

Ergonomics During and After SARS-COV-2 (COVID 19)



Lawrence J. H. Schulze, PhD, PE, CPE,

Associate Professor, Department of Industrial Engineering University of Houston, ljhs@uh.edu; docergo@gmail.com; 713-252-2803



Agenda Overview



- Learning Objectives
- What Post-COVID work schedules might be
- What Post-COVID work areas might look like
- Return-to-Work / Hybrid Work / home work schedules
- The home / mobile work environment
- Home schooling / Hybrid schooling
- Mind, body & spirit
- Learning Objective Reviewed



Learning Objectives



- ☐ Understand the possible changes to work and your workplace
 - ☐ The home office, not an office just for you anymore
 - Home-schooling / hybrid schooling
- ☐ Understand the implementation of ergonomic principles
- ■Understand what you can do to make you and your family be healthy in the COVID-post-COVID workplace / school environment
- ☐ Understand that good organization and commitment to good health unites the mind, body and spirit and supports good family health



References/Bibliography

- Ryan, K. J. (18MAY2020). What the Future of Office Design Might Look Like Now: architects and designers are rethinking the workspace for the age of coronavirus. Inc.
- Harvard Campus Services, Environmental Health and Safety (2020) Telecommuting Ergonomics. Fact Sheet. Program: Ergonomics
- Harvard Campus Services, Environmental Health and Safety (20120) Exercise Program for Staff who are completing tasks that are not physically demanding.
 Harvard University Health Services
- Harvard,) Telecommuting Ergonomics. Remote Workstation Ergonomic Tips.
- Occupational Safety and Health administration (2020). Guidance on Preparing Workplaces for COVID -19 (OSHA 3990-03 2020). Author.
- Centers for Disease Control and Prevention. (2020). Coronavirus Disease 2019 (COVID 2019): interim Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID 2019). Author, May 2020.
- World Health Organization. (2020) Getting your workplace ready for COVID-19. Author (3 march 2020)
- Horton, R. G. (2020) How to Practice Self-Care While Working from Home: Why focusing on physical, mental, and emotional health is a must. https://www.hermanmiller.com/research/categories/white-papers/how-to-practice-self-care-while-working-from-home/.
- Cianci, B. (2020). Returning to the office: How to Make your Office Safer for Everyone During COVID-19 Forbes.
- Andrew, S. and Niu, Y. How to keep your workplace clean -- and yourself healthy -- during the novel coronavirus outbreak. CNN
- Milota, C. (2020). A Common Sense Guide for Returning to the Post COVID-19 Workplace. WorkDesign magazine.
- Sarma, J. (2020). Today Health Tips: Clean, Disinfect and Sanitise Your Workstation to Keep COVID-19 at Bay. The Health Site.com
- Farrer, L. (2020). Remote Work Advocates Warn Companies About COVID-19 Work-From-home Strategies. Forbes. Mar 5, 2020.
- McCue, T.J. 5 essential Coronavirus Work From Home Tech Tips. Forbes (Mar 13, 2020)



You may see signs that point out the following Remember do not do these things with your hands

- 1. Do not touch your face with your hand(s)
- 2. Do not touch / rub your eyes with your hand(s)
- 3. Do not touch / itch your nose with your hand(s)
- 4. Do not shake hands with other people

Remember these good hygiene principles

- Wash your hands after touching objects others have touched
- 2. Obey social distancing (6 feet between people / physical 'shield'
- 3. Wear a mask when among others, to protect yourself and others
- 4. Exercise and eat well
- 5. Do not engage in any unnecessary travel





SOCIAL DISTANCING

Please do your part to stop the spread of disease



KEEP EXTRA SPACE BETWEEN YOURSELF AND OTHERS IN LINE

When possible, keep 6 feet between you and others









Alter workplace behavior Organizations may require testing'

Organization may require temperature check before

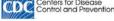
entering

Extensive use of hand sanitizers

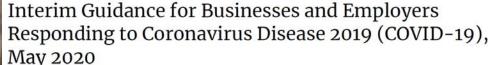


3 March 2020

Getting your workplace ready for COVID-19



Coronavirus Disease 2019 (COVID-19)



Plan, Prepare and Respond to Coronavirus Disease 2019









Offices may look different; hello cubicles, goodbye open office?

Partitions may be added

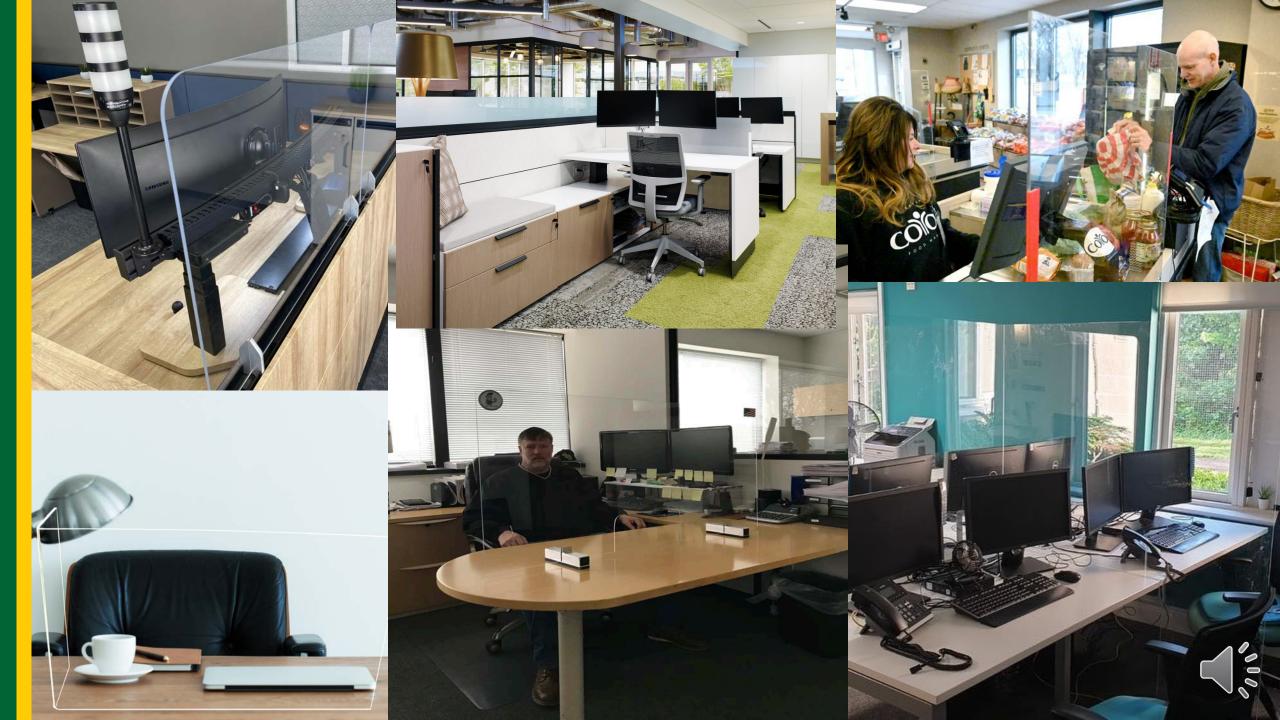
Every other workspace may be occupied

Arrows and lines may be on the floor

Modular offices may be back

Use of sit/stand workstations may be limited due to

between workstation partitions



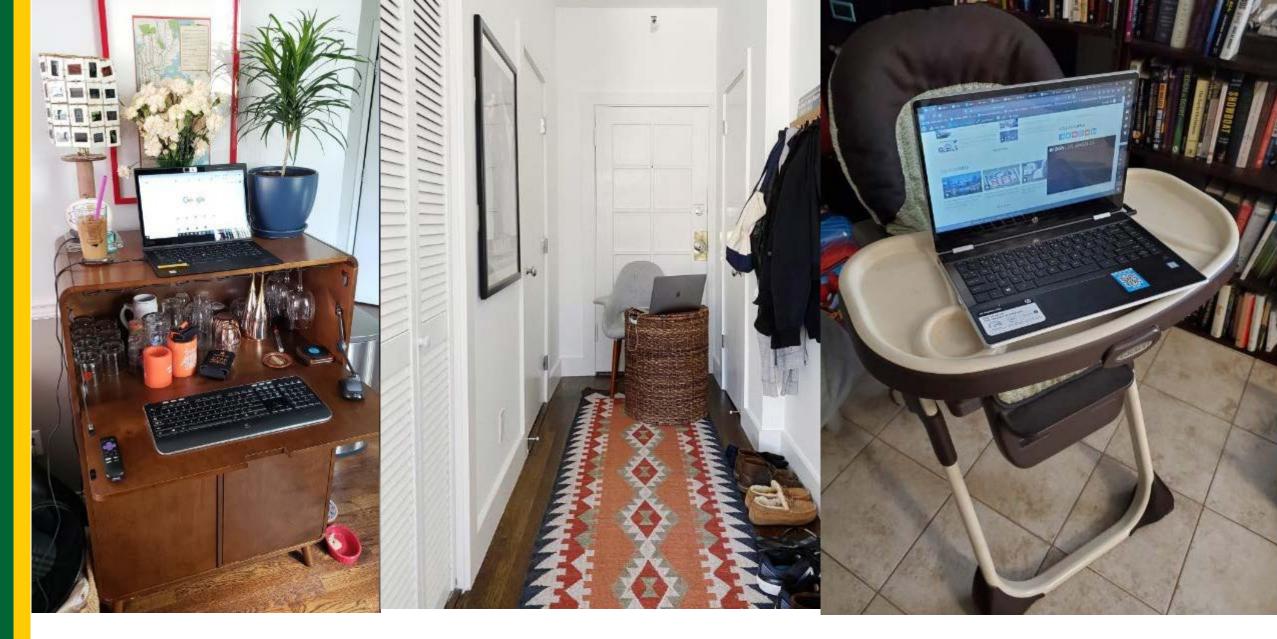


Home Office / Home Schooling

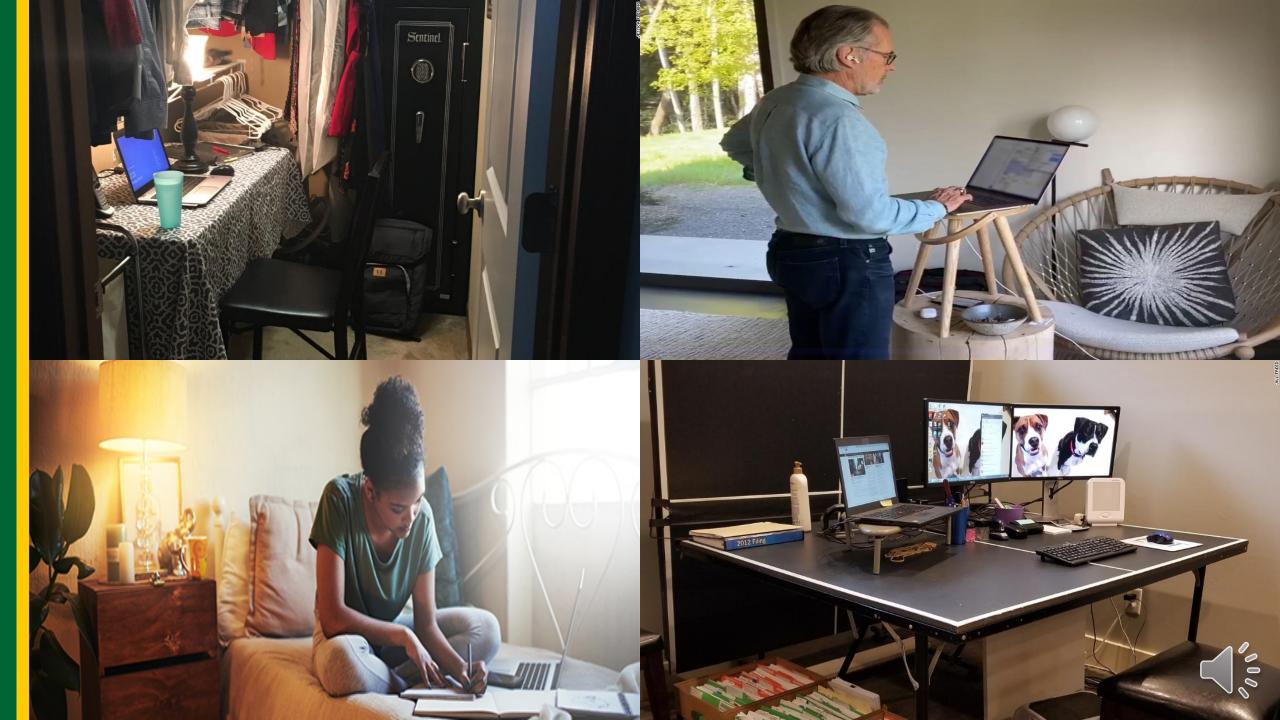


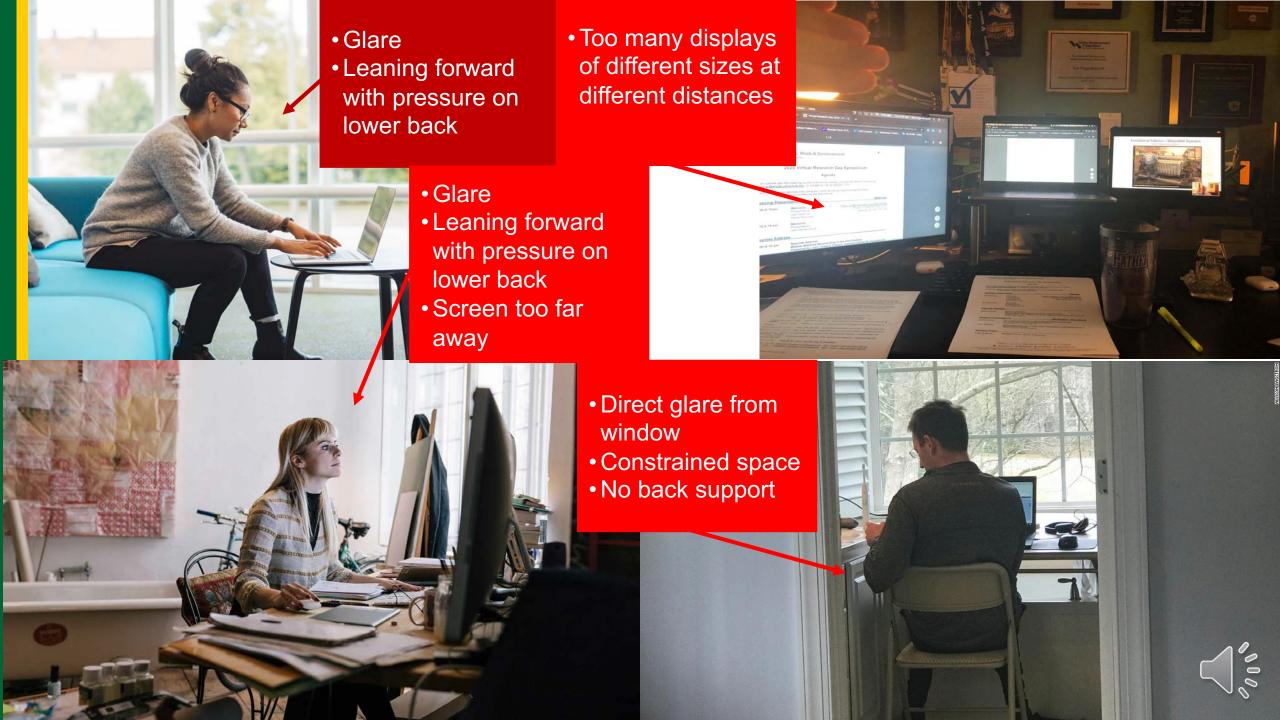












CORRECT SITTING POSTURE

COMPUTER WORKSTATION ERGONOMICS

18/24 in (45-70 cm)

Take breaks

every 30 -

45 minutes

MONITOR

Adjust distance and height: top of the monitor at eye-level and slightly tilted.

ARMS

Relax shoulders, forearms parallel to the floor. Minimal bend at the wrist.

CHAIR

Should have a backrest and armrests, adjust height.

LEGS

Thighs parallel to the floor.

FEET

Parallel to the floor, use a footrest if necessary.

Some Specific Workstation Recommendations

- Upper-arm-forearm angle greater than 90°;
- 100°-120° preferred
- Upper leg-lower leg angle greater than 90°;
- 100°-120° preferred
- Monitor distance adjusted to visual ability of user and comfort, not too far away
- Monitor located beside window not facing or in back of user to limit eye fatigue
- Feet flat on floor or supported (foot rest, books, wood slats
- Chair with arm rests & back rest. Height adjustable preferred.
- Chairs should promote good body posture, can use pillows/cushions to raise children up to worksurface and rolled towels to support the back



Maintaining Good Posture as You Work from Home

1. No upper back support 2. Lumbar support no in lumbar curve of back 3. No arm supports 4. Legs at 90^o and touching front edge of seat 5. Uncomfortable shoes 6. Sweater gathered at elbow joint TodaysWorkatHomeMom.com

Chairs & Posture









\$200.00-\$1,000.00

Use these top searches to find the latest sales on new office furniture.



















Ergonomic Tips for Home and Office

Workstations

- Avoid using the bed, coffee table, etc. A kitchen table is better
- Avoid resting forearms and wrists on the sharp edge of a table or workstation

Chair

- If you do not have or cannot get an adjustable chair, use a stable chair
- If your feet do not touch the floor, support them with books, boards or other material
- If your chair is too low, use seat cushions to raise yourself, significant other, and kids
- If your chair does not have a lumbar support, use a rolled up towel and put it in the small of your back
- Avoid using the couch or the floor, they are designed for relaxation, not working
- An 'ergonomic' chair is ideal; if you don't have one, take frequent breaks

Monitor

- Locate monitor perpendicular to windows, so that you are not facing a window and/or
 it is not directly behind you.
- Increase font size to reduce eye strain
- If possible use your television as a monitor



Ergonomic Tips for Home and Office

Technology

- If possible use a desk-top computer or attach external monitor, keyboard and mouse to your laptop
- If you do not have an external monitor, elevate your laptop to promote a more upright neck posture and connect an external keyboard to the laptop
- Use noise cancelling headsets with a microphone for calls, conference calls and webinars

Tablet / Mobile phone

- Continuously change your grip posture
- Alternate between thumb and finger use when texting
- Use hands-free option as much as possible

Lighting

- Control glare by directing light toward the ceiling using miniblinds, or close the blinds al together
- Make sure you have enough indirect light to avoid eye fatigue while reading

Body posture

- Keep your wrists straight while typing and do not rest your wrist and/or forearm on sharp edges
- Keep your upper-lower arm angle greater than 90^o (100^o-120^o)
- Keep you upper-lower leg angle greater than 90^o (100^o-120^o)
- Remove jewelry while using computer interfaces (keyboard & mouse)
- If you or your family starts feeling uncomfortable, change your body position
- You best posture is your next posture



Ergonomic Tips for Home and Office

Health

- Get exercise to enhance the mind-body-spirit connection
- Walk when talking on the telephone to promote circulation
- Use breaks every 30 minutes to stretch
- Integrate work breaks with school breaks with children
- Avoid high sodium snacks as the cause your body to retain fluid that pools in your wrists, elbows, knees and ankles
- Drink at least 4 8oz glasses of water in 8 hours, 8 glasses is better.
- Keep you normal 'coffee breaks' and meal time(s)
- Wash hands frequently, avoid personal contact, disinfect your workstation, practice good hygiene

Performance

- Get up, make your bed and get dressed for the day; you start out with accomplishments and sets the mood for the day.
- If you made 'to do today' lists at work, make them at home; it is a road made for accomplishments.
- Try to work at home as you would at work; remember people tend to work more from a home office
- Working from home is filled with distractions, especially if the whole family is there; set workspace; worktime, and concentration boundaries
- Connect with others working from home



Organizational Tips

- Dedicate Work Time
 - Dressed, office hours set, priorities established
- Dedicated work space
 - Desk, chair, computer, lighting, scheduled with other family members if required
- Working technology
 - Technology function tests, equipment checked, software updated
- Communication
 - Family, friends, colleagues, supervisor(s) / manager(s)
- Commitment to personal health
 - Healthy meals & snacks, exercise, stretching, programmed breaks
- Dedicated downtime
 - Family, friends, personal decompression





Work Area / Workstation Ergonomics Checklist

Learning Objectives



- ✓ Understand the possible changes to work and your workplace
 - ✓ The home office, not an office just for you anymore.
 - ✓ Home-schooling / hybrid schooling
- ✓ Understand the implementation of ergonomic principles
- ✓ Understand what you can do to make you and your family be healthy in the COVID-post-COVID workplace / school place
- ✓ Understand that good organization and commitment to good health unites the mind, body and spirit and supports good family health

