

# Computer Health

**Ergonomics** – (per APTA for Guide to Physical Therapy Protocol)

**Greek “ergon” (work) and “nomo” (natural laws)**

“the relationship among the worker, the work that is done; the actions, tasks or activities inherent in that work; and the environment in which the work is performed.”

Ergonomics – “uses scientific and engineering principles to improve safety, efficiency, and quality of movement involved to work,”

Ergonomics related injuries including musculoskeletal disorders caused by repetitive stress, are a serious problem for employers.

US Department of Labor reported in 2002 that ergonomics related injuries account for ½ of all work place injuries, involved missed work time with an average of absence of 9 days per injury with claims and loss production estimated to cost US employers \$13-\$20 billion per year.

## Carpal Tunnel

Tingling, numbness, weakness or pain in fingers, thumbs, hand and occasionally in the arm.

Median nerve distribution.

Involves the tunnel made by carpal bones with transverse carpal ligament.

Tendon sheaths rub.

Causes: Hypothyroidism, rheumatoid arthritis, swelling from pregnancy  
Wrist injury trauma, bone spurs, repetitive movements  
Diabetes  
Smoking and obesity

## Lateral Epicondylitis (Tennis Elbow) =

Most cases associated with work related activities.

Rarely seen in elite tennis players.

Women more common than men.

Tendon damage in lateral elbow at origin site of wrist extension musculature and sometimes that of long extensor tendon at 2<sup>nd</sup> digit.

Usually between the ages of 40 and 60.

1<sup>st</sup> rule in prevention is personal health.

Diet

Smoking

Exercise

Stress

AOTA – prevent back and neck strain

Proper posture of head, forearms, back and feet

- 1) Head = level of monitor      Eyes = top of screen
- 2) Forearms parallel to keyboard and held only slightly above
- 3) Low back should be supported (pillow or rolled towel)
- 4) Feet flat on floor or foot step

Average desk to avoid glare of sunlight. Sit with monitor 18-30 inches away  
Adjust chair to appropriate height for person

### Exercise program

### References:

American Occupational Therapy Association      [www.AOTA.org](http://www.AOTA.org)

American Physical Therapy Association      [www.APTA.org](http://www.APTA.org)

Bureau of Labor Statistics. “*Lost Worktime Injuries and Illnesses: Characteristics and Resulting Days Away from Work 2002.* Washington, D.C.: US Department of Labor: March 25, 2004

Waugh, E.J. , Jaglal S.B.; Davis A.M.; *Computer Use Associated with Poor Long-Term Prognosis of Conservatively Managed Lateral Epicondylalgia.* Journal of Orthopedic and Sports Physical Therapy: Vol. 34, No. 12, December 2004.

[Health@yahoo.com](http://Health@yahoo.com) Carpal Tunnel Syndrome: Yahoo Health Encyclopedia by Healthwise.

[Health@yahoo.com](http://Health@yahoo.com) Tennis Elbow: Yahoo Health Encyclopedia by Healthwise.