

# Home and Mobile Office Ergonomics

Presented by: Peter Gin  
Stacy Rozell

# Overview

- Proper chair selection
- Proper keyboards
- Proper mouse devices
- Proper body postures
- Keyboard Options
- Mouse Options
- Lighting
- Laptop use
- Tablet/Cell Phone use

# Chairs

- **The chair for a home office is as important as any other part of the business furniture.**
- **Your home office should revolve around your chair - literally. You can expect to be spending a lot of time in your chair so don't cut corners here of all places. An ergonomically sound office chair should have the following features:**
  - **Tilt and swivel base**
  - **Adjustable backrest**
  - **Adjustable armrests**

# Chair – Spine Support

- Your chair should provide you with good back support.
- If your chair has an active recline mechanism, use it to change your position throughout the day.



# Task Chair Examples



- **Herman Miller  
Aeron**



- **Steelcase  
Criterion**



- **Steelcase  
Gesture**

# Typical Home Office Chair

- **Common Executive type Chair**
- **Recommend task chair as seen in prior slide.**



# Home Office Chairs from Office Supply Store



➤ Hyken or  
Dexley chair



➤ Kroy



➤ Carder chair

# Desks



# Desks



- **Make sure that your desk allows movement of your legs while sitting at the desk itself.**
- **The desk height should be high enough for your legs to fit underneath.**

# Monitor Viewing Distance



# Monitor Height

- **Neck strain can be caused by incorrect monitor height .**
- **Adjusting your monitor height is a straightforward process.**
  - Sit yourself comfortably in front of your computer and look straight ahead towards your monitor.
  - Adjust your monitor height until the top of the screen (not the monitor case) is level with your eye.

# Distance From Monitor

- **Make sure the prescription for your contacts or eyeglasses are current is critical to avoiding the eyestrain associated with long-term computer use.**
- **The recommended distance between you and your monitor should be measured by the length of your arm.**
- **Take frequent breaks as needed.**

# Dual Monitors

- **Need to be set at the same level**
- **Should be at the same distance away**
- **Should be the same size monitor (exception – laptop screen)**
  
- **Keep distance from eyes at arm's length away**

# Bifocal Use

- Lower monitor height if you wear bi-focal or tri-focal glasses to help reduce neck strain.

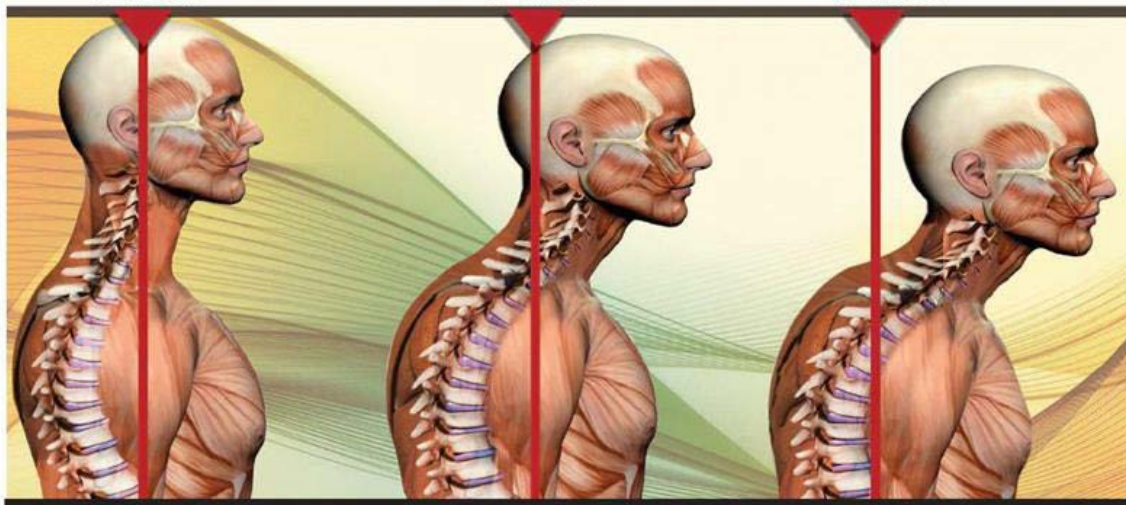


# How Heavy is Your Head?

12 lbs.

32 lbs.

42 lbs.



NORMAL POSTURE

2 INCHES FORWARD

3 INCHES FORWARD

## 42 Pound Head

*"For every inch of Forward Head Posture, it can increase the weight of the head on the spine by an additional 10 pounds."*

Kapandji, Physiology of Joints, Vol. 3

# Keyboard

- Operators' arms should rest comfortably at their sides
- Keyboard should allow for the elbows to be near 90 degree angle
- A straight hand to forearm angle should be maintained
- Eliminate or protect against pressures from desk edges



# Keyboard Options

Microsoft Natural 4000



Standard



Keyboard w/o 10-key



Left handed



Logitech K350



Goldtouch Keyboard



# Keyboard Placement



Too far away



Too close

# Mouse Keep it Close

- **Keep your mouse close to the front corners of your keyboard to avoid reaching.**
- **Position the mouse at the same level as your keyboard. Avoid reaching over the keyboard to use your mouse.**

# Mouse Devices

- **Select a mouse device that is the right size and shape for your hand. It should fit comfortably in the palm of your hand.**
- **Use a mouse with a scroll button option if you scroll frequently (especially if you are a web surfer).**
- **Try using a trackball mouse device. A trackball reduces the need to use shoulder movements.**
- **Alternate between different devices.**

# Mouse Options



Kensington  
Orbit



Standard



3M Joystick

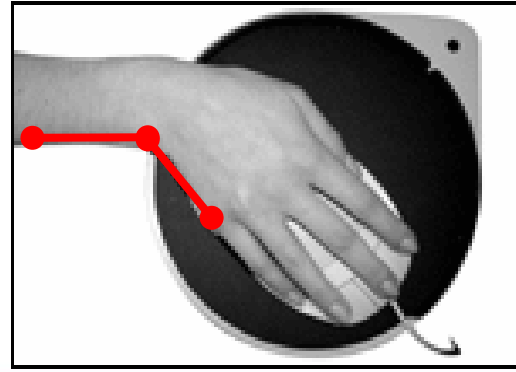
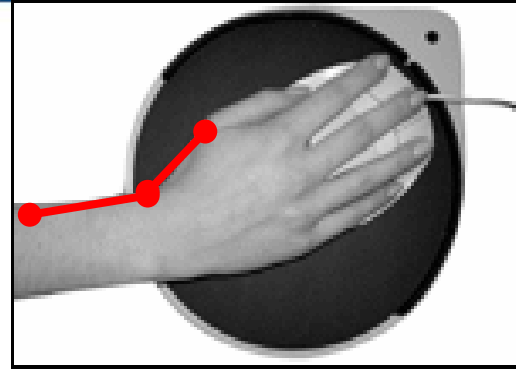
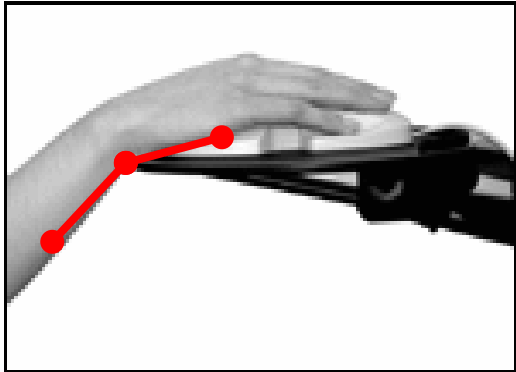
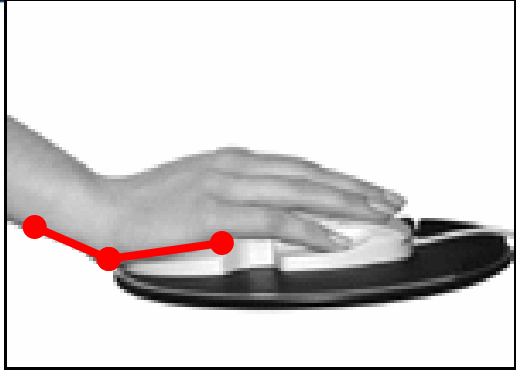


Evoluent Vertical



Contour Roller Mouse

# Avoid These Postures



# Use Good Techniques

- **Do not twist or move your wrist from side to side, or up and down when working.**
- **Keep your hand relaxed. Do not hold your mouse device with a tight grip.**
- **When not using the mouse device, let it go.**

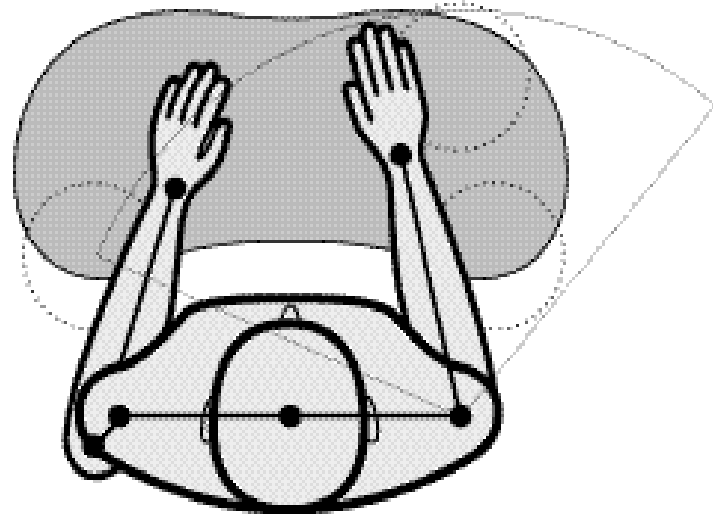


# Use Good Techniques

- **Keep your fingers relaxed. Do not hold your fingers above the activation buttons when using the mouse device.**
- **Keep your thumb relaxed. Do not keep your thumb in a bent position when using the mouse.**
- **Consider alternating hands if you are a high volume user. But, use caution when switching hands, and make sure the device is made for the hand you are using. Give yourself time to get used to the change.**

# Arm/Hand Posture

- The keyboard and mouse device should be positioned directly in front of you.
- If you use a keyboard tray, it should be wide enough for your keyboard and mouse device.



# Lighting

- **Work area needs to have sufficient lighting.**
- **Natural light is the ideal type of light.**
- **Do not have light source pointing at your monitor**



# Poor Office Lighting



# Questions

Peter Gin  
pgin@socalgas.com



Stacy Rozell  
stacy.rozell@sce.com



# **Extreme Ergonomics Accommodations**

## Office Ergonomics

**Presented by: Timothy A. Pottorff, MSc, CIE, ARM**

# Types of Extreme Cases

Vision & glare

Unknown issues

Challenging coworkers

Comprehensive medical



# Vision & Glare

Multiple offices in multiple cities

Multiple countries

Multiple jurisdictions

Internal resistance



# Multiple Jurisdictions

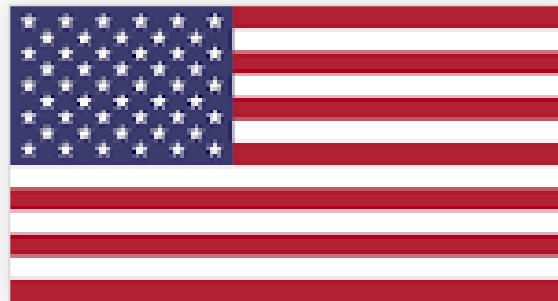
## Different rules over accommodation

### U.S.

- Americans with Disabilities Act (ADA)

### Canada

- A “human rights” issue
  - Even more important/stringent to get it right



# Internal Resistance

Human Resources

Safety

Facilities

- Local
- Corporate

Building ownership

# What We Eventually Learned

Employees  
ultimately left

Difficult to work  
with “in general”



# Lessons Learned?

We cannot make everyone happy

We cannot always work miracles

Sometimes we have to “let go”



# My Most Challenging Ergonomics Project—Ever!

## Multiple assessments

- **Downtown office**
- **Home office**



# Full Disclosure

- **This individual has granted written permission to discuss the case, his medical conditions & use the following photographs, as he believes in the educational benefits of this case study.**

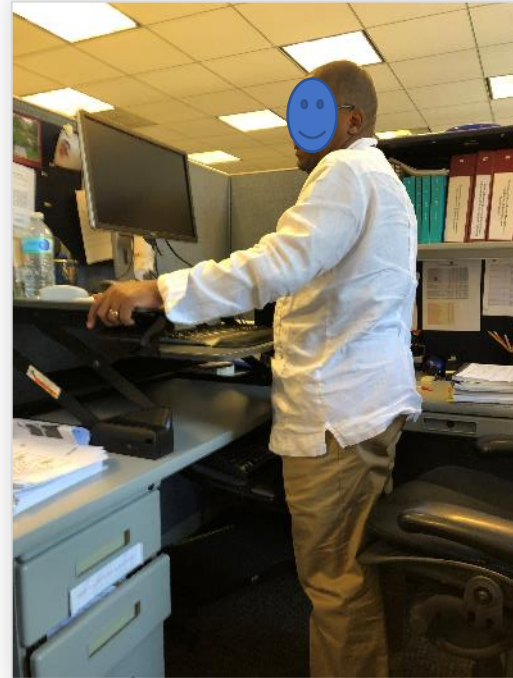
# Why Was It So Challenging?

First glance

Multiple office needs

Multiple workspace challenges

Litigation in process with EEOC over lack of accommodation(s)



# Extensive List of Conditions

Seizure disorder (epilepsy)

Post traumatic stress disorder (ptsd)

Fibromyalgia

Bilateral plantar fasciitis

Irritable bowel syndrome (IBS) with  
gastroesophageal reflux disease (GERD)



## Conditions, cont.

Migraine headaches

Human immunodeficiency virus (hiv)

Lumbosacral strain

Peripheral neuropathy—upper extremities

Peripheral neuropathy—lower extremities

# Conditions, cont.

Left “drop foot”

Traumatic brain injury

Bilateral ankle instability



# Assistance Needed

Bifocal eyeglasses

Cane

Walker/Rollator

Home health technician

Personal medical aid at the office

Bathrooming assistance required



# Drivers of Other Challenges

## Sensitivity to flashing lights

- Strobes on emergency beacons

## Sensitivity to strong smells

## Sensitivity to sudden loud noises/alarms

## History of seizures at work

## Fear of a seizure while alone

# The Approach

## Initial site visit

- Situation
- Alternative office options

## Listening

## Brainstorming

## Looking at the “big picture”



# The Problem



Multiple prior assessments

Multiple assessors

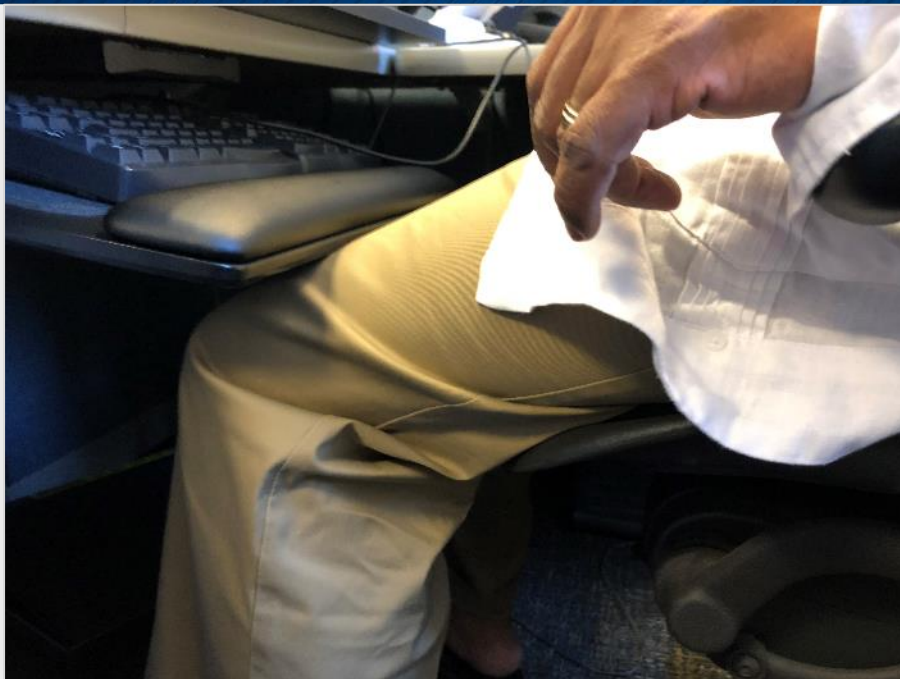
Thousands spent on accessories

Nothing solved since 2007

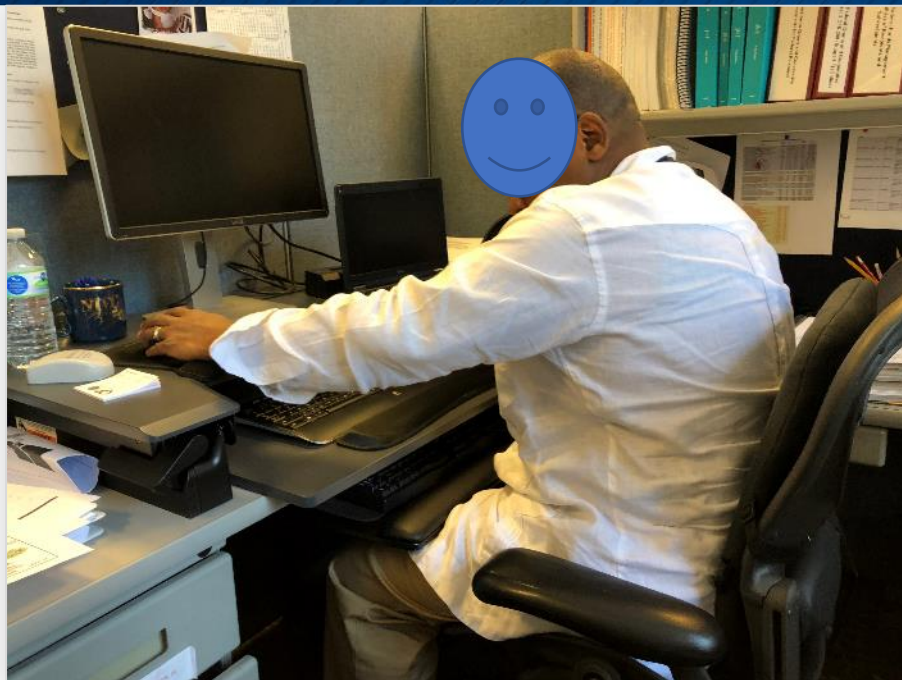
No room to move

Stressed out

Legal case underway









# Blow it Up

Start over

Focus on needs

Focus on accommodations

Continue to listen



**Two options**

## Restroom A

No powered doors

- Double doors

No handicap-accessible stalls



# Restroom B

Closest available restroom (preferred)

No restrictions on use

Sometimes not available

No power door



# “New” Office





# Picking New Office

Distance from restroom(s)

- Measuring wheel

Distance from break room

Distance from other people

Distance from strobes and alarms

Private with a frosted window

- For privacy
- For help if a seizure occurred

# Making Progress

New office

Acceptable

Made some more modifications

Wrong chair

- Too big & heavy

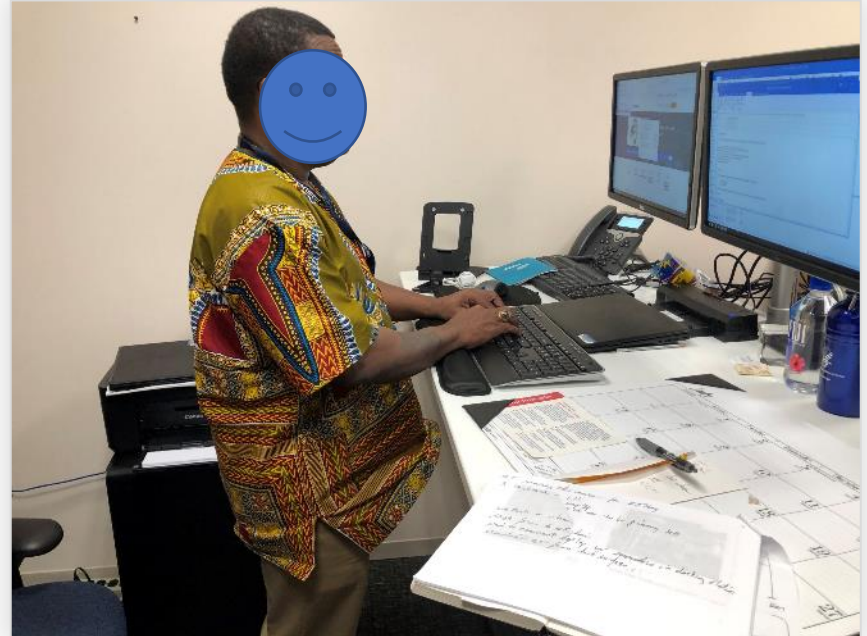


# Follow Up to Office

Doing well

Learned about multiple comorbidities

One thing affects another, which affects another, etc, etc, etc



# Getting Better



# Padding on Protruding Corners



# Home Office Visit

Tightly packed

Marginal furnishings

Glare issues

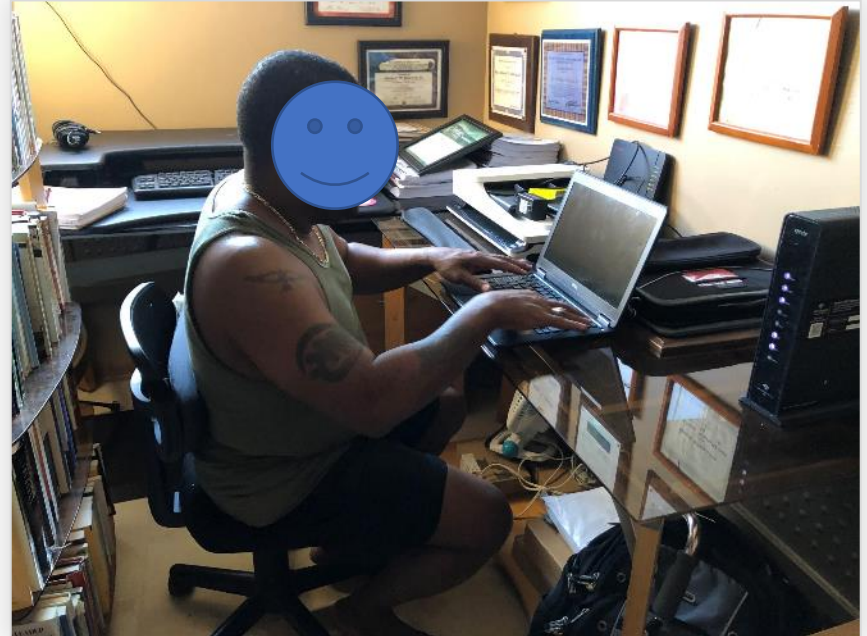
Awkward work postures



# Home Office Needs

Coaching on better  
work practices

Arranging to avoid  
glare



# Yet to Be Done

One last follow  
up to WFH office

Schedule affected  
by COVID-19



**“You’re the first person looking at my workstation to ask me about my needs and concerns, versus telling me what I need. I finally feel like someone cares.”**

# Lessons Learned

Listen, listen, listen

Focus on the needs

Listen some more

Don't be afraid to “start over”

Less can be more

# Have a Great Day!

- **LinkedIn: Tim Pottorff**
- **Phone (847) 921-3113**
- **info@qp3ergosystems.com**

