Ergonomics Guidelines for Computer Workstations

The use of the personal computer has grown dramatically over the last few decades. The estimated computer usage in 1975 was 1 million; today, half of private households in the world are estimated to have a computer.

Extensive tests conducted by the National Institute for Occupational Safety and Health (NIOSH) and the Food and Drug Administration (FDA) show that radiation from Video Display Terminals (VDT) or monitors, in normal operation, is well below existing governmental standards. The tests were conducted at a distance of two inches from the screen. As a result, because the radiation levels are extremely low, there is no appreciable radiation hazard to the operator, particularly at normal viewing distances (~18 inches).
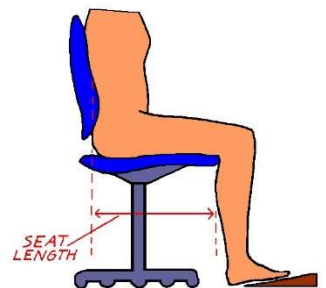
Although radiation is not a significant problem, any close work, including working on a personal computer, can cause discomfort and stress over a period of time. That can affect how you do your job and your general health. Therefore, to enhance your comfort and reduce stress, follow these guidelines:

Computer Workstation

1. Top surface of the keyboard space bar is no higher than 2-1/2 inches above the workstation.
2. Elbows at a 90-degree angle resting comfortably at side.
3. Top of viewing screen is at or below eye level.
4. Screen is about 18 inches from the operator's eyes.
5. Screen is tilted back ~10 to 20 degrees.
6. No glare is on the screen.
7. Images are clean, sharp, and easy to read.
8. For text entry, the keyboard should be directly in front of the operator.
9. For data entry, the keyboard should be directly in front of the operator's keying hand.

Body Position

1. Place document holder at the same height and distance from your eyes and the screen.
2. Knees at a 90-degree angle or greater.
3. Feet flat on the floor or supported by a footrest.
4. Adjust chair to accommodate elbow position.
5. Wrists flat over keyboard.
6. Head directly over shoulders; shoulders relaxed.
7. Lumbar back supported by chair back or cushion.

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Glare

1. Adjust contrast and brightness on screen.
2. Position screen away from windows and overhead light.
3. Tilt screen to reduce glare.
4. Position lighting to reduce glare.
5. Adjust window coverings to reduce glare from outside light.
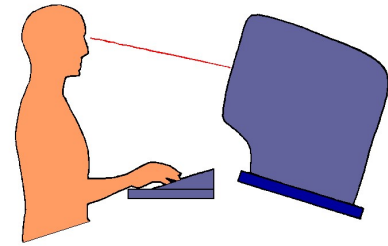
Exercises

No matter how comfortable your workstation is, sitting still for long periods of time can be tiring and stressful. Therefore, you should stretch occasionally and look away from your work. If possible, get up from your terminal and do other tasks. Try alternating different tasks throughout the workday, if possible.

The following simple exercises are recommended throughout the day while working at your workstation for lengthy periods.

1. Chin tuck. (Tuck chin toward chest.)
2. Neck rotation. (Turn head from side to side and look over each shoulder.)
3. Neck side bending. (Tilt head toward each shoulder. Left ear to left shoulder. Right ear to right shoulder.)
4. Chest stretch. (Pinch your shoulder blades together.)
5. Wrist flexion/extension. (Hold arms in front of you. Bend wrists so fingers point up, then down.)
6. Finger stretch. (Make fist then extend fingers as far as possible.)
   Note: If you are already experiencing pain, have a current medical condition, or have experienced other medical problems, seek advice from your doctor before beginning these stretches.
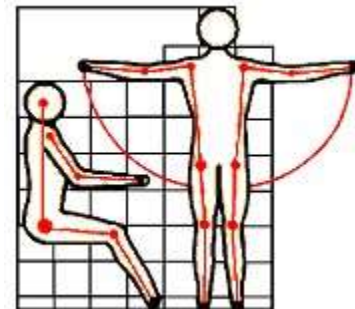
Again, the above are recommended guidelines to follow to increase your comfort and reduce stress.

Resources

EHS conducts workstation evaluations for employees who have a question regarding ergonomics and their office setup. To schedule an evaluation, contact EHS at (410) 704-2949 or safety@towson.edu.

OSHA's Guidance on Workstations. This site contains examples of problems computer workstation users may encounter, and suggested solutions for addressing those problems. A checklist is also available to help employers and employees identify, analyze and control hazards in computer workstation tasks.

National Institute for Occupational Safety & Health (NIOSH) Ergonomics page

For illustrations, etc. related to Proper Ergonomics of a PC, Computer Related Health Hazards, and Computer Related Repetitive Strain Injury, click here.