

Ergonomics

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What is Ergonomics?

- ❖ “Ergonomics is a 20th Century phenomenon. Derived from the Greek word "ergon," meaning "work," and "nomos" meaning "natural law," ergonomics is an applied science that coordinates workplace design with the needs of workers.”

Why?

- ❖ “The objective in studying the relationship between a worker and his/her work environment is to ultimately reduce the stresses that cause injuries, thereby enhancing worker comfort and increasing worker productivity.”

What is RSI?

- ❖ “RSI stands for Repetitive Stress Injury; a soft-tissue injury caused by repeated physical movements, excessive force and extremes of motion. Muscles, nerves, or tendons become irritated or inflamed, and over time, circulation may be reduced and soft tissues strained.”

Symptoms of RSI

- ❖ Fatigue, numbness and/or tingling in the affected part of the body - commonly starting in the dominant wrist, hand, forearm, and even extending to the neck and shoulders.
- ❖ Sense of loss of strength or coordination in the hands
- ❖ Pain, general aching in affected parts
- ❖ Reduced concentration
- ❖ Initially, symptoms occur after extended periods of activity and cease when the activity is stopped. As damage progresses, the affected parts become more sensitive and the pain does not go away even after resting them.

Common Injuries

- ❖ “Common injuries seen among computer users include carpal tunnel syndrome and elbow tendonitis.”

Carpal Tunnel Syndrome

- ❖ “Carpal tunnel syndrome occurs when the median nerve is compressed and entrapped where it passes through the wrist into the hand. The carpal tunnel is a very crowded, narrow passageway on the inside of your wrist filled with nerves, tendons, and blood vessels. Symptoms of carpal tunnel syndrome include numbness, tingling, pain, a burning sensation, swelling, or weakness in the wrist.”

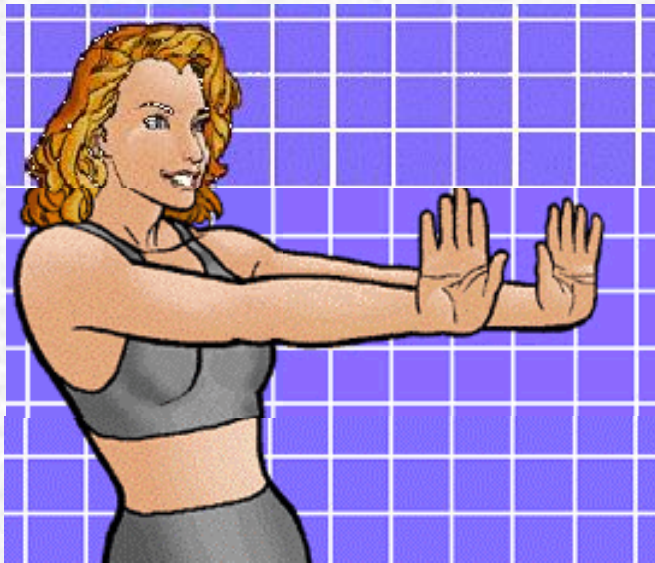
Tendonitis

- ❖ “Tendonitis is a form of tendon inflammation that occurs when a muscle or tendon is repeatedly tensed from overuse or unaccustomed usage of the wrist and shoulder. Symptoms of tendonitis include swelling, pain and tenderness. The tendon becomes thickened, bumpy and irregular. If left untreated, without sufficient time for the tissue to heal, the tendon may be permanently weakened.”

Other Injuries

- ❖ “Computer users are also at risk for lower back, neck and shoulder pain/discomfort, as well as eyestrain and headaches.”

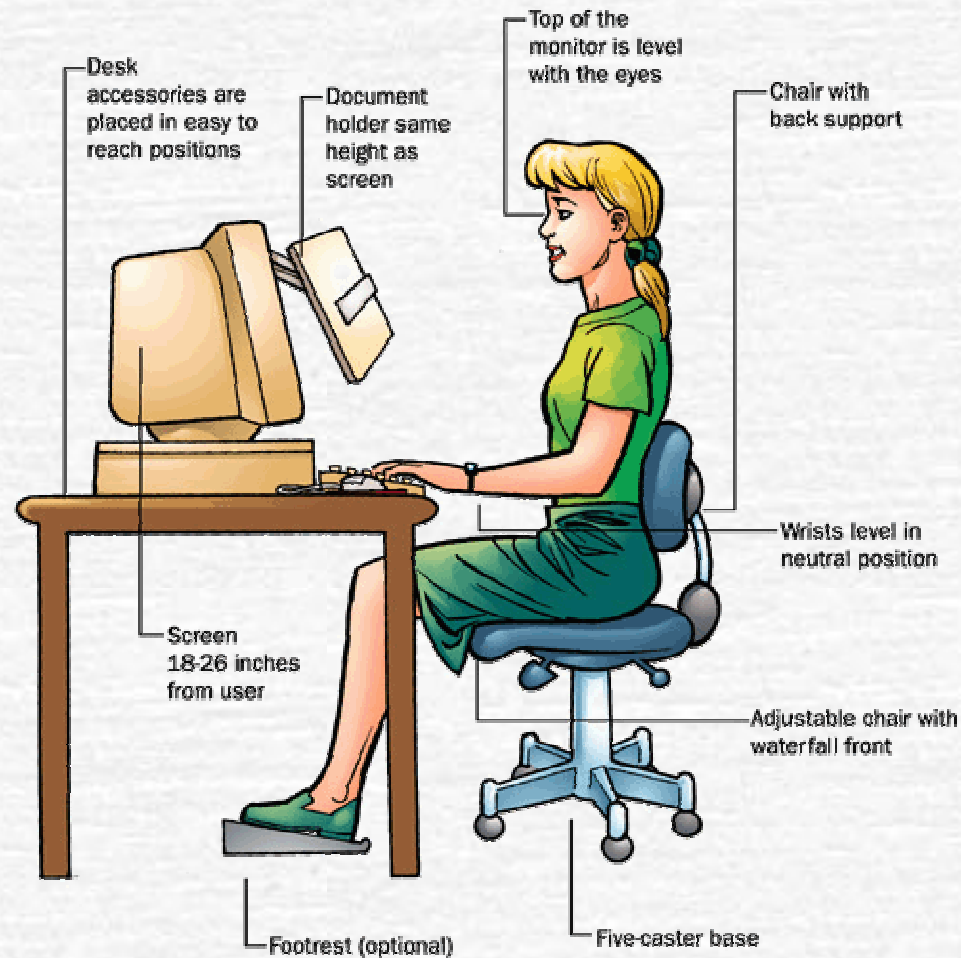
Wrist Exercise



1. Flex your hands like shown.
2. Hold hands out flat.
3. Make a fist with your hands.
4. Bend wrist down while keeping fists.
5. Hold hands out flat.
6. Now repeat steps 1-5 four more times.

The Ideal Workstation

How you move and use your body determines the health and comfort you feel while doing your job. Here's the ideal workstation.



Ergonomic Tips

❖ Easy Reach

- ❖ Are things around you within "easy reach"? Keep the most frequently used desk accessories - phone, manuals, mouse - within arm's reach. This will keep you from leaning forward or twisting out of your natural posture.

❖ Flat Foot on Floor

- ❖ Are your feet flat on the floor and are your thighs parallel to the floor? No? Then lower your chair, or use a footrest or any other wedge-shaped item to keep your feet supported and thighs parallel.

Tips Cont'd

❖ Get a Handle

- ❖ Check your chair height and keyboard height if you have pain in your arms or hands. Symptoms of carpal tunnel syndrome in hands, wrists and forearms include numbness, tingling, swelling, weakness and burning pain. If problems persist, consult a doctor.

❖ Get Wrists Right

- ❖ Are your wrists straight and in line with your forearms when your fingers are placed over your keyboard? Are your elbows at your side? Forearms parallel to the floor? If you need to correct your posture to keep wrists level, use a small rolled towel or palm rest at the base of your keyboard. Do not rest wrists or forearms on an unpadded desk edge.

Tips Cont'd

❖ Help Your Back

- ❖ To keep your back from getting tired, be sure that the curve in your lower back is supported by your chair's backrest. If it is not, place a pillow or a small rolled towel at the curve of your lower back for increased support and comfort.

❖ Hold it the Right Way

- ❖ You should keep your document holder at the same height and distance as your monitor. If you do not have a holder, use a clipboard propped against a thick book. For easy viewing, tape the bottom edge of the clipboard to the desk and slide the book back or forward to get the best reading angle.

Tips Cont'd

❖ Keep Eyes on the Level

- ❖ To avoid tired eyes at the end of the work day, keep the top of your monitor level with your eyes. If necessary, change the height of your monitor by placing large books or a sturdy box under it to achieve the correct level.

❖ Keep Your Head Up

- ❖ Holding your head upright with your chin pulled back and ears in line with your shoulders will help you avoid a pain in the neck. If you are not working in this posture, adjust the placement of your monitor. Keep it 18-26 inches (45-65 cm) away to avoid leaning forward to view the screen.

Tips Cont'd

❖ Space Your Knees

- ❖ Do you have at least 2-4 inches (5-10 cm) of space between the back of your knees and the edge of your seat? It is important to keep proper spacing between knees and chair to maintain good blood circulation. Place a "filler" between your back and the backrest of the chair, using a seat cushion, pillow or folded blanket for more comfortable sitting.

❖ Switch Your Seat

- ❖ Are you switching your seating posture frequently to reduce muscle strain and increase circulation? There is no need to maintain a rigid 90 degree angle posture while sitting. Leaning back 10-15 degrees is often more desirable - but only if you keep your proper back support and correct keyboard and monitor position.

Tips Cont'd

❖ Telephone Tip

- ❖ Avoid cradling the telephone between your ear and shoulder. For maximum comfort with a hand-held telephone receiver, practice keeping your head upright, balanced evenly between your shoulders, and alternate sides - don't use the same hand and ear constantly. And for an easy stretch, try taking phone calls standing up.

❖ Work Relaxed

- ❖ It is important to keep your body in its natural alignment - "working in neutral" - while you work at your computer. Proper alignment is the natural key to comfort and a reduced risk of injury.

Credits/References

❖ <http://www.cyberstretch.com>