



UCSD **Healthcare**
Ergonomic Guidelines

University of California,
San Diego Medical Center

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Introduction

Ergonomics is defined as fitting the workplace to the worker and examining the interaction between the worker and his/her environment. Applying ergonomic principles can help reduce the risk of injuries or illnesses for employees working with computers, working in laboratories, and working at jobs requiring repetitive activities and heavy materials handling.

The purpose of an ergonomics program is to reduce or eliminate hazards that contribute to the development of repetitive motion injuries, a class of disorders that are caused, precipitated, or aggravated by repetitive motions. "Repetitive motion injury" (RMI) is the terminology adopted by Cal/OSHA and thus will be the language used in this document. Other commonly used synonyms include: cumulative trauma disorders (CTDs), musculo-skeletal disorders (MSDs), and repetitive strain injuries (RSIs).

The primary tools of UCSD Healthcare's ergonomics program are:

- Worksite evaluations
- Employee and supervisor training
- Implementation of ergonomic control strategies

Ergonomics should not be seen as a one-time effort; it is a continuous, on-going approach used in optimizing the working environment.

One of the key aspects of the ergonomics program is identifying and educating employees who have a high risk of developing repetitive motion injuries. Early identification of symptoms with prompt intervention helps prevent more serious or chronic problems. Training is available through Environment, Health & Safety (Safety Office) and Employee Support Program (ESP) on the following subjects: office ergonomics, reducing ergonomic risk factors, back safety, back belts, and more.

Find complete ergonomic resources for UCSD employees and supervisors at <http://blink.ucsd.edu/go/ergo>.

Responsibilities

All UCSD staff and faculty members are responsible for contributing to a safe and healthy work place. Employees are encouraged to review information and to participate in education and training opportunities that can enable them to contribute to a healthy work environment. Since non-work activities can also cause or contribute to discomfort and/or medical impairments, employees are urged to apply ergonomic principles outside the workplace as well.

Managers

Managers and supervisors play a leading role in the implementation of strategies to control repetitive motion injuries in the workplace. Managers at all organizational levels are encouraged to implement strategies to control cumulative trauma disorders. These include:

- Learning about RMI causes and control options
- Providing resources to implement ergonomic solutions

- Performing or requesting periodic risk assessments to identify ergonomic hazards
- Purchasing furniture that has maximum adjustment flexibility and complies with standards established by the American National Standards Institute (ANSI) and UCSD Healthcare furniture guidelines (Appendix F)
- Restructuring job tasks to reduce risk factors which contribute to RMIs
- Encouraging supervisors to implement steps to control RMIs in the workplace
- Providing training to supervisors and employees

Supervisors

Supervisors are encouraged to provide employees with appropriate ergonomics training, reinforcement, assistance, and evaluations (where appropriate). There are several ways this can be accomplished:

- Promote a safe and healthy work environment
- Maintain an awareness of RMI risks
- Have the work environment appropriately evaluated for proper ergonomic practices and conditions
- Provide proper workstations and assistive devices
- Develop procedures to respond to employee concerns about RMI problems
- Promptly report all employee injuries and/or employee complaints regarding repetitive motion injury symptoms
- When necessary, seek assistance from EH&S (Safety Office), Employee Support Program, or the Purchasing Department regarding ergonomic issues
- Provide adequate recovery time by allowing employees engaged in highly repetitive tasks the opportunity for frequent, short, alternative work activities and breaks
- Integrate ergonomics into total department safety management

Employees

Employees are encouraged to promptly report ergonomic problems to their supervisors. Prompt implementation of workplace changes can significantly reduce the potential for severe injuries or illnesses. It is recommended that employees:

- Adjust and use their workstation and equipment as outlined in the ergonomic guidelines
- Follow safe work practices
- Make effective use of recovery periods
- Perform simple exercises and stretches as recommended by the evaluator
- Follow ergonomic recommendations
- Report work-related injuries to their supervisor

The Employee Support Program and Safety Office

The missions of these programs are to reduce health, safety, and environmental risks to the UCSD Healthcare community. Employee Support Program and (EH&S) Safety Office services are available to:

- Coordinate the ergonomics program to reduce repetitive motion injuries at UCSD Healthcare
- Provide guidance on modifying the workplace to minimize the potential for injuries and illnesses

- Provide ergonomics training for employees, supervisors, and managers
- Analyze and report trends in injury or incidence, and severity
- Maintain an ergonomics database
- Evaluate individual and departmental workstations
- Provide assistance and advice on the selection of ergonomically sound furniture and equipment

Additionally the Employee Support Program initiates Workers' Compensation procedures and interfaces with a third party carrier (Applied Risk Management). The program objective is to bring about an expedient recovery, coordinate return to work efforts, and provide disability management expertise to managers and supervisors.

Purchasing Department

The Employee Support Program and Purchasing provide assistance and advice on the procurement of ergonomically sound furniture and equipment. Purchasing can be reached at (619) 543-6050.

Process for Minimizing Ergonomic Hazards

Awareness of Repetitive Motion Injuries (RMIs)

Signs and symptoms of RMIs of the upper extremities include pain, numbness, or tingling of the fingers, wrists, elbows, or shoulders. 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. Reducing the risk of RMI problems can be achieved by doing the following:

- Evaluating the workplace to identify RMI risk factors
- Encouraging employee awareness and providing education
- Using ergonomically appropriate work habits
- Making workplace adjustments
- Using ergonomically-designed tools and furniture (i.e., providing flexibility for adjustments and allowing for proper individual posture)
- Performing workplace exercises to relieve physical stress
- Performing five minutes of alternative work activity for every 30 minutes of continuous, high intensity, repetitive work (for example: after two hours of continuous keyboarding, devote 15 minutes to non-repetitive motion activities like returning phone calls or filing)
- Evaluating and intervening as soon as symptoms of RMI occur

Early Intervention

Early intervention is essential for quick recovery and long-term prevention of RMIs. It is extremely important for employees to report any RMI symptoms as soon as possible. RMIs usually develop gradually; symptoms such as pain, numbness, and tingling in the upper extremities are often ignored until the condition becomes chronic or permanent injury occurs. Employees experiencing symptoms are encouraged to contact their supervisor, safety coordinator, EH&S, or Employee Support Program directly to schedule an ergonomic evaluation.

Workplace Evaluations

The ergonomics program and services described in these guidelines are applicable to all persons working at UCSD Healthcare. Priority will be given to employees with reported RMI symptoms, employees with diagnosed RMIs, and employees who work in identified high-risk jobs or departments.

Appendices

Appendix A - Video Display Terminal Workstation Guidelines

Chair: Chairs with an adjustable back provide support for the lumbar region of the back and trunk. High-back chairs provide extra upper back support. Select a chair with easily adjustable height to permit the feet to rest flat on the ground with the upper legs parallel to the floor. A footrest may be needed by some people to achieve this position. Chairs should have a five-star base and casters compatible with the floor surface. T-armrests with adjustable height and width are recommended for intensive computer users. When seated, the seat pan should not hit the back of knee.

Work Surface: Work surfaces should be large enough to accommodate all the computer equipment, including a wrist rest in front of the keyboard and adequate viewing distance between the monitor and operator's eyes. A keyboard tray can be used to increase depth and to provide proper keying level. There should also be enough room under the work surface to allow free leg movement. The height of the work surface should allow the forearms to be parallel with the floor when working at the computer, while not forcing the shoulders to be elevated. A footrest can assist in supporting the feet as well, allowing the employee to sit back in his/her chair.

Keyboard/Input Device: The 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 their forearms and hands parallel to the floor. Achieve this by adjusting the height of the chair and/or table, or by using an adjustable tray. A padded wrist rest for the 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. Avoid overreaching by keeping the input device close to the body.

Monitor (Terminal): Position the monitor directly in front of the operator with the screen at approximately eye level. One exception is bifocal wearers who may prefer a slightly lower monitor level. Monitors should have good contrast, sharp focus, and be free from flickering and glare to minimize eyestrain.

Document Holder: Position the document holder at eye level, close to the monitor.

Phone Head Set: Headsets reduce awkward neck and shoulder postures, notably by eliminating the habit of cradling the phone between the shoulder and chin. Headsets are particularly beneficial for people who work on the phone and computer simultaneously.

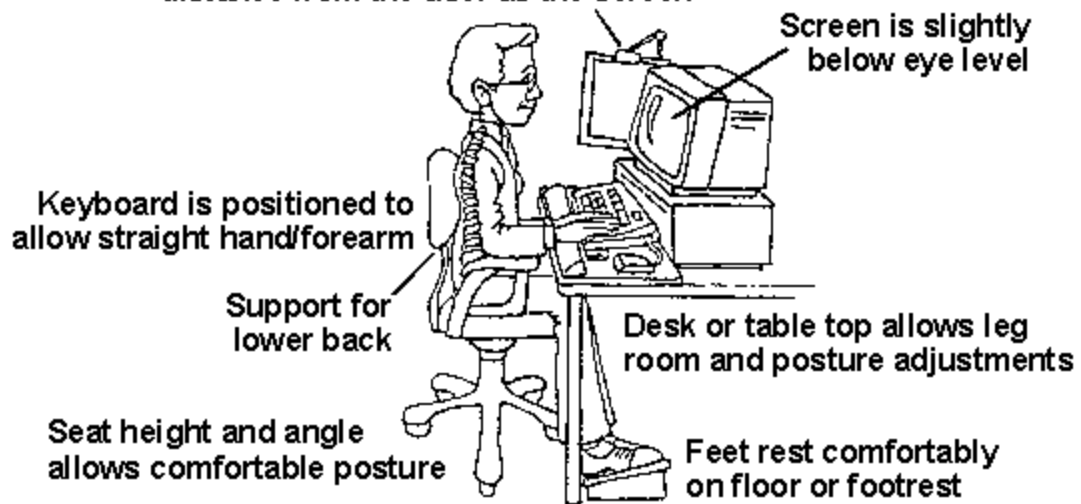
Carpet Mat: Carpet mat is helpful when the operator moves around often at the workstation.

Lighting: Excessive overhead lighting can cause glare and eye discomfort. Dimming overhead lights and use of a task lamp can reduce eye fatigue. Monitor shades and glare screens also reduce glare. Adjust monitor contrast and brightness for maximum personal comfort.

A Well Designed Computer Workstation



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



Appendix B - Patient Care Ergonomics

Guidelines for Manual Lifting and Lateral Transfers

In general, eliminate lifting and moving patients manually whenever possible by using assist equipment and devices. Get help from other staff. Tell patients what they can do to help you. Give them clear, simple instructions with adequate time for response.

Lifting

- Use upright, neutral working postures and proper body mechanics:
 - Bend your legs, not your back. Use your legs to do the work.
 - When lifting or moving people, always face them.
 - Do not twist when turning. Pick up your feet and pivot your whole body in the direction of the move.
- Try to keep the person you are moving, equipment and supplies close to the body. Keep hand-holds between your waist and shoulders.
- Move the person towards you, not away from you.
- Use slides and lateral transfers instead of manual lifting.
- Use a wide, balanced stance with one foot slightly ahead of the other.
- Lower the person slowly by bending your legs, not your back. Return to an erect position as soon as possible.
- Use smooth movements and do not jerk. When lifting with others, coordinate lifts by counting down and synchronizing the lift.

Lateral Transfers

- Position surfaces (e.g., bed and gurney, bed and cardiac chair) as close as possible to each other. Surfaces should be at approximately waist height, with the receiving surface slightly lower to take advantage of gravity.
- Lower the rails on both surfaces (e.g., beds and gurneys).
- Use draw sheets or incontinence pads in combination with friction-reducing devices (e.g., slide boards, slippery sheets, plastic bags, low-friction mattress covers, etc.).
- Get a good handhold by rolling up draw sheets and incontinence pads or use other assist equipment such as slippery sheets with handles.
- Kneel on the bed or gurney to avoid extended reaches and bending of the back.
- Have team members on both sides of the bed or other surfaces. Count down and synchronize the lift. Use a smooth, coordinated push-pull motion. Do not reach across the person you are moving.

Guidelines for Ambulating, Repositioning and Manipulating

These work tasks are usually performed in or around beds, gurneys, chairs, toilets, showers, and bathtubs. Equipment commonly used includes gait or transfer belts with handles (for better grips and stability), pivot discs, draw sheets, and incontinence pads.

Using Gait or Transfer Belts with Handles

- Keep the individual as close as possible.
- Avoid bending, reaching or twisting your back when:
 - Attaching or removing belts (e.g., raise or lower beds, bend at the knees)
 - Lowering the individual down

- Assisting with ambulation
- Pivot with your feet to turn.
- Use a gentle rocking motion to take advantage of momentum.

Performing Stand-Pivot Type Transfers

Used for transferring from bed to chair, etc., or to help an individual get up from a sitting position.

- Use transfer discs or other assists when available. If using a gait or transfer belt with handles, follow the above guidelines.
- Keep feet at least at shoulder width apart.
- If the patient is on a bed, lower the bed so that they can place their feet on the floor to stand.
- Place the receiving surface (e.g., wheelchairs) on the individual's strong side (e.g., for stroke or hemi-paralysis conditions) so they can help in the transfer.
- Get the person closer to the edge of bed or chair and ask them to lean forward as they stand (if medically appropriate).
- Block the individual's weak leg with your legs or knees (this may place your leg in an awkward, unstable position; an alternative is to use a transfer belt with handles and straddle your legs around the weak leg of the patient or resident).
- Bend your legs, not your back.
- Pivot with your feet to turn.
- Use a gentle, rocking motion to take advantage of momentum.

Lifting or Moving Tasks with the Patient in Bed

Some common methods include scooting up or repositioning individuals using draw sheets and incontinence pads in combination with a log roll or other techniques.

- Adjust beds, gurneys or other surfaces to waist height and as close to you as possible.
- Lower the rails on the bed, gurney, etc., and work on the side where the individual is closest.
- Place equipment or items close to you and at waist height.
- Get help and use teamwork.

Guidelines for Transporting Patients and Equipment

It is often necessary to transport patients in gurneys, wheelchairs, or beds, or handle various types of carts, monitors, instrument sets, and other medical equipment.

- Decrease the load or weight of carts, instrument trays, etc.
- Store items and equipment between waist and shoulder height.
- Use sliding motions or lateral transfers instead of lifting.
- Push -- Do not pull. Keep loads close to your body. Use an upright, neutral posture and push with your whole body, not just your arms.
- Move down the center of corridors to prevent collisions.
- Watch out for door handles and high thresholds that can cause abrupt stops.
- Promptly take out of service any rolling equipment that is defective or in need of maintenance and tag with a description of the problem. Report it to the appropriate department.

Guidelines for Performing Activities of Daily Living (ADL)

Cramped showers, bathrooms or other facilities in combination with poor work practices may cause providers to assume awkward positions or postures or use forceful exertions when performing ADLs.

- Use upright, neutral working postures and proper body mechanics. Bend your legs, not your back.
- Eliminate bending, twisting and long reaches by:
 - Using long-handled extension tools (e.g., hand-held shower heads, wash and scrub brushes).
 - Wheeling people out of showers or bathrooms and turning them around to wash hard-to-reach places.
- Use shower-toilet chairs that are high enough to fit over toilets. This eliminates additional transfers to and from wheelchairs, toilets, etc.
- Use shower carts or gurneys, bath boards, pelvic lift devices, bathtub and shower lifts, and other helpful equipment.

When providing in-bed medical care or other services, follow the guidelines listed previously.

Guidelines for Transferring From the Floor

When it is medically appropriate, use a mechanical assist device to lift patients from the floor. If assist devices are not readily available or appropriate, you may have to perform a manual lift. When placing slings, blankets, draw sheets or cots under the person:

- Position at least two providers on each side of the person. Get additional help for large patients or residents.
- Bend at your knees, not your back. Do not twist.
- Roll the person onto their side without reaching across them.
- If using hoists, lower the hoist enough to attach slings without strain.

If manually lifting, kneel on one knee, grasp the blanket, draw sheet or cot. Count down and synchronize the lift. Perform a smooth lift with your legs as you stand up. Do not bend your back.

Guidelines for Assisting in Surgery

- Use retractor rings instead of prolonged manual holding of retractors.
- Position operating tables or other surfaces at waist height.
- Stand on lifts or stools to reduce reaching.
- Frequently shift position or stretch during long operations.
- Avoid prolonged or repeated bending of the neck or the waist. Stand with one foot on a lift and frequently alternate feet to reduce pressure on the back.
- Reduce the number of instrument sets (trays) on a case cart.
- Store instrument sets (trays) in racks between the waist and shoulders.
- Use stands or fixtures to hold extremities.
- Get help from coworkers as needed to:
 - Position legs or extremities in stirrups
 - Move heavy carts, microscopes, monitors, alternate operating tables, equipment, or fixtures

(Reprinted with permission from "A Back Injury Prevention Guide for Health Care Workers," Cal/OSHA Consultation Service, 1997)

Appendix C - Hand Tool Ergonomics

Proper attention to selection, design, and layout of tools can help minimize the risk of developing repetitive motion injuries. Four basic principles can be applied when working with hand tools:

- Avoid high contact stress and static exertions.
- Avoid extreme or awkward joint positions (i.e., bent wrist position).
- Avoid repetitive finger action.
- Avoid tool vibration (select power or pneumatic tools with built-in vibration dampening whenever possible).

The following guidelines can help with the selection and design of tools.

- Handles should be provided whenever possible. A properly designed handle isolates the hand from contact with the tool surface, enhances tool control, and increases mechanical advantage while reducing the amount of required exertion. Tool handles should be non-porous, non-slip, and non-conductive.
- Soft coverings on a tool handle protect the hands from heat and cold and help reduce pressure points and slipperiness of the grip.
- Select hand tools that fit the hands of the worker. A tool that is too large or too small will produce stress in the hand and wrist. As a general rule, the ideal handle diameter for a man is 1.5 inches, and 1.3 inches for a woman.
- Tools with a pistol grip should be used where the tool axis must be horizontal. A straight grip should be used where the tool axis is vertical, or where the direction of force is perpendicular to the work plane. Bent tool grips allow the wrist to maintain neutral postures.
- For trigger-activated tools, 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 *trigger finger*.
- The majority of commercially available tools are designed for the right hand. Ideally, tools should be symmetrical or easily altered to be used by either the right or left hand.
- The provision of automatic spring opening on tools such as scissors and pliers will enable the worker to use the strong hand-closing muscles rather than the weak hand-opening muscles.

Correct positions for holding hand tools are illustrated below:

Correct Positions for Holding Hand Tools



Laboratory Ergonomics

Reprinted with permission from Fisher Scientific

The Pressure of Pipetting

Pipetting involves several ergonomic stressors - thumb force, repetitive motions and awkward postures, especially of the wrists, arms and shoulders. And these can be exacerbated by the mental pressure resulting from the accuracy, precision and timing demanded in many pipetting procedures. When pipetting is done for more than 300 hours in a year, the prevalence of hand and shoulder pain increases.

Recommended protective measures for pipetting:

- Rotate pipetting tasks among several people.
- Take short micropauses of a few seconds, when you can't take a longer break.
- Use only the force necessary to operate the pipetter.
- Choose pipettors requiring the least pressure.
- Work with arms close to the body to reduce strain on shoulders.
- Keep head and shoulders in a neutral position (bent forward no more than 30 degrees).
- Use adjustable chairs or stools with built-in solid footstools. Don't use a foot ring, which could compress blood vessels in feet, and don't use high stool which can force you to work with a bent neck.
- Don't elevate your arm without support for lengthy periods.
- Use shorter pipettes. This decreases hand elevation and consequent awkward postures.
- Use low profile waste receptacles for used tips. They should be no higher than the top of the tubes being filled.

Posturing at Microscopes

- Don't use a microscope for more than five hours per day. Spread use out over the entire workday so you don't spend long uninterrupted periods at it.
- Keep scopes cleaned and use illuminators and shadow boxes properly to avoid visual and musculoskeletal strain.
- Adjust chair height so thighs are horizontal and feet flat on the floor. Chairs should be adjustable from 15-21 inches.
- Make sure the backrest provides proper lumbar support and be sure to readjust when you change positions.
- Select chairs with padded armrests to rest your arms and increase stability without compressing the ulnar nerve in your arm.
- Position work surfaces high enough to allow close inspection without inclining your head beyond 17-29 degrees.
- Use a cut out worktable. This puts you close to the scope yet gives an area for supporting forearms.

Appendix E - Other Workplace Ergonomics

There are a variety of other work settings where ergonomic practices are important (i.e., manual material handling, custodial work, maintenance, gardening, etc.).

Principles for Manual Material Handling (MMH) Work Design

Eliminate the Need for Heavy MMH

The optimal solution to MMH-related problems is to eliminate the need for heavy work MMH. In general, two means exist to accomplish this:

1. The use of mechanical aids such as hoists, lift trucks, lift tables, cranes, elevating conveyors, gravity dumps, and chutes can eliminate (or at least significantly decrease) stresses due to MMH.
2. To eliminate heavy MMH, change the work area layout to make all materials available at work level. Accomplishing this objective can involve either a change in work level height or the level of the worker.

Decrease MMH Demands

If MMH cannot realistically be eliminated, then attempts should be made to decrease the MMH demands of the job. There are several means by which this second principle of work design can be accomplished:

- Decrease the weight of the object being handled. Reduce the weight of the object by assigning handling to two or more people, distributing the load into two or more containers, or by reducing the capacity of the container or the container weight (i.e., using plastic drums rather than metal drums).
- Change the type of MMH activity and the demands of the job can be decreased. Lifting, lowering, pushing, pulling, carrying, and holding are all types of MMH activity. It is preferable for a job to require lowering rather than lifting, to require pulling rather than carrying, and to require pushing rather than pulling. (For instance, make several trips with lighter loads; use a cart or dolly whenever possible.)
- Changes in the work area layout can decrease MMH-related demands. Some ways in which this can be accomplished include: minimizing the horizontal distance between the starting and ending points of a lift, limiting stacking heights to the shoulder height of the worker, and keeping heavy objects at the knuckle height of workers.
- Maximizing the time available to perform the job can decrease job demands. Accomplish this by reducing the frequency of the lift, and by incorporating work/rest schedules or job rotation programs into the work design.

Minimize Stressful Body Movements

The third principle of work design is to minimize stressful body movements required by the job. Specifically, bending and twisting motions imposed on the worker should be reduced.

- Reduce bending by locating objects to be handled within the arm-reach envelope of the worker.
- Provide all material at the work level of the worker.
- Avoid using deep shelves where the worker must bend and reach to obtain objects toward the rear of the shelves.
- Arrange the work area to allow sufficient space for the entire body to turn and pivot with the feet.
- Use an adjustable swivel chair if work is done while seated.

- Design considerations should allow the worker to lift objects in a safe manner.
- Practice and encourage the safe lifting techniques described below.

Safe Lifting and Good Body Mechanics

- Allow the object to be handled close to the body.
- Use devices such as handles, grips, etc., to provide better control of the object being lifted or moved.
- Balance the contents of the containers.
- Provide rigid containers for increased worker control of the object.
- Avoid lifting excessively wide objects from floor level.
- Use good body mechanics; **bend your legs, not your back, when lifting.**
- Pivot with your feet instead of twisting your back when lifting.

Recognize the Risk for Repetitive Motion Injury

OSHA has identified five specific situations that create significant risks for RMI, if incurred over a period of more than two, three, or four hours:

1. Performing the same motion or motion pattern for more than two hours continuously or four hours daily.
2. Maintaining an unsupported fixed or awkward posture for more than one hour continuously or four hours daily.
3. Using vibrating or impact tools or equipment for more than one hour continuously or two hours daily.
4. Using forceful hand exertions for more than two hours daily.
5. Unassisted frequent or heavy lifting

Recovery Cycles

Ergonomists agree the most important measures to prevent stress injuries are pretty straight forward. They include:

1. Take frequent breaks
2. Move around
3. Do not repeat the same motions and postures
4. Avoid awkward motions and postures
5. Perform relief exercises
6. Expand the tasks each person performs to minimize the constant repetition of any one particular task

The theory behind this advice: providing recovery time -- time for your body to recover from exertions. Awkward postures, repetitions, use of force are not bad in themselves. They *are* bad, however, when sustained over time so that your body does not have time to recover. The result: overexertion, injury, and perhaps permanent damage.

It is also critical to recognize the cumulativeness of stresses and the need to balance tasks and activities. Without recovery periods, ergonomic stresses incurred during one activity become cumulative with those from another, but similar activity. For instance, hand movement stresses you incur in the lab can be cumulative with those you incur playing at the piano. Balancing these activities allows and adequate recovery period.

Sit/Stand Workstation

Work surface height for a sit/stand workplace varies depending on the primary job tasks. The recommended height for tasks involving large-size products or drawings is 44 inches above the floor. Adequate leg clearance also reduces static loading on the legs and back of the worker. For tasks that can be done while sitting or standing, the recommended work surface height is 40 inches above the floor. Anything lower than 40 inches will cause stooping and excessive static exertions on the back and shoulder muscles, especially for taller workers.

Anti-Fatigue Mats

Anti-fatigue mat provide additional support for the worker at standing and sit/stand workstations. Mat size should be large enough for the worker to stand entirely on the mat when at the workstation. Select a mat free of raised or irregular surfaces that will cause concentrated forces on the feet of the worker.

Appendix F - Purchasing New Furniture and Accessories

Choose adjustable furniture and chairs. Plan ahead by anticipating future changes in tasks and employee needs.

Contact Employee Support Program or Purchasing Department for advice on the ergonomic features of products you are interested in, for price information, and vendor referrals. Involve all potential users in the selection process by having people try out products before purchasing. (See Loaner Program description in Appendix G.)

Have a product representative provide training on the features and proper use of the product.

For furniture and chair purchases, consider SteelCase products first and ask about the University of California's contract with SteelCase. The contract provides a very significant discount off the retail price.

Look for these preferred features when shopping for chairs and furniture:

Chairs

- Pneumatic seat pan height
- Back rest height
- Back rest angle
- Forward tilt
- Swivel
- Arm rest height and width

Table and Desk

- Adjustable work surface
- Adequate dimension
- Work surface edges and corners are smooth, without sharp edges
- Adequate leg clearance and space
- Non-glare finish

Keyboard Drawer

- Height adjustment
- Extended to accommodate the mouse
- Built-in soft wrist rest (not the metal lip); or enough room for an add-on wrist rest
- Make sure there will be adequate leg room once the keyboard drawer is installed