

## **ERGONOMICS**

### **Objectives:**

Upon completion of this section, the employee will be able to:

1. Define the term "ergonomics"
2. Describe selected ergonomic risk factors that could be identified in the workplace
3. Identify selected signs and symptoms that could indicate existence of ergonomic risk factors
4. State the procedure for reporting ergonomic issues

### **Instructions to the Employee:**

Please read the following section, then answer the study questions at the end of this section.

## ERGONOMICS

### I. INTRODUCTION

Ergonomics is the study of people and their physical relationship to their work. For most settings, this refers to the relationship of the worker's body to the equipment and materials he or she handles. Information obtained from the study of people and their work can help prevent, reduce or eliminate injuries.

### II. ERGONOMICS PROGRAM

Harbor-UCLA Medical Center has an ergonomics program. The basic elements of this program include:

- A. Analyzing worksites where injuries have occurred, or are suspected to have risk factors present that may cause injuries.
- B. Controlling risk factors:
  - 1. Engineering controls involve adjusting or modifying the physical layout of the job or equipment so that awkward body positions are reduced.
  - 2. Administrative controls involve managing the timing and/or patterns of job tasks to reduce the duration, repetition, and force required to get the tasks done without causing injuries.
  - 3. Staff training and education.

### III. RISK FACTORS THAT MAY LEAD TO INJURIES

The main risk factor on the job is lifting and transferring patients, supplies, or equipment. Other risk factors can be at a desk, computer or other workstations. A combination of the following risk factors may include:

- A. Repetitive motions
- B. Awkward postures/position – joint positions that are not in the natural resting position
- C. Static postures – positions held without moving
- D. High force demands – for pulling, pushing, lifting and gripping
- E. Mechanical compression of soft tissues – resting hands or forearms on the sharp table edge

### IV. SIGNS AND SYMPTOMS TO INDICATE RISK FOR INJURY

- A. Numbness or tingling in the arms or hands
- B. Weakened grip
- C. Decreased range of motion in the arms or hands
- D. Swelling in the arms, hands, or fingers
- E. Weak or painful arms, hands, wrists, shoulders, neck, or back

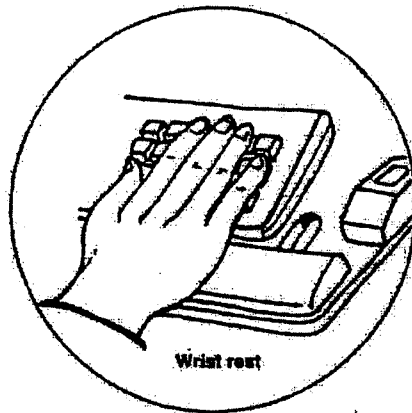
**V. PREVENTING AND REDUCING RISK FACTORS THAT MAY LEAD TO INJURIES**

- A. Reduce or avoid repetitive motions.
- B. Reduce the amount of force needed to perform job tasks.
- C. Reduce awkward or difficult movements, reaches, and stretches by reorganizing the work area – move parts closer to you, change the work surface height, etc.
- D. Use the right tool for the job – and use it correctly.
- E. Use proper lifting techniques.
- F. Use proper posture when standing or sitting.
- G. Use good body mechanics.
- H. Use appropriate equipment – lifts, transfer belts, bed scales, etc.
- I. Change job tasks.
- J. Properly store materials – on storage rack heaviest materials are placed between 15 inches – 45 inches where bending stresses are reduced, moderately heavy items on the bottom racks between 2 inches – 15 inches and lightest materials on the top racks at 45 inches – 60 inches.
- K. Lock brakes on wheeled equipment (eg, beds, wheelchairs, gurneys, etc.).

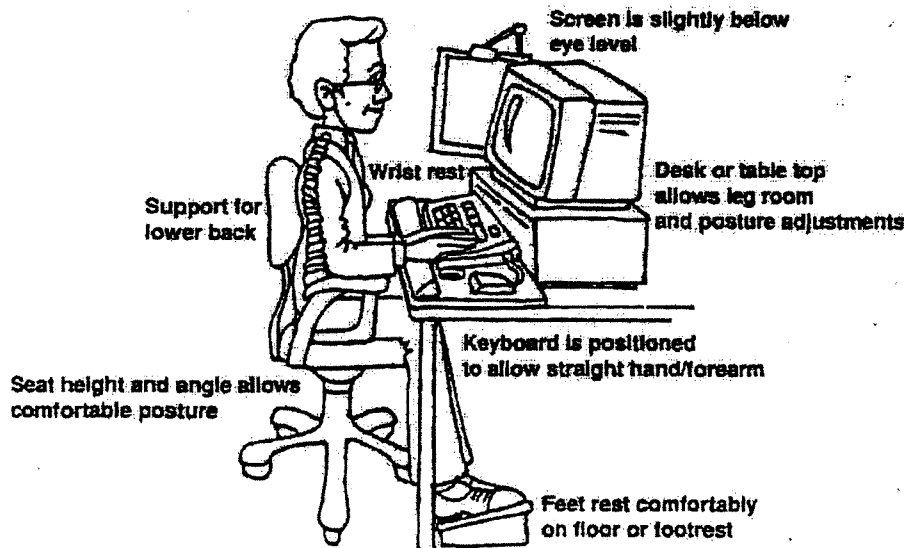
**VI. PREVENTING INJURIES RELATED TO COMPUTER WORKSTATIONS**

- A. Maintain good posture when working. Sit all the way back in the chair against the backrest. Keep your knees equal to, or lower than your hips with your feet supported.
- B. Keep your elbows in a slightly open angle (100 – 110 degrees) with your wrists in a straight position. The keyboard tilt can help you attain the correct arm position.
- C. Avoid overreaching. Keep the mouse and keyboard within close reach. Center the most frequently used section of the keyboard directly in front of the user.
- D. Center the monitor in front of the user at arm's length distance and with the screen slightly below his/her eye level. One should be able to view the screen without turning or tilting one's head up or down.
- E. Place source documents on a document holder positioned between your monitor and keyboard. If there is not enough space, place documents on an elevated surface close to the user's screen.
- F. Use good typing technique. Float your arms above the keyboard and keep your wrists straight when keying. If one uses a wrist rest one must use it to support his/her palms when pausing, not while keying.
- G. Hit the keyboard with light force. The average user keys four times harder than necessary.
- H. Limit repetitive motions. Reduce keystrokes with macros and software programs. Reduce using the mouse with scroll locks and keystroke combinations.
- I. Keep wrists straight and hands relaxed when using the mouse with a tight grip or extended fingers above the activation buttons. Avoid moving the mouse with one's thumb or wrist. Movement should originate at one's shoulder and elbow.

- J. Customize your computer settings. The screen font, contrast, color, etc. can be adjusted to maximize comfort and efficiency.
- K. Reduce glare. Place one's monitor away from bright lights and windows. Use an optical glass glare filter when necessary.
- L. Take eye breaks and intermittently refocus on distant objects.
- M. Work at a reasonable pace and take frequent stretch breaks. Take 1 or 2 minute breaks every 20 – 30 minutes, and 5 minute breaks every hour. Every few hours, try to get up and move around.



Document holder is same height and distance from the user as the screen



**A well-designed computer workstation.**

**VII. HOW AND TO WHOM TO REPORT ERGONOMICS ISSUES**

- A. Always report any symptoms or concerns to one's immediate supervisor.
- B. One may also contact the Safety Officer, at ext. 4049, or at Box 499.

**VIII. THE IMPORTANCE OF REPORTING ERGONOMICS ISSUES**

- A. Injuries can be prevented or reduced in severity by employing the engineering and administrative controls previously discussed. These controls reduce the risk of injury for employees and the cost of treatment.
- B. Reporting injuries helps management identify patterns of tasks or environments where similar activities occur. This will help protect fellow workers from further injuries.

**PLEASE COMPLETE THE STUDY QUESTIONS**

**ERGONOMICS  
Study Questions**

Select the best answer to each question. **DO NOT** write in the manual.

1. The term "ergonomics" generally means:
  - a. The study of computer software
  - b. All the causes of workplace injuries
  - c. How much work that can get done in one shift
  - d. The study of people and their physical relationship to their work
2. The most common risk factor identified as causing injuries is/are:
  - a. Repetitive motions
  - b. Good body mechanics
  - c. Proper lifting techniques
  - d. Locked brakes on wheeled equipment
3. Some of the signs and symptoms that may indicate ergonomic injuries are:
  - a. Chest pain
  - b. Nausea and vomiting
  - c. Tired feet from walking all day
  - d. Pain or numbness of the hands, wrists, arms and neck
4. Suspected ergonomics issues should be reported to:
  - a. Supervisor and Safety Officer
  - b. Human Resources and Supervisor
  - c. Employee Health and County Police
  - b. Supervisor and employee's private physician

5. Strategies to reduce and/or prevent risk factors that may lead to injuries include:
  - a. Reorganize work area
  - b. Reduce or avoid repetitive motions
  - c. Use proper lifting techniques and body mechanics
  - d. All of the above
  
6. Strategies to reduce and/or prevent risk factors that may lead to injuries when using the computer include:
  - a. Increase glare on monitor
  - b. Increase repetitive motions
  - c. Place monitor screen above eye level
  - d. Keep wrists straight and hands relaxed

### CHECK YOUR ANSWERS TO THE STUDY QUESTIONS

#### Answers to Study Questions

1. d      2. a      3. d      4. a      5. d      6. d

If you answered all of the questions correctly, go on to the next section. If you missed one or more, read the content again and repeat the study guide questions.

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