# Pointers
## on Your Pointing Device

Many of today's computers require the use of a "pointing device" such as a mouse or trackball. The aches and pains associated with pointing devices have sent many users in search of the "perfect" device. Unfortunately, it doesn't exist!

It is important to realize that pointing device problems are not necessarily caused by the device itself, but by the small, repetitive movements they require. Your workstation set-up, your posture at the keyboard and your pointing technique also weigh in. So, before rushing out to buy a new pointing device, consider these pointers first:

## A Well-Designed Workstation Reduces Awkward Postures

■ Place your pointing device right next to, and at the same level as, your keyboard.

■ Use a keyboard tray or computer table that is long enough to hold both your keyboard and your pointing device.

■ Make sure your keyboard and pointing device are at elbow height. Reaching for a pointing device placed at a higher level on the desk will put more stress on your arm and shoulder.

### If your keyboard tray is too small:

■ Attach an upside-down clipboard to one side of the tray. This will provide a platform for your pointing device.

■ Put your keyboard and pointing device on top of your desk or work surface. Raise your chair, if necessary, to get the pointing device at elbow height. If your feet don't touch the floor, use a footrest.

■ Try a mini keyboard without a numeric keypad to make more room for your mouse.

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**UC Berkeley's Ergonomics Program for Faculty and Staff**
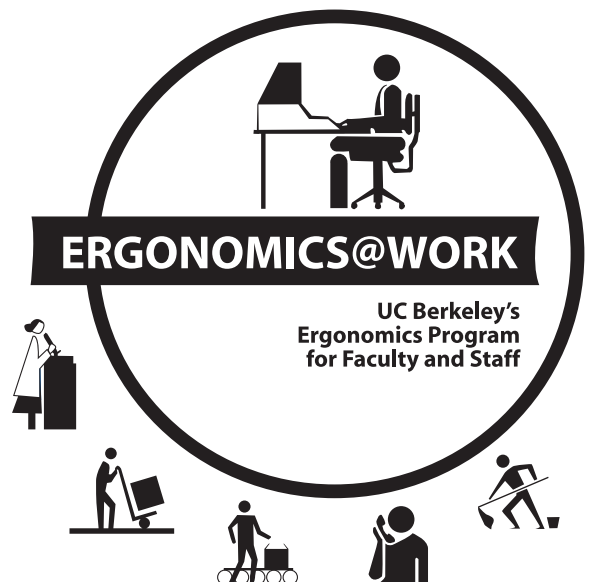
# Reaching Can Strain Neck and Shoulders

To prevent strain in your neck and shoulders, keep your elbows near your body and your forearms approximately parallel to the floor. Extending your arms away from your body can place stress on the neck and shoulder area. To maintain a safe and comfortable posture while using your pointing device, you should:

- Avoid reaching by moving as close as possible to the keyboard and pointing device. Remove a desk drawer or chair arms if they prevent you from moving in close.

- Don't store things under your desk. This can limit leg room and push you further away from your computer.

- Try using your pointing device with your left hand. Because there is no number pad on the left side of the keyboard, you can bring the pointing device even closer.

Avoid reaching!
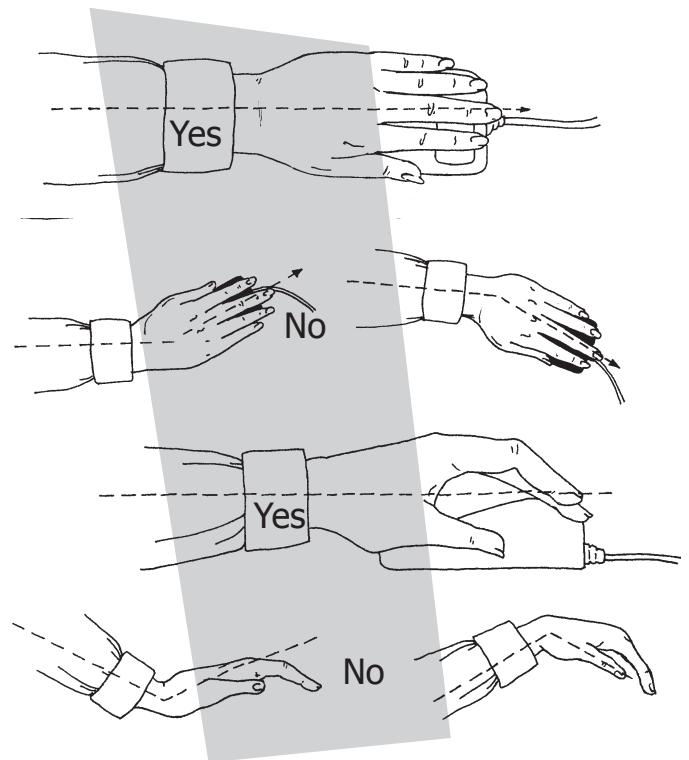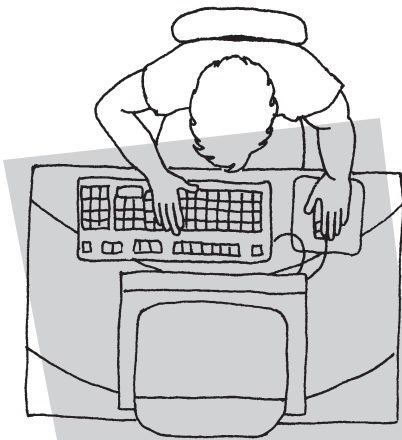
Maintain a safe and comfortable posture

Drawings by Jean Smith

# Good Technique Reduces Injury Risk

The fine, sustained movements needed to move a pointing device may put stress on your hand, wrist, forearm, or shoulder. Techniques to reduce sustained, awkward and/or forceful movements can reduce your risk of injury.

1. Don't squeeze! Drape your hand gently over your pointing device, holding it lightly with all fingers slightly curved. Let go when you're not using your pointing device.

2. Use your whole arm and shoulder to move the pointing device instead. Don't plant your wrist or forearm on the chair arm or desk top. This automatically forces you to bend your wrist to move your pointing device.

3. Keep your wrist straight. Don't bend your wrist up, down, or sideways. Watch out for pointing devices that force you to angle your hand up (like big trackballs). Use a foam wedge or stack some mouse pads under the end of the device, if needed, to position it so that you can keep your wrist straight.

4. Click with as little force as possible.

5. Dragging with your mouse requires more force than clicking. Find other ways to perform functions requiring dragging, such as keyboard shortcuts or a pointing device with a drag lock feature. Most software programs provide a list of keyboard shortcuts under HELP.

Yes

No

Yes

No

# Reduced Repetition Prevents Fatigue

- Take 5! Take a 5-minute break away from your computer every half hour. Try some stretches or perform another task that does not use the hand/arm in the same repetitive manner as the pointing device. For example, stand and use the telephone, do some photocopying, or check your mailbox.

- Switch hands. Alternate using your pointing device between the right and left hands. You may be slower at first with your "other" hand, but you'll be up to speed in a matter of weeks or even less. Your computer has a "control panel" setting to switch your pointing device back and forth from right to left-handed. Use a pointing device that is not contoured to fit only one hand.

- Use keyboard shortcuts instead of your pointing device for commonly used functions. When keyboarding, the work is distributed over two hands. With pointing device work, repetitious movements are concentrated in one.

- Program your pointing device to perform commonly used commands with fewer clicks and movements, if possible. Some pointing devices have programmable software that allows you to click once for such commands as double click, drag lock, or pop-up menus.

Try alternating between right and left hands

## One Pointing Device Does Not Fit All

New pointing devices appear on the market almost daily. This makes it challenging to assess the ergonomic pros and cons of rapidly changing designs and capabilities.

As with other ergonomic equipment, what's most comfortable for you depends on a variety of factors—including your hand size, job tasks, work habits, and other personal factors.

See **Checklist for Choosing a Pointing Device** on reverse

Different job tasks, for example, require different amounts of pointing device use. Data entry and programming tend to be keyboard intensive, while spreadsheet building and word processing alternate more between keyboard and pointing device use. Tasks that are pointing device intensive include graphics design, internet use, and computer-assisted design (CAD). Some users prefer the mouse because it tends to be better at performing fine movements and reaching a target more quickly. A trackball eliminates the need to grip the device, a problem for some mouse users. Some job tasks such as graphic design may be easier with more specialized pointing devices.

Though a new pointing device is not always the answer to pointing device problems, here are some buying tips that may be useful if you're in the market for a new one.

- Take the Keyboards and Mice: Ergonomic Alternatives Workshop to find out the pros and cons of various pointing devices.

- Try out the pointing device before purchase, if possible. Ask your systems staff if alternative pointing devices are available for you to borrow to try out. If not, visit a store to get the feel for different devices.

- Make sure the device you choose fits your hand (not too big or too small).

- Choose a device that is not contoured to fit only one hand so you can switch back and forth.

- Consider whether you need a pointing device with programmable features that cut down on repetitive clicking. Some devices allow you to perform such functions as drag-lock, double-click, or pop-up menus with a single click. Check with your systems staff to see if the mouse driver software is compatible with your department's computer network.

- Use the checklist on the back to help you decide which pointing device is best for you.

# Checklist for Choosing a Pointing Device

| | Yes | No* |
|---|---|---|

**Size/Shape**

- Is this pointing device a comfortable fit for your hand, not too large or small, narrow or wide? ☐ ☐
- If the device is a trackball, is the ball size comfortable, neither too large or too small? ☐ ☐
- Are the buttons on the device a good size, neither too narrow or too wide, too large or too small? ☐ ☐
- Is the pointing device designed so that it could be used by either the right or the left hand? ☐ ☐

**Ease of Use**

- Are the number of buttons on this pointing device simple to understand and use? ☐ ☐
- Are the buttons on the device easy to reach? ☐ ☐
- Are the buttons on the device easy to activate, without excessive force? ☐ ☐
- If the device has a thumb button, is it easy to activate? ☐ ☐
- Does the pointing device move smoothly over the mouse pad? ☐ ☐
- Is this pointing device easy to control for fine movements? ☐ ☐
- Is it easy for you to reposition the cursor without having to move the pointing device a lot to get across the screen? ☐ ☐
- If the device is a trackball, is the ball easy to control, not too sluggish or too fast? ☐ ☐

**Posture/Technique**

- Can you maneuver the device without having to squeeze it? ☐ ☐
- Can you use this device without lifting your "pinkie" or other fingers in awkward positions? ☐ ☐
- Are you able to keep your wrist in a neutral (straight) position when using this device without using a wrist rest or altering the slope of the device? ☐ ☐
- Can you use the pointing device without pressing your wrist down on the work surface? ☐ ☐
- Can you use the pointing device keeping your forearm approximately level with no or little bend in your wrist? ☐ ☐
- Are your fingertips and wrist at approximately the same height when using this pointing device? ☐ ☐

**Technical Issues**

- Is it easy to switch this pointing device back and forth between right and left-handed use in your computer control panel? ☐ ☐
- Does the pointing device have programmable features for such functions as double click, drag lock, or drop down menus? ☐ ☐
- Is the mouse driver software for programmable features compatible with your computer network and easy to install? ☐ ☐

*If you answered "NO" to a number of the questions above, it may indicate that a different pointing device would be a better choice for you.

# CAMPUS RESOURCES FOR COMPUTER USERS



**Keyboards and Mice:  Ergonomic Alternatives:**
- Workshop enrollment:  UCB Learning Center at http://blu.berkeley.edu
- Departments purchase at CDWG at www.cdwg.com/berkeley

**Keyboard shortcuts at** http://calpact.berkeley.edu/resources/

**Medical care for work-related health problems:** Call the Occupational Health Clinic at 642-6891.

**Stretch Break reminder software:**  Downloadable at http://blu.berkeley.edu under the "People" tab, "Job Tools" section

**Workstation evaluations:** Contact your Department Computer Workstation Evaluator.  Ask your supervisor, Department Safety Coordinator, or call 643-2540 to find out the name of your department evaluator.

**Workstation furniture showroom:** Call 1-877-722-9090 for an appointment.

## Visit our website at:  http://www.uhs.berkeley.edu/ergonomics/