

# Goodbye Couch - Hello Desk

## Why Does Everything Hurt?

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# Remote Working



Some of us had it better than others!



# Reality for Most



# Remote School Made Working Easy





# 'MAKESHIFT WORK DESKS'



It was supposed to be 2 weeks!  
Now what? Opportunity

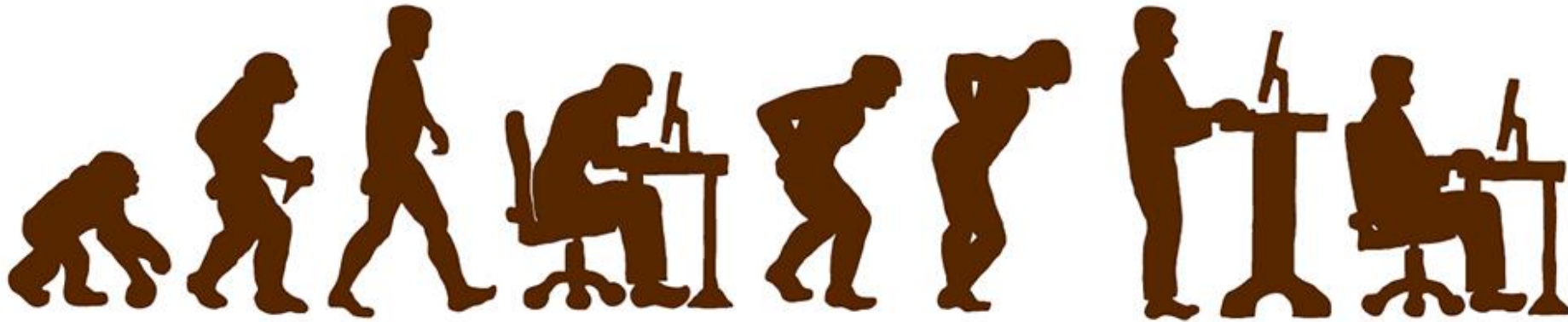


“Great moments are born from great opportunity”





# Ergonomics is a Great Opportunity



# Look for Ergonomic Opportunities



# Ergonomics in Daily Life



- Home
  - Televisions, computers, furniture, garden
- Automobile
  - Controls, mirrors, seats

# Everyone is surrounded by Ergonomic Opportunity



# Everyday Ergonomics



# Ergonomics

*Increase company's profits by reducing workplace injuries and increasing productivity.*

**INJURY PREVENTION**

**HELP KEEP PEOPLE SAFE!!!**



# OSHA \$AFETY PAYS PROGRAM



# CARPAL TUNNEL SYNDROME (5% Profit Margin)

DIRECT COST = \$30,930

INDIRECT COST = \$34,023

TOTAL COST = \$64,953

ADDITIONAL SALE TO COVER INDIRECT = \$340,230

ADDITIONAL SALE TOTAL = \$649,530



# Ergonomics Works!

## CASE STUDY Rapid Response Ergonomics Program

21 years

2400 Cases

Ergonomic Intervention

Work Fitness Programing

Medical Screening

ONE (1) OSHA Recordable



Ergonomics Works!

CASE STUDY Rapid Response Ergonomics Program

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Early Reporting Equals Quick Discomfort Resolution

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80% of Upper Extremity Related to Mouse Use

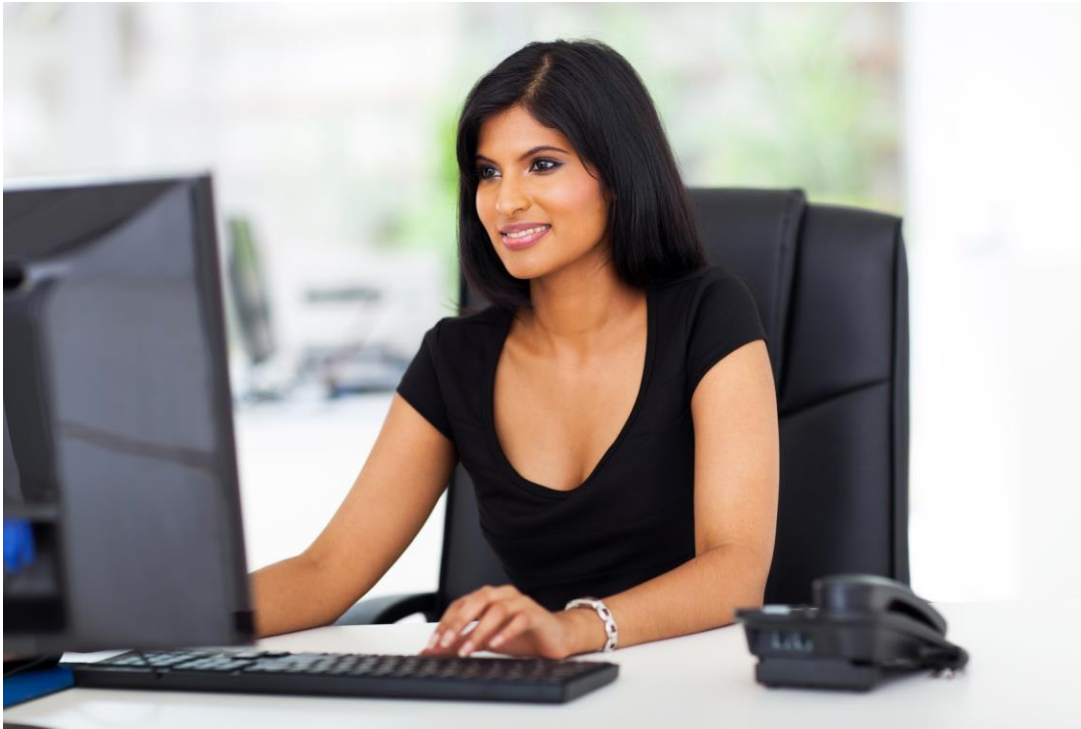
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Stretching & Counter Movements

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Work Practices – Change Habits

# Ergonomics - It's the right thing to do!



ROI is important

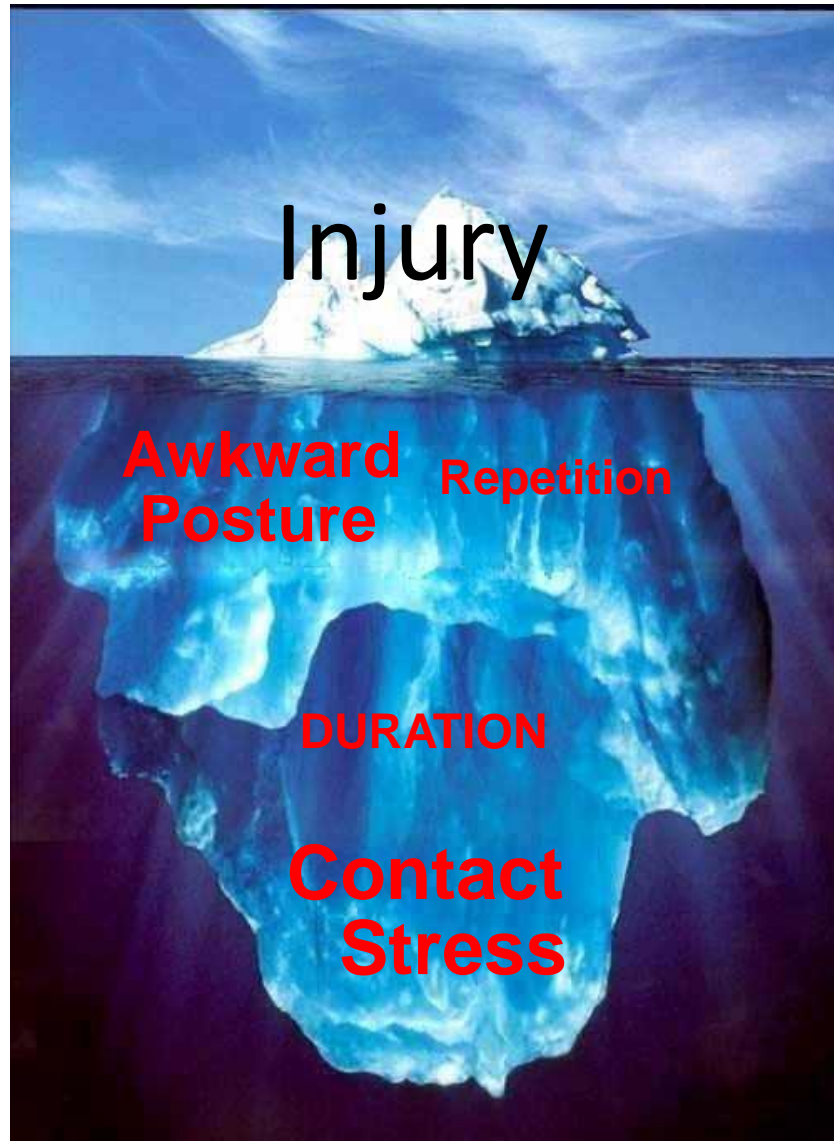
Regulatory Compliance is important

Increase profits is important

MORALE obligation to our employee's is MOST important

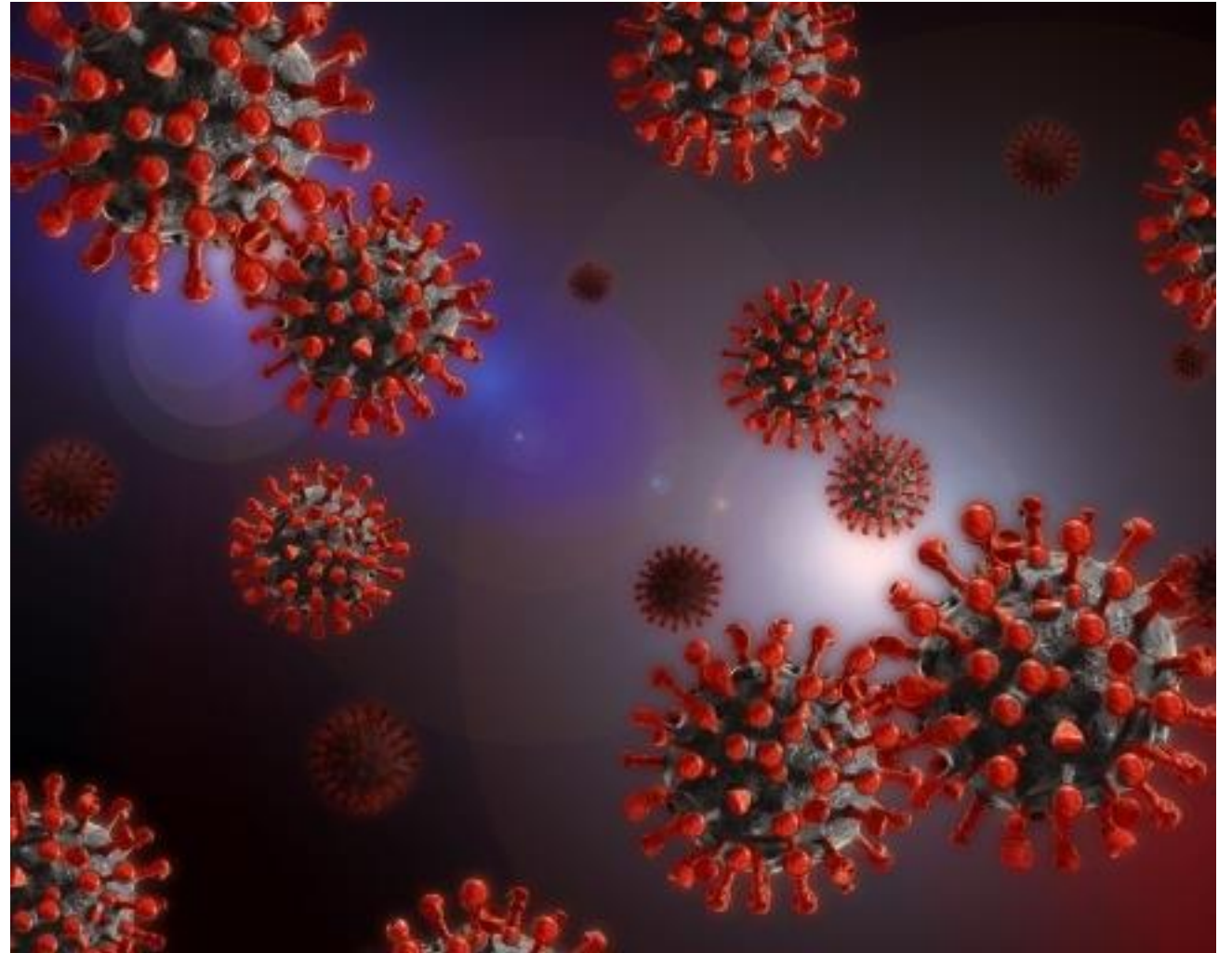
Ergonomics is a diversity and inclusion solution.

# COVID WORK FROM HOME COMPUTER STRAIN

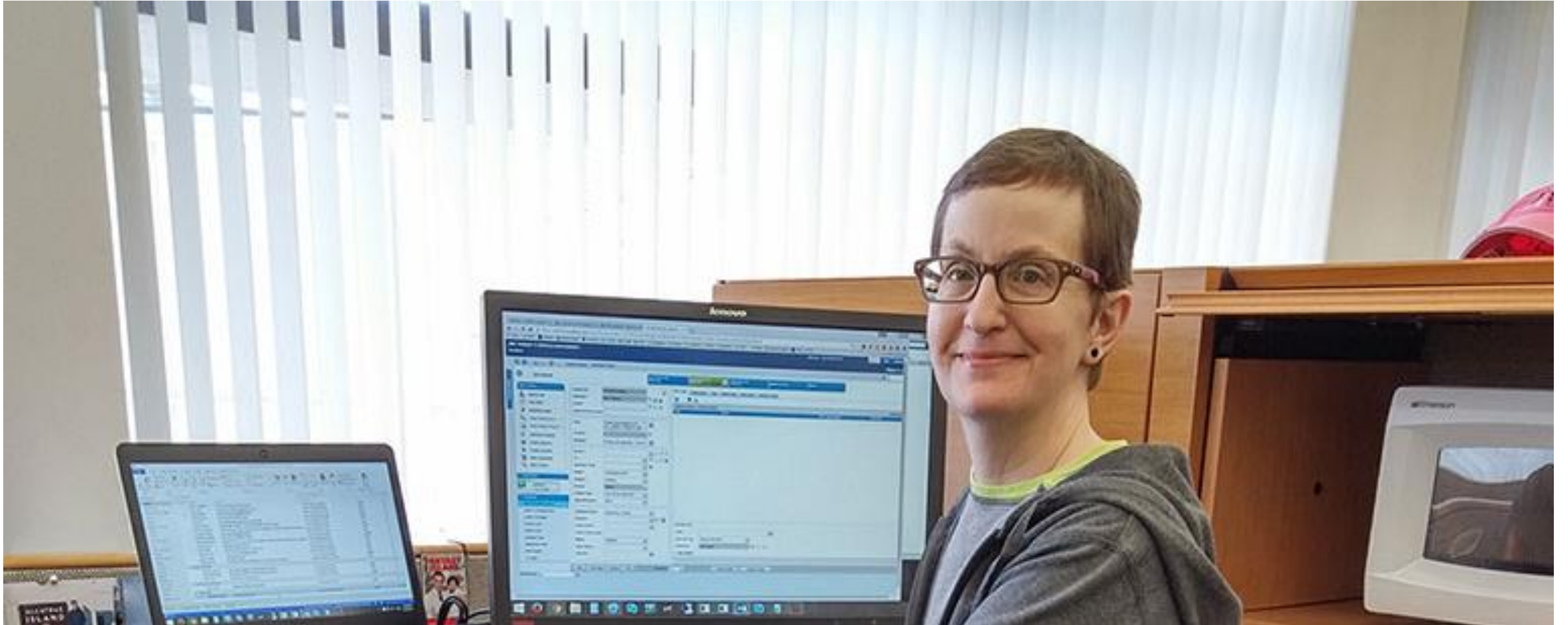


# COVID 19 – What happened to our employees?

- ✓ Awkward Postures
- ✓ Interrupted Work Schedules
- ✓ Work / Home Life Balance Disrupted
- ✓ Social Isolation
- ✓ Sedentary Lifestyle
- ✓ Mentored / Mentoring Dynamic
- ✓ Zoom / Teams Fatigue
- ✓ Illness Self & Family
- ✓ Fear



# Office Anywhere Ergonomics



# Office Ergonomic Myths

90 Degree Rule – *Static Posture*

One Correct Posture – *Posture is Task Dependent*

My Chair Gives Me Lower Back Pain – *Poor posture and lack of support causes LBP.*

Keyboards and Mouse devices cause Carpal Tunnel Syndrome – *Posture + Repetition + No Rest causes RSI*

# COMPUTER WORKSTATION ERGONOMICS

## **Video Display Monitor**

- Top of the screen is eye level.
- Monitor is centered
- VDT is close enough that you do not lean forward to view screen

## **Document Holder**

- Paper documents are between keyboard and monitor

## **Foot Support**

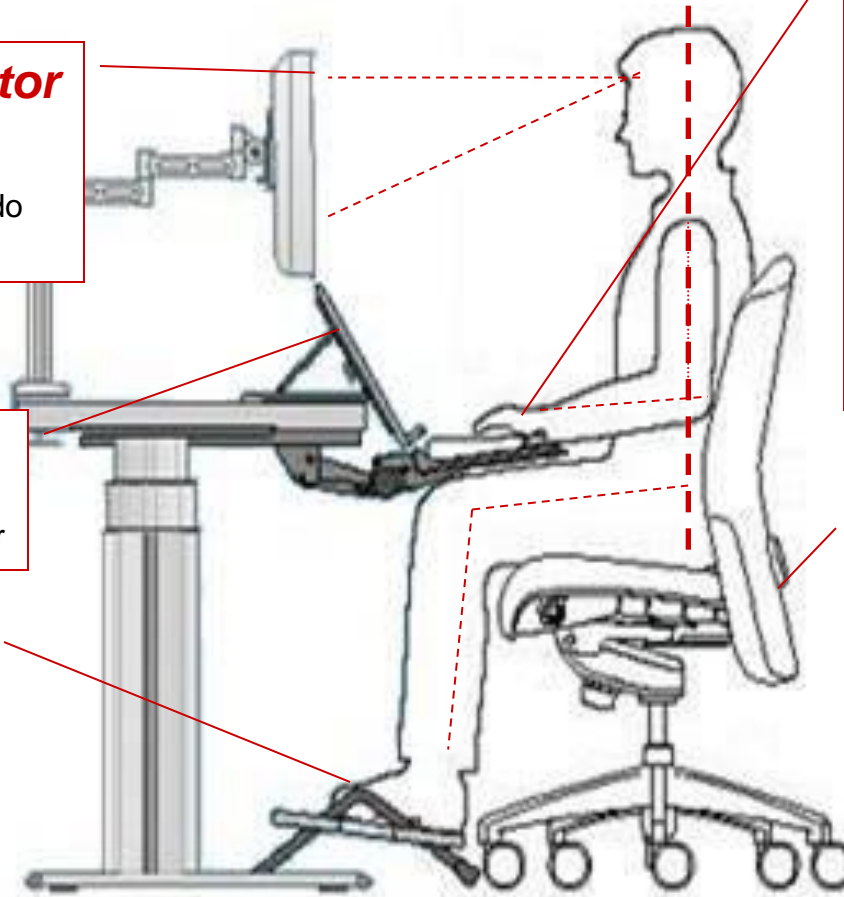
- Feet are supported by the floor or footrest

## **Keyboard and Mouse**

- Elbows are relaxed at side of body
- Arms hang free
- Elbows are between 90-100 degrees
- Wrists are straight
- Mouse next to keyboard
- Keyboard/mouse below elbow height
- Do not rest while typing – float
- Move mouse with entire arm

## **Chair**

- Knees slightly lower than hips
- Sit on back of thighs
- Lumbar Support
- Align ears, shoulders, elbows, and hips





# What makes a good Ergonomic Workstation?

## 3 Pillars of Office Workstation Ergonomics



Adjustable Chair



Adjustable Work Surface



Adjustable Monitor



# Computer Workstation Discomfort

Postural Pain Syndrome

Repetitive Strain Injuries

Computer Vision Syndrome

General Fatigue



# Postural Pain



- ✓ #1 Complaint from computer users during the past decade and during the pandemic

# Signs & Symptoms



Headaches

Neck Pain

Shoulder Pain

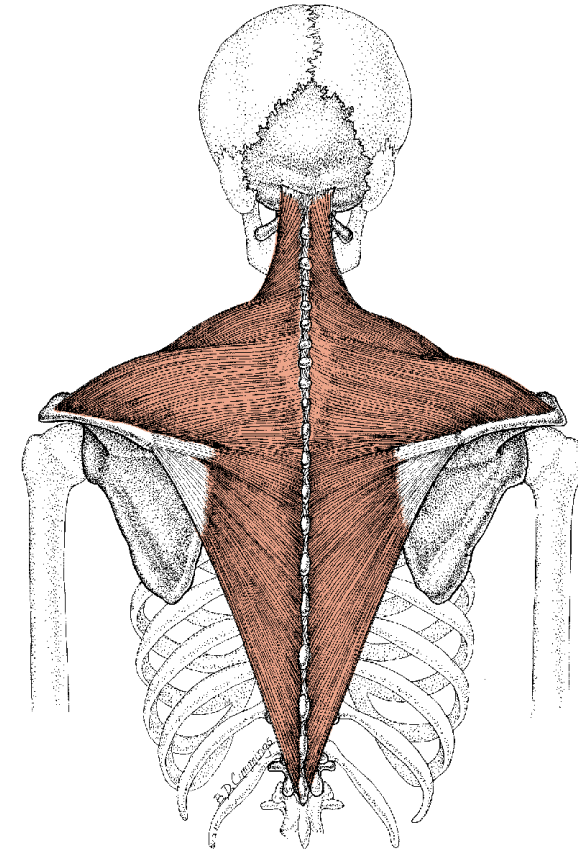
Back Pain

Arm Pain

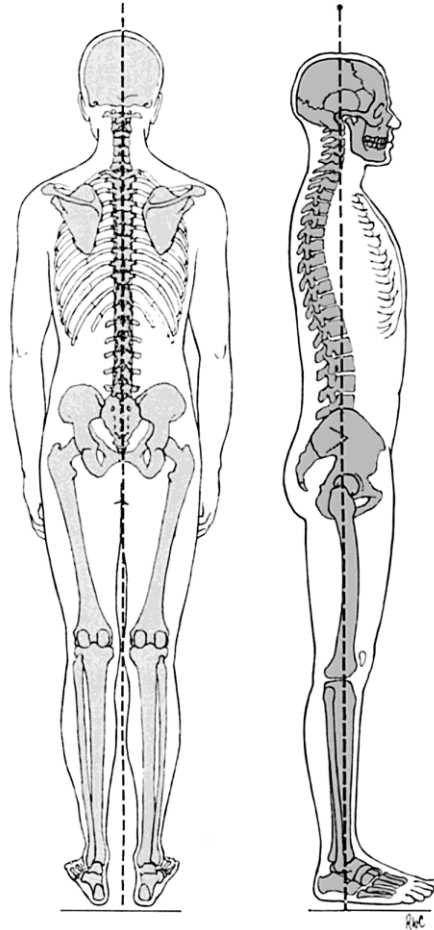
Numbness / Tingling

# Forward Head – Rounded Shoulders

- ✓ Shortens the posterior neck muscles
- ✓ Over-stretches the muscles between your shoulder blades



# Correct Posture



- ✓ Straight Line – Ears – Shoulders, Elbows
- ✓ Maintain Spinal Curves

# The truth about posture and position



- Good posture is uncomfortable after a prolonged period of time
- Bad posture may feel good for brief periods of time.

# What is leading cause of low back pain at computer?





# Hint: NOT THE CHAIR



# Poor Posture Drivers



Work Surface Height

Keyboard and Mouse Distance

Monitors Height

Monitors Distance

Moving our body towards items instead of items towards our body.

# Posture Check

## *Video Display Monitor*

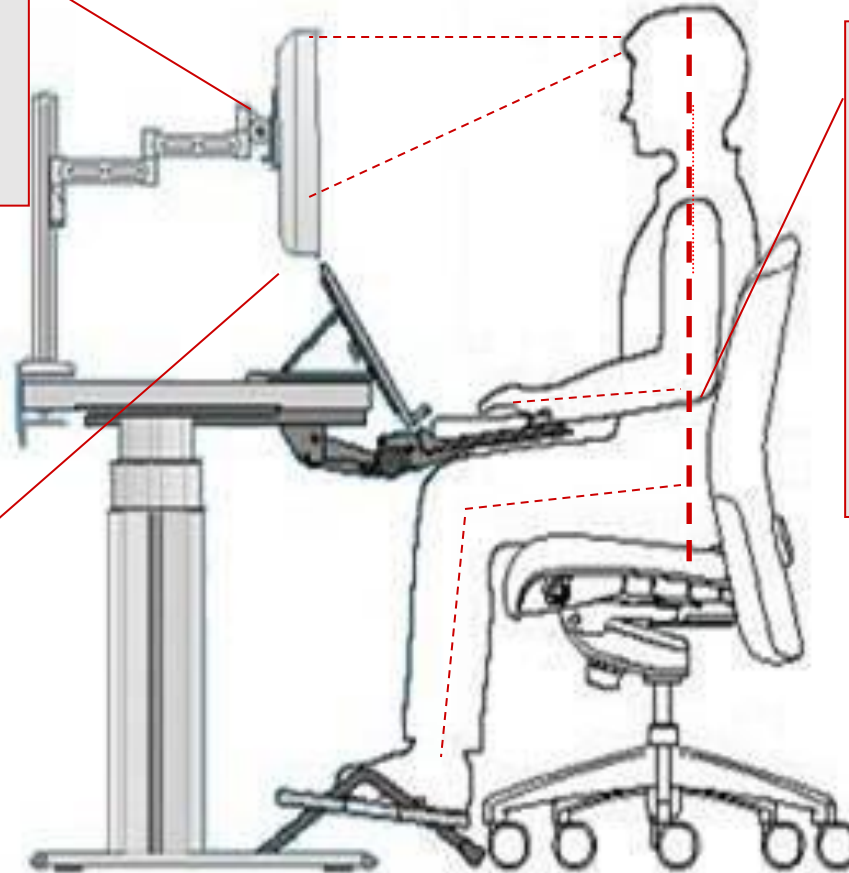
- Top of the screen is eye level.
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## *Document Holder*

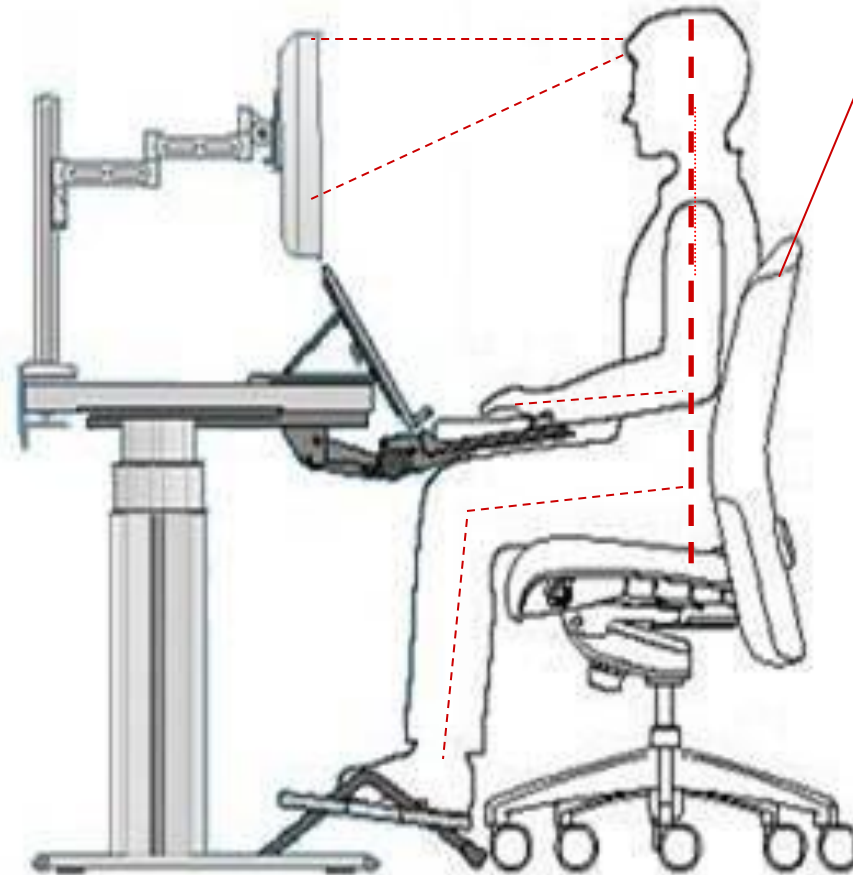
- Paper documents are between keyboard and monitor

## *Keyboard and Mouse*

- **Elbows are relaxed at side of body**
- Arms hang free
- Elbows are between 90-100 degrees



# Chair Adjustment



## *Chair*

- **Knees slightly lower than hips**
- Sit on back of thighs
- Lumbar Support
- Align ears, shoulders, elbows, and hips

# Non Computer Poor Posture Drivers

Neck flexion or rotation is present when viewing source documents.

Telephone handset is “cradled” between the shoulder and ear.

Frequently used items are not within easy reach distance.



# Cell Phone – Poor Posture Driver



# Laptops – Destroy Posture!



# 3 Pillars of Office Workstation Ergonomics



Adjustable Chair



Adjustable Work Surface



Adjustable Monitor





# Laptop Ergonomic Issues



Screen and keyboard are connected with no separation

Laptops without a stand and external keyboard / mouse are designed for short term only (<30minutes continuous use without a break)

Awkward positions create discomfort

**Postural pain is a big concern!**

# Poor Posture & Laptops

**Loss of neck and lower back posture and support**

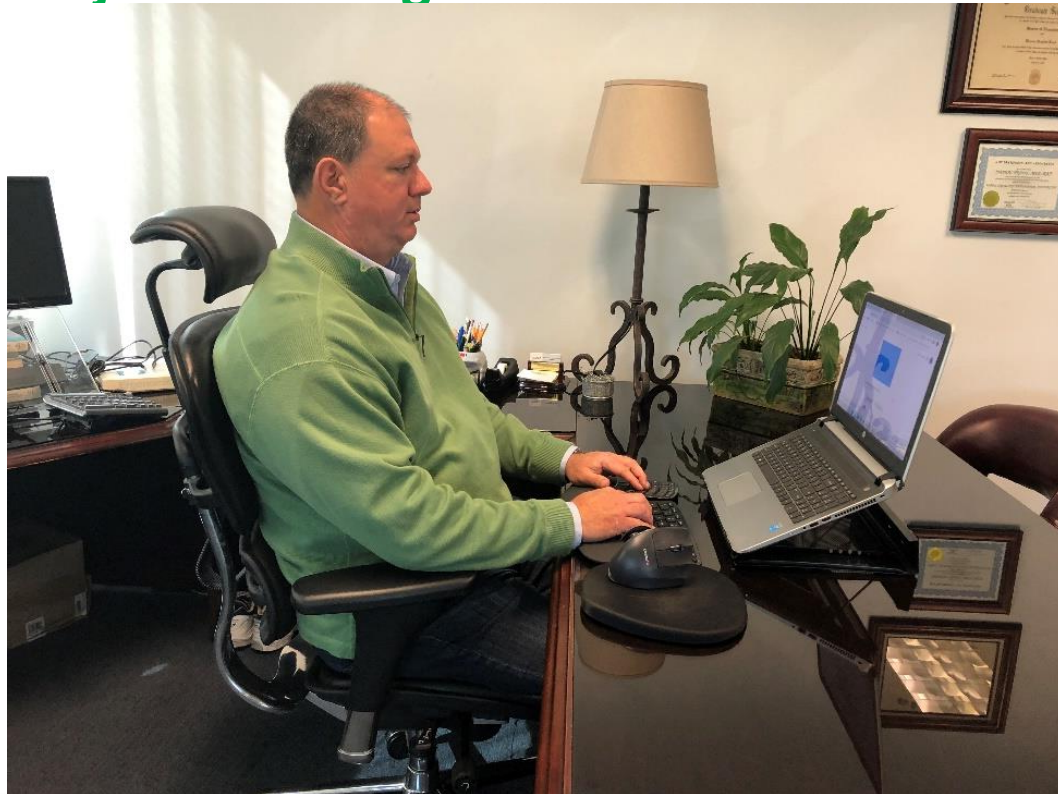


**Shoulders are shrugged as tables are too high for most chairs**



# Tips to Improve Posture External Input Devices & Raise Monitor

Laptop stand, keyboard, and mouse,  
adjustable height chair



Books, keyboard, and mouse



# Tips to Improve Posture

Using books to raise external monitor to eye level



Pillows used with nonadjustable height chair



# Laptops - Tips

Use a stand to raise the height of the monitor.

Adjustable height ergonomic task chair

External Keyboard

External Mouse



# Standing Workstations – Use Caution



# Height Adjustable Work Surfaces – Best Option



# Repetitive Strain Injuries





# Repetitive Strain Injuries



Tendonitis

Tennis Elbow

Rotator Cuff Tears

Carpal Tunnel Syndrome

DeQuervain's Tendonitis

# Repetitive Strain Injuries

Occur from a build up of micro-trauma

Take weeks, months, or years to develop

May produce no symptoms in early stages

Work, home and recreation contribute

Differ from individual to individual

Gender, Health, Socio Economic, Etc.

# Signs & Symptoms

 Fatigue

 Discomfort/Pain

 Swelling

 Cramping, Burning

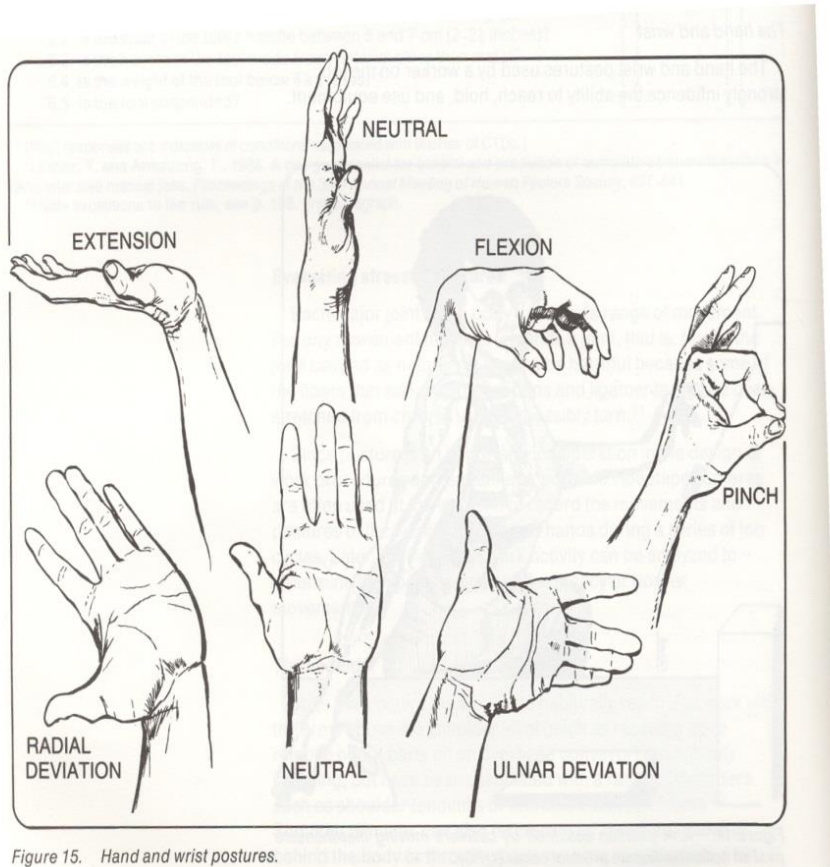
 Loss of motion

 Loss of strength

 Numbness and Tingling

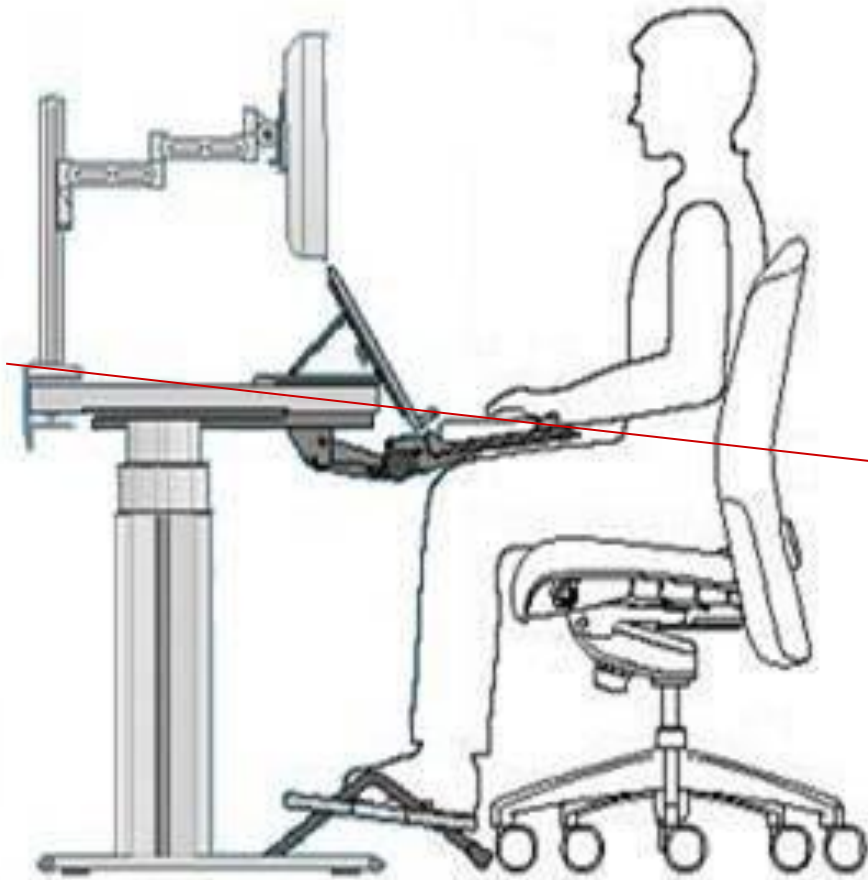
# Keyboard Mouse

## The Importance of Hand & Wrist Position



- Neutral Position is Ideal.
- Increased incidence of repetitive strain injuries is associated with awkward or non-neutral postures.

# Keyboard & Mouse – Location Everything



- ✓ Elbows are relaxed at side of body
- ✓ Arms hang free
- ✓ Elbows are between 90-100 degrees
- ✓ Wrists are straight
- ✓ Mouse next to keyboard
- ✓ Keyboard/mouse below elbow height
- ✓ Do not rest while typing – float
- ✓ **Drive mouse with entire arm from shoulder!**

# Laptops = Smaller Keyboards = Awkward Wrist Position



# Ergonomic Keyboards



# Ergonomic Mouse Devices





# Computer Vision Syndrome



# Computer Vision Syndrome

“The complex of eye and vision problems related to near work which are experienced during or related to computer use.”

-American Optometric Association

# Signs & Symptoms



Eyestrain

Blurred vision

Headache

Dry eyes

Neck and shoulder pain

Light sensitivity

Double vision

# Eye Strain Causes

Failure to Blink

Poor lighting – Room lighting should be unifor.

Improper viewing distances

Glare on a digital screen (privacy screens, phones, laptops)

Direct Glare from lights, windows

Uncorrected vision problems

# Video Display Monitor Remedies

Center Monitor

Top of screen should be eye level with 15-20 degree angle to center

Bifocal wearers should position screen lower

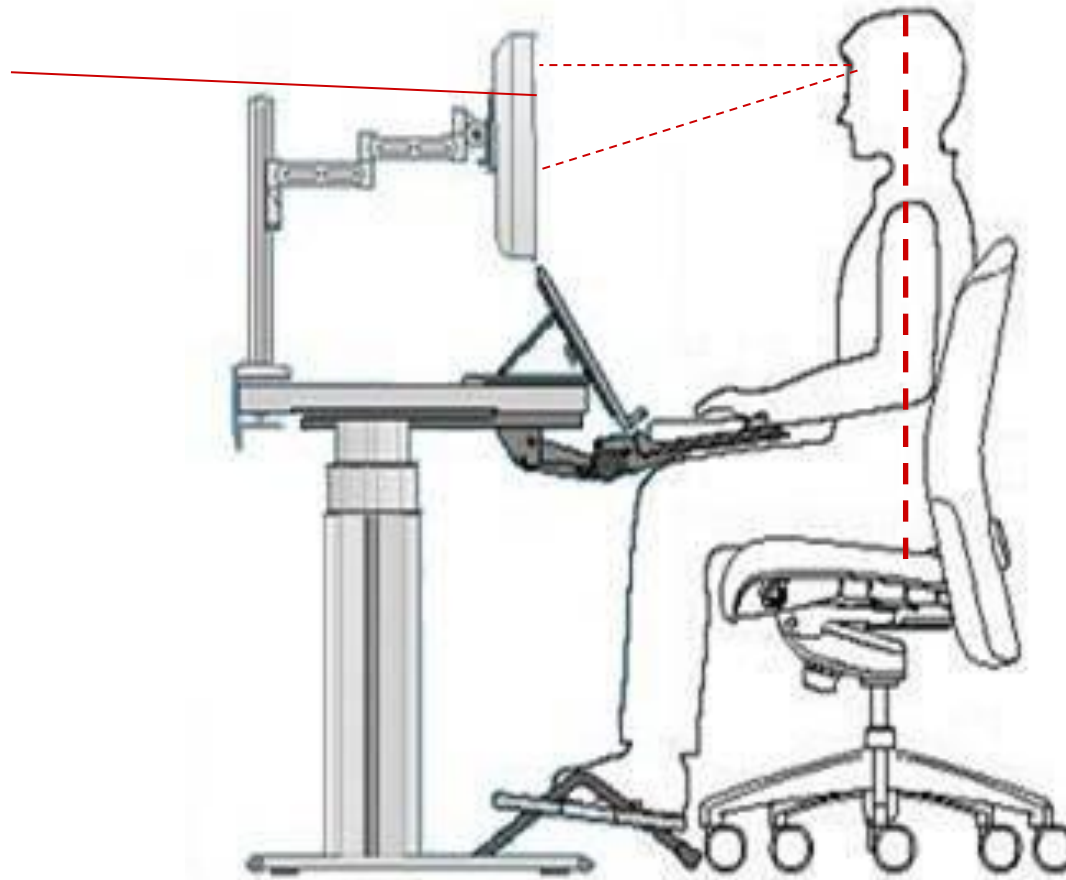
Adjust Distance -18 to 36 inches away from user

Increase Font Size – ZOOM



# Ergonomic Computer Workstation

- ✓ Top of the screen is eye level.
- ✓ Progressive Lens Wearers Below Eye Level
- ✓ Monitor is centered
- ✓ VDT is close enough that you do not lean forward to view screen



# Small Laptop Screen Create Eye Fatigue



# Extended Laptop Use – Add Second Screen





# Minimize Fatigue

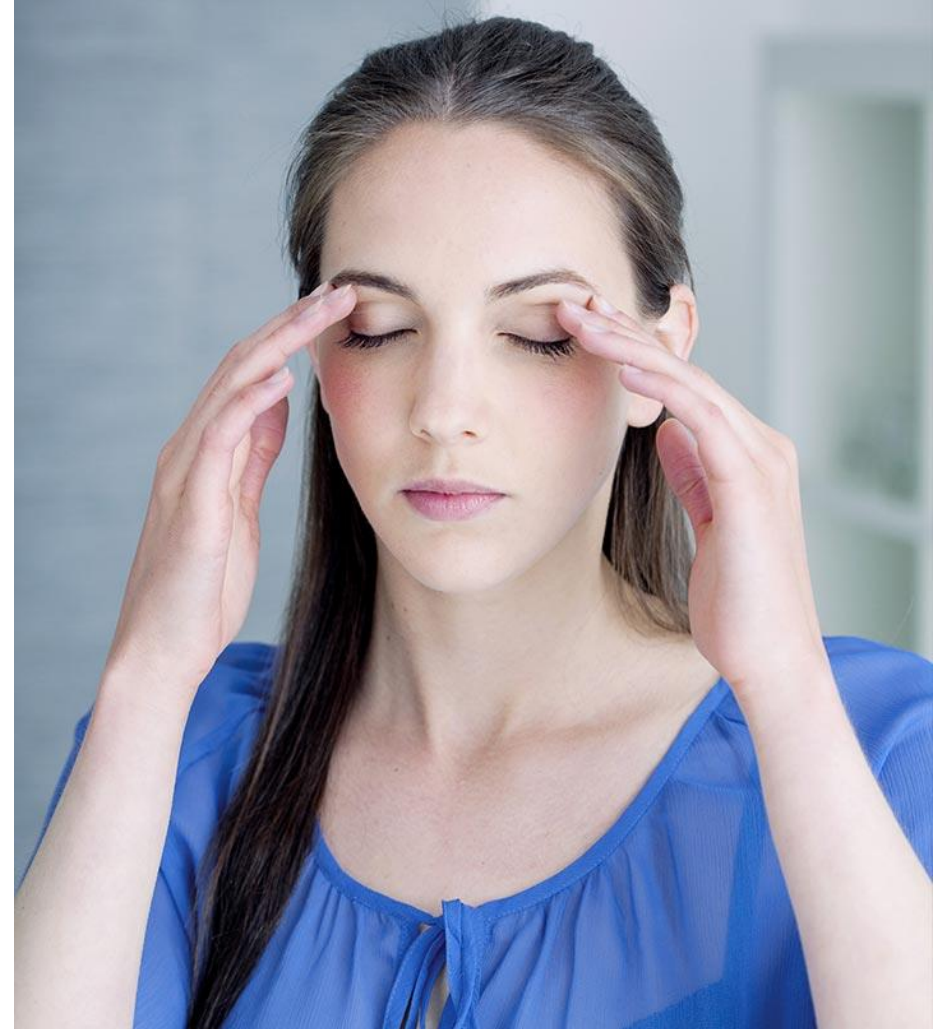
20-20-20 rule

5 minute every hour rule

Reduce Glare

Adjust screen brightness / contrast

Adjust ambient lighting



# Eye Health

- ✓ Regular eye exams
- ✓ Follow recommendations from your eye doctor



# FATIGUE



# Why am I tired when all I do is sit?



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# Human Body IS Designed for Movement

Increased risk of back pain, diabetes, heart disease, obesity, etc.

Decrease metabolism

Lipoprotein Lipase

Chairs are designed for static support when movement is healthy.



# Get up and move!



# Stretching and Counter Movement



Arms Straight Overhead

Roll Shoulders Back

Stand Up and Bend Backwards

Head Turning

Arms Behind Back and Pull Down

# Find Time To Rest!





# Assess & Evaluate

Beware of Solutions Looking for Problems ( Doctor Note, new product, etc.)

Self Assessment

Computer Based

Peer Review

Company Safety / Risk Manager / HR

Ergonomic Evaluator



# Functional Ergonomics, Inc

**Functional Capacity Testing**

**Ergonomics**

**Education & Training**

**Work Fitness & Conditioning**



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