

# MCBQ SAFETY PROGRAM

## CHAPTER 20

### ERGONOMICS

#### 20000. DISCUSSION

1. This chapter establishes procedures and requirements to implement an ergonomics program per reference (mm). Ergonomics is the field of study that involves the application of knowledge about human capacities and limitations to the planning, design and evaluation of work places, jobs, tasks, tools, equipment, and the environment. Ergonomics is essentially fitting the work place to the worker.

2. The primary goal of ergonomics in the work place is to reduce the risk of injuries and illnesses (cumulative trauma disorders or CTDs) by reducing or eliminating worker exposure to work related musculoskeletal disorder (WRMSD) hazards.

20001. PURPOSE. To prevent injuries and illnesses by applying ergonomic principles to identify, evaluate, and control ergonomic risk factors for WMSDs. The purpose will also effectively use ergonomic practices to maintain high levels of productivity, avoiding painful and costly employee injuries, and increasing worker satisfaction. By designing the job around the person, employees will have a decreased risk of injury and an improved perception of their role at work.

#### 20002. BACKGROUND

1. In recent years, there has been an increase in reporting of WMSDs such as strains/sprains, back injuries, carpal tunnel syndrome for Marine Corps personnel. Some of this increase can be attributed to changes in work processes, such as automated office equipment, and associated work center risks. Through advanced information and technology and training, Marine Corps personnel have an increased awareness of these disorders and more are being reported.

2. WMSDS represents over half of all rated military disabilities and over one-third of all reported civilian injuries and illnesses within the Marine Corps.

3. WMSDs are defined as a class of disorders involving damage to the muscles, tendons, tendon sheaths, and related bones, and nerves. They may also be known more specifically as repetitive strain injuries (RSI); Cumulative Trauma Disorders (CTDs) and Overuse Syndrome. WMSDs result from the cumulative effect of repeated traumas associated with specific workplace risk factors. Risk factors include but are not limited to:

(a) Force. The amount of physical effort required to maintain control of equipment or tools or perform a task such as heavy lifting, pushing, pulling, grasping, or carrying.

(b) Repetition. Performing the same motion or series of motions continually or frequently for an extended period of time with little variation. Examples include prolonged typing, assembling components and repetitive hand tool usage.

(c) Awkward or Static Postures. Awkward posture refers to positions of the body (limbs, joints, back) that deviate significantly from the neutral position while performing job tasks. For example, overhead work, extended reaching, twisting, and squatting or kneeling. Static postures refer to holding a fixed position or posture. Examples include gripping tools that cannot be set down or standing in one place for prolonged periods.

(d) Vibration. Localized vibration, such as vibration of the hand and arm, occurs when a specific part of the body comes into contact with vibrating objects such as powered hand tools (e.g., chain saw, electric drill, chipping hammer) or equipment (e.g., wood planer, punch press, packaging machine). Whole-body vibration occurs when standing or sitting in vibrating environments (e.g., operating a pile driver or driving a truck over bumpy roads) or when using heavy vibrating equipment that requires whole-body involvement (e.g., jackhammers).

(e) Contact stress. Results from occasional, repeated or continuous contact between sensitive body tissues and a hard or sharp object. Examples include resting the wrist on a hard desk edge; tool handles that press into the palms or using the hand as a hammer.

4. When present for sufficient duration, frequency, magnitude, or in combination, these risk factors may cause WMSDs. In addition, personal risk factors, such as, physical conditioning, existing

health problems, gender, age, work technique, hobbies and organizational factors (e.g., job autonomy, quotas, deadlines) may contribute to but do not cause the development of WMSDs. Additionally, environmental conditions such as working in temperature extremes may contribute to the development of WMSDs.

20003. RESPONSIBILITIES

1. Commander, Marine Corps Base, Quantico (Comdr MCBQ) shall:
  - a. Designate a MCBQ Ergonomics Coordinator.
  - b. Establish an ergonomics safety team and integrate ergonomics into all phases of the installation safety occupational health (SOH) program.
  - c. Approve the installation ergonomics plan based on the recommendations of the ergonomics team & ISM.
  - d. Provide sufficient funds and other resources to carry out all responsibilities related to the ergonomics program.
  - e. Work with installation personnel, unions, and appropriate Regulatory authorities to effectively address ergonomics issues.
  - f. Require that appropriate reporting and record keeping procedures be followed.
  - g. Demonstrate commitment to the ergonomics program.
2. Installation Safety managers shall:
  - a. Obtain and have available for review the following to the Ergonomics coordinator:
    - (1) Log of Federal Occupational injuries and Illnesses (WESS).
    - (2) Federal Employee Compensation Act (FECA) claims.
    - (3) CA-1 Form (Mishap Reporting).
    - (4) Safety records.

- b. Advise the Commander on issues related to ergonomics.
- c. Ensure all supervisors, managers, and employees receive appropriate ergonomics training developed by the ergonomics team, as appropriate.
- d. Assign a MCBQ ergonomics coordinator.
- e. Oversee the safety aspects of the ergonomics program.
- f. Coordinate the annual standard Marine SOH inspection with occupational health program personnel, and consider WMSDs during the inspection.
- g. Provide injury and illness records related to WMSDs to the ergonomics team.
- h. Provide ergonomics training and education. Persons tasked to provide training should obtain refresher ergonomics training to maintain expertise.
- i. Perform or assist in performing in-depth ergonomic assessments as needed.
- j. Assist in solving problems related to identified WMSDs.
- k. Keep accurate records of identified WMSDs and high risk work areas and solutions. Provide these records to the ergonomics team for review and tracking.
- l. Work with medical personnel in the identification of potential WMSDs and advise medical personnel on ergonomic changes related to the workstation, tasks, and tools.

3. Director, Human Resources and Management-Quantico Office shall:

- a. Appoint at least one representative to serve on the ergonomics team. This may be the Injury Compensation Program Administrator (ICPA).
- b. Use the Naval Health Clinic (NHCL) recommendations in the assignment of injured workers to light or restricted duty.
- c. Provide the ergonomics team with information on compensation claims and costs associated with WMSDs to enable them to perform trend analysis.

4. Ergonomics Coordinator shall:

- a. Receive at least 40 hours of formal training in ergonomics (e.g., CIN: A-493-0085 or equivalent).
- b. Chair the ergonomics team and provide interface with the Base Safety Council.
- c. Serve as the focal point for the MCBQ ergonomics program.
- d. Advocate upper management support, recognition of contributions, and availability of resources.
- e. Develop the MCBQ ergonomics plan with assistance of the ergonomics team and approval of the Comdr MCBQ.

5. The ergonomics team shall:

- a. Receive appropriate ergonomics training.
- b. Assist in the developing and implementing the MCBQ ergonomics plan. Set program goals and objectives, and develop strategies to address issues.
- c. Ensure the MCBQ ergonomics plan requires that trained personnel conduct evaluations of all work centers to assess the risk of WMSDs.
- d. Prioritize existing and potential work center ergonomic risk factors identified in the evaluations and develop corrective action plans.
- e. Develop methods to evaluate the effectiveness of corrective actions and document results. Share effective solutions and lessons learned with supervisors.
- f. Maintain documentation on annual surveys, team meetings, trend analyses, investigations, ergonomic improvements, and associated costs.
- g. Work with medical personnel in the identification of potential WMSDs and advise medical personnel on ergonomic changes related to workstations, tasks, and tools.
- h. Review injury and illness records related to WMSDs, develop trend analyses, and report results to the ergonomics team.

6. Industrial Hygiene (IH) personnel shall:

- a. Serve on the installation ergonomics team.
- b. Consider WMSDs during routine worksite evaluations and annotate any noted WMSDs on IH reports.
- c. Perform or assist in performing in-depth ergonomic assessments as needed.
- d. Assist in solving problems related to identified WMSDs.
- e. Keep accurate records of identified WMSDs and high risk work areas and solutions. Provide these records to the ergonomics team for review and tracking.
- f. Assist with ergonomics training and education for military and civilian personnel. Persons tasked to provide training should obtain refresher ergonomics training to maintain expertise.
- g. Work with medical personnel in the identification of potential WMSDs and advise medical personnel on ergonomic changes related to workstations, tasks, and tools.

7. Health Care personnel shall:

- a. Serve on the MCBQ ergonomics team. A representative from specific health care areas (for example, physician, nurse, occupational and physical therapists, physician assistant) will serve on the ergonomics team.
- b. As a recommendation, develop a written installation protocol for the early recognition, evaluation, treatment, and follow-up of WMSDs between military and civilian personnel.
- c. As a recommendation, develop and conduct baseline medical screening for new personnel whose positions have specific medical standards, physical requirements, or are covered by a medical evaluation programs.
- d. Assist trained ergonomics personnel in the identification of modified or restricted-duty jobs.

Assist in ergonomics training and education.

8. Head, Public Works, G-4 shall:

- a. Integrate ergonomic considerations into facility modifications and construction.
- b. Implement recommendations from trained ergonomics personnel to eliminate or reduce WMSD risk factors when feasible.
- c. Appoint an advisory or support representative to serve on the ergonomics team.
- d. Ensure engineers and maintenance personnel.
  - (1) Prevent and correct WMSDs through job and workstation design and proper maintenance.
  - (2) Apply ergonomic concepts both in general and in regard to the specific conditions of the facility.

9. Supervisors shall:

- a. Ensure personnel are trained in ergonomics and
  - (1) Follow safe work practices.
  - (2) Recognize, correct, and report hazardous work practices.
  - (3) Recognize and report early symptoms of potential WMSDs.
- b. Routinely review work areas, tasks, and tools for potential WMSD risk factors.
- c. Coordinate with trained ergonomics, safety, and health personnel to reduce risks and support the overall ergonomics program.
- d. Ensure personnel avoid prolonged or repetitive stress on the body by taking breaks and/or changing job schedules when using tools, equipment, tasks which create ergonomic concerns.
- e. Maintain documentation of ergonomics training given to employees.

20004. ERGONOMIC TRAINING.

## 1. Personnel requiring training:

a. A key to maintaining an effective ergonomics program is the proper training of managers, supervisors, professional staff, ergonomic teams and employees. General ergonomics training shall be provided to all employees as applicable to the employee's role in the workplace. Periodic refresher training should be provided at command discretion.

b. Safety and occupational health specialist responsible for conducting the ergonomics program shall complete at least 40 hours of formal training in ergonomics (A-493-0085 or equivalent).

## 2. Personnel who may conduct training:

a. Trained ergonomics personnel.

b. Suitable health care personnel to conduct specific portions of training, such as those related to health risks.