

Ergonomics for Modern Office Environments

Virginia Bankers Association
Benefits Corporation

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In partnership with The Rising Workplace

Instructor:

Stephanie Hollander, MA, AT, ATC, AEP, CEAS II
Ergonomist
The Rising Workplace

Meet your Instructor

- Certified & Licensed Athletic Trainer
- Associate Ergonomics Professional
- OSHA 30 certified
- 15+ years working to prevent, assess, treat, and rehabilitate musculoskeletal injuries
- Subject matter expertise in office ergonomics, industrial ergonomic assessments, body mechanic job coaching, creation of preventative job appropriate warm-ups



Stephanie Hollander, MA, AT, ATC, AEP, CEAS II

Ergonomist

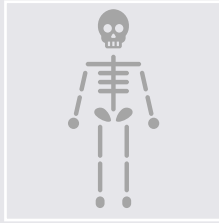
The Rising Workplace



Objectives



What is
Ergonomics?



Understanding
Risk Factors



Arranging the
Workspace



Tips for Working
Remotely



Movement &
Breaks



Q&A



What is Ergonomics?

ergonomics

1: an applied **science** concerned with designing and arranging things people use so that the people and things **interact** most efficiently and safely

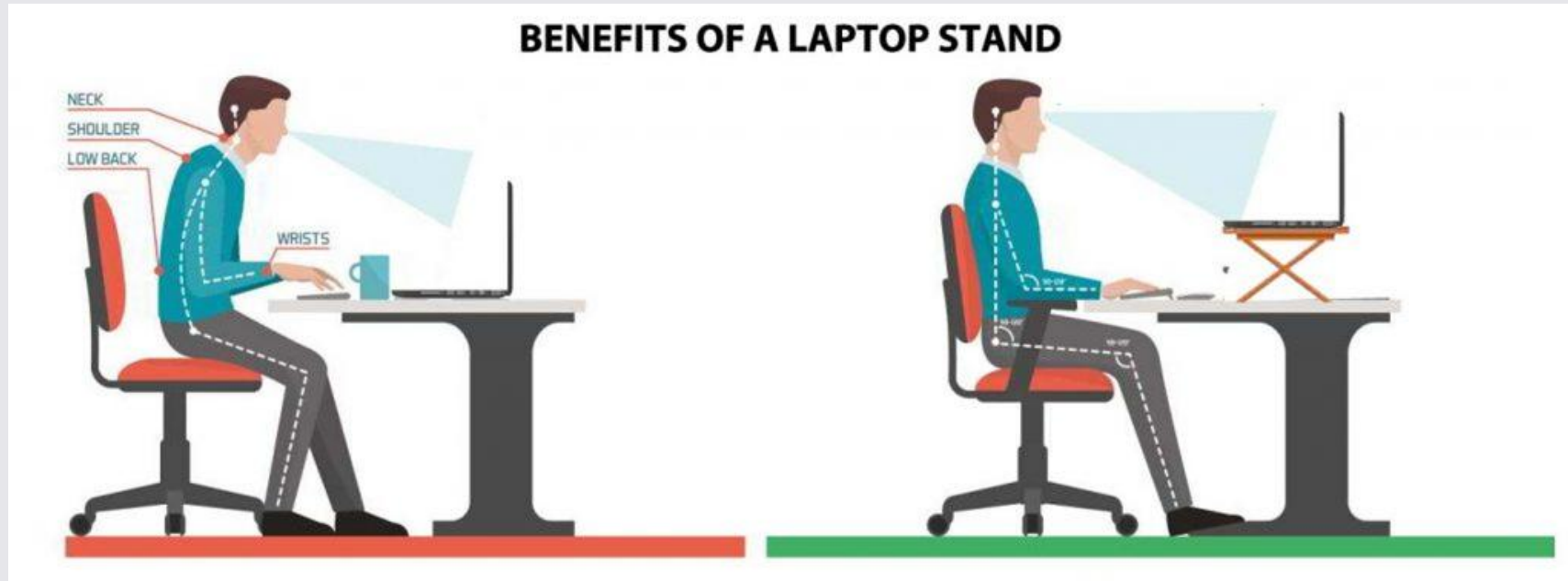
- Merriam-Webster



Is this Ergonomics?



Or Does Ergonomics Look Like This?



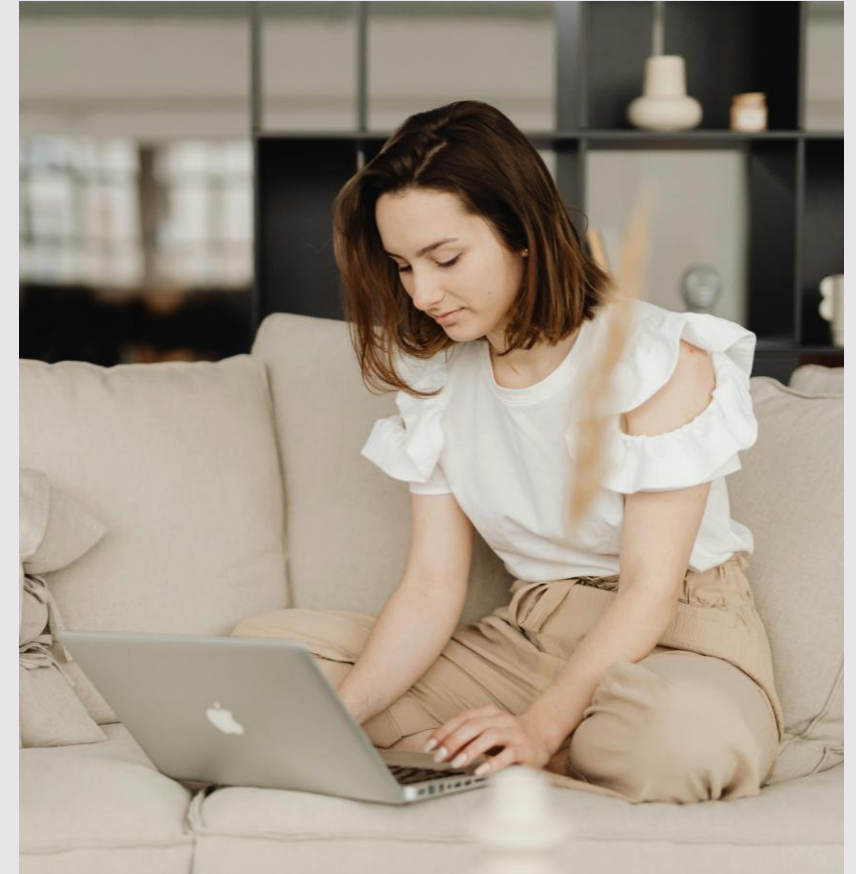
Ergonomic Risk Factors

1. Awkward Body Postures

- maintaining an unsupported static posture or performing an awkward posture such as bending, reaching or twisting

2. Force

- physical exertion or pressure applied to any body part while working such as grip, pinch, push/pull, lift or carry
- Physical effort that places a high load on the muscles, tendons, ligaments & joints



Ergonomic Risk Factors

3. Repetition

- Doing the same motions over and over again uses the same muscle groups repeatedly
- Muscles & tendons don't have enough time to rest which leads to fatigue as well as tissue damage & irritation

4. Contact Stress

- Soft tissue making contact with a hard or sharp edge may cause decreased circulation and/or nerve function.



Can you identify the risk?

Which risk factor is best described in the following scenarios?



- Looking down at your laptop screen?
 - Awkward posture
 - Repetition
 - Force
 - Contact stress



- Using an outdated keyboard that requires you to press the keys extra hard?
 - Awkward posture
 - Repetition
 - Force
 - Contact stress



Can you identify the risk?

Which risk factor is described in the following scenarios?



- Scrolling through spreadsheets for extended periods of time without breaks?
 - Awkward posture
 - Repetition
 - Force
 - Contact stress



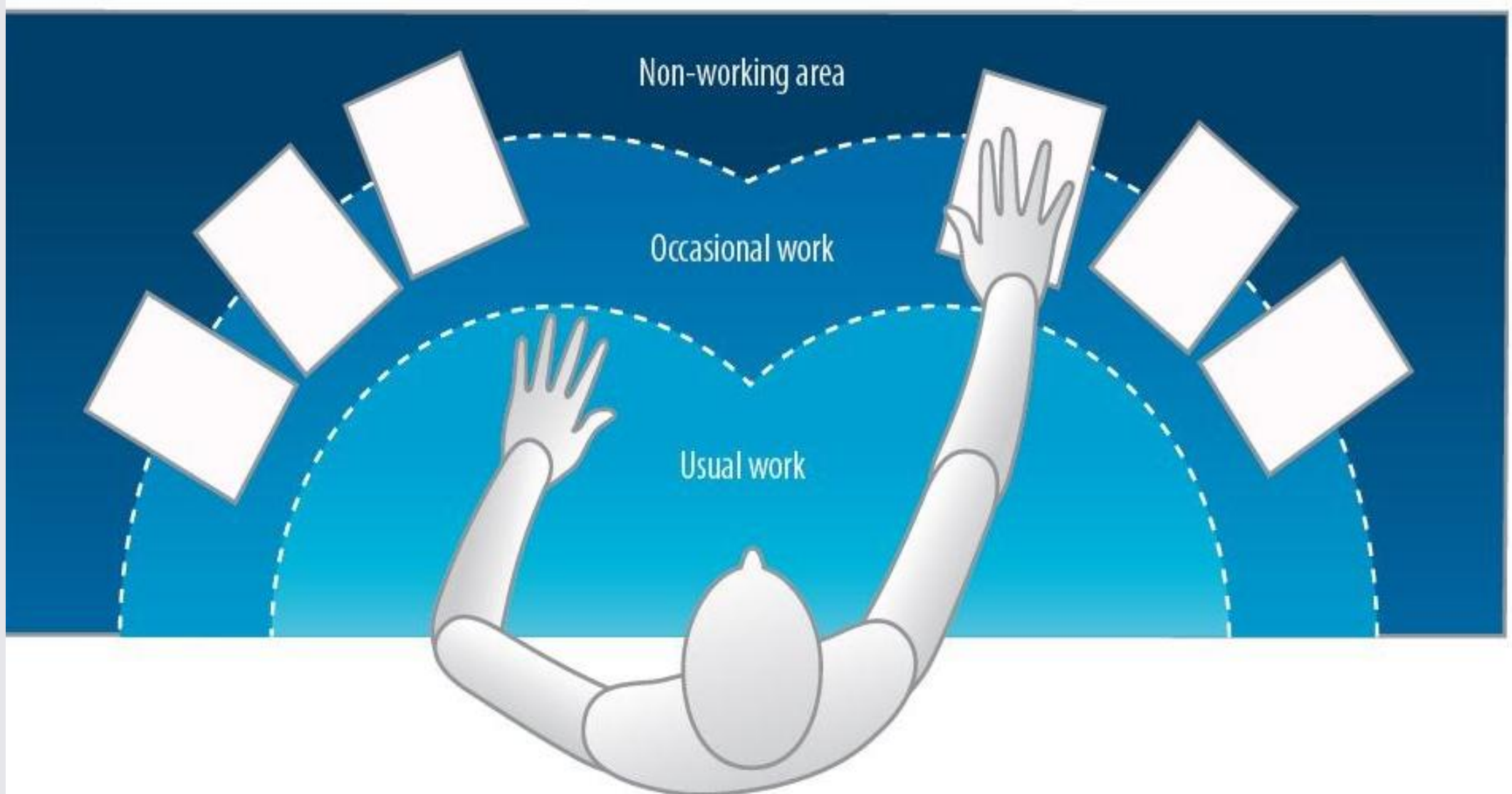
- The wrists pressing onto the desk edge while typing?
 - Awkward posture
 - Repetition
 - Force
 - Contact stress



Arranging the Office Workspace



Work Zones



**Put
Yourself
in
Neutral**



Fitting your Chair

Sit with hips higher than knees.	Sit with feet supported.	Ensure at least two fingers width between back of knees and seat pan.	Ensure at least two fingers width on either side of hips.	Sit against lumbar support of the chair. Avoid "perching" in chair.	Arm rests promote a relaxed shoulder posture and don't interfere with the desk.
					



Common Chair Dilemmas Solved and Remote Work “Hacks”



Problem	Solution
Chair too low at highest setting?	Sit on a cushion or folded blanket
Chair too high?	Rest your feet on a footrest: a binder, ream of paper or sturdy box will do
Chair too deep?	Add a small pillow or rolled towel to bring you forward
Not enough back support?	Add a lumbar cushion or rolled towel for additional support
Arm rests getting in the way?	Remove them or swing them out of the way, naturally hanging arms at sides
Too many paddles and levers?	Get to know your chair functions (search make/model on internet)
Back hurting?	Increase movement breaks (get out of the chair more often)



Mouse and Keyboard



Neutral straight wrists

Open 90-110 degree elbows

The keyboard and mouse should be approximately elbow level.

This allows a neutral arm and wrist position

Keep arms close to body when working.



Avoid contact stress on hard surfaces – use the “float technique”



Keep the keyboard and mouse on the same level and close to your body so you don't have to reach to access them.



Mouse and Keyboard

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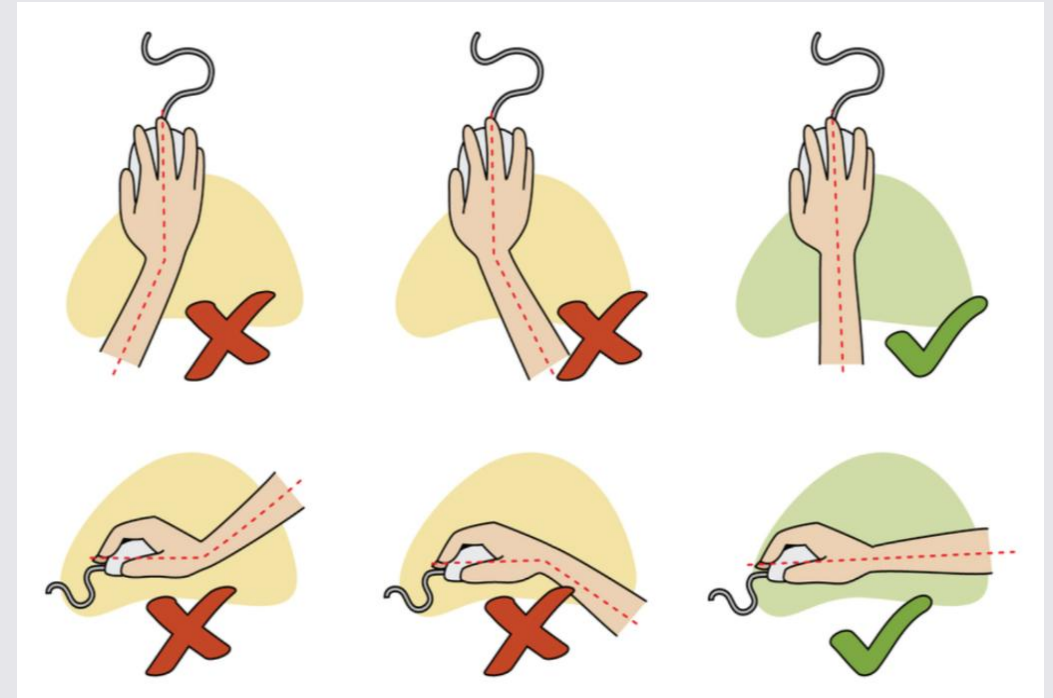
X



The keyboard and mouse should be approximately elbow level.

This allows a neutral arm and wrist position

✓



Mouse and Keyboard Comfort Strategies

Tips for Reducing Computer-Related Stress to Upper Extremity

Ensure chair height allows for neutral wrist with mousing and typing

Occasionally mouse on the non-dominant side to relieve repetitive stress

Use keyboard shortcuts/ macros

Explore mouse settings under "Devices"
Cursor speed, scrolling function

Decrease your typing and clicking force

Microbreak by hanging arms down at sides for 10-15 seconds when not actively mousing/ typing. Do not hover over the keyboard and mouse, instead *relax*

Take a break from the computer (or any digital device) during leisure time



Screens

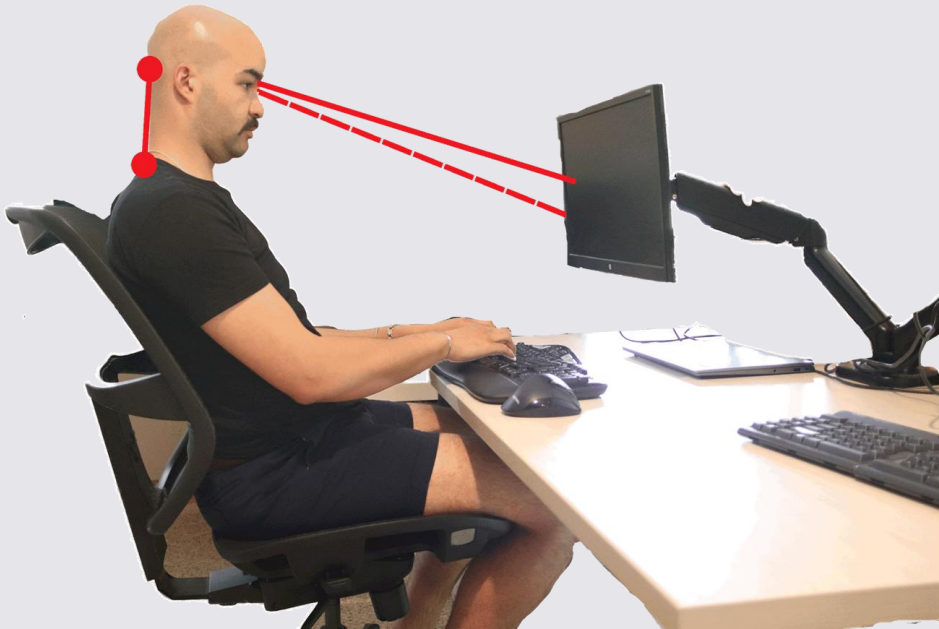
Place monitor(s) approximately an arm's length away.

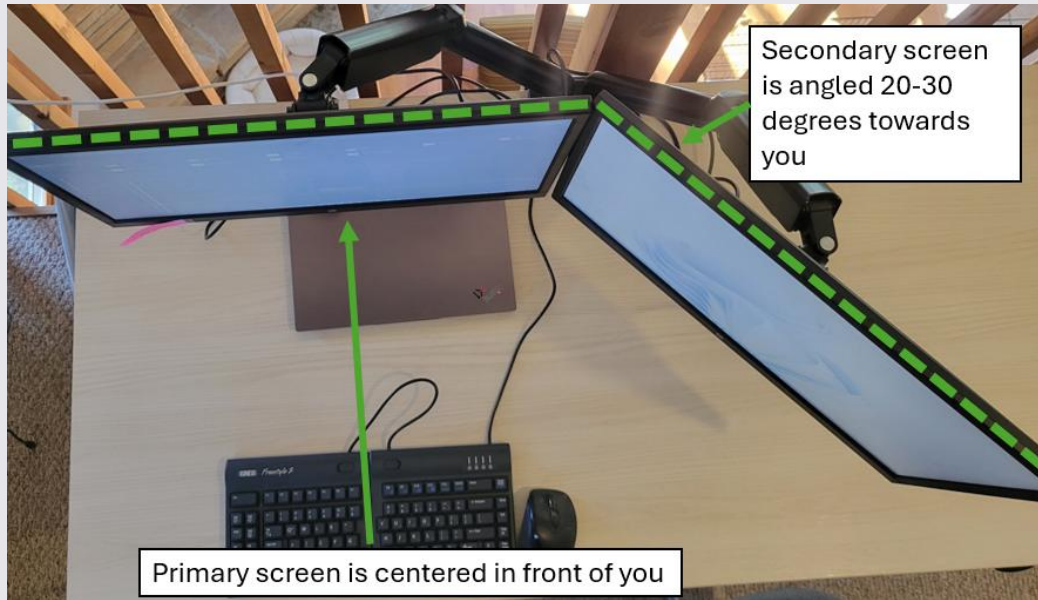
Larger screens may be placed slightly further away.

Top 1/3 of screen(s) should be about eye level.

This is different if you wear bifocals- find a position that avoids neck bending.

Position monitor directly in front of you to avoid twisting the neck.





Many Screens?

- For multiple screens: center primary and place secondary on side of eye dominance at 30-degree angle.
- If they are used the same amount, center both.
- ***Interactive exercise:*** Find your dominant eye!



Eye Strain & the 20/20/20 Rule

- Every 20 minutes, look at something 20 feet away for 20 seconds
- OR every 20 minutes, close your eyes for 20 seconds



The 20-20-20 Rule

✓ The 20-20-20 rule is used to help reduce the rate of eye strain and fatigue caused by extended screen use.

✓ Implementing this rule reminds us to take frequent breaks and may reduce eye strain throughout the workday.

✓ This rule emphasizes taking a break every 20 minutes to look at something at least 20 feet away, or closing your eyes, for 20 seconds to relax the eye muscles.

✓ Symptoms of eye strain: eye-watering, tired or achy eyes, blurred vision, double vision, dry eyes, headaches, and eye redness.

✓ How to implement this rule: Set a timer and find a window or stationary object to look at (it can be more than 20 feet away). If you are taking a break from the computer, limit looking at other screens such as your smart phone. Consider taking a break outdoors, if possible!

20
Every 20 minutes

20
Look at something 20 feet away

20
For 20 seconds

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 **THE RISING
WORKPLACE**



Screens, Vision, and Blue Light

- Modify screen contrast and brightness for ease of viewing
- Consult with your eye doctor yearly to ensure your prescription is fit for computer use
- Enable blue light filters during non-daylight hours
 - Blue light mimics the sun and interferes with circadian rhythm (sleep, mood, alertness levels)
 - See Display settings on your screens
- ***Blue light is not the main contributor to eye strain...***



Work Smarter, Not Harder: General Accessibility & Device Settings



SHORTCUTS



**DICTATION OR
TEXT-TO-SPEECH**



SCREEN READERS



MAGNIFIERS



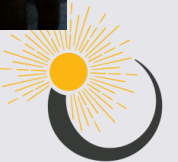
VISUAL SETTINGS



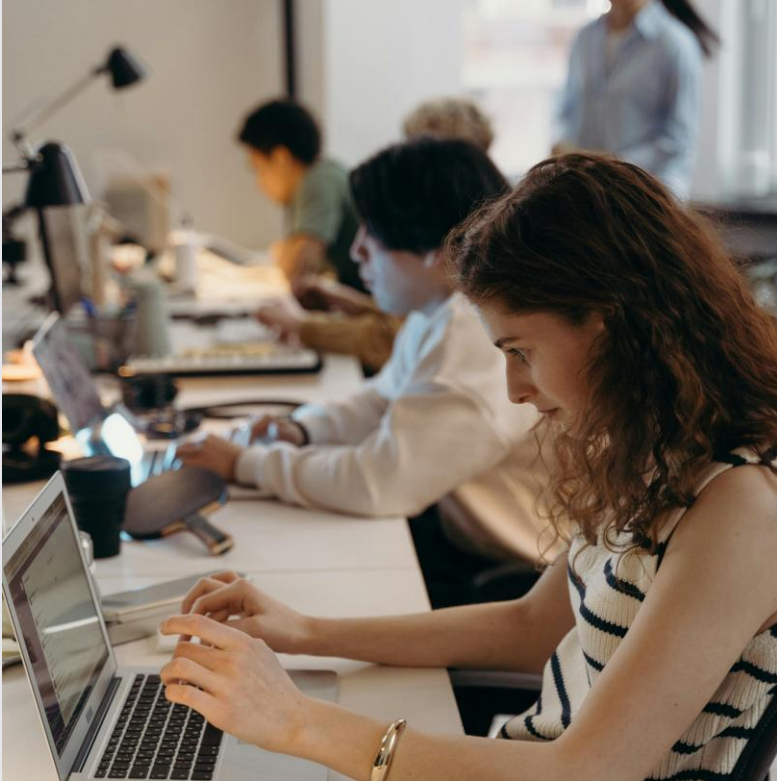
**CURSOR
SETTINGS**



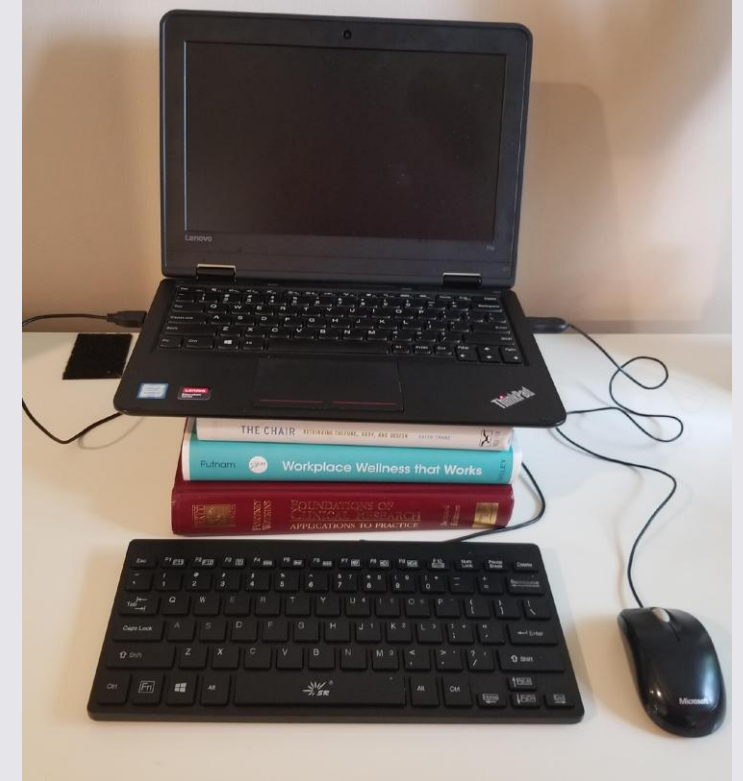
Ergo Tips for Working Remotely



Working off a Laptop is... a Pain in the Neck!



- Prolonged periods on a laptop contribute to awkward postures that can lead to pain
- Without an external mouse and keyboard, a neutral position is not possible



Tips for Laptop Use when a Mouse/ Keyboard are Unavailable

- Remember the principles of ideal positioning...
 - Keyboard
 - Mouse
 - Screens
 - Seating
- Avoid Contact Stress
- Avoid Over-reaching



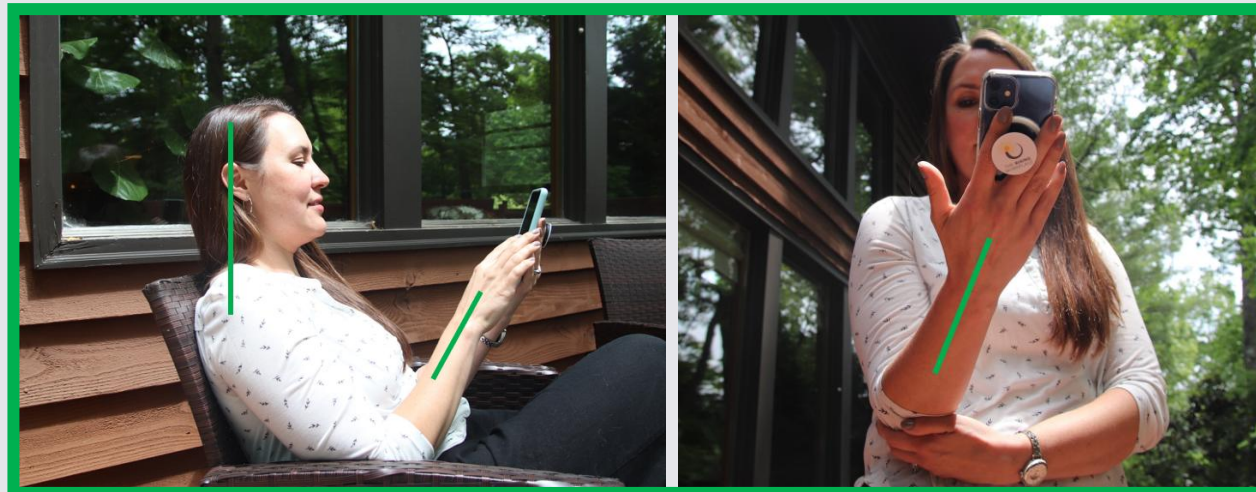
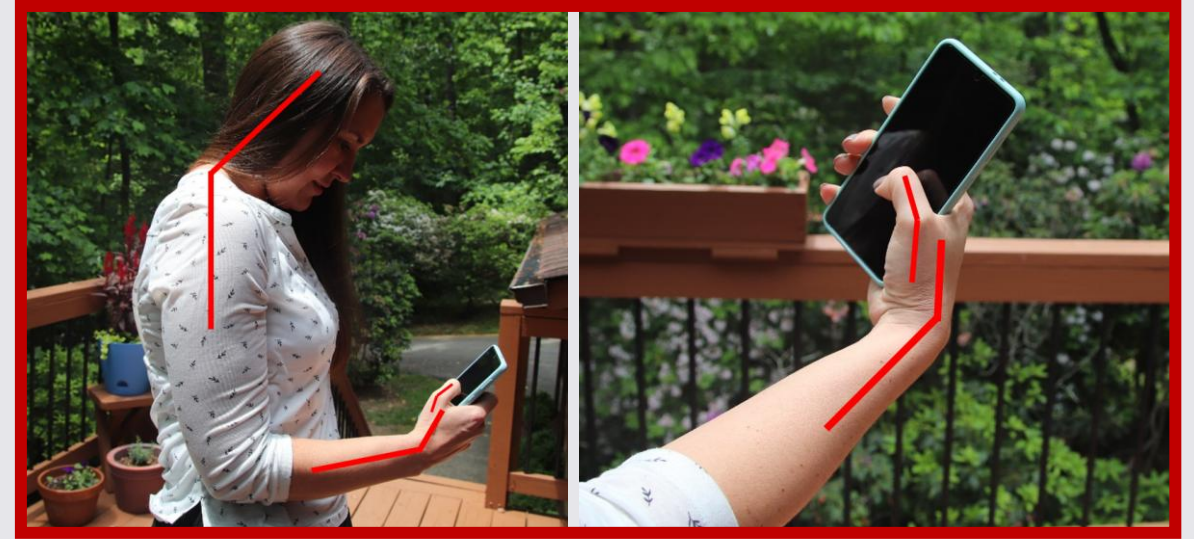


Work From Home – Try This, Not That



Handheld Device Ergonomics

- ✓ Hold your phone at heart level
- ✓ Keep your wrist in a neutral position
- ✓ Grip your device lightly with a flat and relaxed palm and use your opposite hand for text entry
- ✓ Consider using hand straps, a stand, or a “pop socket” to decrease grip forces



Movement & Breaks



Sit or Stand?

HEDGE'S 3S's IDEAL WORK PATTERN



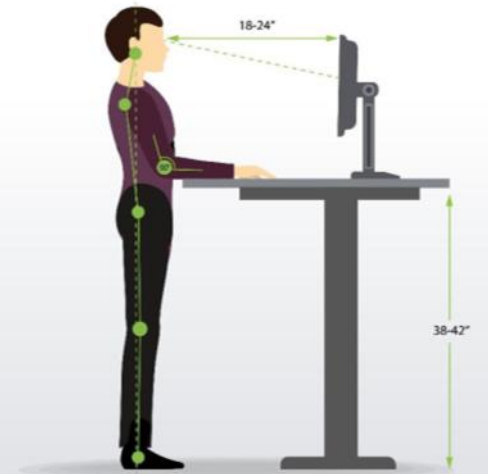
(<http://ergo.human.cornell.edu/CUESitStandPrograms.html>)



Working in Neutral Postures: Standing



CORRECT STANDING POSTURE





Movement is the Key to Comfort

Take small opportunities to **MOVE** more

- If able, get up and stretch
- If able, stand to do non-computer intensive tasks, such as calls and webinars
- Hang your arms at your sides when not actively using mouse and keyboard
- Set a timer or use a smart device to remind you

Try not to sit more than **53 consecutive minutes**

- 30 to 180 seconds of movement is enough
- *Plan ahead for movement*



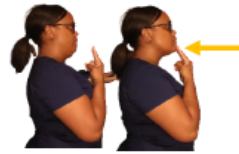


ERGO-BREAK!



TRW 5 Minute Movement

Complete each movement for 30 seconds



Chin Tucks:
Slowly draw your head back so that your ears line up with your shoulders. Hold for a few seconds and return to starting position.



Shoulder Rolls:
Move your shoulders in an UP, BACK, and DOWN in a circular pattern.



Mini Squats:
While standing with feet shoulder width apart and in front of a stable support for balance. Bend your knees and lower your body towards the floor. Your body weight should mostly be directed through your heels. Return to a standing position. Knees should bend in line with the 2nd toe and not pass the front of the foot.



Prayer/Reverse Prayer Stretch:
Place the palms of your hand together with your fingers pointed upwards. Then lower your hands in front of your chest as shown to stretch your wrists.
Reverse: Place the back of your hands together to stretch the wrist as shown.



Neck Side Bend Stretch:
While sitting, hold underneath the seat with one hand and place your other hand on your head. Gently bend your head away from the arm that is holding the seat. You should feel a stretch in the side of your neck. Repeat on opposite side.



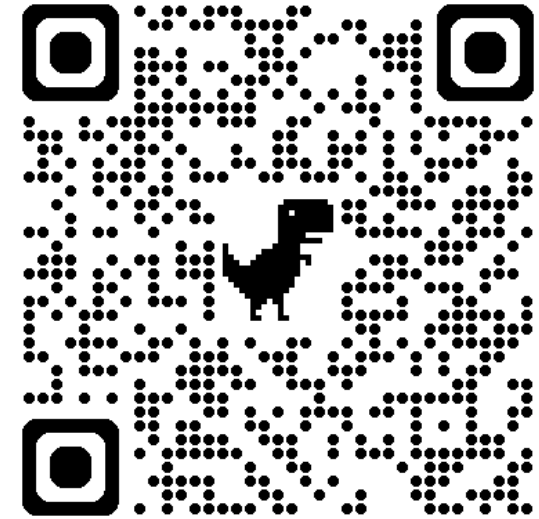
Seated Hip Stretch:
Cross your leg, placing the ankle of one foot on the knee of the other leg. Next, pull the top knee upward towards your opposite shoulder for a gentle hip stretch. Repeat on opposite side.



Trunk Extension:
Start by sitting in a chair with your hands behind your head. Open your chest as you lean backwards and extend your spine against the back rest.

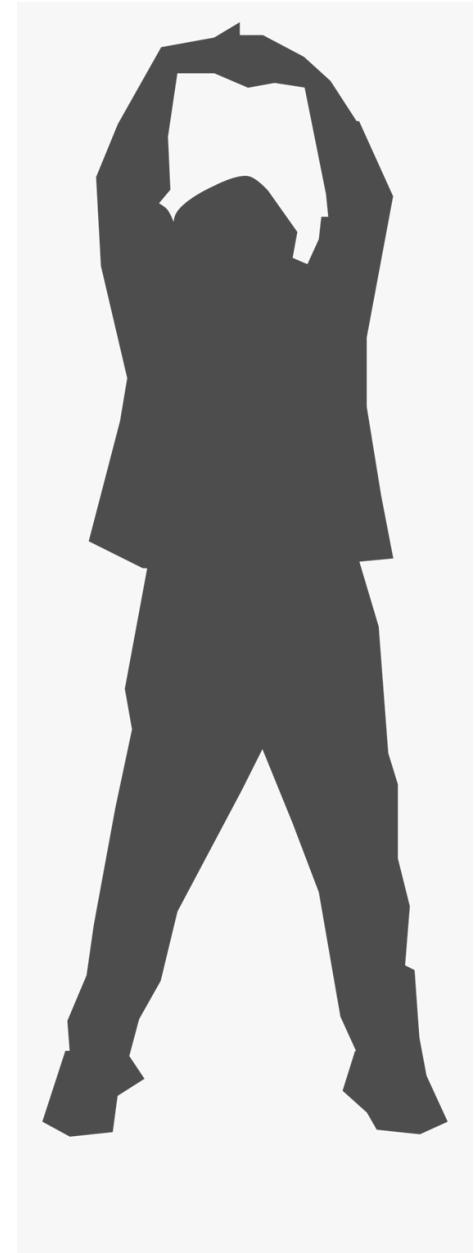


Lower Back & Hamstring Stretch:
Start by standing with your feet about 6 inches apart and your hands supported on a stable surface. Next, hinge forward at your hips keeping your back straight for a gentle stretch.



What is a Microbreak?

- Move your body into the counterbalanced position during natural pauses in work, every 10-15 minutes for 10-15 seconds, or every time the opportunity presents.
 - Hang your arms down at your sides if elbows are frequently bent working on animals
 - Look up at the ceiling and squeeze your shoulder blades if you are persistently looking down for bathing and trimming tasks
 - For prolonged standing, take a brief seated break





Modern Life Poses Ergonomic Risks

- Many things we do everyday are repetitive, cause awkward postures, and increase sedentary behavior
 - Our work, leisure, and day-to-day tasks
- Attention to ergonomics can help us maintain better health and performance– in and outside of work



The background of the slide is a light blue color, densely populated with numerous speech bubbles of various colors including red, yellow, pink, and white. Each speech bubble contains a large, dark blue question mark. The bubbles are scattered across the entire frame, creating a pattern that suggests a Q&A session or a period of inquiry.

Thank you for attending!

Questions?

