ERGONOMICS & THE VDT

Problems...and Practical Solutions
Ergonomics is the science that studies how people interact with machines and the environment (furniture, lighting, etc.).

The objective is to find ways to maximize safety, comfort, job performance, and accuracy.
The Cost to Industry
& your Company

- Millions of dollars are lost annually as a result of CTS and other cumulative traumatic disorders.
- According to N.I.O.S.H. estimates, the average cost to the company is between $15,000 and $20,000, if the injured person returns to work.
- If the person does not return to work, the costs could exceed $100,000.
Many times problems are identified by...

- Employee Complaints
- Workers Compensation Claims
Open communication with employees is necessary if you are going to identify problems or potential problems.
One of the first things we need to do is:

- Determine if a problem exists and evaluate what needs to be done to correct it.
Several risk factors have been identified in the VDT environment that are avoidable...

- Employees working in awkward positions
- Working in static positions over prolonged periods
- Forceful exertions and repetitive motions
- Prolonged physical contact with the work surface, equipment, or furniture
Awkward Position

- Keyboard too high or too low
- Monitor on an angle, in corner
- Lack of chair support
- Chair too high or too low

Forceful Exertion

- Stapler
- Hole punch
- Packed file drawers
**Excessive Repetition**

- Bursting
- Stapling

**Physical Contact**

- Wrist on desk, edge of desk, or edge of keyboard
- Elbows on armrests

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Awkward Postures

- Wrist flexion
- Ulnar deviation
- Supine position
- Pressure at the base of the palm
- Constriction over the wrist
The Right Chair

Are you using the right chair for you at your worksite?
A properly designed and adjustable chair is critical to a workstation.

- The chair should be fully adjustable.
- The chair should be sized correctly for the user.
- Demo a chair for a 3 – 5 day period before purchasing.
- The front edge of the seat on the chair should not be in contact with the user’s legs while sitting.
- The chair should be supported by a five-leg base for stability and glide easily along the floor surface.
- Become familiar with the operations of your chair.

The user must be positioned properly in the chair.

1. Feet flat on the floor.
2. Knees and hips at a 90° angle.
3. Buttocks back in the chair.
4. Lower back should be against the backrest and be supported in the lumbar region of the back.
Proper Workstation Ergonomics

Head
- Head back, chin tucked, ears, shoulder, hips aligned.

Eyes
- Level with top 1/3 of screen. 18-24" from monitor.

Neck
- Use headphones. Do not cradle phone between head and shoulder!

Document Holder
- Adjacent to and at same height as monitor.

Elbows
- At sides - slightly more than 90 degree bend.

Keyboard
- Same height as elbow with wrists slightly bent. Keystroke gently!

Chair
- Fully adjustable with lumbar support in small of the back.

Chair Height
- Hips slightly more than 90 degrees, feet flat on the floor

Mouse
- Adjacent to and at same height as keyboard.

Take breaks every 30 minutes!
Eye Strain is another exposure that can be reduced by utilizing various techniques...

- Adjust the angle and/or position of the monitor.
- Adjust contrast and brightness controls.
- Position display screens perpendicular to windows.
- Reduce overhead lighting.
- Glare reducing filters may be effective.
- Clean the display screen often.
Workstation Review Checklist

The Safety Department Website ([http://safety.syr.edu](http://safety.syr.edu)) offers a Workstation Review Checklist that will help you make a quick but thorough appraisal of your home and office workstations. The workstation review checklist covers:

- **Seating**
- **Desk/Table for Display Unit**
- **Monitor**
- **Lighting**
- **Keyboard**
- **Miscellaneous** (e.g., document holder, room temperature, noise)
Correction through
Education & Awareness

- Correct problems on the spot.
- Train all employees.
- Train new employees.
- Encourage open communication.
- Recommend on-going training programs.
- Screen employees.

Visit the Safety Department Website for more Ergonomic information:

http://safety.syr.edu