

Health Connection

Your Good Health Newsletter

Volume 12, No. 1

Summer 2003

Creating an Ergonomically Sound Computer Workstation

by Robin Benick, MA, PT, Clinical Supervisor, Department of Rehabilitation Services

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Ergonomics is the science that creates the best “fit” between a person and the task at hand. It seeks to create an environment that facilitates good body mechanics during the performance of an activity, maximizing performance while minimizing risk of injury. Ergonomic principles can be applied to any activity in any environment. Since computer use is the most frequently performed office task, and because repetitive strain injuries are on the rise in computer environments, this article will center on ergonomics for computer workstations.



The major factors to consider in a computer workstation are **POSTURE** and **POSITION**. Users need to know the proper posture and body mechanics for their workstations and how to achieve them. Positioning workstation components to allow efficient performance and correct posture at the computer is the key.

Here are some hints for creating an ergonomically sound computer work environment:

- 1. Keep it neat** - Clear clutter from the workspace and keep frequently used items within arm's reach. A clean, organized area improves efficiency and forces fewer awkward positions. Keeping computer screens dust-free helps prevent eyestrain.
- 2. Be grounded** - Feet should be touching the floor (or a footrest) when seated. Chair height & angle should be adjusted so that the knees are at 90 degrees with the hips slightly less than 90 degrees.
- 3. Have a level perspective** - The computer screen should be directly in front of the user, about an arm's reach away (20-22") and set so the top of the monitor is about level with the top of the head. You should not have to look up at the screen.
- 4. Stay neutral** - Adjust the keyboard surface so your wrists are straight or very slightly downward during typing or mouse tasks. The fingers should rest gently on the keys. Arms should be comfortable at your sides, elbows at 90 degrees, with the forearms parallel to the floor. If a “wrist rest” and/or chair arms are used, they should support this position. You should not have to reach for the keys OR the mouse AND take care to avoid pressure against the bottom of the wrist at the carpal tunnel area.
- 5. Take a break** - It is a good idea to take a break from computer activity every half-hour. Switch to a task that uses different muscles and positions for a short period. Do gentle stretches (i.e., shoulder rolls, ceiling reach, ankle pumps) periodically throughout the day. And be sure to look away from the computer monitor frequently. A good rule of thumb is to close the eyes for 30 seconds every 15 minutes.

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Creating an Ergonomically Sound Computer Workstation (continued)

6. Lighten up - Avoid glare on the computer screen and uneven lighting in the work area. Monitors should not be positioned directly in front of windows unless light blocking shades are used. Overhead lighting should be parallel to computer workstations, not directly above. Low sheen wall coverings help reduce glare as well. Antiglare screens can also be helpful, as long as there is enough general light in the room and the background

screen is bright enough to provide easy readability.

Some other things to think about...

If people do not know how to correctly use and/or adjust their equipment, it can be virtually worthless. That includes awareness of software capability. Education in these areas is important to the success of a computer environment.

In many ways, computer users are

“office athletes.” They need to be in shape to perform their work activities on a repetitive basis (including strong and flexible wrists, forearms and trunk) or risk injury. It is a VERY good idea to develop and follow a “computer fitness” program, targeting areas of the body utilized during computer tasks. This program should be in addition to desk stretches and task/position changes during the workday.

COMPUTER POSITION GUIDELINES

WORKSTATION TIPS

Place monitor perpendicular to windows for the best lighting. Draw the shades when the sun is bright.

Make sure the monitor is 18-22" from your forehead, depending on visual acuity. The top of the screen should be at eye level.

Place documents on a copy holder attached to side of monitor or on a copy stand between the keyboard and monitor.

Adjust seat height so that the knees are slightly below hips with feet resting comfortably on the floor.

The keyboard height should be just below your elbow height. The front portion of the keyboard can be raised slightly to prevent bending your wrists up.

If using armrests, adjust the height by resting arms at your sides with your elbows bent at a 90-degree angle. The armrest should be positioned directly under elbow/forearm.

POSTURE TIPS

Keep your head upright and chin level, keeping shoulders relaxed. Sit as “tall” as possible.

Your arms should rest comfortably at your sides.

Your elbow should be bent at an approximate 90-degree angle.

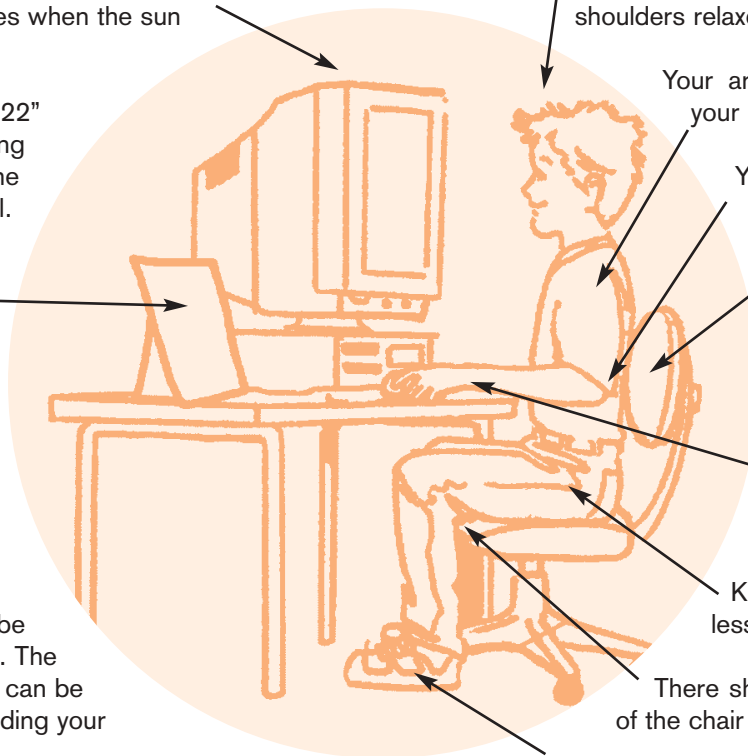
Your backrest should be mid-pelvis to mid-shoulder blade, with lumbar support from the top part of your pelvis into the small of your back.

Keep your wrists straight-not bent up, down, or deviated to the side.

Keep your hips bent at slightly less than a 90-degree angle.

There should be 2-3" between the front of the chair and the back of your knees.

Your feet should rest comfortably on the floor or on a slightly angled footrest.



The diagram above gives guidelines for positioning at a computer (courtesy of American Physical Therapy Association).

Good Feng Shui for Your Workplace

by Katherine Royal MacKinnon, Feng Shui Consultant and Teacher, Department of Public and Patient Education

Feng Shui (Fung Schway), the ancient Chinese art of placement, is very effective for business, particularly improving profits, increasing business, and helping people advance their careers. It is equally effective in energizing a workplace, improving personal productivity and power and reducing stress.

What can you do to create good Feng Shui in your individual workplace?

In the workplace today, most people are limited in what they can do to improve the Feng Shui of their work environment: built-in workstations and desks designed for computers to face a specific direction; open workspace plans; limited or no windows, etc. Here are a few things you can do to create good Feng Shui for your workplace, in spite of these modern day realities, and some of the benefits you will derive:

Desk & Computer

The first and most important consideration is the location of the desk. The ideal position is the opposite corner to the entrance, facing the entryway when you sit at your desk and work on your computer. This will put you in the power position. Also, you

can see people as they approach your desk and you are not startled. If it is not possible to place your desk so you are facing the doorway, or the view is so great you would rather not, place a mirror on top of or beside your desk or computer, so that you can see the doorway when you sit.



Chair

Proper support is essential for your back. The right height for your arms, wrist and hands to work at a computer is equally important. And there should be no opening between the back of the chair and the seat. This will ensure proper support, both physically and psychologically.

Lighting

If possible, it is best to sit by natural lighting. The combination of lighting and views encourage creativity. If this is not possible, use good artificial lighting, stimulating pictures with views and mirrors to create a sense of expansiveness and inspiration.

Clutter

The easiest Feng Shui tool is to organize your paperwork so everything is

in labeled files and placed in drawers, except when you are working with the file. Ideally, the only work on your desk is what you are currently working on. With clarity comes focus and productivity.

Other things that create good Feng Shui in the workplace are: plants, which bring live energy and act as air purifiers; color (for most businesses blue or green); and water fountains by the entrance of the door, or in the far left corner, to generate prosperity.

Finally, avoid corners of desks, bookcases or walls pointing at you by either placing the furniture so no sharp edges are pointing at you in any direction, or hanging a plant or something to soften the sharp edge.

From the Studio

Pilates has been shown to yield numerous benefits including increased strength and flexibility, particularly of the abdomen and back muscles, coordination, posture, balance and positive body awareness.

Not convinced? Read the following rave review of one of our Beginners Pilates Mat Class participants:

“ I found that I became much more flexible, finding muscles I never knew I had. The instruction by Jackie Herbach was excellent. I was much

more aware of breathing, posture, and the benefits from doing some Pilates exercises at home and would recommend that HSS continue to offer Pilates classes. ”

-William Berley, Beginners Pilates Mat Class Participant

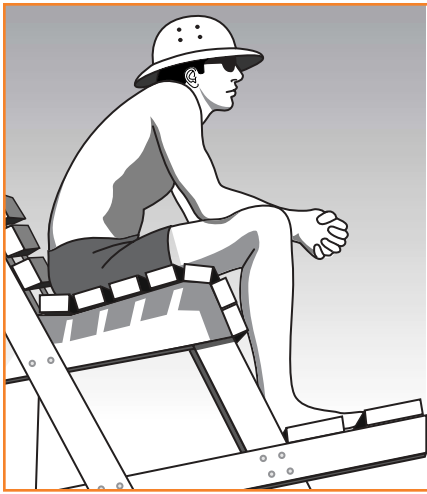
Protect Your Eyes...There is More to Shades than Just Looking Good

by Kathleen Chebotar, RN, Department of Occupational Health Services

Sunblocks are great for protecting your skin, but what about your eyes? Besides being a great fashion statement, did you know that the proper sunglasses protect your eyes from the damaging effects of the sun? Your choice of sunglasses can protect your eyes from the sun's ultraviolet (UV) rays. This is particularly important if you work outdoors, as you are at greater risk due to increased time spent in the sun. UV radiation can speed up the formation of cataracts, clouding your vision as you age.

Too much exposure to visible light may contribute to macular degeneration. Macular degeneration is a condition that affects the central part of the retina that is responsible for central vision and the ability to see detail.

Some sunglasses do not give enough protection, so be sure to read the label. They may be "cosmetic" and only block 70 percent of UV radiation. Look for sunglasses that block 99 or 100 percent of UV radiation for full eye protection. The lenses of your sunglasses should be dark enough to filter out glaring visible light. Squinting can cause headaches and



eyestrain, not to mention lines around the eyes. Your frames should fit your face. If too close to your brow or cheeks, you may find fogged lenses to be a problem. Keep in mind that wraparound frames will give the most protection since the light is blocked from the

top, sides and bottom. Small frames are currently very fashionable, but will not offer as much protection. When sunglasses are paired with a wide brimmed hat, the amount of UV rays that reach your face can be reduced by about 50 percent.

Lenses can be any color; however, gray, brown and green are most popular. Yellow lenses can distort colors. If you wear prescription glasses, you can check with your eye doctor about photochromic lenses. These are lenses that adjust to the light level of your surroundings, changing from clear to dark in a short period of time. These are convenient if your work involves being both indoors and outdoors.

So, if you work outdoors, are going out for some fun in the sun, or just going about your day-to-day activities, be sure not to forget a pair of cool, comfortable shades!

From the Editor

NEWS AND VIEWS

Musculoskeletal Disorders and Workplace Injury

Have you been plagued with a back injury, sprain or strain acquired on-the-job? According to the American Academy of Orthopaedic Surgeons, over 28 million Americans develop some kind of musculoskeletal problem each year. The Centers for Disease Control reports that more than 580,000 lost workdays are caused by musculoskeletal disorders each year. This number is more than one-third of all lost workdays as a result of occupational injuries and illnesses. Here are some hints to help you prevent work-related musculoskeletal disorders:

- Add variety to any highly repetitive job/task, such as work that involves rigorous keyboarding, by taking more frequent, brief breaks to rest muscles.
- Suggest job rotation to your employer - workers in a team exchange jobs/tasks at intervals to give each of them greater variety.
- Discover options to reduce repeated motions, prolonged bending or working above shoulder height.
- Consider altering or redesigning your workstations for optimal comfort.

Chandler Wilson



The American Nurses Credentialing Center (ANCC) has awarded HSS with Magnet Recognition for Excellence in Nursing Service, the nursing profession's top honor.



The Smallpox Vaccination Program: What Everyone Should Know

by Eileen Finerty, RN, Infection Control Manager, Department of Infection Control

On December 13, 2002, President Bush announced the start of a new, voluntary smallpox vaccination program. This program was designed to protect you, the general public, in the event of a smallpox outbreak. The reasons for creation of such a program included:

- Uncertainty regarding the actual risk of an imminent attack
- Preparation for the possibility that terrorists would use diseases as a weapon
- Possible new threats coming to light after the events of September 11, 2001

Smallpox is technically a disease that no longer exists. The smallpox eradication program began in 1967 by the World Health Organization (WHO). In 1979, the WHO officially declared smallpox eradicated. The last case of naturally occurring smallpox in the world occurred in Somalia in 1977. Since smallpox was eradicated, the smallpox virus is believed to exist at only two government research labs: one in the United States and one in Russia.

What is smallpox?

Smallpox is a disease caused by the variola virus. Smallpox is a serious, contagious, and often fatal illness. Smallpox causes a high fever, body aches, headaches, fatigue and a rash. Most of the individuals who survive smallpox illness develop severe scars from the rash. Blindness may also occur as a complication. Smallpox is transmitted by breathing in the droplets that come from the nose, mouth and throat of an infected

person. Direct contact with the rash and contaminated objects (such as clothing) can also transmit smallpox, but this is less common. Although smallpox is a serious disease, it is considered to be less contagious than measles or influenza.

The Federal government is concerned that smallpox may be used as a biological weapon because:

- It can be easily spread from one person to another
- It can result in high death rates
- It has the potential to cause public panic
- It requires public health preparedness

An outbreak of smallpox today may be much harder to control than in the past because most people no longer have protection against smallpox as immunity from the vaccine declines over time. There is no way to test individuals to see if they have maintained immunity after receiving their vaccination in childhood. Also, most doctors in the United States may not easily recognize smallpox, since the last case of smallpox in the United States occurred in the 1940's.

Preparedness for smallpox is key because in the event of a smallpox outbreak, the medical community would need to be ready to treat the first victims. This is a crucial step in smallpox prevention for the general public. Therefore, health care workers will be pre-vaccinated because historically, they have been at highest risk of getting the smallpox disease from infected persons.

There are some risks associated with taking the vaccine. It is not rec-

ommended for people who have or live with someone who has eczema, pregnant women, or anyone with a disease that may suppress their immune system such as cancer or HIV. The vaccine should not be given to persons with severe latex allergy or active eye inflammation. Recently, it was announced that people with a history of heart disease should also not take the vaccine.

If you or someone you know is a health care worker, you may question whether you should volunteer for the vaccination program. It is a highly personal decision and should be based on the health care worker's ability and desire to be a first care provider in the event of a smallpox outbreak, their health, and the health of their family members.

This smallpox vaccination program is central to protecting the health of our nation. The health care workers who commit to participate in the vaccination program will serve to protect our cities and our country in the event of a smallpox outbreak and be prepared to manage the potential threat of smallpox.

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Vice President, Education
Laura Robbins, DSW

Assistant Director, Department of Public and Patient Education, Newsletter Editor
Chandler Wilson, MPA

Layout JBRH Advertising **Illustration** David Rosenzweig

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