related to health risks.

#### c. Curriculum considerations. Trained ergonomics personnel will--

(1) Present training at a level appropriate to ensure audience comprehension.

(2) Include in the training curriculum an overview of--

(a) The potential risk of WMSDs.

(b) The possible causes and symptoms.

(c) How to recognize symptoms and report WMSDs.

(d) The means of prevention.

(e) The sources of treatment.

(3) Include methods for evaluating the effectiveness of the ergonomics effort, as discussed in chapter 8.

d. Types of training.

(1) General training. Upon evaluation of the potential WMDS risks, personnel who are potentially exposed to WMDS hazards will receive formal instruction on hazards associated with their jobs and equipment. Personnel will receive training at an their initial job orientation and annually thereafter until the WMCD hazard is eliminated. Based on the ergonomic risk assessment the general training will include elements listed in paragraph 7-3c(2).

(2) Specific training. New and reassigned personnel who are exposed to WMDS will receive an initial orientation and hands-on training from trained ergonomic personnel or immediate supervisor prior to being placed in a full-production position. The initial orientation will include:

(a) A demonstration of the proper use and care of, tools and equipment.

(b) Use of safety equipment.

(c) Use of safe and proper work procedures, such as proper lifting techniques.

## Chapter 8 Ergonomics Program Evaluation

8-1. Evaluations of PLFA, SLFA or other ergonomics programs may be performed by external or internal sources to assess program effectiveness.

### 8-2. External evaluations

- a. Occupational Safety and Health Administration (OSHA) inspections could result in citations to the commander for ergonomic deficiencies that are identified in the workplace.
- b. DLA or PLFA may request USACHPPM or other Service Agency --
  - (1) Conduct ergonomics surveys at activities.
  - (2) Evaluate elements of ergonomics programs.
  - (3) Assist with ergonomics program development.

### 8-3. Internal evaluations

The PLFA EO ensures evaluation of the ergonomics effort regarding program participation and effectiveness. Examples of methods to measure both of these elements are listed below.

- a. Program participation.
  - (1) Number of requests for ergonomic assistance by management occurring during a specified period.
  - (2) Number of personnel suggestions related to ergonomics during a specified period.
  - (3) Number of educational programs in ergonomics offered.
  - (4) Number of personnel attending educational programs.
- b. Program effectiveness.
  - (1) Number of general or systematic identifications of potential WMSDs (such as the Nature of Injury Codes in SHIRS).
  - (2) Number of detailed analyses conducted (para 4-3).
  - (3) Number of high priority listings relating to ergonomics.
  - (4) Change in the incidence rate (see glossary) of ergonomically related FECA claims or dollar amount of new FECA claims within a particular period.
  - (5) Change in the incidence rate of ergonomically related illness or injury reports filed for civilian personnel.
  - (6) Change in the incidence rate of ergonomically related illness or injury by department or unit.
  - (7) Change in the incidence rate of lost- or restricted-duty time due to ergonomically related illness or injury.
  - (8) Change in the number of new job reassignments due to ergonomically related illness or injury.
  - (9) Change in productivity or production costs that can be attributed to ergonomic interventions.

Note: In some cases, there may be an increase in illness or injury reporting at the start of an ergonomics program due to increased personnel and supervisor awareness. This

reporting rate will decrease as a well-managed, effective ergonomics program is integrated into the workplace.

#### 8-4. Regular internal evaluation and review

##### a. The PLFA EO and the ergonomics committee--

- (1) Conduct at least a semiannual program evaluation and review.
- (2) Present the results of this program evaluation and review to the SOH Council.
- (3) Communicate the results of the program evaluation and review to top

management and personnel.

b. The program evaluation assesses the implementation, progress, and effectiveness of the installation ergonomics plan. It should include--

- (1) A summary in-progress report or program update.
- (2) A summary of results of external evaluations as defined in (para -2).
- (3) Program participation and effectiveness measures defined in (para 8-3).
- (4) Plans, goals, and accomplishments for the program as a whole and by the

critical program elements cited in paragraph 3-4a(3).

- (5) Identification of trends, deficiencies, and corrective actions needed.
- (6) New or revised program goals, priorities, and time lines.

##### c. Use the following information to develop the evaluation and review.

- (1) Analysis of trends in injury or illness rates according to--
  - (a) Health care facility sign-in logs.
  - (b) Log of Federal Occupational Injuries and Illnesses or an equivalent log in

SHIRS.

- (2) Review results of installation evaluations.
- (3) Before and after surveys or evaluations of workstation improvements.
- (4) Observation of work practices to determine the effect of training and

education.

(5) Personnel surveys or interviews conducted by department, job title, or workstation to monitor trends.

## Appendix A References

### Section I Related Publications

DODI 6055.1 (Draft)  
DOD Instruction occupational Safety and Health Program (required)

E.O. 12196  
Occupational Safety and Health Programs for Federal Employees (required)

PL 91-596  
Occupational Safety and Health Act of 1970, as amended (29 USC 651, et seq. (1976)  
(required)

5 CFR 339.301  
Authority to require an examination. (Available from the Superintendent of Documents,  
Government Printing Office, Washington, DC 20402.)

29 CFR 1960.8  
Agency responsibilities. (Available from the Superintendent of Documents, Government  
Printing Office, Washington, DC 20402.) (required)

ANSI Z-365 (Working Draft). American National standards Institute. (1996) Control of  
Work-Related Cumulative Trauma Disorders, Part 1 Upper Extremities. National Safety  
Council (NSC), Itasca, IL. (Available at cost from NSC, P.O. Box 558, Itasca, IL 60143-  
0429.)

USACHPPM TG 220 (Draft). Ergonomics in Action. U.S. Army Center for Health  
Promotion and Preventive medicine and the U.S. Army Safety Center.

Chapanis, A., 1991. To Communicate the Human factor 6 Message, You Have to Know  
What the Message Is and How to Communicate It. Human Factors Society Bulletin, Vol. 34  
(11): 1-4.

Directorate of Civilian Personnel and Installation Safety. 1992 Supervisor's Guide to the  
Civilian Resource Conservation Program. (Available from the Directorate of Civilian  
Personnel and Installation Safety, Fort McPherson, Georgia.)

Injury Compensation for Federal Employees a Handbook for Employing Agency Personnel.  
U.S.D.O.L, Office of Worker Compensation Programs (OWCP) Publication Number CA-  
810.

Memorandum, Office of the Under Secretary of Defense (Environmental Security), Acquisition and Technology, 4 February 1997, subject: Ergonomics Program Requirements (required)

Revised NIOSH Equation for the Design and Evaluation of Manual Lifting Tasks. (Available from NIOSH, 4676 Colomblan Parkway, Cincinnati, OH 45226.)

U.S. Department of Labor, OSHA. 1991. Ergonomics Program Management Guidelines for Meat Packing Plants, OSHA Publication #3123. (Available from U.S. Department of Labor, OSHA, 200 Constitution Ave., NW, N3651, Washington, DC 20210.)

WEB Internet sites:

USDOL OSHA web site: [www.osha.gov](http://www.osha.gov)

CDC website: [www.cdc.gov](http://www.cdc.gov)

Section II

Referenced Forms

DOL Form CA-1

Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation

DOL Form CA-2

Notice of Occupational Disease and Claim for Compensation

DOL Form CA-16

Authorization for Examination and/or Treatment

DOL Form CA-17

Duty Status Report.

SF 600

Chronological Record of Medical Care

OSHA Form 200

Log of Federal Occupational Injuries and Illnesses

Standard forms (SF) are available through local publications. Log of Federal Occupational Injuries and Illnesses and DOL forms are available from the U.S. Department of Labor, OSHA, 200 Constitution Ave., NW, Washington, DC 20210.

Note: U.S.D.O.L OWCP forms are available on the Internet at the following address.  
<http://gatekeeper.dol.gov/dol/esa/public/regs/compliance/owcp/forms.htm>

## :Appendix B

### Recommended Membership of the Ergonomics Committee

#### B-1. Chairperson. The PLFA EO--

- a. Serves as chairperson of the ergonomics committee.
- b. Is a health or safety professional that must receive at least 40 hours of formal training in ergonomics (para 7-2a). (i.e. OH physician, industrial hygienist, OH nurse, other health care professional, or SOH official/manager who has received at least 40 hours of formal training in ergonomics.)

#### B-2. Membership. The ergonomics committee will include, but need not be limited to, representatives of the following offices:

- a. Core membership.
  - (1) Industrial hygienist
  - (2) Safety professional
  - (3) Health Care Activity representative(s) where available (for example, physician, nurses, occupational and physical therapists, physician assistant, and other trained medical personnel).
  - (4) Union Representative(s)
  - (5) CSU/Human Resources
  - (6) ICPA Coordinator
- b. Suggested support and advisory membership
  - (1) Director of Contracting Support (or equivalent)
  - (2) Director of installation maintenance
  - (3) Logistics Chief
  - (4) Engineers and maintenance personnel

#### B-3. Training. All committee members should receive appropriate ergonomics training as discussed in chapter 7.

## Glossary

### Section I Abbreviations

ANSI American National Standards Institute

CFR Code of Federal Regulations

CSU Human Resources Customer Support Unit

CTD cumulative trauma disorder

DOD Department of Defense

DODI Department of Defense Instruction

DOL Department of Labor

E.O. Executive Order

FECA Federal Employee Compensation Act

EO Ergonomics Officer

ICPA Injury Compensation Program Administrator

IH industrial hygiene

MTF Medical treatment facility

NIOSH National Institute for Occupational Safety and Health

NSC National Safety Council

OH occupational health

OSH occupational safety and health

OSHA Occupational Safety and Health Administration

OTSG Office of the Surgeon General

PL Public Law

PPE personal protective equipment

SF standard form

SHIRS DLA Safety and Health Information and Reporting System

SOH safety and occupational health

TB MED Technical Bulletin, Medical

TG Technical Guide

USACHPPM U.S. Army Center for Health Promotion and Preventive Medicine

WMSDs work-related musculoskeletal disorders

## Section II

### Terms

#### Anthropometry

The study of the physical dimensions of people, including size, breadth, girth, distance between anatomical points, and joint range of motion. This information is used in the design and analysis of workstations, tools, and equipment.

#### Cumulative trauma disorders

Disorders of the musculoskeletal or nervous system which are the result of, or contributed to by, the biomechanical risk factors listed in (para 2-4) CTDs are a class of musculoskeletal disorders involving damage to the tendons, tendon sheaths, synovial lubrication of the tendon sheaths, and bones, muscles, and nerves. Synonymous terms include repetitive injury, occupational overuse syndrome, and repetitive strain.

#### Equivalent training

A minimum of 40 hours training covering WMSDs; workstation and job design; hand tool design; current regulatory requirements and issues; analysis and design of manual materials handling tasks; analysis and design of the office environment; and conducting, analyzing, documenting, and presenting an ergonomic work-station evaluation, including hands-on experience.

#### Ergonomics

A body of knowledge about human abilities, human limitations, and other human characteristics that are relevant to the design of tools, machines, systems, tasks, jobs, and environments for safe, comfortable, and effective human use. The aim of the discipline is to fit the job to the person in order to--

- a. Prevent the development of occupational injury or illness.
- b. Reduce the potential for fatigue, error, or unsafe acts.
- c. Increase effective, efficient work.

Ergonomics expert — An individual who--

- a. Possesses a recognized degree or professional credentials in ergonomics or human factors engineering.
- b. Demonstrates the ability to identify and correct WMSDs in the workplace.
- c. Teaches the 40-hour ergonomics course for trained ergonomics personnel.
- d. Provides consultation to management or trained ergonomics personnel to solve identified problems.

Ergonomics team

Those responsible for identifying and correcting occupational hazards in the workplace, including trained ergonomics personnel, health care providers, industrial hygienists, safety personnel, engineers, and other support personnel, managers, and supervisors.

Health care personnel

Physicians, chiropractic physicians, nurses, occupational therapists, physical therapists, physician assistants, and other health care professionals and their related, supervised technicians (for example, certified occupational therapy assistants and licensed practical nurses). Health care personnel participating in the ergonomics program should have training in basic ergonomics and epidemiology and be up-to-date in the systematic recognition, evaluation, treatment, and rehabilitation of WMSDs.

Microtrauma

A series of minor stresses to the body, each of which alone does not cause discernible damage; however, their accumulation over time can lead to WMSDs. These disorders (injuries or syndromes) are also known as CTDs, overuse disorders, repetitive motion injuries, repetitive strain injuries, and occupational motion-related injuries.

Multiple causation

The combined effect of several risk factors in one job, operation, or workstation, which may increase the possibility of WMSDs.

Occupational hazards

Workplace conditions that may harm the worker: improperly designed workstations; tools and equipment; improper work methods; and excessive tool or equipment vibration. Other examples include aspects of work flow, line speed, posture, force required, work and rest regimen, and repetition rates.

Occupational illness and injury

a. To be recorded as an occupational illness or injury, the condition must be diagnosed by a physician, registered nurse, or other person who, by training or experience, is capable of making such a determination (such as an occupational therapist, physical therapist, or physician assistant).

b. To be classified as an occupational illness or injury, the condition must meet the following criteria:

(1) Either physical findings or subjective symptoms must exist, that is, at least one physical finding (for example, positive Tinells, Phalen's, or Finkelstein's test; swelling, redness, or deformity; or loss of motion or strength) or at least one subjective symptom (for example, pain, numbness, tingling, aching, stiffness, or burning).

(2) At least one of the following response actions must occur: medical treatment (including self-administered treatment if made available to personnel by their employer), lost or restricted work activity, or transfer or rotation to another job.

(3) Cumulative trauma disorders must be associated with repeated trauma, and exposure at work must have caused or contributed to the onset of symptoms or aggravated existing symptoms.

Pinch grip

A grip that involves one or more fingers and the thumb.

Rates (incidence, severity, prevalence)

Incidence rate (i.e. new case) rate (per 100 worker-years per year):

$$= \frac{\text{Number of new cases during the past 12 months} \times 200,000 \text{ hours}}{\text{Number of work hours during the past 12 months}}$$

Severity rate (lost workdays) rate (per 100 worker-years per year):

$$= \frac{\text{Number of lost workdays during the past 12 months} \times 200,000 \text{ hours}}{\text{Number of work hours during the past 12 months}}$$

Prevalence rate (all cases during period) rate (per 100 worker-years per year):

$$= \frac{\text{Total number of cases in the past 12 months} \times 200,000 \text{ hours}}{\text{Number of work hours during the past 12 months}}$$

a. Use incidence rates, if possible, since the incidence rate measures new cases occurring over a period of time, while prevalence rates give a "snapshot" picture of the number of individuals affected at a specific point in time. Incidence rate and severity rate allow monitoring of changes over time, rather than recounting chronic problems throughout the duration of the illness or injury.

b. Consistency in reporting is important; therefore, one should use either incidence, severity or prevalence rates for purposes of comparison.

c. If the specific number of work hours during the past 12 months is not available, multiply the number of full-time equivalent employees in each area by 2,000 hours to obtain the denominator.

Trained ergonomics personnel

Health care, industrial hygiene, environmental science, safety, or engineering

personnel with approved training in ergonomics. Minimum acceptable training for activity-level trained ergonomics personnel is the basic 40-hour ergonomics course offered by USACHPPM or equivalent.

#### Treatment

- a. Current medications.
- b. Physical examination that includes, but is not limited
  - (1) Appearance (swelling, muscle atrophy, erythema, ecchymosis).
  - (2) Range of motion and muscle strength.
  - (3) Neurologic assessment (motor, sensory, reflexes).
  - (4) Vascular assessment (pulses, capillary refill).
  - (5) Evaluation for pain and tenderness.
- c. Special tests, such as median nerve percussion (Tinell's sign) and the wrist flexion test (phalen's test) when appropriate. Additional testing as indicated, such as nerve conduction velocities, laboratory tests, and radiographic procedures.

#### Work-site

A work area or work environment larger than an individual workstation.

#### Workstation

An individual person's work area, such as a desk, chair, and computer terminal or an individual inspection station.

#### Working community

All members of the work environment at all level of authority. It consists of PLFA Commanders, SLFA or field Commanders, administrators, the designated PLFA EO, identified ergonomics personnel, occupational health care personnel, safety personnel, the CSU, contracting support, Operations and Maintenance Chief(s), Logistics Chief(s), union representatives, supervisors, military and civilian personnel. For the program to be successful, all members of the working community must be considered equal and share a commitment to using ergonomics to eliminate workplace injury and illnesses.

#### Work-related musculoskeletal disorders (WMSDs)

- a. The range of health problems arising from repeated stress to the body encountered in the workplace. These health problems may also affect the nervous and neurovascular systems and may include the various occupationally induced CTDS, cumulative stress injuries, and repetitive motion disorders.
- b. Damage to tendons, tendon sheaths, synovial lubrication of the tendon sheaths, bones, muscles, and nerves of the hands, wrists, elbows, shoulders, neck, back, and legs. Some WMSDs that are reported include chronic back pain, carpal tunnel syndrome, DeQuervains disease, epicondylitis (tennis elbow), Raynaud's syndrome (white finger), synovitis, tenosynovitis, stenosing tenosynovitis, crepitans (trigger finger), and tendinitis.

#### Work-site

Includes an employees general work area or environment with one or more workstations where limited functions are performed (i.e. loading dock, storage bay, etc). The work-site may change such a during road construction but the workstations can remain the same (i.e. driver, loader, paver etc.)

#### Workstation

An individual person(s) work area, where set tasks are performed using limited tools or equipment such as a grinding bench, computer terminal, truck cab or an individual inspection station.

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Risk, 1-6f(3) and (8), g(5), h(9), k(2), l(2), m(2), o(2) and (3), p(2) and (7); 2-1a(1); 2-4, b;  
3-1; 4-1, b, (1)(b), (c), (d), (3), (4); 4-2; 4-3a, (1) and (3); 5-5, c; 5-6f (2) and (3); 6-  
7a(2) and b(2); 7-2a(2) and b(2); 7-3b(2) and c(2)(a)

SOH Council, 1-6a(2) and (4), b(1), d(3), (4), and (6), e(1) and (5); 3-3b; 8-4a(2)

Substitution, 5-4

## Surveillance

Medical, 1-6p (4), 4-lb (4), 6-7

Systematic active, 4-1, b, (1) and (2); 4-2; 4-3a; 6-7b(2)

Systematic passive, 4-1, a; 4-2; 4-3a; 6-8

Surveys, 4-1b, (1)(a) and (b), (2) and (3); 6-7a(1) and (2); 8-2b(1); 8-4c(3) and (5)

Tasks, 1-6e(4), f(3) and (6), g(7), h(10), o(2), p(7); 4-1b(1)(b); 4-3a(3), b(4) (a); 5-  
6f(1) and (3); 6-3a(3)

Technical assistance, 1-7, 3-3a(3)

Therapy, 6-4, 6-6

Tools, 1-6e(4), f(3) and (6), g(7), h(10), o(2) and (4), p(7); 2-4a(12); 4-1b(1)(b); 4-3b; 5-  
4; 5-5, a(3), d; 6-3; 7-3d(2)(a)

Trained ergonomics personnel, 1-6f, i(4), k(2), l(2), m(2) and (3); 4-lb, (1) (a) and (b), (2), (3); 4-3a; 5-5b; 5-6e, f(2); 5-7a; 6-5; 6-9a; 7-1a and b; 7-2b and c; 7-3b(1), c, d(2); glossary

Training, 1-5; 1-6d(1), e(2) (f), f(5), g(6), h(6), i(6), j(2); 3-4a (3) (d); 4-lb, (1) (a); 7-1, a; 7-2a(1) and (2), b(1) and (2), c, d; 7-3, a, b, (2), c(1) and (2), d, (1) and (2); 8-4c(4); B-1b; B-3; glossary

Treatment, 1-6c(3), i(2), j(1); 2-3b(1); 6-1; 6-3a(6); 6-4; 7-3c(2)(e); glossary

Trends, 1-6e(2) (a), h(5); 4-3a(2); 8-4b(4), c(1) and (5)

Workplace or workstation design. See Design

Work practices, 1-6o(1) (a) and (b), (5), p(1); 5-5, c; 6-7a(1); 8-4c(4)

#### Work-related musculoskeletal disorders

Abatement of, 1-6e(2)(d)

Control and reduction of, 1-6f(2), 5-1, 5-6, 5-7 1-6k(2), 1 (2), m(2); 3-2; 5-5d

Correction of, 4-1b(3)

Costs of, 1-4a(2); 2-1b; 2-3b, (1) and (2); 3-2; 4-2

Definition of, See glossary

Effects of, 2-3

Evaluation of, See Evaluation

Exposure to, 2-la(1); 5-1; 5-5; 5-6; 5-7; 7-3a(1), d(1) and (2)

Follow-up of, 1-6c(3), i(2); 6-1; 6-6

Hazards of, 4-1b, (1) (a) and (b), (3); 5-1; 5-2; 5-4; 5-5d; 5-6; 5-7, a, b,(4); 7-3d(1)

Identification of, 1-6e(2) (b), (d), (4), f(2), (6), and (8), g(4), (5),and (7), h(8), (9), and (10); 2-1b; 2-2; 4-1, a, b(1) (b) and (d); 5-4; 7-2a(2) and b(2); 8-3b(1)

Prevention of, 1-6l (4) (a); 2-1a(1), b; 5-1; 7-3c(2) (d)

Recognition of, 1-6c(3), i(2), n(2), o(1) (c), p(3); 6-1; 6-2; 7-1b(2); 7-2c; 7-3, c(2) (c)

Reporting of, 1-6a(7), h(5), n(2), o(1) (c), p(3); 4-1b(1) (c); 6-2b, d; 6-8; 7-1b(2); 7-3c(2) (c); 8-2c; 8-3b

Risk factors of, See Risk

Symptoms of, 1-6o (1) (c), p(3); 6-2a, b, and c; 6-3a(4), (5), and (6); 7-3c(2) (b) and (c)

Treatment of, See Treatment