




ERGONOMICS

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ERGONOMICS: "STUDY OF WORK"


"ERGO" = WORK
"NOMICS" = STUDY OF

"THE GOAL OF ERGONOMICS IS TO 'FIT THE JOB TO THE PERSON,' RATHER THAN MAKING THE PERSON FIT THE JOB."
ERGOTECH

THE SCIENCE OF MAKING THE WORKPLACE:

- MORE COMFORTABLE
- MORE PRODUCTIVE
- SAFER & TO PREVENT INJURIES





WHAT ARE MUSCULOSKELETAL DISORDERS? (MSDs)

- MSD'S ARE INJURIES AND ILLNESSES THAT AFFECT MUSCLES, NERVES, TENDONS, LIGAMENTS, NERVES, JOINTS OR SPINAL DISCS.
- MAINLY OCCUR IN THE NECK, BACK, KNEES, ARMS, AND WRISTS.
- REFLECT GRADUAL OR CHRONIC DEVELOPMENT.
- MSDS ARE PREVENTABLE!

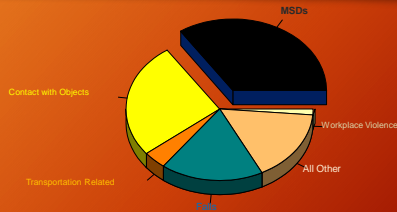


EXAMPLES OF MSDs

- CARPAL TUNNEL
- ROTATOR CUFF SYNDROME
- TRIGGER FINGER
- LATERAL EPICONDYLITIS (TENNIS ELBOW)
- TENDINITIS
- BACK STRAIN/DISABILITY
- HERNIATED DISCS
- SCIATICA
- TENSION NECK SYNDROME



Musculoskeletal Disorders (MSDs) Represent 1 in 3 Lost Time Injuries



Source: Bureau of Labor Statistics Annual Survey, 1999



ARE YOU AT RISK?

- PROLONGED SITTING AND STANDING
- WORKING IN AWKWARD POSTURES/POSITIONS
- BENDING, REACHING, STRETCHING
- DRIVING FOR EXTENDED PERIODS OF TIME
- ACCUMULATION OF STRESS
- CONTACT WITH HARD SURFACES
- REACHING
- GLARE
- VIBRATION





MSDs: POSSIBLE SIGNS & SYMPTOMS

- STIFFNESS
- PAIN
- FATIGUE
- SWELLING/INFLAMMATION
- TINGLING
- CRAMPING
- DECREASED ROM
- DECREASED GRIP AND/OR PINCH STRENGTH
- NUMBNESS
- BURNING SENSATION
- LOSS OF FUNCTION



MSDs: LISTENING TO OUR BODY...

DISRUPTION IN BALANCE BETWEEN BREAKDOWN AND RECOVERY

- 1ST SYMPTOM IS FATIGUE OR STIFFNESS (OF THE BODY PART)
- 2ND SYMPTOM IS ACHE
- 3RD SYMPTOM IS PAIN
- 4TH LOSS OF FUNCTION

French & Dulchavsky, 2005



ADAPTATION VS. INJURY

WHEN YOU REACH THE FORK IN THE ROAD...
TAKE IT!



ADAPT:

- SOFT TISSUES REMODELS
- MORE STRENGTH
- MORE STABILITY
- MORE ENDURANCE
- DISCOMFORT DECREASES

INJURY:

- SOFT TISSUE BREAKS DOWN
- LESS STRENGTH
- LESS STABILITY
- LESS TOLERANCE FOR USE
- DISCOMFORT INCREASES

French & Dulchavsky, 2005



COMPUTER WORKSTATION ERGONOMICS

- CHAIR
- KEYBOARD
- MOUSE
- WRISTS PADS
- MONITOR
- LUMBAR PADS/PILLOWS
- ARM RESTS
- GLARE
- EYE STRAIN
- DOCUMENT HOLDERS
- FOOTRESTS
- KEYBOARD TRAYS
- LAPTOPS



CHAIR

- FEET FLAT ON THE FLOOR
- HIPS AT 90-110 DEGREES
- KNEES AT 90-130 DEGREES
- LUMBAR SUPPORT – S SHAPES SPINE
- NO PRESSURE BEHIND THIGHS OR KNEES
- ARMREST ALLOW YOU TO GET CLOSE TO YOUR WORKSTATION
- ELBOWS SUPPORTED AND AT 90-120 DEGREES
- SHOULDERS RELAXED





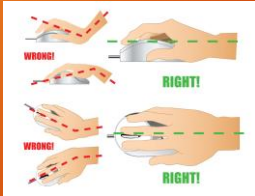
KEYBOARD

- KEYBOARD IS FLAT AND DIRECTLY IN FRONT
- WRISTS STRAIGHT – NEUTRAL POSITION
- ELBOWS REST COMFORTABLY AT YOUR SIDES AT ABOUT A 90-120 DEGREE ANGLE.
- HAVE A SOFT PALM REST TO MINIMIZE CONTACT PRESSURE WITH HARD SURFACES ON THE DESK





MOUSE

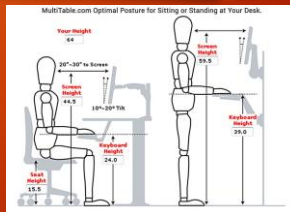


WILL GEEK



MONITOR

- IS THE MONITOR POSITIONED DIRECTLY IN FRONT OF YOU AND SQUARE WITH THE KEYBOARD?
- IS YOUR MONITOR PLACED AT A COMFORTABLE DISTANCE FOR VIEWING, ABOUT 20-30 INCHES.
- IS THE TOP 1/3 OF THE MONITOR SCREEN AT EYE LEVEL TO REDUCE NECK STRAIN.
- DO YOU USE A DOCUMENT HOLDER





LAPTOPS



- LOWER VIEWING ANGLE
- HARDER ON WRISTS AND ARMS
- NARROW KEYBOARD
- AWKWARD POSTURES



- USE EXTERNAL KEYBOARDS AND DOCKING STATIONS WHEN POSSIBLE.
- PRACTICE GOOD POSTURE WHEN YOU ARE ON THE GO.



CONTACT STRESS

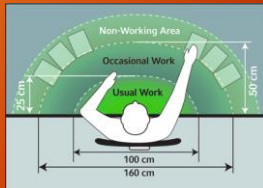
AT YOUR WORKSTATION NOTICE WHERE YOUR BODY COMES INTO CONTACT WITH OBJECTS.

- BACK OF KNEES & THIGHS
- ELBOWS
- WRISTS
- BACK
- CALVES, FEET, ANKLES
- BEHIND



FORWARD PLACEMENT OF DOCUMENT HOLDERS AND MONITOR

PREVENTS EXCESSIVE TURNING AND BENDING STRESS IN NECK, UPPER BACK AND TORSO





ERGONOMICS: MORE THAN EQUIPMENT AND SET



"We could try a larger monitor with an ergonomic glare filter...but you're still going to get headaches if you keep banging your head against the screen."



EVEN GOOD POSTURE CAN CAUSE DISCOMFORT!

- SET REMINDERS TO MOVE- EVERY 30 MINUTES
- ALTERNATE BETWEEN SITTING AND STANDING
- BREAKS – EXERCISE BREAK!



WORKSTATION STRETCHES



WWW.WELLPATH.UNC/CHALLENGES



ERGONOMICS OF DRIVING

- SEAT HEIGHT – MAKE SURE YOU CAN SEE AND OPERATE THE PEDDLES
- THIGHS SUPPORTED BUT SEAT NOT CUTTING INTO THE BACK OF THE KNEES
- ADJUST THE BACKREST TO SUPPORT THE ENTIRE BACK. SHOULDERS SLIGHTLY BEHIND THE HIPS.





ERGONOMICS OF DRIVING

- LUMBAR SUPPORT – S SHAPE SPINE
- STEERING WHEEL – ELBOWS AND SHOULDERS SHOULD BE IN A RELAXED POSITION WITH HANDS POSITIONED BELOW SHOULDER LEVEL.
- MAKE SMALL ADJUSTMENTS TO POSTURE EVERY 30-60 MINUTES.
- DRIVING DISTANCES: TAKE 15 MINUTE BREAKS EVERY 2 HOURS.



ASK YOURSELF???

- DO YOU AVOID LEANING ON THE WRIST REST WHILE KEYING AND MOUSSING?
- ARE YOU HOLDING YOUR MOUSE LOOSELY WITH YOUR HAND AND FINGERS IN A RELAXED POSITON?
- DO YOU LET GO OF THE MOUSE WHEN NOT USING IT?
- DO YOU USE SHORTCUT KEYS?
- DO YOU TAKE BREAKS EVERY 30 MINUTES
- DO YOU TAKE EYE BREAKS AND LOOK AT A DISTANCE EVERY 20 MINUTES
- DO YOU BLINK WHILE YOU LOOK AT THE SCREEN?
- DO YOU TAKE STRETCH BREAKS THROUGHOUT THE DAY?



ASK YOURSELF???

- ARE YOU SITTING AGAINST THE BACK OF YOUR CHAIR WHILE WORKING?
- IS YOUR HEAD UPRIGHT AND CENTERED OVER YOUR SHOULDERS WHEN YOU LOOK AT THE SCREEN OR DOCUMENTS?
- ARE YOUR SHOULDERS RELAXED WHEN KEYING AND USING THE MOUSE?
- ARE YOUR ARMS CLOSE BY YOUR SIDES WHEN YOU USE THE KEYBOARD?



ASK YOURSELF???

- ARE YOUR ELBOWS RELAXED (90-100 DEGREE ANGLE) WHEN USING THE KEYBOARD OR MOUSE?
- ARE YOUR WRISTS IN A NEUTRAL POSITION (ALIGNED WITH YOUR FOREARM) WHEN KEYING OR USING THE POINTER?
- ARE YOU AVOIDING AWKWARD POSTURES SUCH AS AN EXTENDED FINGER OR THUMB WHEN KEYING OR USING THE MOUSE?



ASK YOURSELF???

- DO YOU KNOW HOW TO ADJUST YOUR KEYBOARD TRAY AND CHAIR?
- HAVE YOU SET UP YOUR WORKSTATION TO ENCOURAGE ALTERNATING SITTING AND STANDING THROUGHOUT THE DAY?



Workstation Assessment

- <http://www.wellpath.info/challenges.html>

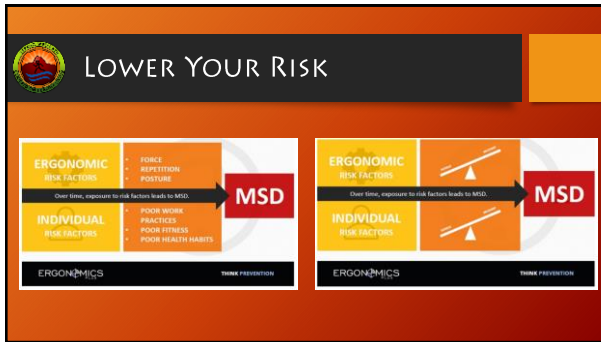
Ergonomic assessment of work station and car
Week 5

Computer Workstation Self-assessment

Automobile self-assessment coming

It is very possible to do the ergonomic self-assessments with a partner! If you are actively having symptoms of back, neck or wrist pain or would like to have someone assist you with an ergonomic assessment, a limited number of appointments are available. You can schedule by clicking the button below.

Request an ergonomic assessment



HOW CAN WE TAKE CARE OF OUR BACK?

- PROPER LIFTING TECHNIQUES
- EXERCISE - STRETCHING
- PROPER POSTURES
- PROPER SET-UP:
 - WORKSTATION
 - STANDING
 - DRIVING
- TAKE BREAKS OFTEN...MOVE!

THE END... QUESTIONS?
