

Deep Work From Home:

Cognitive Human Factors in Remote Ergonomics

Presented by: Matt Jeffs DPT PSM REAS

matt@abilityondemand.com

matt@thebackschool.net

<https://moxie.xyz/matt>





THE
BACK SCHOOL

40 YEARS
Trusted Ergonomics Experts

Login



[HOME](#) [ONLINE COURSES](#) [LIVE WORKSHOPS](#) [PRODUCTS](#) [ONSITE CONSULTING](#) [RESOURCES](#) [ABOUT US](#) [PROFESSIONAL DIRECTORY](#)

Ergo2Go: Remote Office
Ergonomics Assessments

[Ergonomics Consulting](#)

[Power Zone / Workplace
Athlete®](#)

[Customized Training](#)

[Invoice Payment](#)

ERGO2GO: REMOTE OFFICE ERGONOMICS ASSESSMENTS



The Back School is excited to introduce the next phase in interactive ergonomics office and home office assessment. Outdated software-driven self-assessment is over. Now, you can experience the personal, customized benefits of instant expert access.



Cognitive Ergonomics Anywhere

- I. 5-7 min - Prologue: Intro to 20th Century Ergonomics
- II. 5-7 min - Principles: Bending Ergonomics to Cognition
- III. 5-7 min - Priorities: Breaking Down Cognitive Hierarchies
- IV. 5-7 min - Practices: Blending Principles and Priorities
- V. 5-7 min - Epilogue: Intro to 21st Century Ergonomics

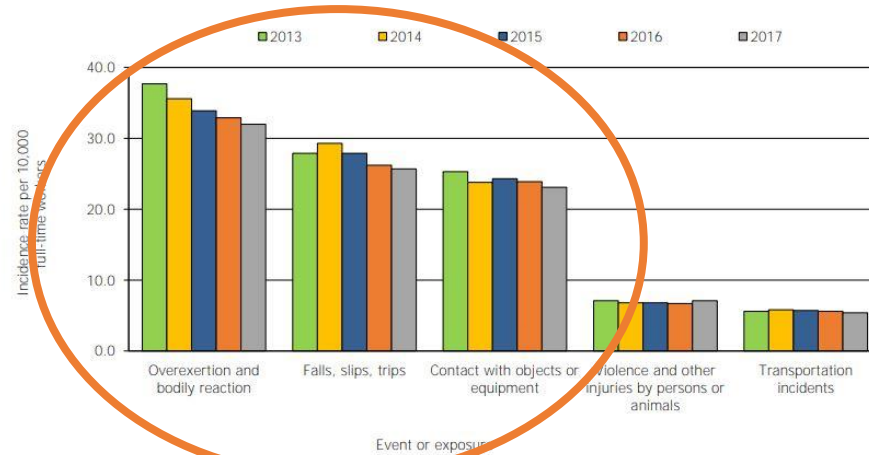


Cognitive Ergonomics Anywhere

- I. 5-7 min - Prologue: Intro to 20th Century Ergonomics
- II. 5-7 min - Principles: Bending Ergonomics to Cognition
- III. 5-7 min - Priorities: Breaking Down Cognitive Hierarchies
- IV. 5-7 min - Practices: Blending Principles and Priorities
- V. 5-7 min - Epilogue: Intro to 21st Century Ergonomics



Nonfatal occupational injury and illness incidence rates for cases with days away from work by selected event or exposure, all ownership, 2013-17



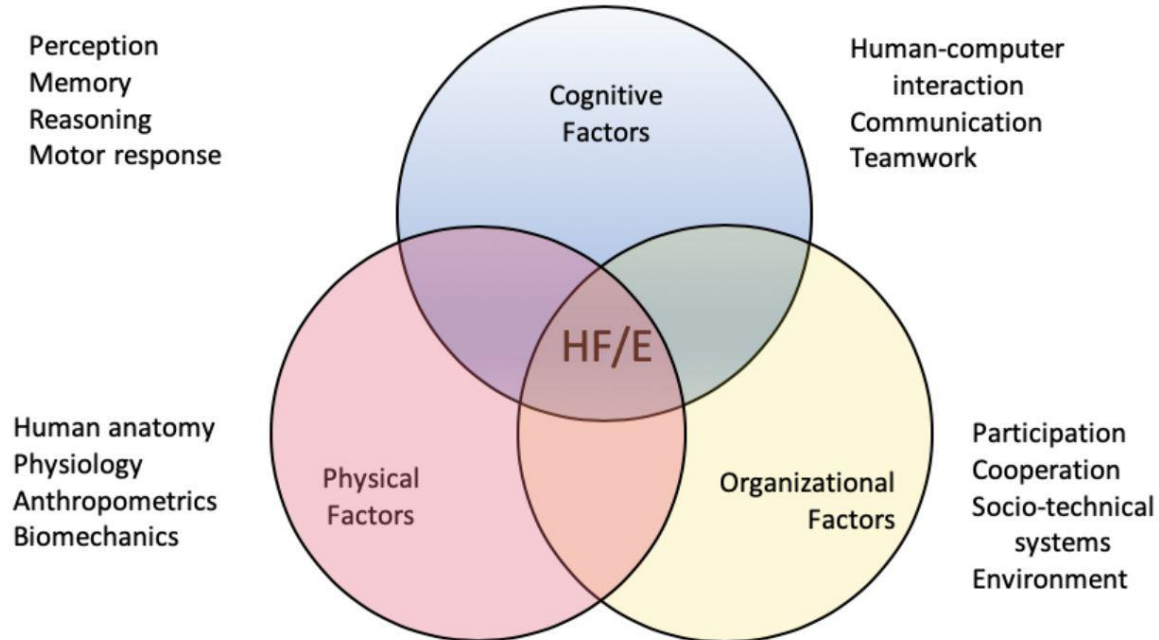
Across the five-year period from 2013 to 2017, the rate of occupational injuries and illnesses resulting from overexertion and bodily reaction decreased from 37.7 cases per 10,000 full-time workers in 2013 to 32.0 cases in 2017.

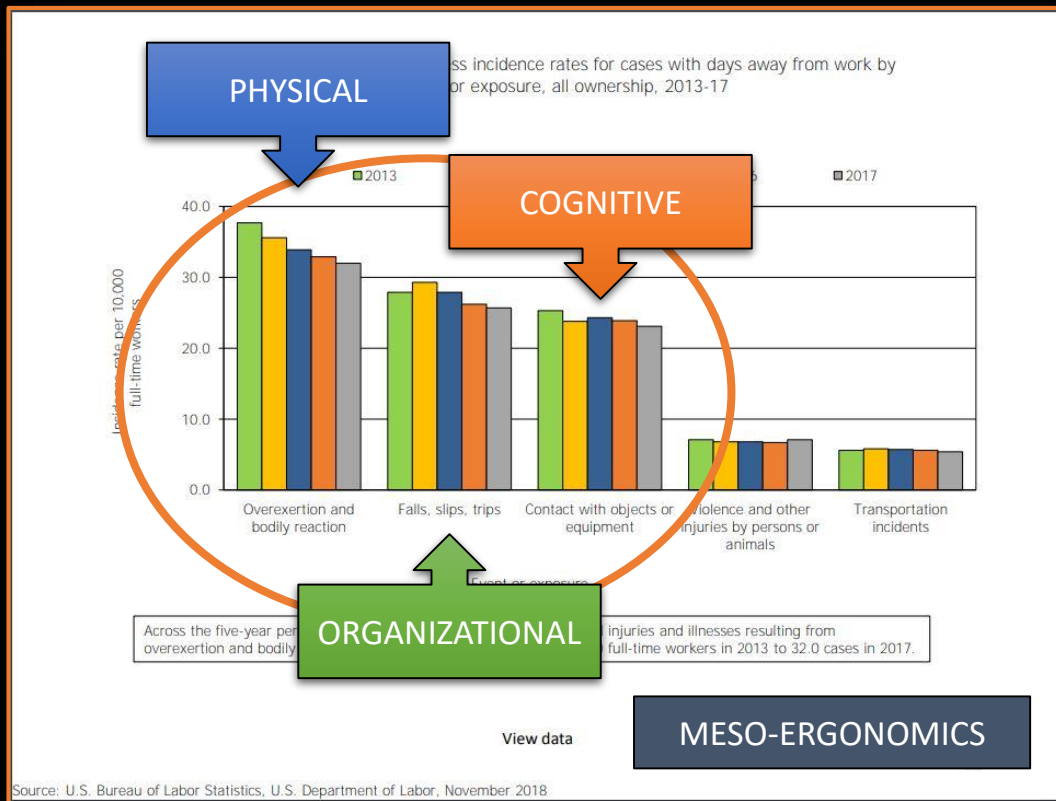
[View data](#)

MACRO-ERGONOMICS

Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor, November 2018

What is Ergonomics?

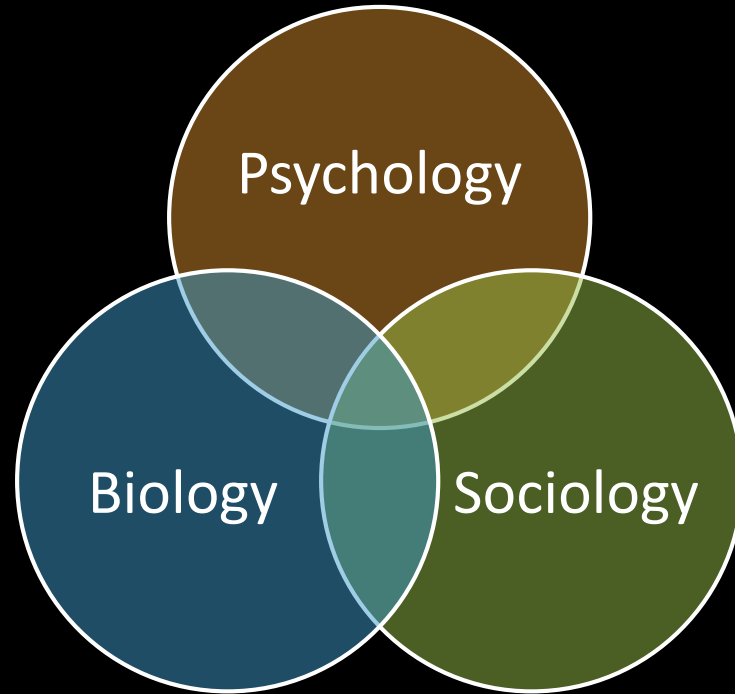
[HOME /](#)

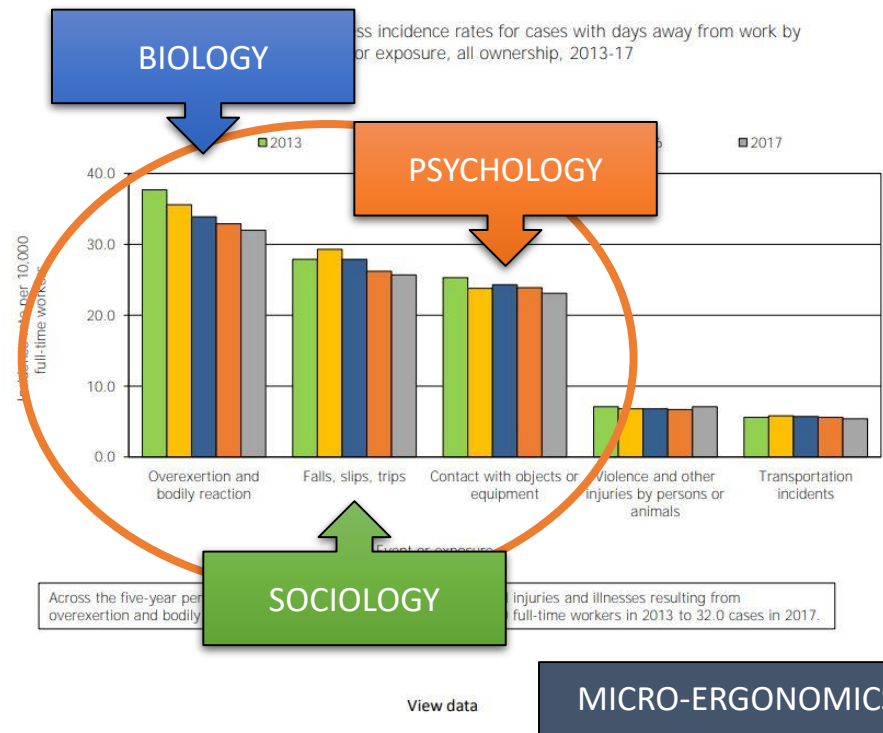




George Engel MD

George Engel MD (1913 – 1999)
Johns Hopkins Medical School
Harvard Medical School





Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor, November 2018

Deep Work From Home:

Cognitive Human Factors in Remote Ergonomics

Presented by: Matt Jeffs DPT PSM REAS

matt@abilityondemand.com

matt@thebackschool.net

<https://moxie.xyz/matt>



Cognitive Ergonomics Anywhere

- I. 5-7 min - Prologue: Intro to 20th Century Ergonomics
- II. 5-7 min - Principles: Bending Ergonomics to Cognition
- III. 5-7 min - Priorities: Breaking Down Cognitive Hierarchies
- IV. 5-7 min - Practices: Blending Principles and Priorities
- V. 5-7 min - Epilogue: Intro to 21st Century Ergonomics



Cognitive Ergonomics

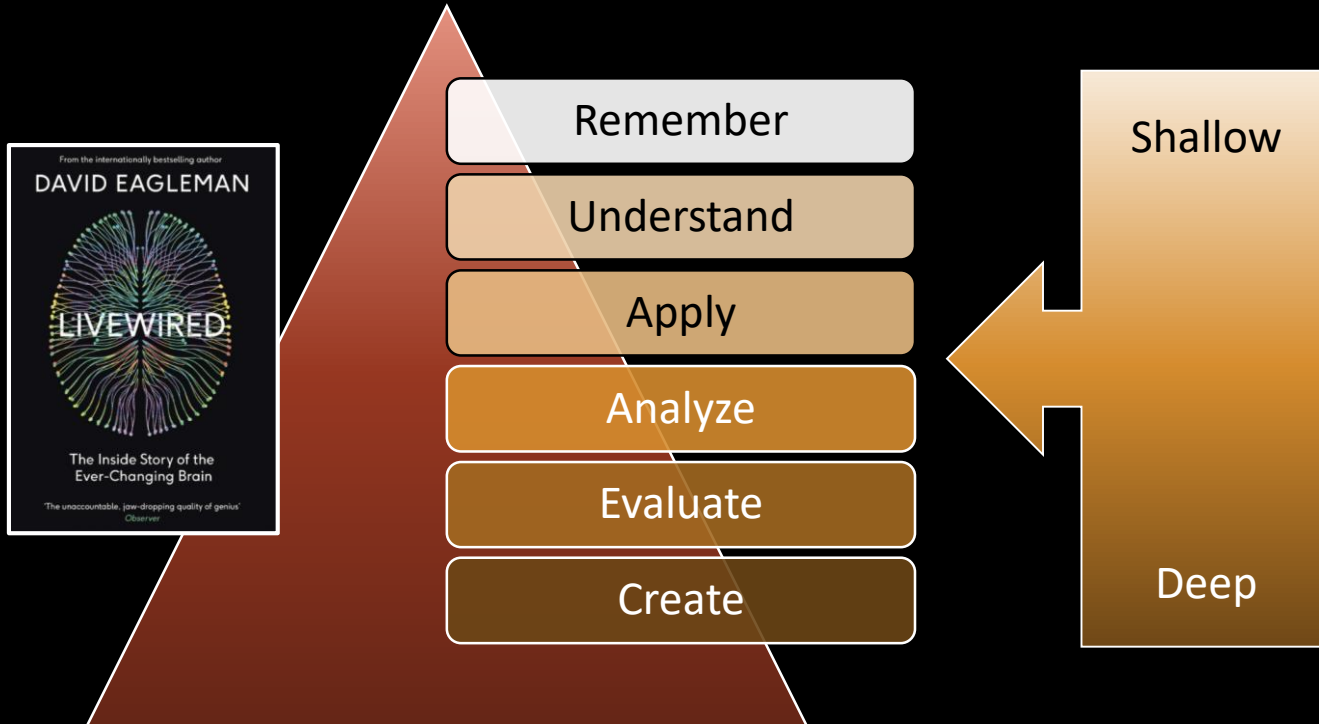
Cognitive Ergonomics is concerned with mental processes, such as perception, memory, reasoning, motor response, and interactions among humans and systems.

<https://iea.cc/definition-and-domains-of-ergonomics/>



Bloom's Taxonomy of Learning:

Classification system to define and distinguish levels of human cognition—i.e., thinking, learning, and understanding.

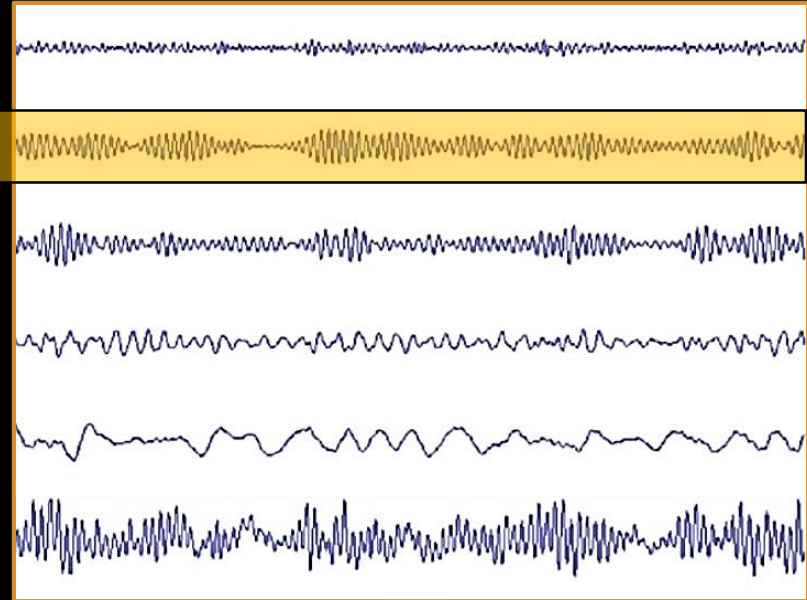
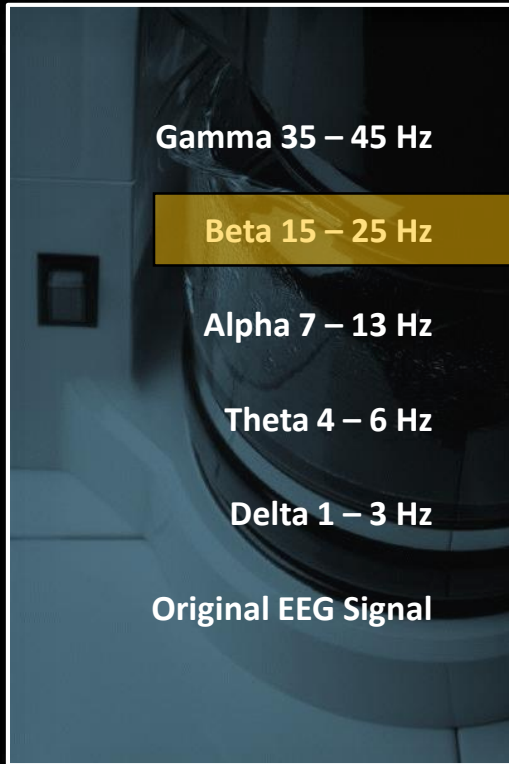


Cognitive Ergonomics

Relevant topics include mental workload, decision-making, skilled performance, human-computer interaction, work stress, training and more.

<https://iea.cc/definition-and-domains-of-ergonomics/>





https://www.researchgate.net/figure/Composition-of-the-EEG-signal-from-different-frequencies-oscillatory-activities-Five_fig3_43341609

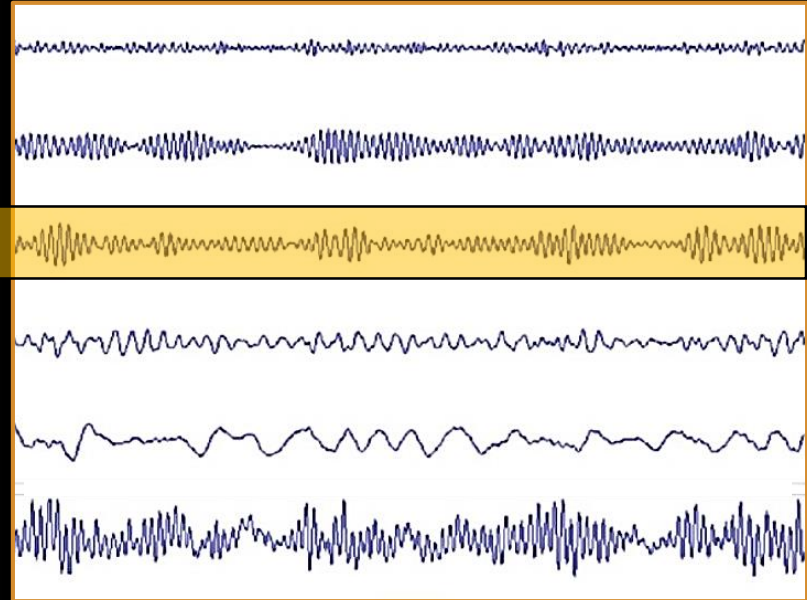
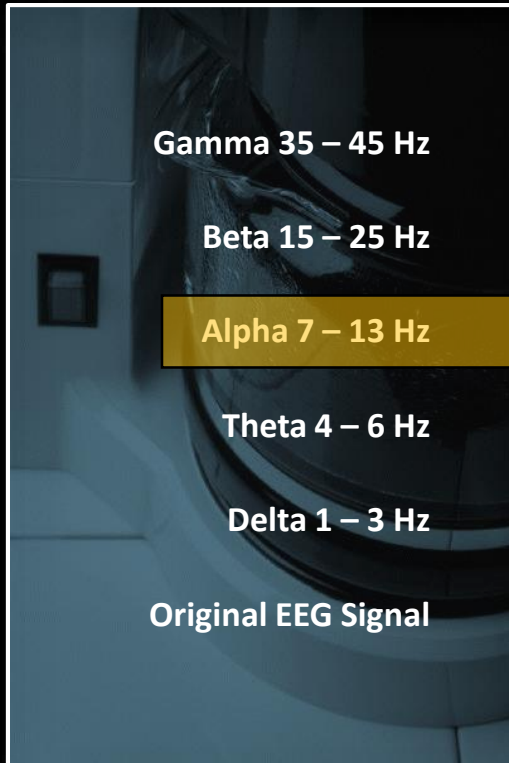
Used by permission: Carol C. OTR



Brain waves show our state of mind



Our brain works using electrical impulses between neurons.
This brain activity can be recorded using an EEG
(electroencephalogram) and displayed as wave patterns.



https://www.researchgate.net/figure/Composition-of-the-EEG-signal-from-different-frequencies-oscillatory-activities-Five_fig3_43341609

Used by permission: Carol C. OTR



Distracted Mind Priorities:

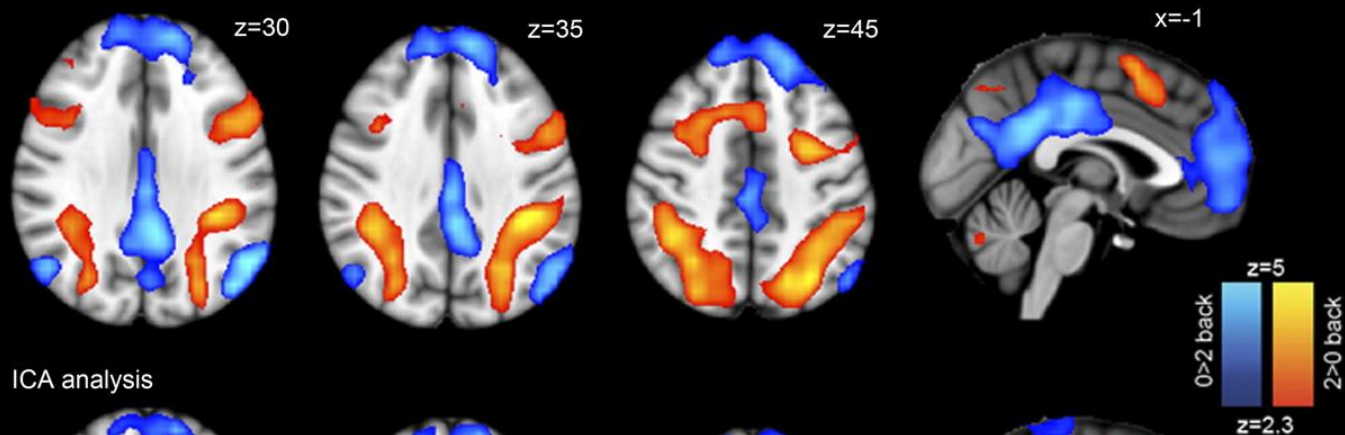
Goal Interference: 'Why Did I Walk in Here?'

- Goal interference occurs when you reach a decision to accomplish a specific goal, and something takes place to hinder the successful completion of that goal.
- 'To overcome the derailing forces of goal interference, we need to increase our understanding and expand our awareness of our cognitive control limitations.'

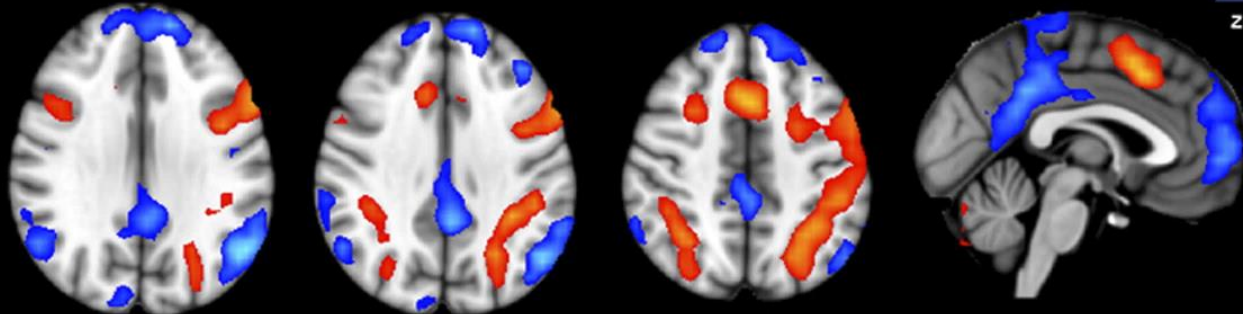
Adam Gazzaley MD PhD – The Distracted Mind -
Ancient Brains in a High-Tech World



a Activation analysis



b ICA analysis



Brewer, J. A., Worhunsky, P. D., Gray, J. R., Tang, Y. Y., Weber, J., and Kober, H. "Meditation Experience Is Associated with Differences in Default Mode Network Activity and Connectivity." *Proceedings of the National Academy of Sciences of the United States of America* 108, no. 50 (2011): 20254-20259.

Distracting Thoughts:

- ❑ Intruding thoughts about everything except the task at hand distract productivity – work suffers.
- ❑ The untrained mind wanders to the past or future, failing to stay centered on the now.

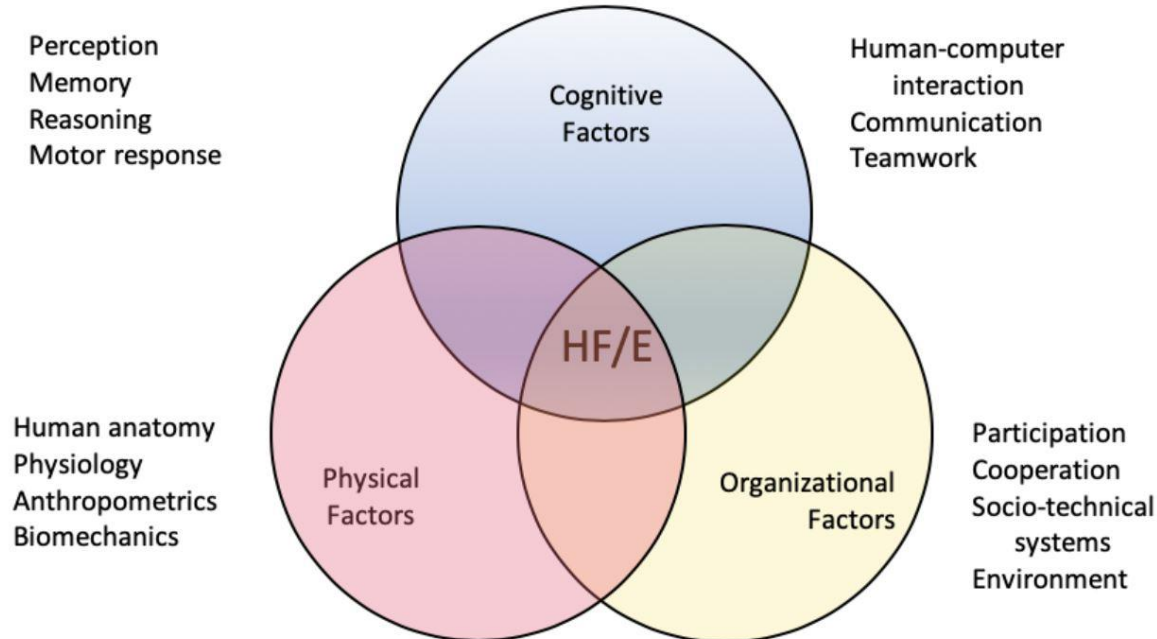
Time-fulness Practice:

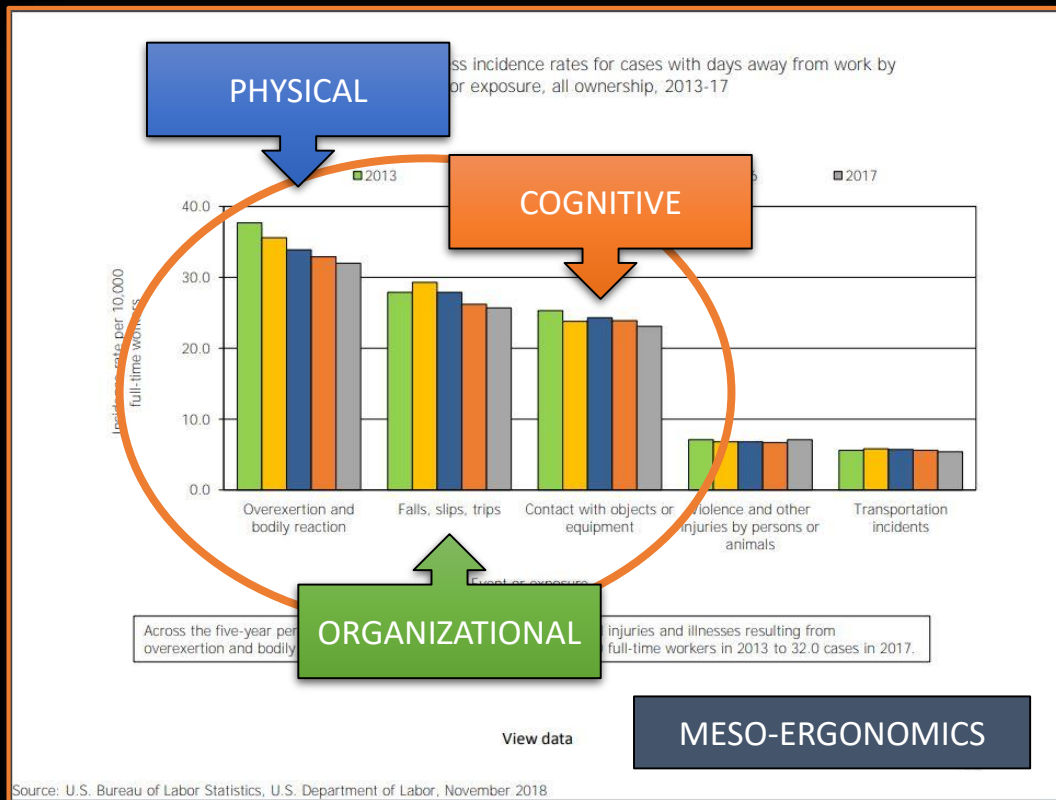
- ❑ Note the distraction fully. Assign its priority. Compare its rank to the task at hand.
- ❑ Accept that the mind wanders. Assign it an appropriate time. Return to the task at hand.





What is Ergonomics?

[HOME /](#)



Deep Work From Home:

Cognitive Human Factors in Remote Ergonomics

Presented by: Matt Jeffs DPT PSM REAS

matt@abilityondemand.com

matt@thebackschool.net

<https://moxie.xyz/matt>



Cognitive Ergonomics Anywhere

- I. 5-7 min - Prologue: Intro to 20th Century Ergonomics
- II. 5-7 min - Principles: Bending Ergonomics to Cognition
- III. 5-7 min - Priorities: Breaking Down Cognitive Hierarchies
- IV. 5-7 min - Practices: Blending Principles and Priorities
- V. 5-7 min - Epilogue: Intro to 21st Century Ergonomics





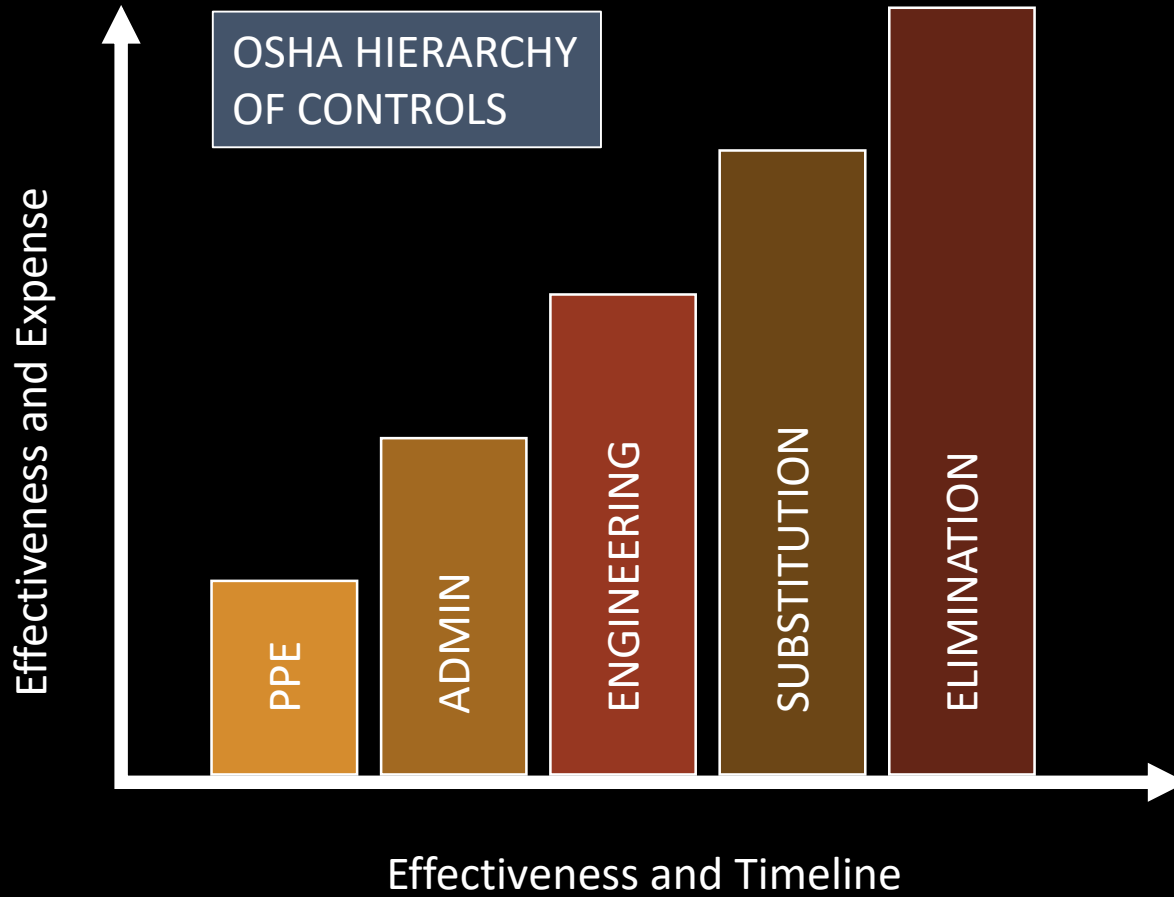
Organizational Ergonomics

Organizational Ergonomics is concerned with the optimization of sociotechnical systems, organizational structures, policies, and processes.

<https://iea.cc/definition-and-domains-of-ergonomics/>

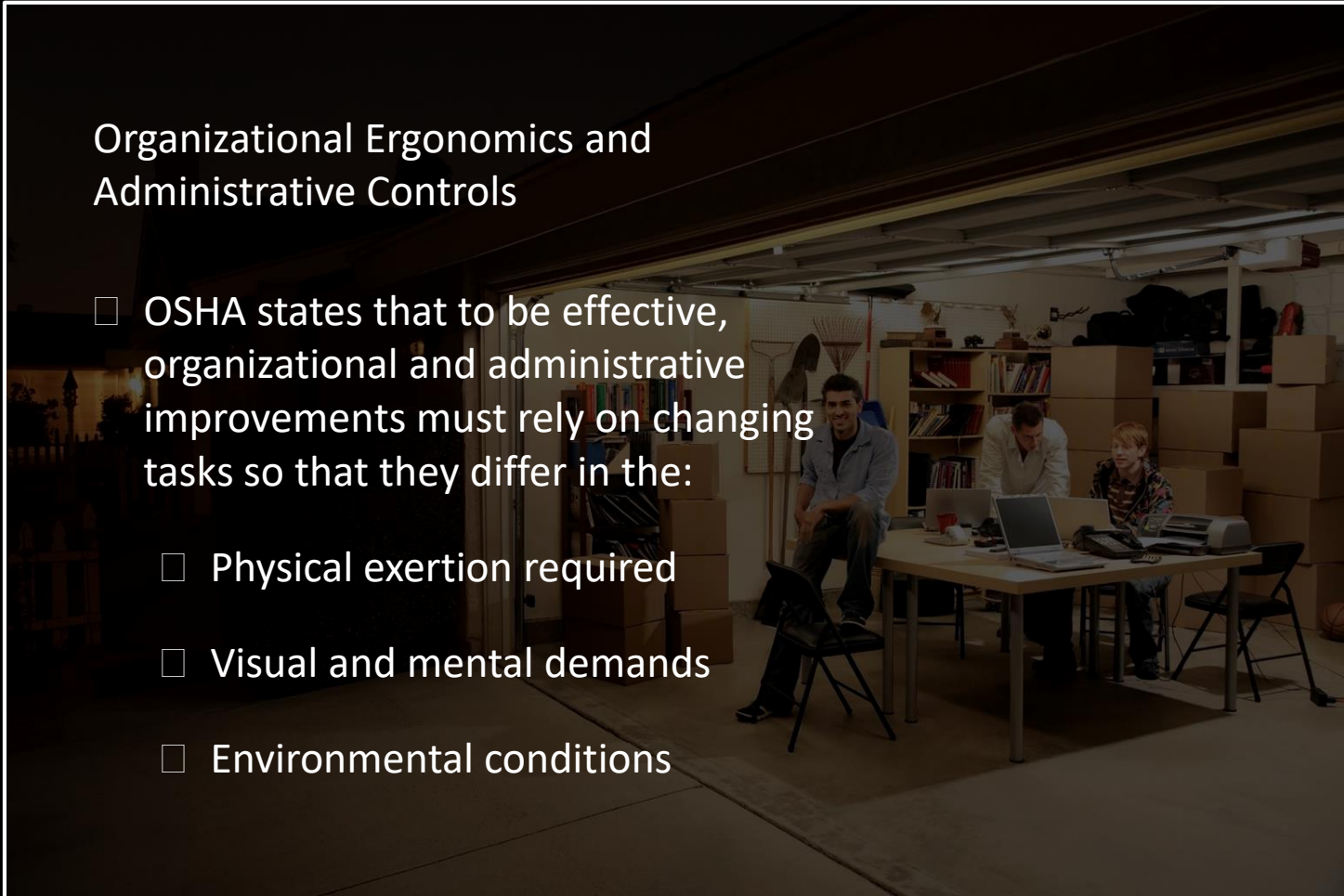
Organizational Ergonomics and Administrative Controls

- According to OSHA, administrative improvements include changing work practices - or the way work is organized.
- Administrative improvements require continual monitoring by management and employee feedback to make sure the improvements are effective.



Organizational Ergonomics and Administrative Controls

- ❑ OSHA states that to be effective, organizational and administrative improvements must rely on changing tasks so that they differ in the:
 - ❑ Physical exertion required
 - ❑ Visual and mental demands
 - ❑ Environmental conditions



Organizational Ergonomics

Relevant topics include communication, crew & resource management, work design, design of working times, teamwork, telework, cooperative work and participatory design.

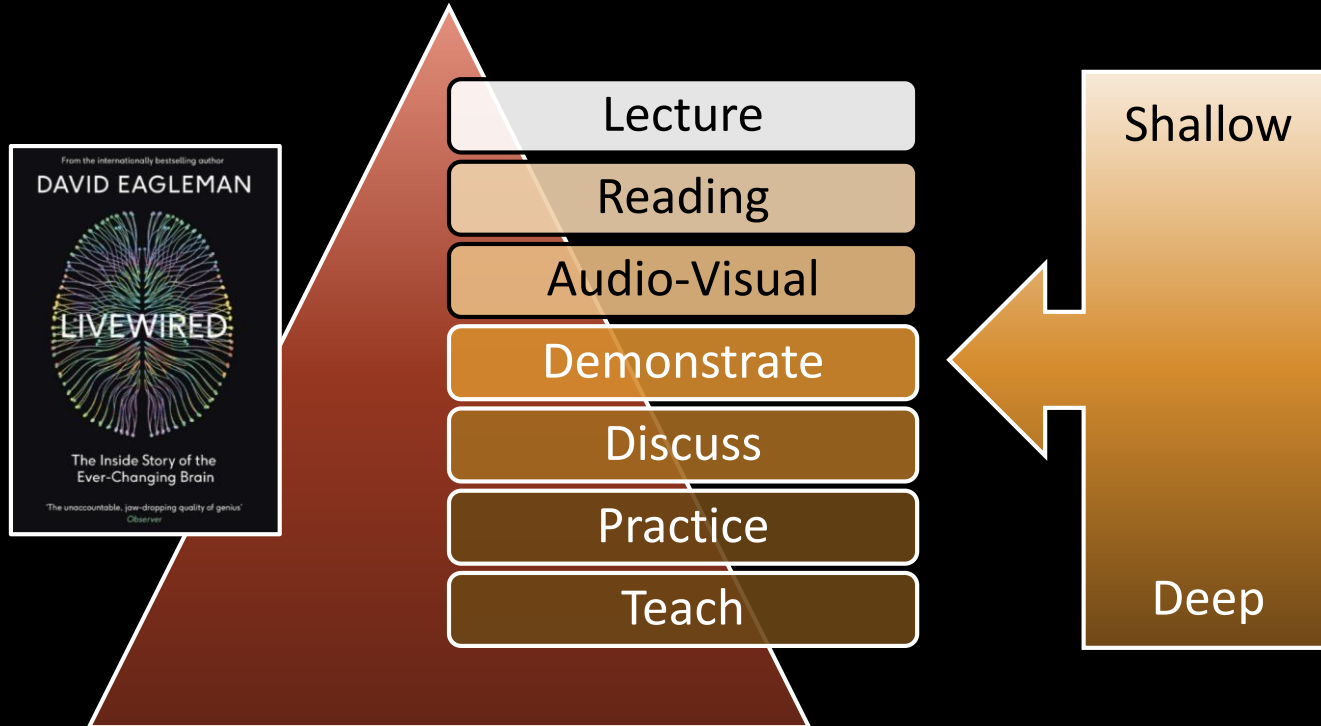
<https://iea.cc/definition-and-domains-of-ergonomics/>



The NTL Institute Learning Pyramid:

We learn **less** when we just read or hear – such as a droning lecture.

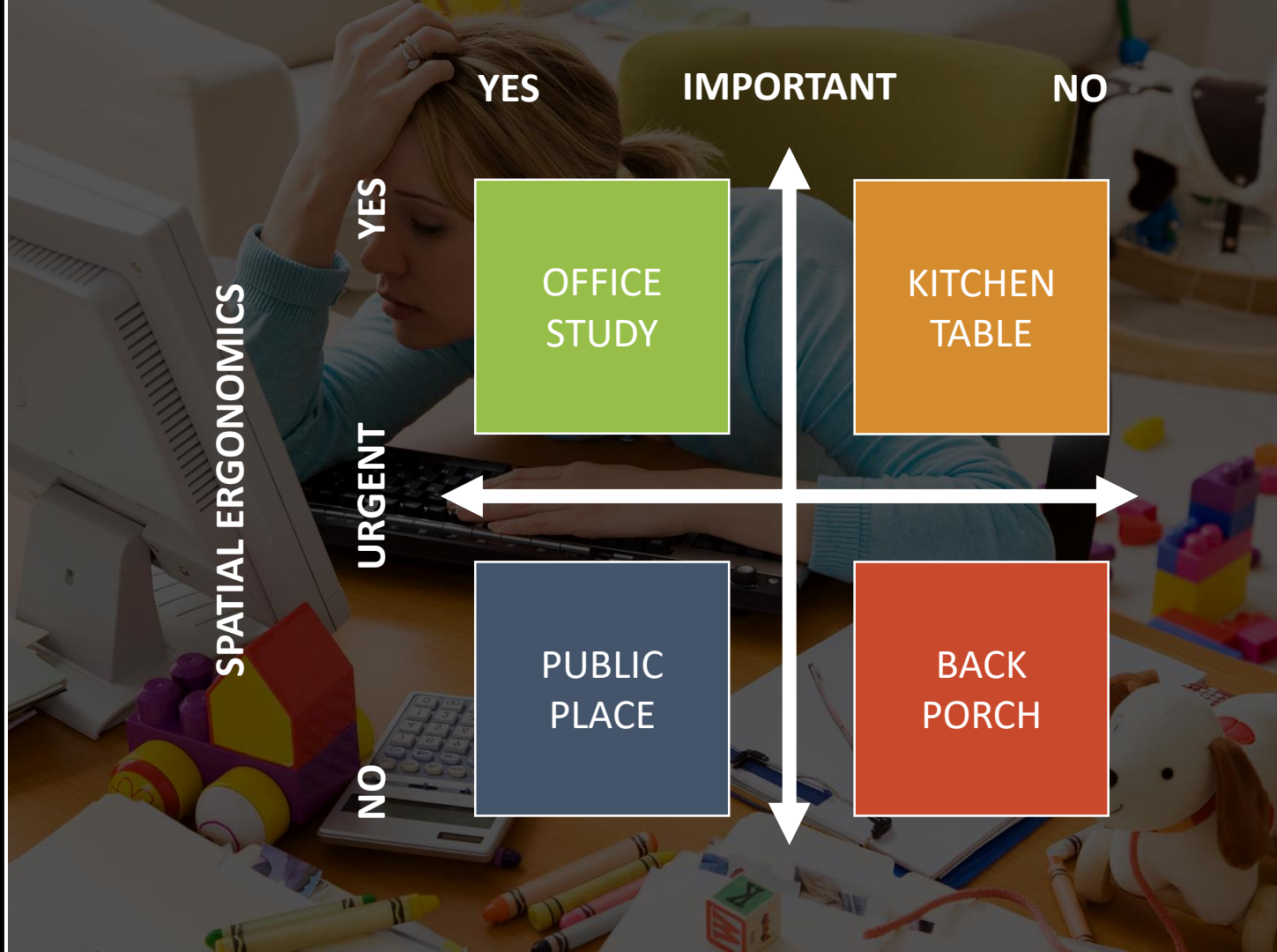
We learn **most** when we teach others – or employ facts directly.

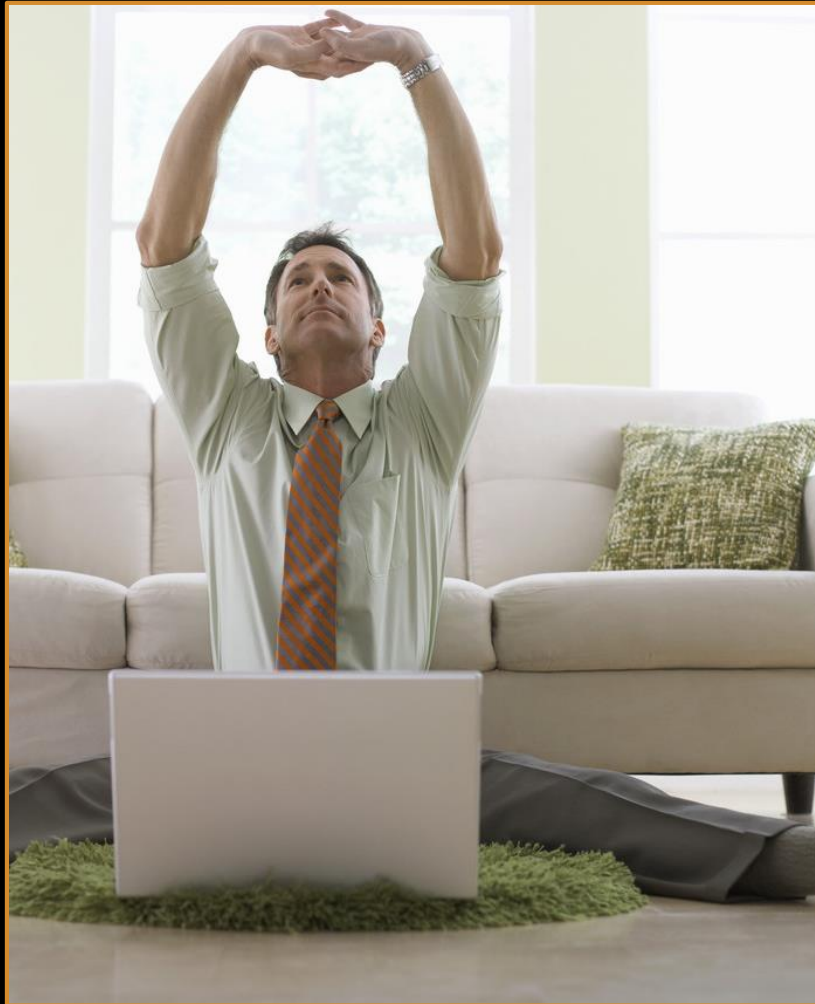




Deep Work Practices at Home & in Public:

1. **Spatial** – Choose **ideal** settings based on acceptable distraction from the **cognitive** task at hand
2. **Temporal** – Choose **best** times of day / shift based on acceptable performance of the **cognitive** task at hand
3. **Focal** – Choose the **optimal** attentional mindset appropriate for the **cognitive** task at hand
4. **Digital** – Choose the **prime** device most appropriate to accomplish the **cognitive** task at hand

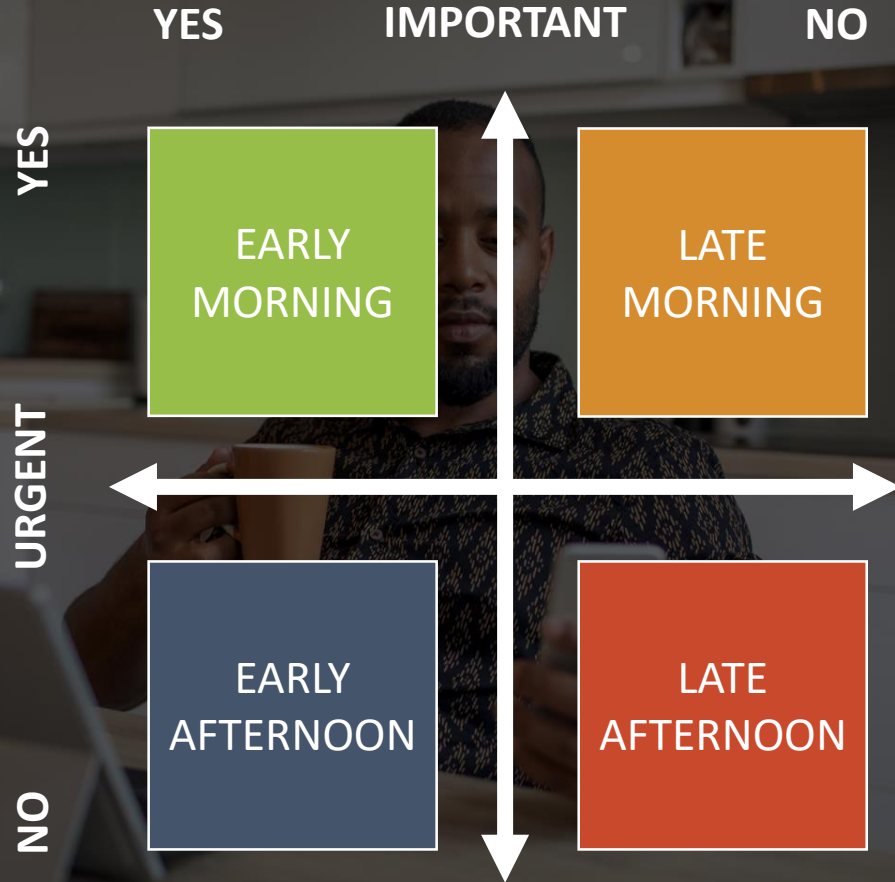




HAVE YOUR HOME OFFICE CLIENTS ROTATE THROUGH THEIR MULTIPLE WORKSTATIONS: EXAMPLE

- ❑ 2.0 HRS AM @ OFFICE STUDY
USING A DESKTOP COMPUTER
- ❑ 2.0 HRS AM @ KITCHEN TABLE
USING A LAPTOP COMPUTER
- ❑ 2.0 HRS PM @ COFFEE SHOP
USING A TABLET COMPUTER
- ❑ 2.0 HRS PM @ THE BACK PORCH
USING A SMARTPHONE

TEMPORAL ERGONOMICS

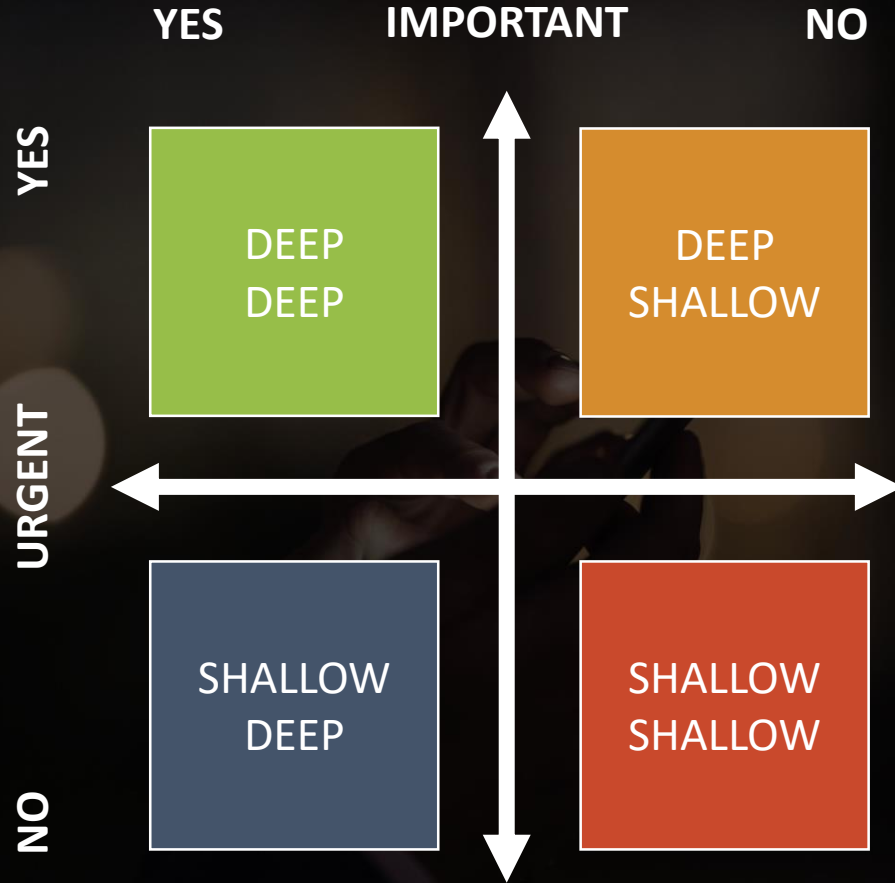


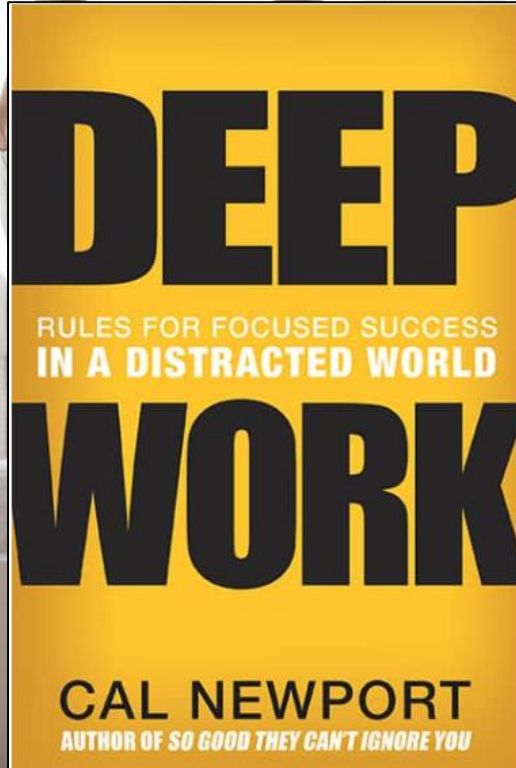


Deep Work Practices at Home & in Public:

1. **Spatial** – Office Study / Kitchen Table / Public Place / Back Porch / Combinations
2. **Temporal** – Early Morning / Late Morning / Early Afternoon / Late Afternoon / Combinations
3. **Focal** – Deep Focus / Moderate Focus / Shallow Focus / Superficial Focus / Combinations
4. **Digital** – Desktop Computer / Laptop Computer / Tablet Computer / Smartphone / Combinations

FOCAL ERGONOMICS

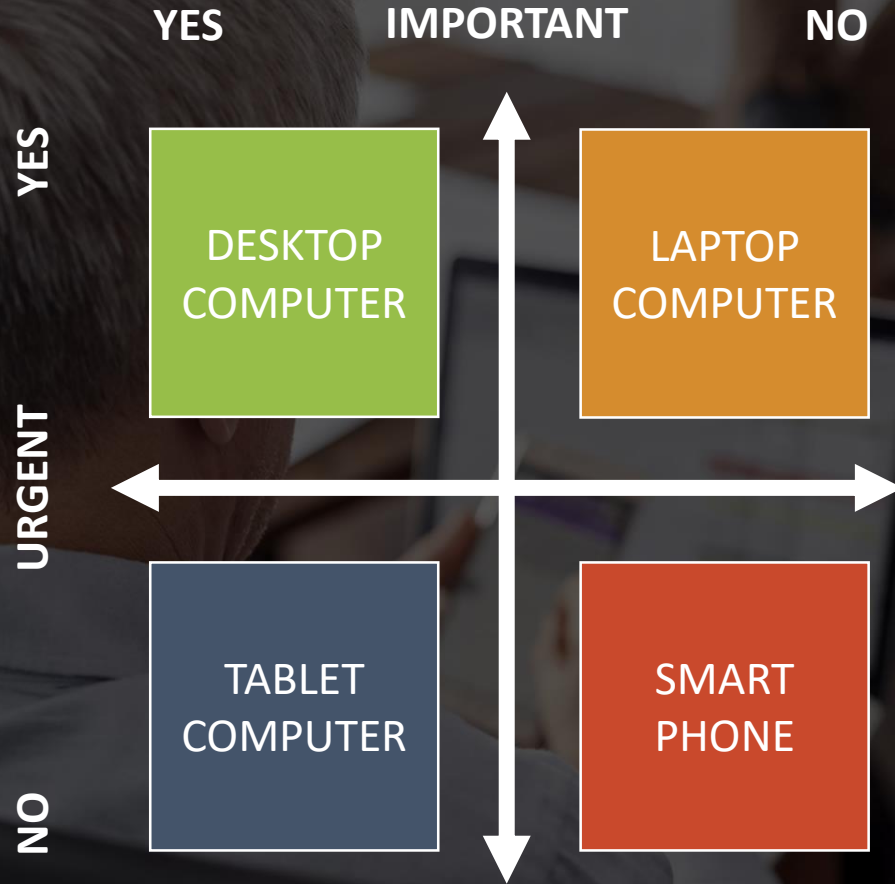


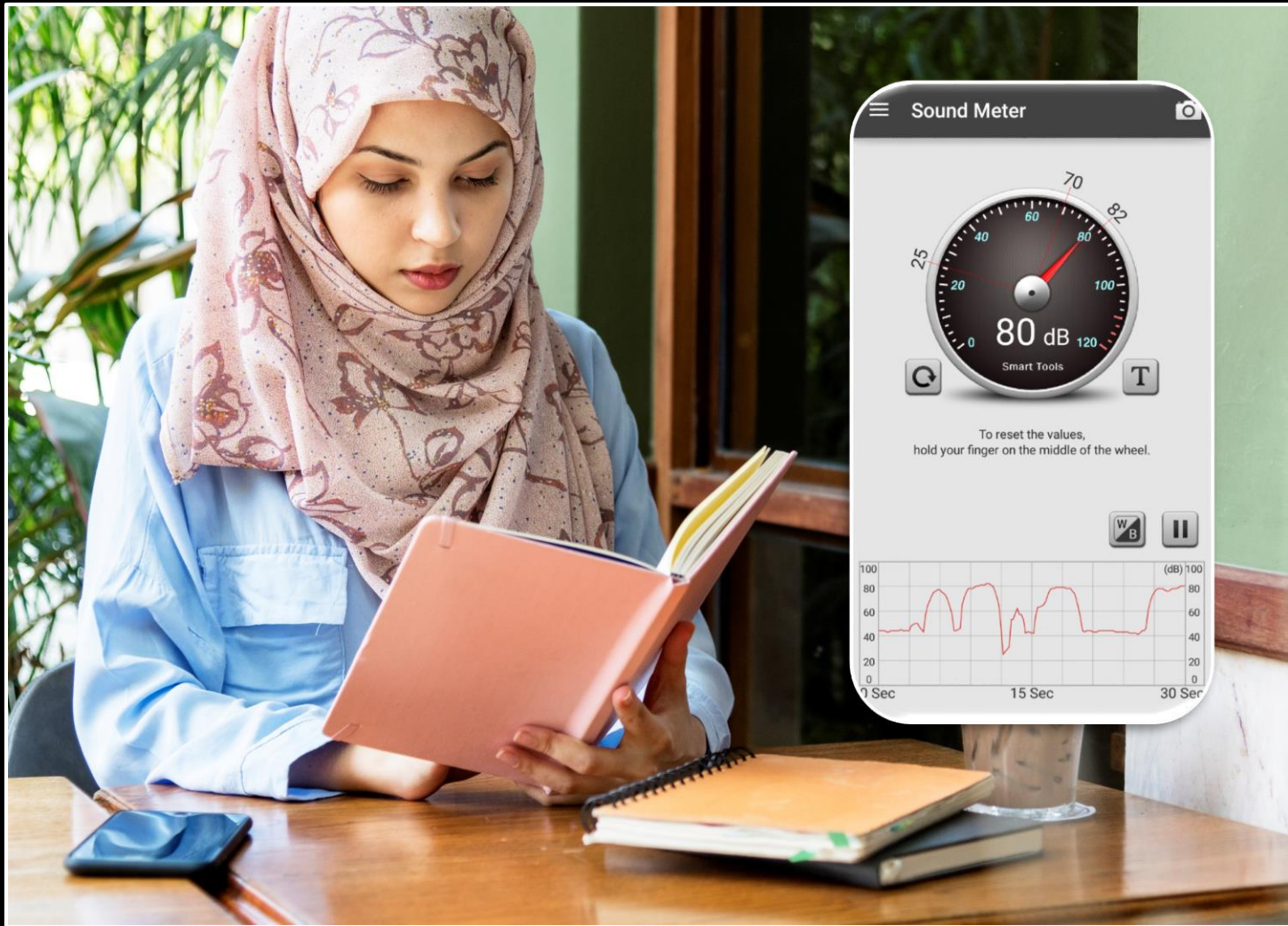


HAVE YOUR HOME OFFICE CLIENTS
ROTATE THROUGH THEIR MULTIPLE
WORKSTATIONS: EXAMPLE

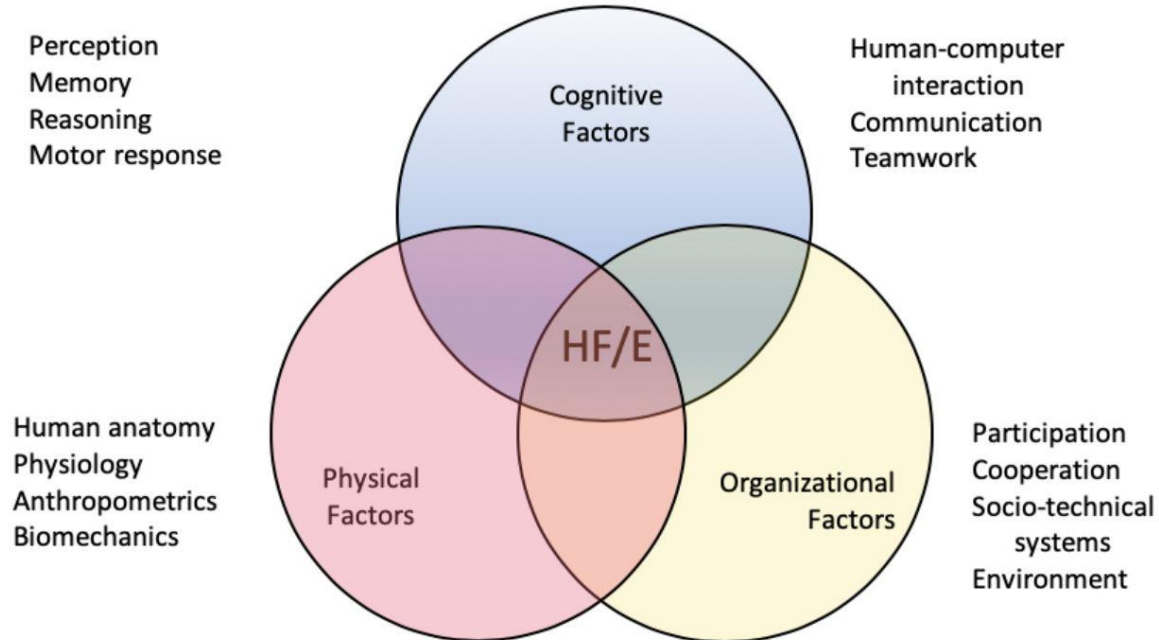
- 2.0 HRS AM @ OFFICE STUDY
USING A DESKTOP COMPUTER
- 2.0 HRS AM @ KITCHEN TABLE
USING A LAPTOP COMPUTER
- 2.0 HRS PM @ COFFEE SHOP
USING A TABLET COMPUTER
- 2.0 HRS PM @ THE BACK PORCH
USING A SMARTPHONE

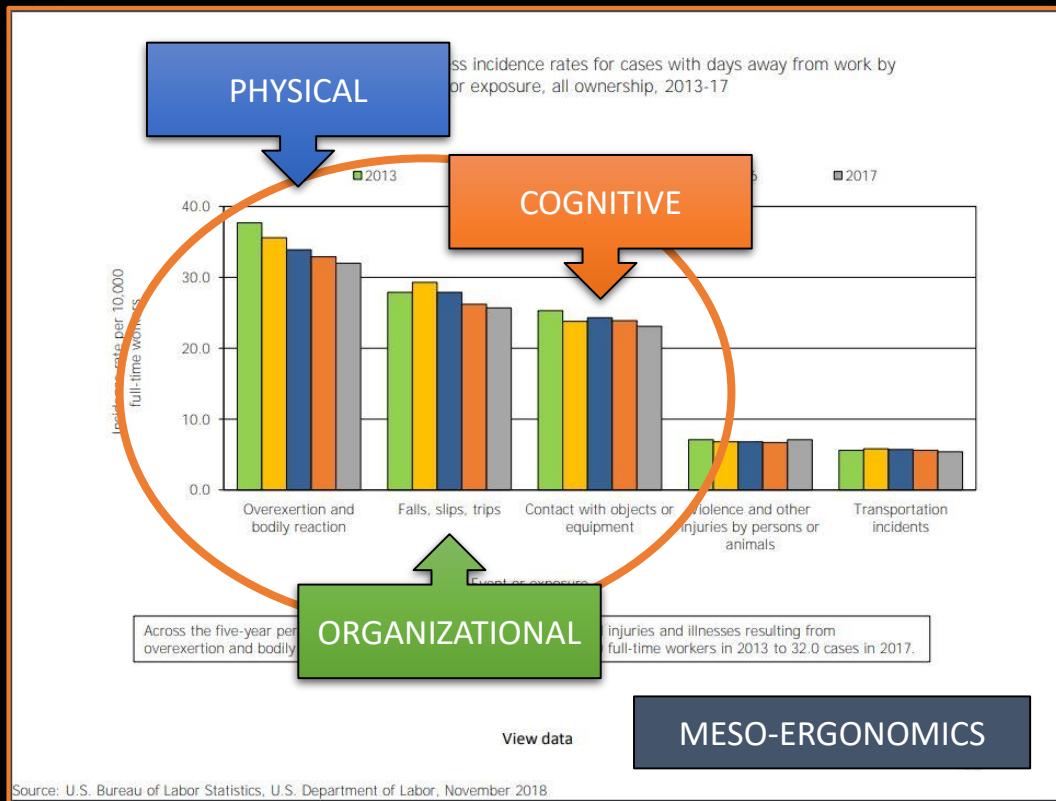
DIGITAL ERGONOMICS





What is Ergonomics?

[HOME /](#)



Deep Work From Home:

Cognitive Human Factors in Remote Ergonomics

Presented by: Matt Jeffs DPT PSM REAS

matt@abilityondemand.com

matt@thebackschool.net

<https://moxie.xyz/matt>



Cognitive Ergonomics Anywhere

- I. 5-7 min - Prologue: Intro to 20th Century Ergonomics
- II. 5-7 min - Principles: Bending Ergonomics to Cognition
- III. 5-7 min - Priorities: Breaking Down Cognitive Hierarchies
- IV. 5-7 min - Practices: Blending Principles and Priorities
- V. 5-7 min - Epilogue: Intro to 21st Century Ergonomics



Physical Ergonomics

Physical Ergonomics is concerned with human anatomical, biomechanical, anthropometric, physiological elements as they relate to activity.

<https://iea.cc/definition-and-domains-of-ergonomics/>





Physical Ergonomics

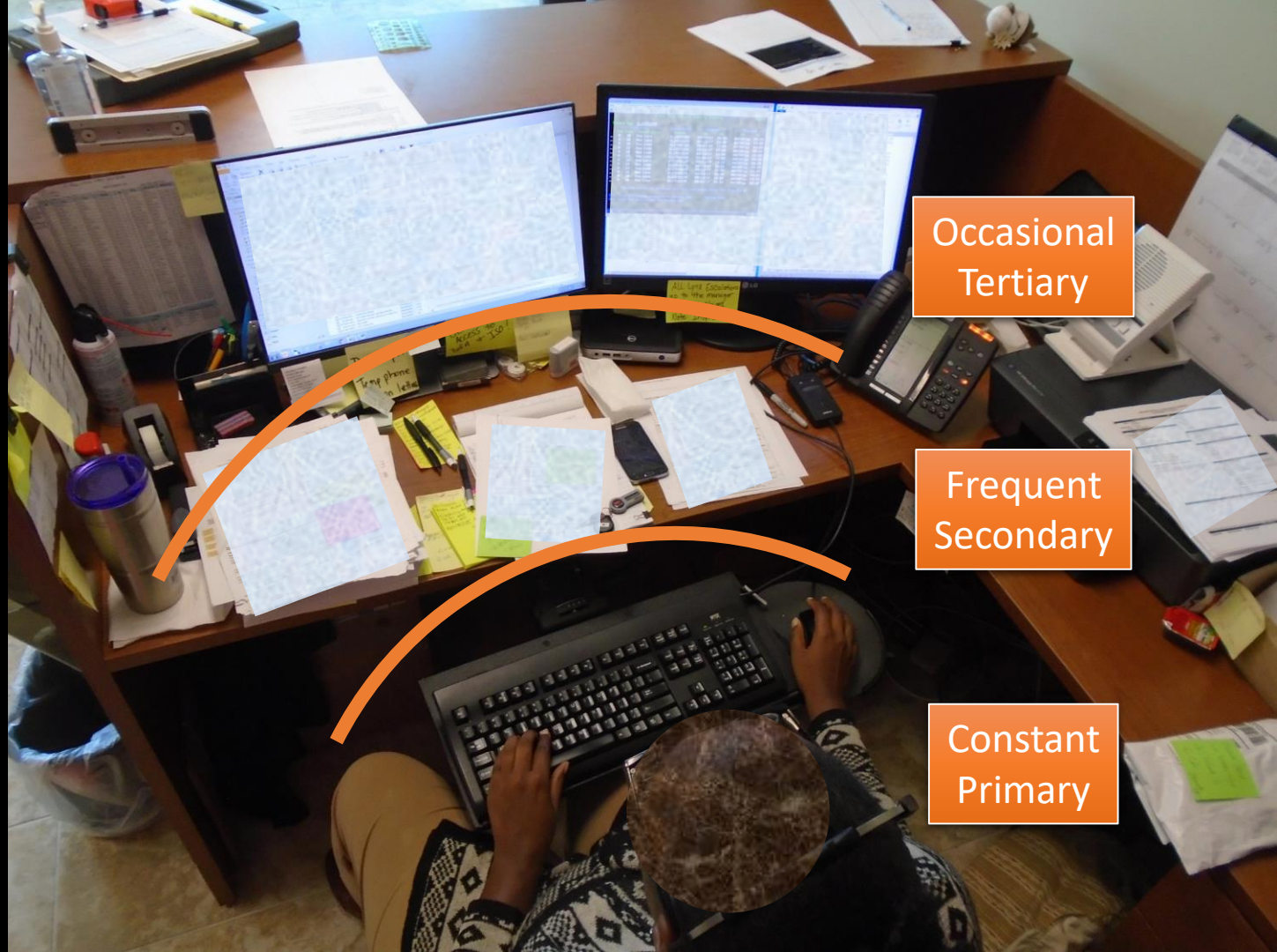
Relevant topics include working postures, materials handling, repetitive movements, WRMSD, workplace layouts, safety and health.

<https://iea.cc/definition-and-domains-of-ergonomics/>



Where it was honed – >4 years ago...





Occasional
Tertiary

Frequent
Secondary

Constant
Primary



Where it was perfected – >3 years ago...

Power Zone *PLUS* – Performance Series

Position

Persistence

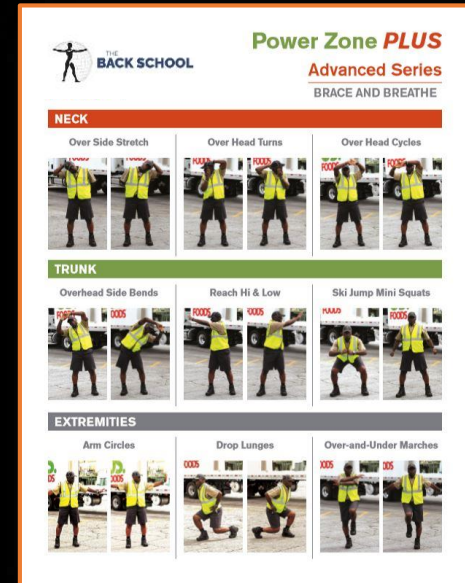
Power



Base of Support



Center of Gravity



Power Zone

Deep Work From Home:

Cognitive Human Factors in Remote Ergonomics

Presented by: Matt Jeffs DPT PSM REAS

matt@abilityondemand.com

matt@thebackschool.net

<https://moxie.xyz/matt>

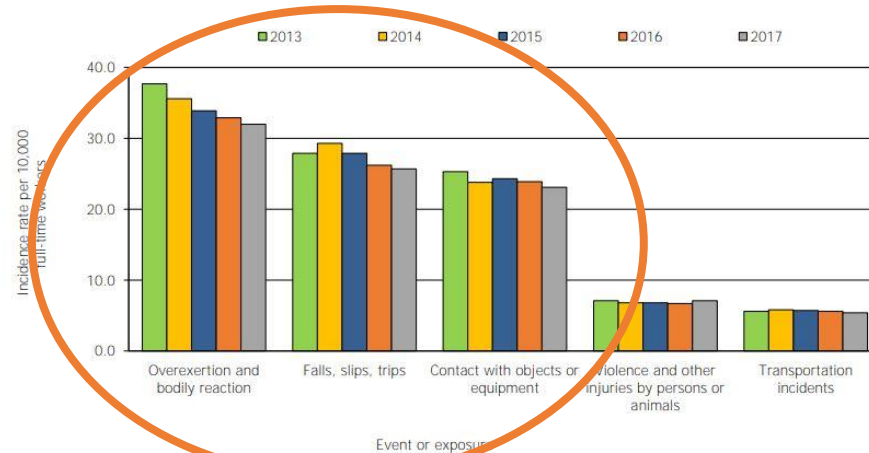


Cognitive Ergonomics Anywhere

- I. 5-7 min - Prologue: Intro to 20th Century Ergonomics
- II. 5-7 min - Principles: Bending Ergonomics to Cognition
- III. 5-7 min - Priorities: Breaking Down Cognitive Hierarchies
- IV. 5-7 min - Practices: Blending Principles and Priorities
- V. 5-7 min - Epilogue: Intro to 21st Century Ergonomics



Nonfatal occupational injury and illness incidence rates for cases with days away from work by selected event or exposure, all ownership, 2013-17



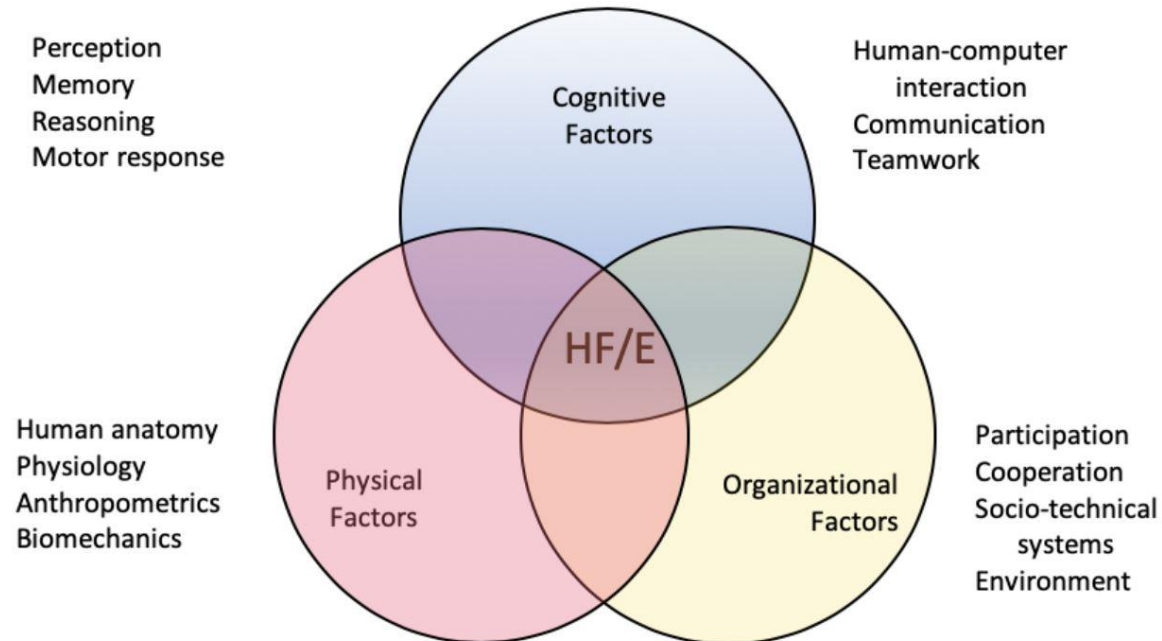
Across the five-year period from 2013 to 2017, the rate of occupational injuries and illnesses resulting from overexertion and bodily reaction decreased from 37.7 cases per 10,000 full-time workers in 2013 to 32.0 cases in 2017.

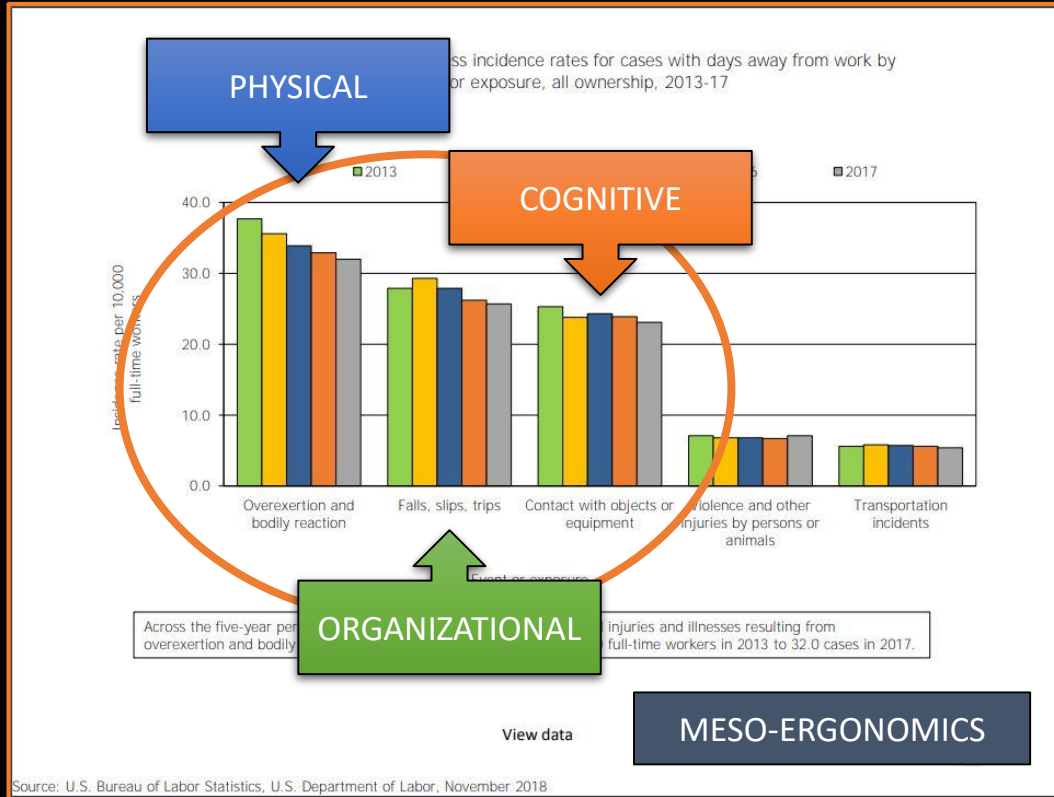
[View data](#)

MACRO-ERGONOMICS

Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor, November 2018

What is Ergonomics?

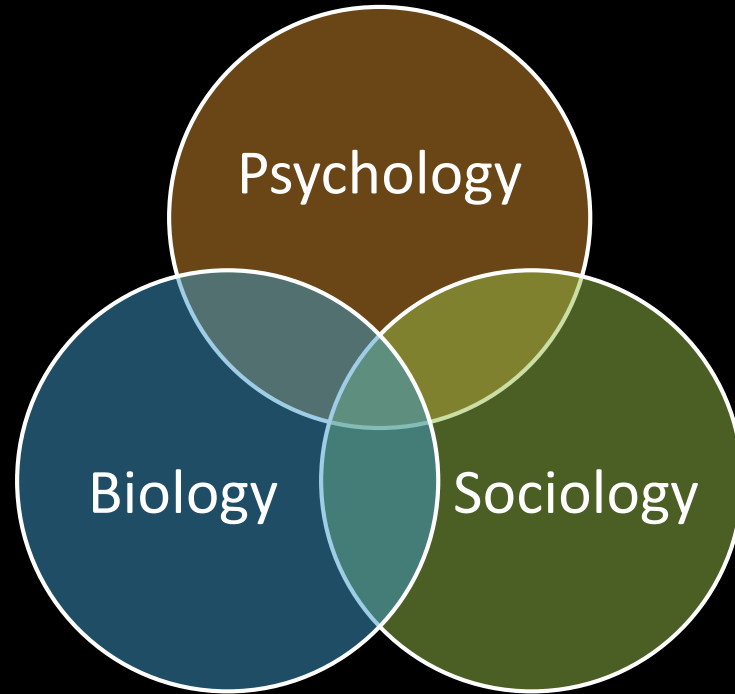
[HOME /](#)

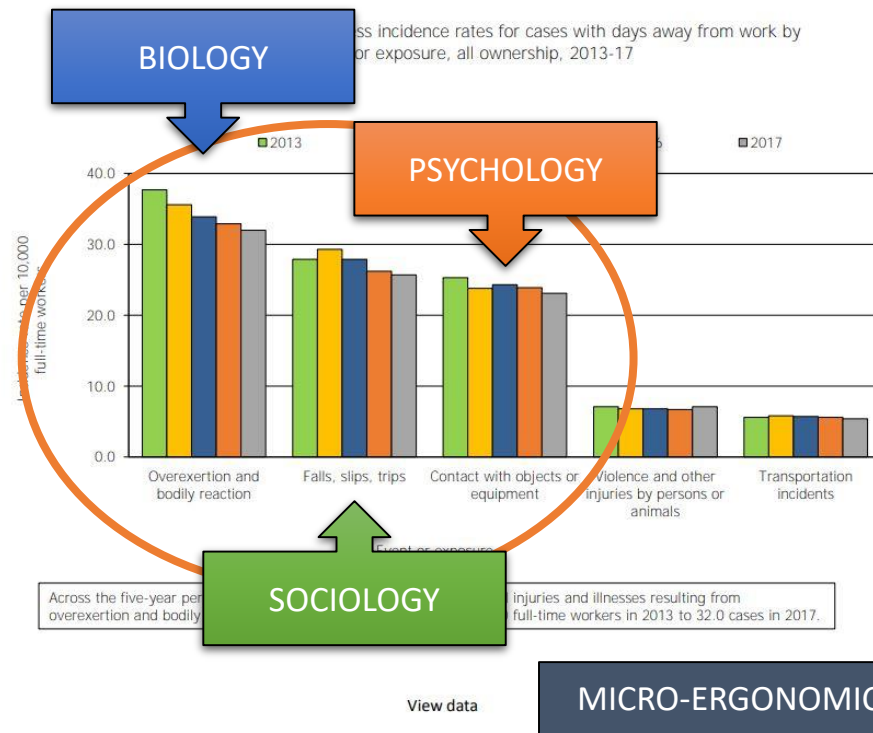




George Engel MD

George Engel MD (1913 – 1999)
Johns Hopkins Medical School
Harvard Medical School

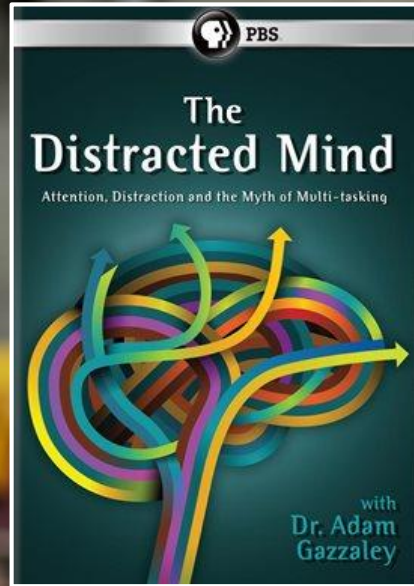




Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor, November 2018

Deep Work Timefulness Homework #1





Deep Work Timefulness Homework #2



THE
BACK SCHOOL

40 YEARS
Trusted Ergonomics Experts

Login



[HOME](#) [ONLINE COURSES](#) [LIVE WORKSHOPS](#) [PRODUCTS](#) [ONSITE CONSULTING](#) [RESOURCES](#) [ABOUT US](#) [PROFESSIONAL DIRECTORY](#)

Ergo2Go: Remote Office
Ergonomics Assessments

[Ergonomics Consulting](#)

[Power Zone / Workplace
Athlete®](#)

[Customized Training](#)

[Invoice Payment](#)

ERGO2GO: REMOTE OFFICE ERGONOMICS ASSESSMENTS



The Back School is excited to introduce the next phase in interactive ergonomics office and home office assessment. Outdated software-driven self-assessment is over. Now, you can experience the personal, customized benefits of instant expert access.





[Home](#) > [REAS™](#): Remote Ergonomics Assessment Specialist Certification Training



[Overview](#) [Locations](#) [The Instructor](#) [Course Agenda](#)

REAS™: REMOTE ERGONOMICS ASSESSMENT SPECIALIST CERTIFICATION TRAINING

Number of Registrants

1

Workshop Date and Location

Aug. 25, 2021 (Live Online Training Workshop, -)

[ADD TO CART](#)

WHAT YOU GET

- Learn to perform a Remote Office Ergonomics Assessments using virtual connection technology
- Understand and apply the 'Easy Ergonomics for Desktop Computer Users' booklet - developed and prepared for publication by Cal/OSHA
- .3 AOTA CEUs/3 Contact Hours: by the AOTA, BOC*

Deep Work From Home:

Cognitive Human Factors in Remote Ergonomics

Presented by: Matt Jeffs DPT PSM REAS

matt@abilityondemand.com

matt@thebackschool.net

<https://moxie.xyz/matt>

