Ergonomics and Safety Responsibilities

Environmental Health & Safety
210 East Fourth Street
328-6166

EH&S Administration
Industrial Hygiene & Safety
Environmental Management
Workers' Compensation

Prospective Health
Warren Life Sciences
744-2070

Radiation Safety
Biological Safety
Infection Control
Employee Health

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Ergonomics

The way we interact with our environment at work, play and rest. Fitting the way we work to the way our body is built is the key.

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Agenda

- What is ergonomics?
- What do I need to know about musculoskeletal disorders?
- Adapting my work place.
- More information.

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Ergonomics is…

- Adapting the tasks to fit you.
- Maximizing your health and comfort by using your body in efficient ways.
- Self-evaluation of the behaviors and postures you use at work and play.
- Learning to recognize the signs and symptoms associated with an action that may lead to musculoskeletal disorders.

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Musculoskeletal Disorders (MSD)

- Illness resulting from cumulative trauma to the muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels or spine discs.
- An injury caused by an acute incident e.g., a fall or auto accident, or symptoms of a degenerative disease are not considered a MSD and must be treated differently.

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Symptoms of a MSD

Subjective indicators of potential concern

- Painful Joints
- Pain, tingling or numbness in hands or feet
- Shooting or stabbing pains in arms or legs
- Swelling or inflammation
- Pain in wrists, shoulders, forearms, knees
- Fingers or toes turning white
- Back and neck pain
- Stiffness or burning sensations

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MSD Signs

Objective indicators identified by a physician to help diagnose specific problems.

- Decreased range of motion
- Deformity
- Decreased grip strength
- Loss of muscle function
- Inability to physically perform normal tasks

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Risk Factors associated with MSD

- Repetition
- Forceful Exertions
- Awkward Posture
- Contact Stress
- Vibration

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Repetition

- Doing the same motions over and over again places stress on the muscles and tendons. The severity of risk depends on how often the action is repeated, the speed of the movement, the number of muscles involved and the required force.
- E.g., steady computer use for 4 hrs/day; a repeated cycle of motions 2 or more times per minute.

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Force

- The amount of physical effort required to perform a task or maintain control of equipment or tools.
- Force depends upon type of grip, weight of the object, body posture, type of activity, and duration of task.
- E.g., Lifting 75 lbs one time or 55lbs more than 10 times per shift or 25 lbs below the knees or above shoulder height. Pinching 2 lbs or for 2 or more total hours per shift.

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Awkward Posture

- Repeated or prolonged reaching, twisting, bending, kneeling, squatting, working overhead with your hands or arms, or holding fixed positions.
- E.g., Working with hands over head, kneeling or squatting for 2 hours/day; working with back, neck or wrist bent for 2 hours/day.
- Potential fixes: portable stools, turn or move the work, use frequent mini-breaks, integrate the work with other tasks to avoid prolonged use of the awkward posture.

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Contact Stress

- Pressing the body (or body part) against a hard or sharp edge can result in placing too much pressure on nerves, tendons and blood vessels.
- For example, using the palm of your hand as a hammer regularly or typing while resting your arms or wrists on the hard desk edge.

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Vibration

- Operating vibrating tools such as sanders, grinders, chippers, routers, drills, saws and yard equipment on a regular basis can lead to nerve damage.
- Potential fixes: vibration dampening gloves, job rotation, modified clutching mechanisms.

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Personal Risk Factors

- Age
- Gender
- Previous injury
- Personal health
- Physical condition
- Size and shape
- Life style
- Life stress
- Hobbies
- Rest and recovery time available
- Short-term changes in health.
- Attitude towards making changes to improve long term health

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Neutral Standing Posture

- Pretend you have a string tied to the top of your skull. Suspend your entire body from that string. Your back is straight, your joints loose, your shoulders relaxed. This is a neutral standing posture.

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Neutral Seated Posture

- A neutral seated posture imitates the neutral standing posture.
- The seated position puts your hip and knee joints at a 90° or slightly greater angle. When in use, your elbow joints should also be at a 90° or slightly greater angle. Wrist joints should maintain as straight a posture as possible.

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Fixing the Job

- Use neutral postures to perform tasks.
- Adjust the work station to remove the risk factor. E.g., raise or lower the work surface, turn the piece, etc.
- Rotate between jobs. E.g., break up long typing sessions with some filing or copying, break up leaf blowing with short raking sessions.
- Use mechanical assistance. E.g., use a lift to move heavy parts, use a two wheeled truck to move multiple boxes or one heavy box.
- Get help. E.g., use a buddy to help in heavy lifting tasks.

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Fixing the Job (continued)

- **Use personal protective equipment.** *E.g., anti-vibration gloves when using vibrating hand or yard tools.*
- **Observe micro-breaks.** *E.g., take a stretch break every hour you spend in continuous typing, writing or telephone use.*
- **Share your ideas.** *If you find something that works let your supervisor, co-workers and EH&S know so others may benefit.*
- **Use the self-help tools available on the web at http://www.ecu.edu/oehs**

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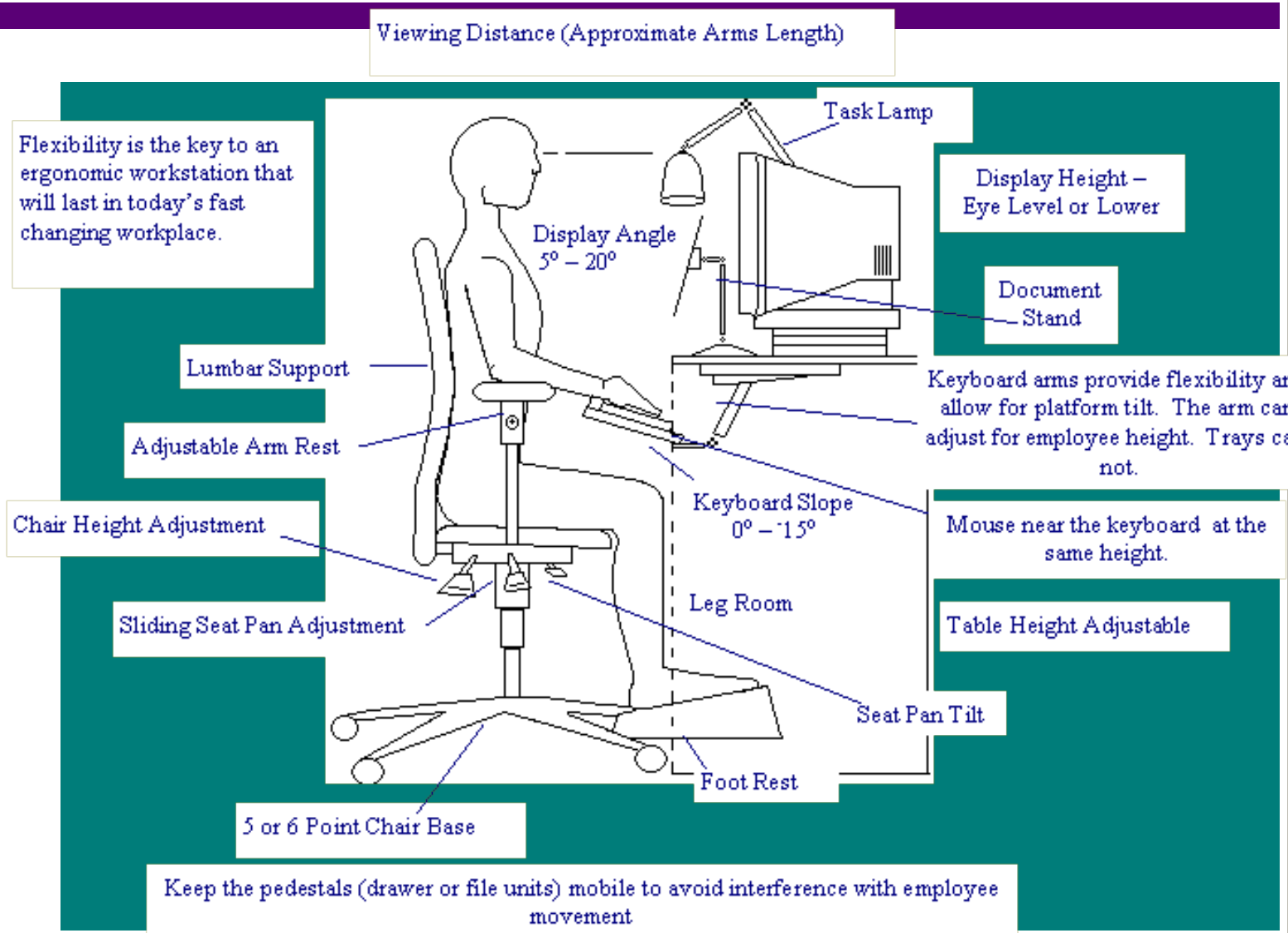
Computer Workstation



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Comfortable does NOT mean Healthful

- Neutral posture should be the guide for determining an appropriate fix.
- Comfort can be misleading...
  - ✓Crossed legs may seem comfortable but restrict blood flow
  - ✓A slouch is definitely not a healthful posture
  - ✓We often equate habit with comfort.

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If you have symptoms…

- Report symptoms, discomforts or problems to your supervisor as soon as noticed.
- Work together to try to identify the source of the discomfort and creative solutions.
- If the discomfort lasts more than 7 days and you have not located the probable source or a way to correct the problem, report your discomfort to EH&S for a worksite evaluation.

How to report a discomfort or a job that needs evaluated.

- Email safety@mail.ecu.edu
- Call EH&S at 328-6166
- Stop by our office at 210 E. 4th St

- Tell us...
  - ✓ About your job.
  - ✓ Where you are located.
  - ✓ What is uncomfortable.
  - ✓ How long the discomfort has existed.
  - ✓ What you have already tried.
  - ✓ Are you the only one doing this job?

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Additional Information

- http:www.ecu.edu/oehs
- Ergonomics self help checklist and training program on the web.
- Safety@mail.ecu.edu

EH&S Web Page

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EH&S Main Page - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: http://www.ecu.edu/oehs/ What's Related

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Emergency Procedures

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Welcome to the Office of Environmental Health and Safety (EH&S) at East Carolina University.

EH&S reports to the Executive Vice Chancellor for Administration and Finance and is located at 210 E. 4th Street. EH&S operates in a collaborative effort with several university safety committees, the Office of Prospective Health and the campus community to develop policy manuals and training programs that ensure campus safety, environmental sustainability and regulatory compliance. EH&S program management and consultation areas include environmental management, safety, industrial hygiene, life safety, and workers' compensation. The

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EH&S Policy Statement

- Protect and promote the health and safety of students, employees, patients, visitors, and the environment
- Primary responsibility rests with the Chancellor and, by delegated authority, to the Vice Chancellor for Administration and Finance
- Operational component delegated to the Directors of EH&S and Prospective Health
- The ultimate success of the safety and environmental programs depends upon the conscientious and cooperative efforts of all
- Expectation that every employee actively promote and support the safety and environmental program

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Employer Responsibilities

- Employer must comply with OSHA and other safety and health standards
- "General duty" to provide workplace free of recognized hazards likely to cause injury
- University subject to inspection by OSHA, EPA and other regulatory agencies

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Employee Rights and Responsibilities

- Comply with applicable rules, regulations and policies
- Participate in training
- Notify supervisor of accidents (including near misses), spills, damaged equipment, safety deficiencies, prescription drug use or other conditions that may affect alertness or ability, etc.

Employee Rights and Responsibilities

- Employee has basic right to make a complaint regarding unsafe or unhealthy workplace conditions
- Address complaint in-house by notifying supervisor and/or EH&S at 328-6166
- Contact NCDOL if issue cannot be resolved in-house (1-800-LABOR-NC)
- Employer cannot retaliate against an employee for making a complaint
- Employee confidentiality

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Required Training for All University Personnel

- Hazard Communication
- Ergonomics
- Accident Reporting Procedures
- Emergency Action Plans

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Required Training for Clinical and Lab Personnel

- Hazard Communication, Ergonomics, Accident Reporting Procedures and Emergency Action Plans
- Lab Safety
- Bloodborne Pathogens
- Radiation Safety
- Other Toxic and Hazardous Substances

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Required Training for Facilities Services Personnel

- Hazard Communication, Ergonomics, Accident Reporting Procedures and Emergency Action Plans
- Asbestos Awareness
- Electrical Safety
- Excavations
- PPE, Respiratory Protection, Hearing Protection, Fall Protection
- Lockout/Tagout
- Power Tools, Woodworking Machinery, Platforms, Forklifts, Scaffolding, Ladders and other equipment
- Confined Spaces
- Hazwoper
- EH&S Monthly and Quarterly Training Opportunities

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Safety and Environmental Compliance at ECU

QUESTIONS?

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