ERGONOMICS AT CSULA

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Office Ergonomics

- CSULA Resources
- Worker Health Symptoms
- Good Working Positions
- Workstation Components
- Work Process
- Workstation Environment
CSULA RESOURCES

- RM/EHS Website
  - [http://www.calstatela.edu/univ/ehs/](http://www.calstatela.edu/univ/ehs/)
- RM/EHS Office
  - Director x3-3527
    - Kevin Brady
  - Health & Safety Coord. x3-3549
    - Richard Brennan
- Procedures to Request Ergo Assessment
Total Injuries – includes First Aid

2014 Total Injuries by Cause

- Slip/Trip/Fall: 20%
- Laceration: 29%
- Sprains/Strains: 35%
- Other: 16%

Only 1 workstation related injury
Worker Health Symptoms

- Musculoskeletal Disorders (MSD)
- Disorders Associated with Repeated Trauma
- Carpal Tunnel Syndrome
- Tendonitis
Tendons & Ligaments

- Skeletal muscle
- Tendons bind muscle to bone
- Ligaments bind bone to bone
- Joint capsule
Tissue Trauma

Muscles, Tendons, Ligaments, Discs etc.

- Respond to trauma with *inflammation* and *swelling*
- Stretch and recover unless over stretched/over exerted
- Lesser trauma can *accumulate* to produce pain
- Greater trauma can result in pain rapidly
- Inflammation and swelling require *time* and *blood circulation* to heal.
The Carpal Tunnel
Pressure Near the Carpal Tunnel
What is at Stake

These are the marker symptoms:

- Numbness or Burning Sensation in Hand
- Reduced Grip Strength
- Swelling or Stiffness in Joints
- Pain (sometimes sharp) in Wrists, Forearms, Elbows, Neck or Back
- Aching or Tingling Sensation in Extremities
- Cramping and/or Weakness

If nothing is changed – More, persistent pain!
GOOD WORKING POSTURE

Neutral Body Postures


- Hands/Wrists/Forearms are in-line and Parallel to Floor
- Head is level & in-line with Torso
- Shoulders relaxed & Upper Arms hang normally at the side of the body
- Feet are fully supported by floor or footrest
- Back is fully supported with lumbar or slight inclination back
- Thighs/Hips supported and Parallel to floor
- Knees at same height as hips and feet slightly forward
Ergonomic Chair Adjustments

Visit our Chair Showroom!
1) With back against lumbar support

2) With feet flat on floor or well supported on foot rest

3) Raise/Lower the seat until thighs are comfortably horizontal.

Purpose: Widely distributed support of your body weight on the seat pan maintains adequate blood circulation.
1) With the following adjustments, your back should be against the lumbar support.

2) Adjust/Slide seat pan until there is 2-3 fingers clearance from back of the knees to the seat pan.

If adjustments cannot obtain the correct clearance, the seat is either too small or too large for your size.
3 LUMBAR POSITION

1) Place back against lumbar support

2) Adjust the lumbar position vertically to provide good lower-back support

3) Adjust desirable firmness of lumbar support.

If adjustments cannot obtain the correct clearance, the seat is either too small or too large for your size.
SEAT ANGLE POSITION

1) With lumbar well supported:

2) Adjust the seat back angle between vertical to a maximum of 10 degrees

3) Select within this range of angle for personal comfort.

Outside of this range one either leans forward forcing the back to support the upper body or laying back requiring reaching to operate the keyboard or mouse.

The spine supports most of the upper body weight without the use of muscles to hold the arms in position.
5 KEYBOARD POSITION

1) Lower arm rests out of the way or all the way down.

2) With upper arms vertical, raise forearm to make a 90-degree angle with upper arm.

3) This wrist/hand height is preferred. Move the keyboard tray to support this typing height.

If the height of top of the desk is too close to use a keyboard drawer, install a drawer, or, consider a foot stool with corresponding higher seat height to place the keyboard on the desk.
6 MONITOR DISTANCE POSITION

1) Stretch your arm out horizontally. Use this distance as a guide. From there, your eyesight is your best guide to monitor distance.

2) From there, your eyesight is your best guide to monitor distance.

If you find yourself bending forward to view normally encountered print, move the monitor closer. Frequent bending invites back pain.
MONITOR HEIGHT POSITION

1) Move the monitor either up or down until the top viewing portion of the monitor is at eye level.

2) Adjust the monitor / keyboard / chair to be inline.

3) This monitor position leaves you with enough clearance for a document holder below the monitor.

Adjustments for some smaller individuals leave little room for a document holder. It is possible to have a document holder attached on level next to the monitor.
FINAL WORKSTATION POSITION

PURPOSE: The workspace is now arranged for the lowest stress sitting position where you move your eyes rather than head to view the monitor and document.

Even this low stress position can contribute to injury!
Get up and move every 20-30 minutes
Your body was built to move.

The 20/30 for 5 Rule:

Sitting for hours without a break is stressful by itself!

Even good sitting posture requires recovery time.
Sit/stand stations -- One means of getting variety of motion.
Some Positioning Problems

Cradling the phone

Flying elbows

Adaptive posture:
Pain relief using bad posture.
An Ergonomic Keyboard

Accommodates a more natural wrist position
Work Station Set-Up
Setting Up Your Work Zone

- Seldom Access (Tertiary Work Zone)
- Repetitive Access (Primary Work Zones)
- Occasional Access (Secondary Work Zones)
Workstation Components

- Monitors
- Keyboards
- Pointer/Mouse
- Wrist/Palm Supports
- Document Holders
- Desks
- Chairs
- Telephones
- EVERYTHING ELSE!
Considerations & Adjustments

- http://www.ecdonline.net/adj300xt.html
- http://www.computingcomfort.org/educate.asp
- http://www.computingcomfort.org/educate1.asp
Workstation Environment


- Having these symptoms?
  - Dry, Itchy, or Sore Eyes
  - Blurred or Double Vision

- Lighting
- Glare
- Ventilation
- Housekeeping
What about Home?

- Take the concepts we’ve discussed and apply them at home.

- If you do intensive computer entry during the day...
  
  ...then continue into the evening on the computer ...

  Give your body a break.
Recap


- Remember the 20/30 for 5 Rule!

- Medical Symptom Awareness
  - Numbness or Burning Sensation in Hand
  - Reduced Grip Strength
  - Swelling or Stiffness in Joints
  - Pain (sometimes sharp) in Wrists, Forearms, Elbows, Neck or Back
  - Aching or Tingling Sensation in Extremities
  - Cramping and/or Weakness

- Remember…What Developed Over Time Cannot be Reversed Overnight!
Questions?