ENVIRONMENTAL HEALTH & SAFETY
UNIVERSITY of WASHINGTON

Office Ergonomics

Controlling Stressors to Prevent Musculoskeletal Injuries

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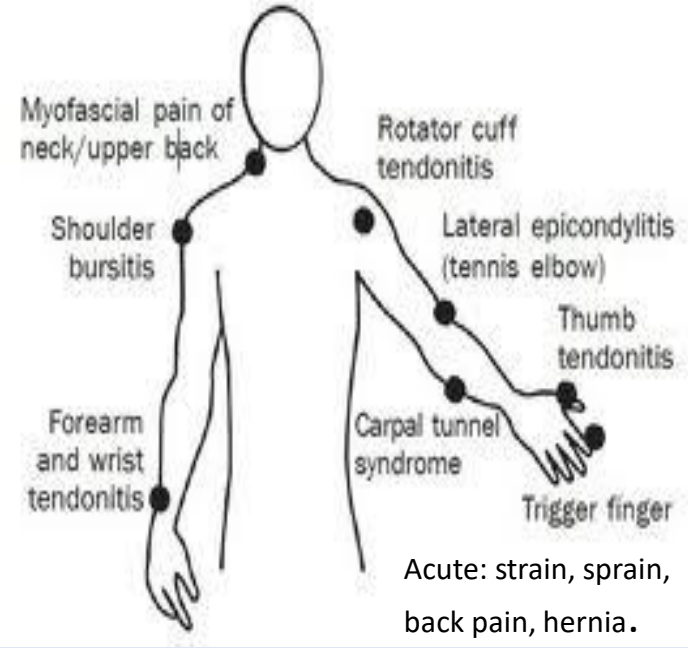
What is a musculoskeletal disorder?



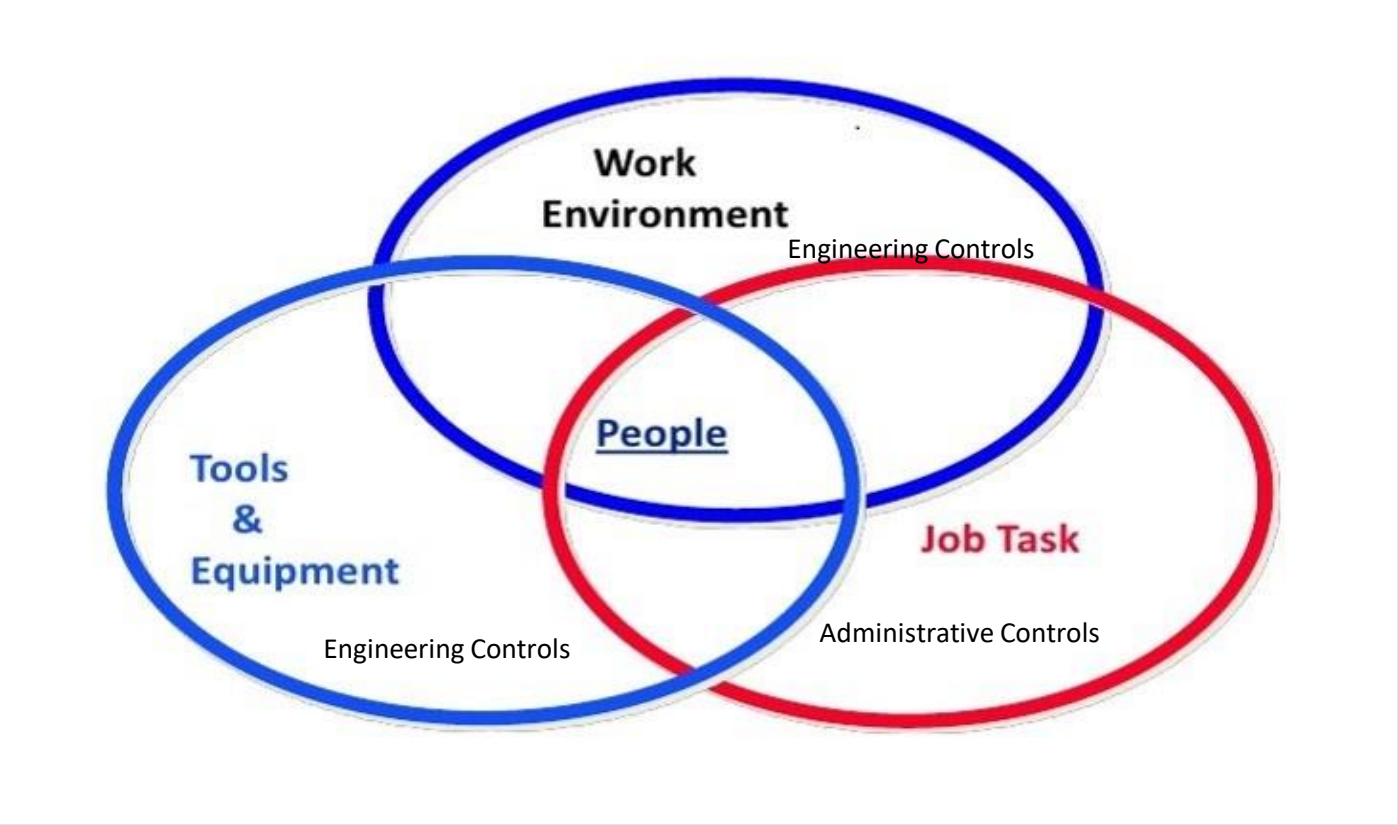
Acute: strain, sprain, back pain, hernia.

MSDs are soft-tissue injuries caused by sudden or sustained exposure to repetitive motion, force, vibration, and awkward positions. These disorders can affect the muscles, nerves, tendons, joints and cartilage.

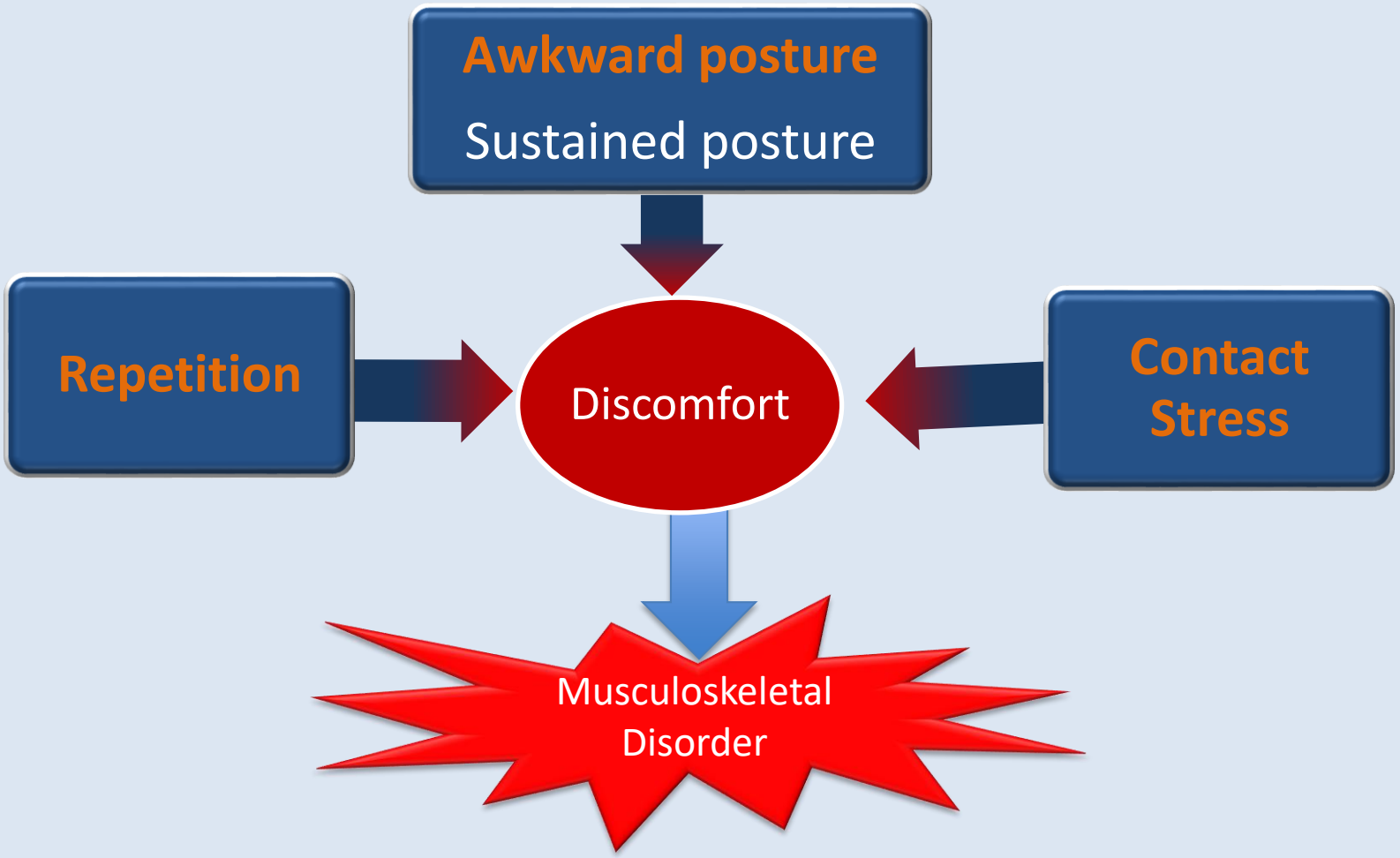
Musculoskeletal discomfort can occur anywhere in the body and typically is not caused by a single traumatic event, but is due to **micro trauma to tissues that does not heal during rest.**

Adapted from University of Michigan EHS Ergonomics Training

ERGONOMICS = Controlling the Exposure to those Stressors = Fitting the Task to the Worker



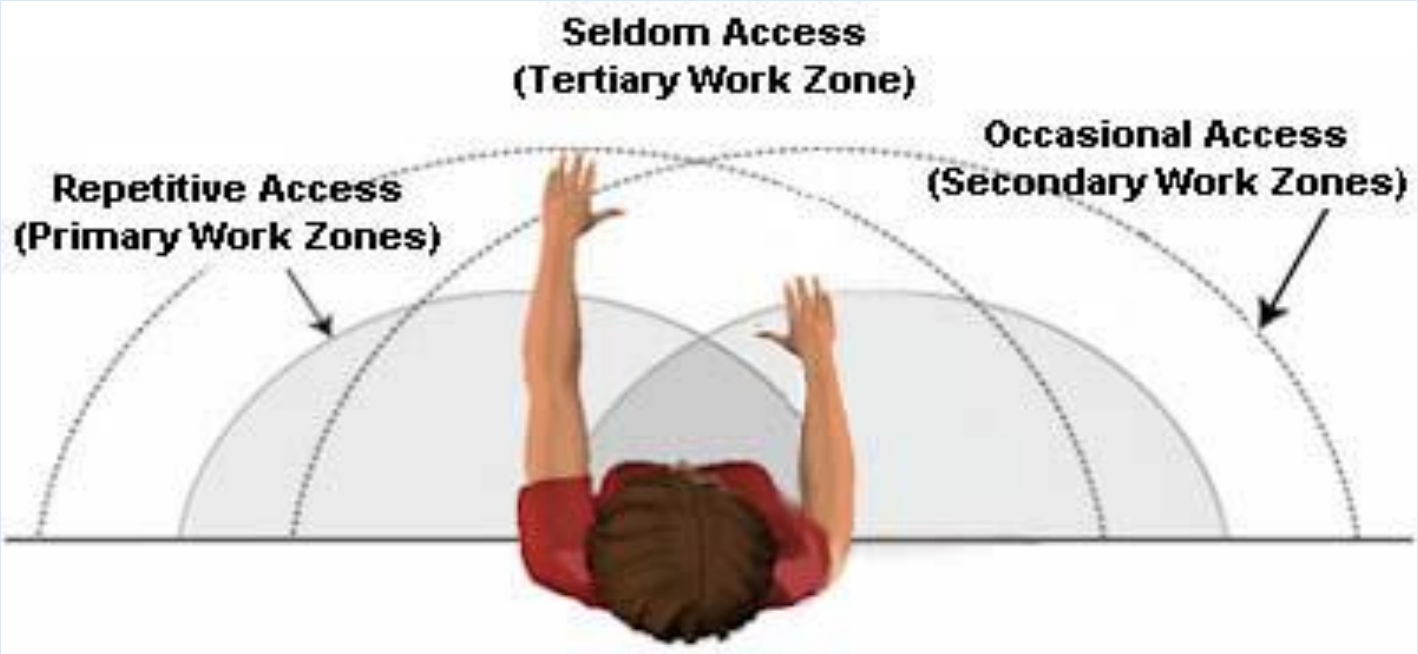
Common Ergonomic Risk Factors



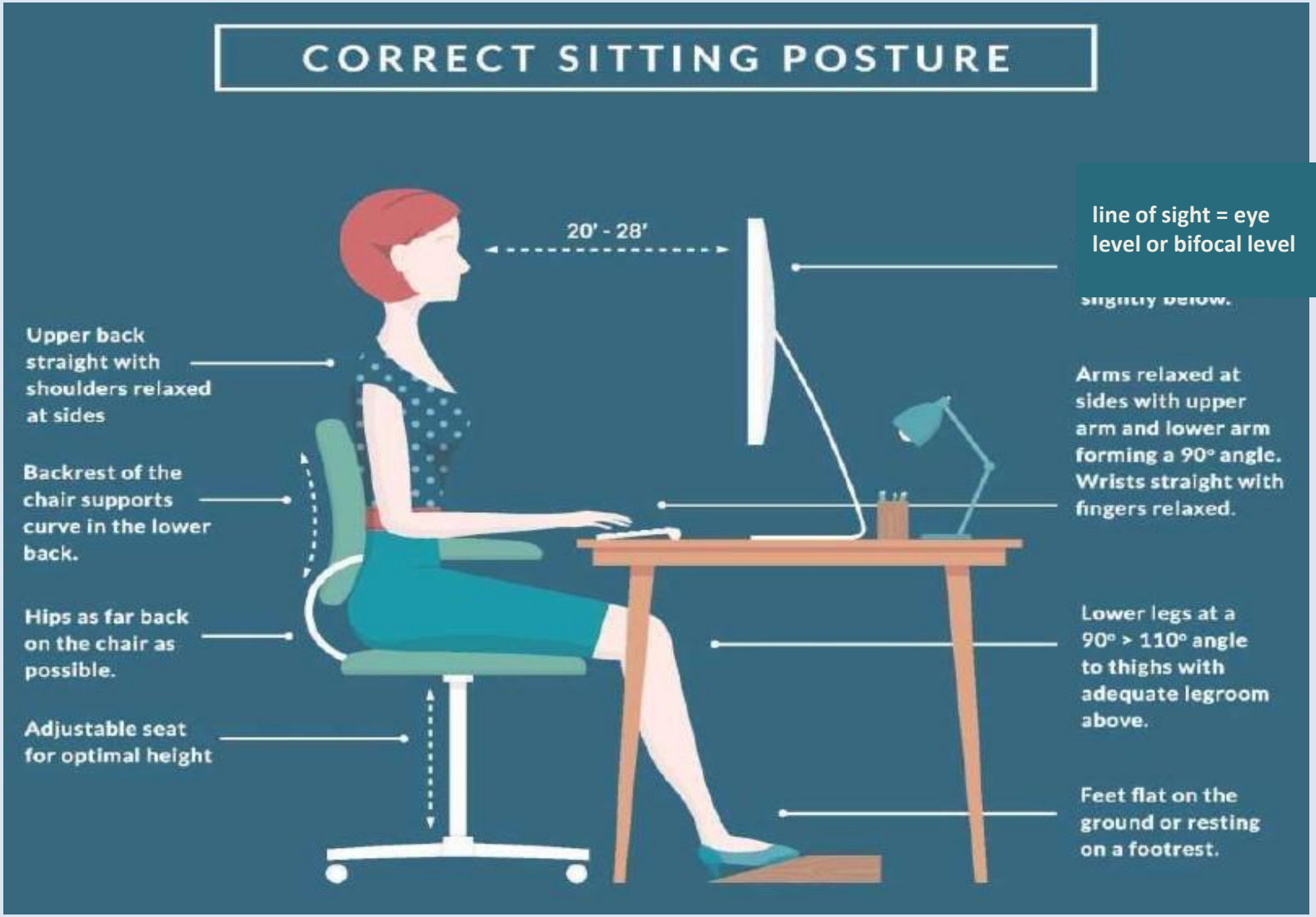
Workstation design and layout considerations

Work Zones

1. **Primary** (Frequent reaches): w/in or close to same area/level as typing
2. **Secondary** (Infrequent reaches)
3. **Tertiary Zone** (Occasional reaches)



POSTURE


CORRECT SITTING POSTURE
20' - 28'
Upper back straight with shoulders relaxed at sides
Backrest of the chair supports curve in the lower back.
Hips as far back on the chair as possible.
Adjustable seat for optimal height
line of sight = eye level or bifocal level
Arms relaxed at sides with upper arm and lower arm forming a 90° angle. Wrists straight with fingers relaxed.
Lower legs at a 90° > 110° angle to thighs with adequate legroom above.
Feet flat on the ground or resting on a footrest.

Contact Stress

Contact stress is pressure on the body by a hard edge/surface. This can reduce circulation and obstruct nerve signals leading to swelling, tingling or discomfort.

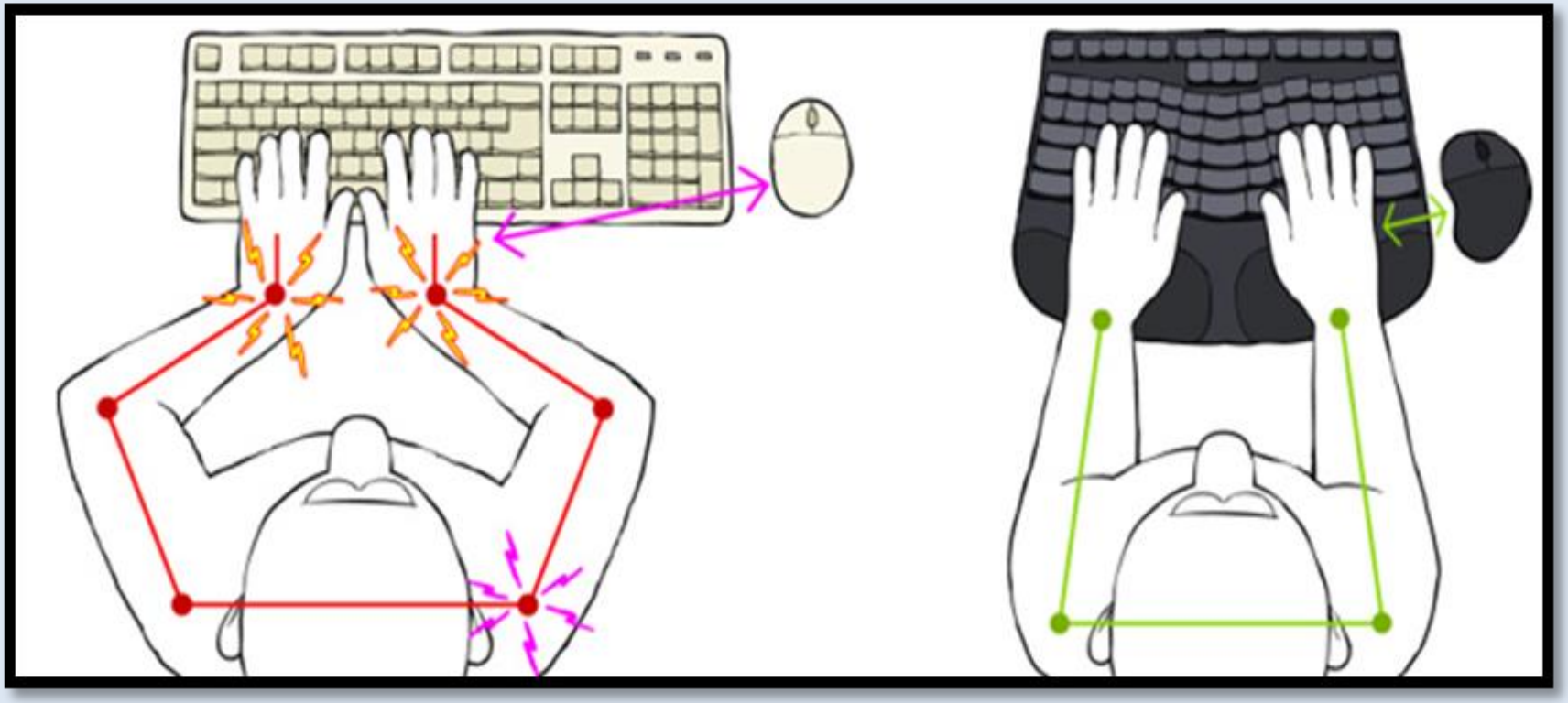
Hard desk edge against forearm.

Front edge of seat against calf.

Adapted from University of Michigan Ergonomics Training

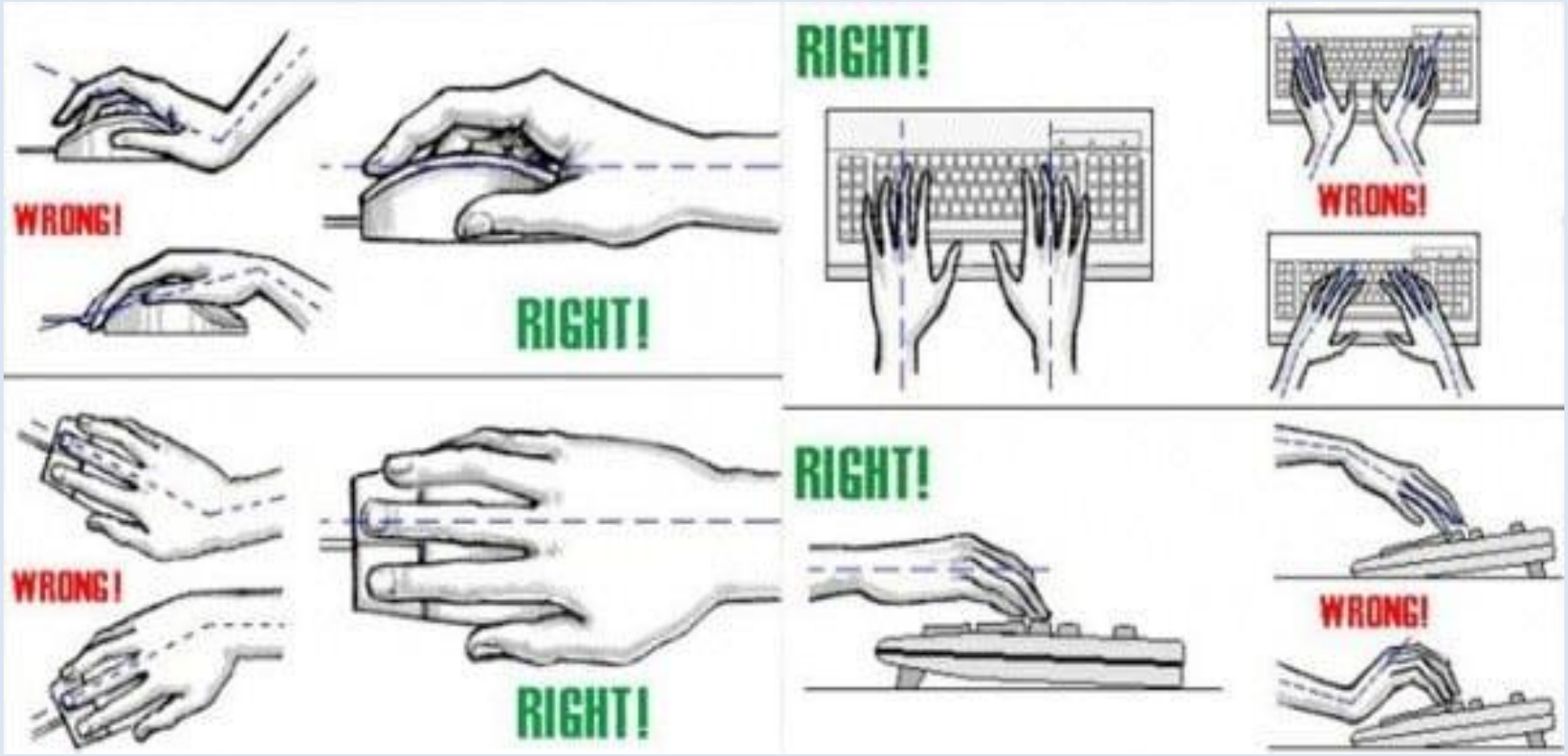
POSTURE

Awkward Posture Neutral Posture



POSTURE

Awkward Posture | Neutral Posture | Awkward Posture

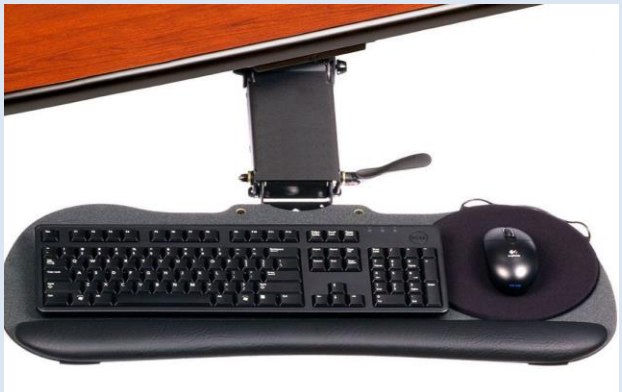


POSTURE

Keyboard Trays

- Shared workstation,
- Typing surface too low or too far from body

GOOD



BAD

POSTURE

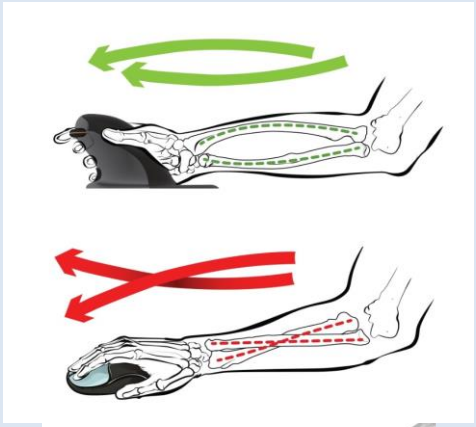
Do I need an ergonomic keyboard?

Ergonomic keyboards do one thing:
Prevent ulnar deviation

One size/shape fits all is not the ergonomic solution

POSTURE

Or a Mouse?



VERTICAL

HORIZONTAL

One size DOES NOT fit all

P
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MONITOR POSITIONING

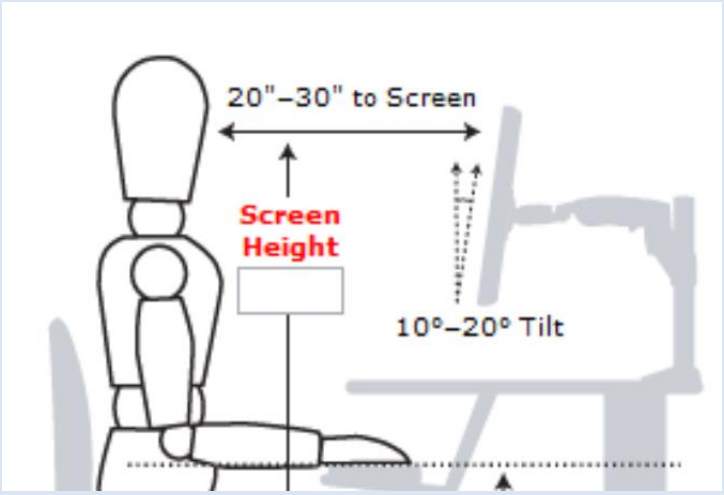
Height and Glare Considerations

DUAL MONITORS

Use if monitors are used nearly equally

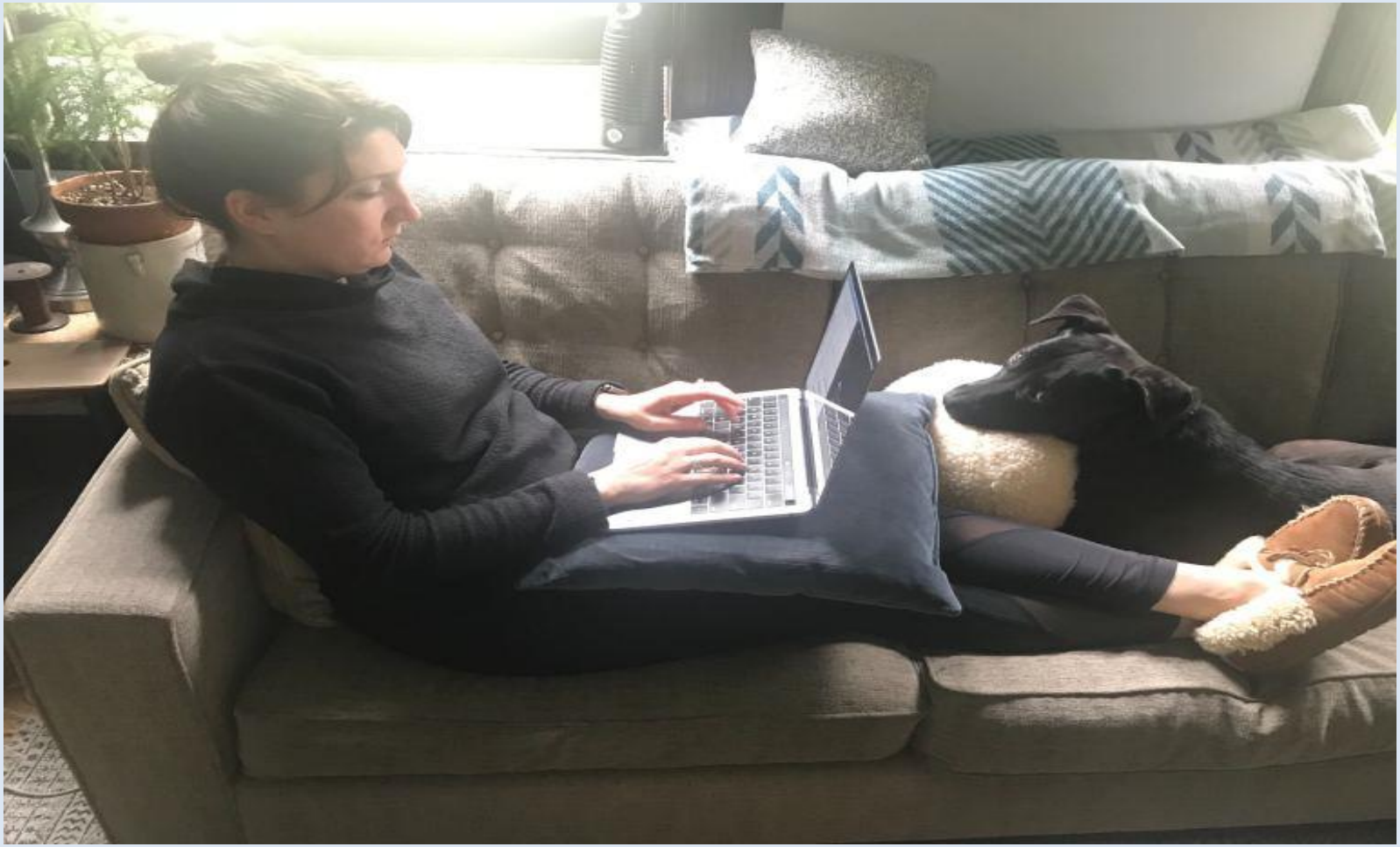
Use if the in-line monitor is used majority of the time

HEIGHT OF MONITOR IS THE SAME, WHETHER SINGLE OR DOUBLE



LINE OF SIGHT, not straight viewing

Sitting Position at Home



Sitting Position at Home

Sitting Position at Home

Common discomfort producing **postures** when using a laptop as a primary computer

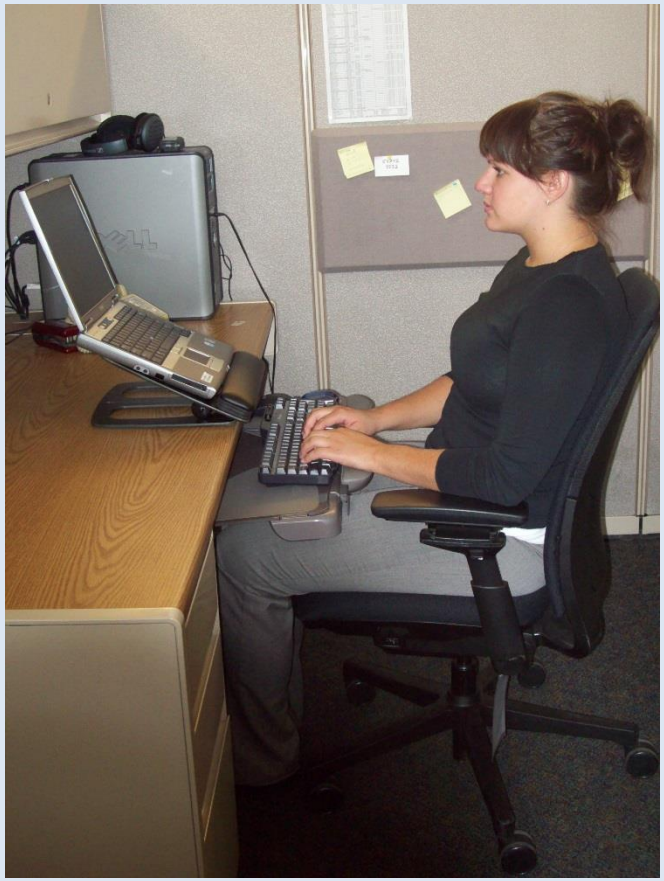
Head down to view screen which is too low: Headache, neck and shoulder discomfort.

Arms reaching forward: Middle and upper back discomfort, especially between the shoulder blades.

Lack of back support: Low back and hip discomfort.

Controlling **Posture** and **Contact Stress** with Laptop Use

- **Peripheral keyboard and mouse**
- **Raise laptop screen to line of sight**
- **Adjust chair and working surface as before**



Controlling **Repetition** (and **sustained posture**)

BREAKS

- Get out of your chair and **walk**.
- **Alternate** typing tasks with other tasks.
- Take **stretch** breaks every 20-30 minutes.

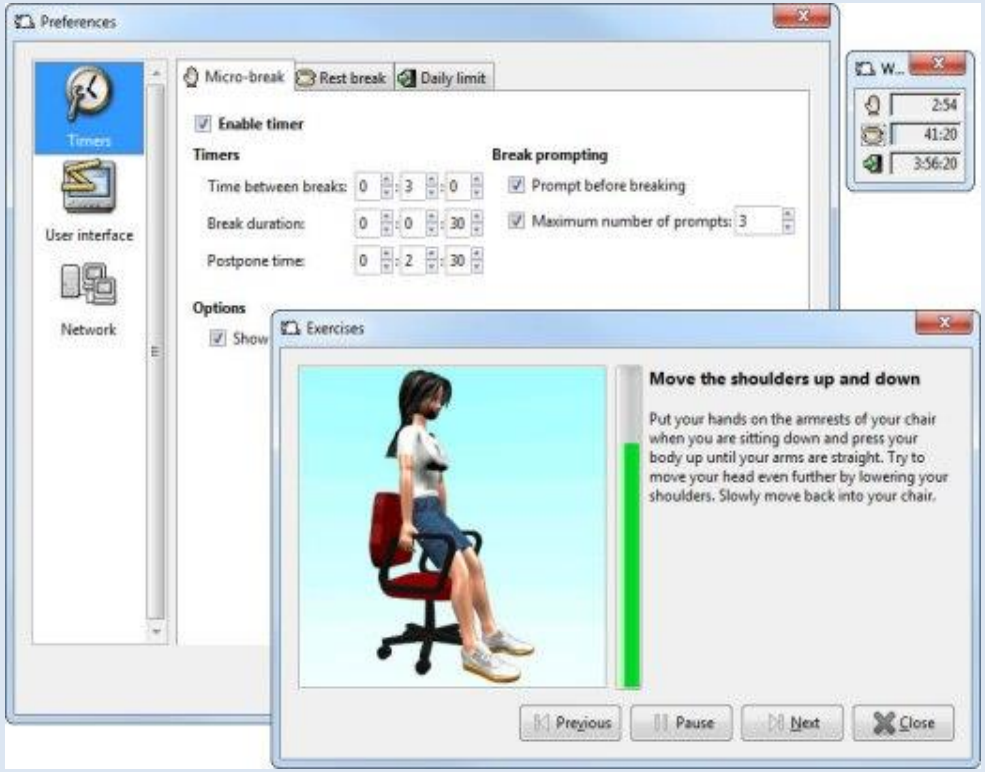
EYE BREAKS

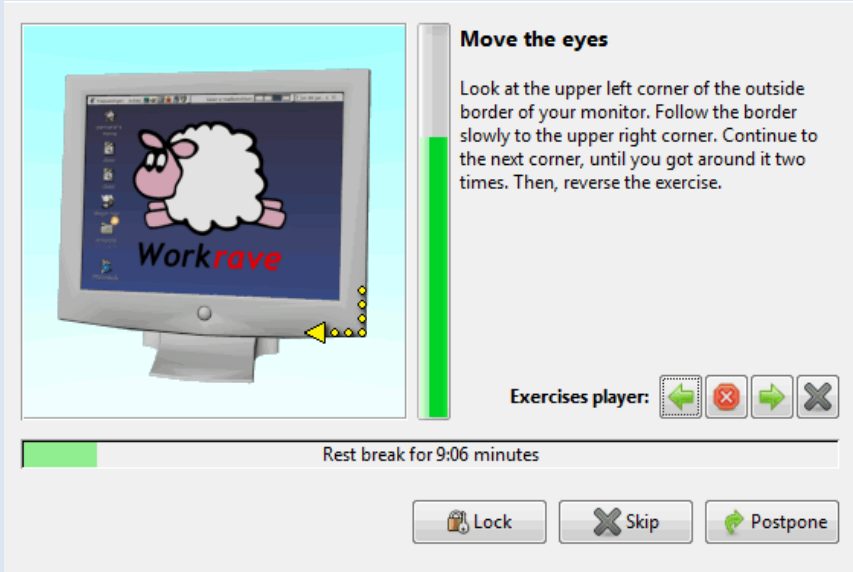
- **Lubricate**: blink, yawn, close
- **Exercise**: rotate
- **20-20-20 focus change**:

  Every **20 minutes,** take a **20-second break** and focus your eyes on something at least **20 feet away**.

REST BREAK SOFTWARE

WorkRave Break Software





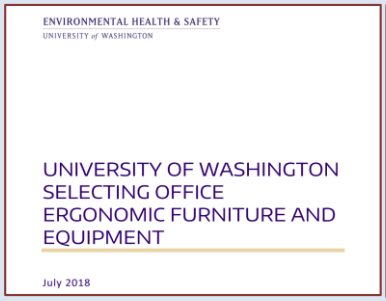
Computer user discomfort reports

Discomfort	Commonly caused by
Headache	Monitor height/distance not ideal
Neck Pain	Incorrect monitor height
Arm/Shoulder Pain	Extended reach to keyboard/mouse/other
Shoulder tension	Keyboard and mouse too high
Forearm/elbow	Clawing of the scroll wheel
Wrist	Awkward posture during typing, contact pressure
Low back	Unsupported feet, chair not adjusted to fit, incorrect tilt

Adapted from University of Michigan EHS Ergonomics Training

RESOURCES

https://www.ehs.washington.edu/workplace/ergonomics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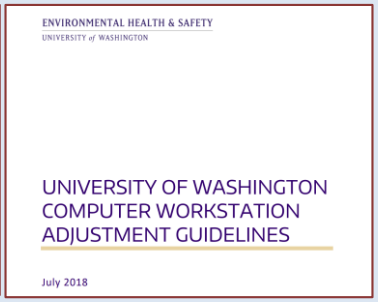
SELECTING OFFICE
ERGONOMIC FURNITURE AND
EQUIPMENT

July 2018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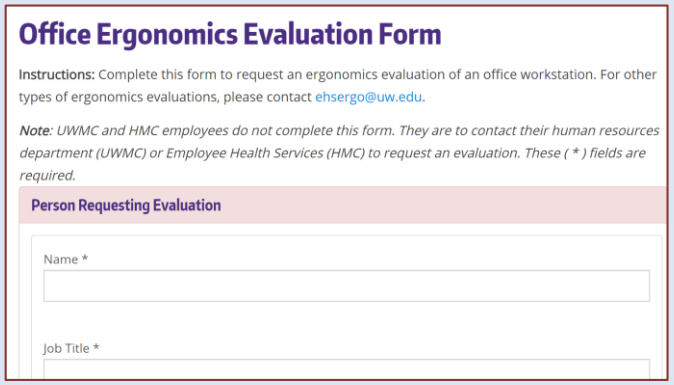
ADJUSTMENT GUIDELINES

July 2018


Office Ergonomics Evaluation Form

Instructions: Complete this form to request an ergonomics evaluation of an office workstation. For other types of ergonomics evaluations, please contact ehsergo@uw.edu.

Note: *UWMC and HMC employees do not complete this form. They are to contact their human resources department (UWMC) or Employee Health Services (HMC) to request an evaluation. These (*) fields are required.*

Person Requesting Evaluation

Name *

Job Title *

- Sample Ergonomic Equipment in the **Access Technology Center** (ATC) located at Mary Gates Hall Room 064

https://ergo-plus.com/infographic-office-stretches-prevent-reduce-desk-life-pain/