



## Work at Home Ergonomics ACEC/MA

By Tim Pottorff, MSc, CIE, ARM





**Timothy A. Pottorff,  
MSc, CIE, ARM**

- ▶ **B.S. & M.Sc., Industrial Engineering**
- ▶ **Positions with Zurich, Alcoa, Texas Instruments, UPS**
- ▶ **Over 30,000 individual audits & assessments globally & across industries**
- ▶ **Numerous articles, regional & national conference speaking roles & volunteer leadership positions**
- ▶ **Principal, QP3 ErgoSystems LLC**
  - Full-service Ergonomics, IH & Safety Consulting Firm
  - Professionals from industry, insurance, OSHA
  - Pioneered video assessments in early 2000's
- ▶ **Scouts BSA Scoutmaster**

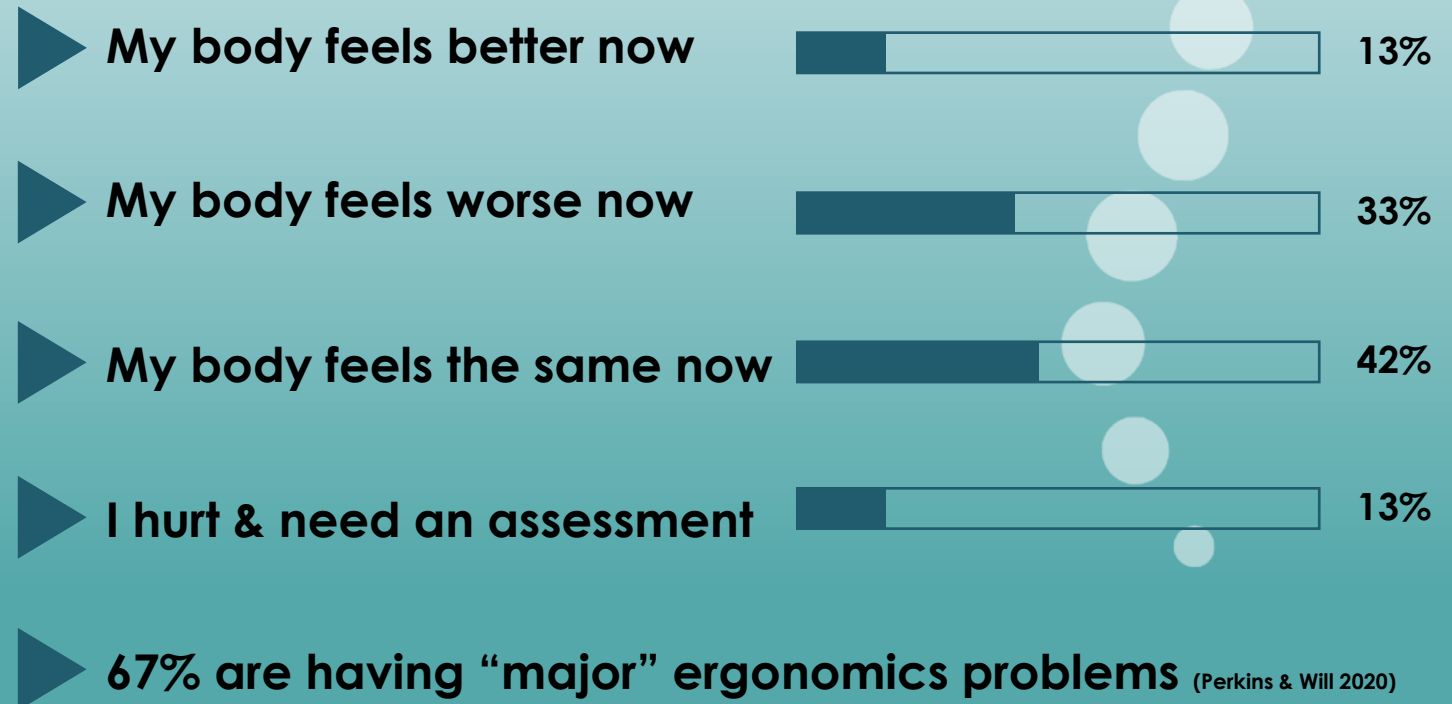


- ▶ **Expert witness for major industrial equipment manufacturer**
- ▶ **Led ergonomics effort for \$450mm Zurich North America HQ (Chicago)**

## Projects with major organizations

- ▶ Georgetown University, Caltech, Stanford
- ▶ Winston & Strawn, Foley & Lardner, Kirkland & Ellis LLP
- ▶ CBRE, Clayco, Skanska, Aerospace Corp.
- ▶ Estee' Lauder Companies, BASF, Materion
- ▶ Tesla, Ford, Chrysler, Honda Sequencing, Toyota
- ▶ WABTECH, GKN, Pfizer (Pharmacia), Sanofi
- ▶ Meat & Poultry Processing, Boar's Head
- ▶ Hostess, Mrs. Fields, Jamba Juice, Kwik Trip, Nestle'
- ▶ Jet Propulsion Lab, Honeywell, Woodward
- ▶ Apple, eBay, PayPal, HHS, HUD
- ▶ Alaska Native Corporations
- ▶ Omni, Four Seasons, Golf Resorts, Casino properties
- ▶ Crescent Hotels & Resorts, Island Hospitality

How does your body feel now, after working from home, versus how you felt starting out.



# How Might The Survey Apply?

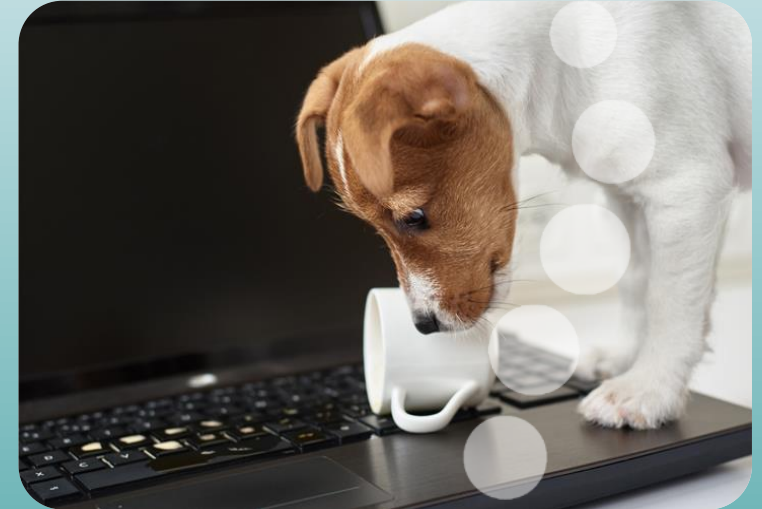






- ▶ **Results of working at home**
- ▶ **Workstation postures & accessories**
- ▶ **Kids, pets & electricity**
- ▶ **Hand-held technology**
- ▶ **How to work from home**
- ▶ **Regulatory Requirements**
- ▶ **Corporate Strategies & Responsibilities**

# What We Are Seeing



# What Some Companies Are Doing

**Stipends  
(not effective  
without  
guidance)**

**Flexible  
schedules**

**“Screening”  
assessments**





## Substandard work areas

### Poor postures & increased risk factors

- 50% More pain (neck, shoulders, elbows, wrists/hand/hips, knees, back eyestrain, headaches, chest pains, leg cramps, indigestion, fatigue)

### Stipends are not always effective

- Don't know what to get
- Don't know enough about Ergonomics (or have incorrect assumptions)
- Misuse



## ▶ Psychosocial stress

- Internal stress—not calm, not active, worried about personal finances, family health, loneliness
- Work pressure up 36%
- Compensable in California
- Lack of communication with supervisors/managers

## ▶ Soft tissue injuries & illnesses

- Physical damage to bodies
- **Impact EMR & WC Premiums**

## ▶ WFH cases are work-related

- What is your strategy?
- Written plan?

## ▶ Social issues

- Drug & alcohol abuse
  - Alcohol sales +54% (Nielsen)
  - Opioid ER +45% (JAMA)
- Domestic abuse +100% (B&W Hospital, Boston)
- 400% more anxiety/depressive disorder (Kaiser)
- Lower physical activity—increased health costs



- ▶ **Do not hunch forward**
- ▶ **Sit back into the chair**
- ▶ **Correctly sized**
- ▶ **Adjustable/flexible—and know how to use**
- ▶ **Armrests should lightly support elbows**
- ▶ **Padded**
- ▶ **Do NOT reach for the keyboard/mouse**
- ▶ **Look for furniture packages (desk/chair)**



- ▶ **Ball chairs**
- ▶ **Treadmill workstations**
- ▶ **Kneeling chairs**
- ▶ **Kitchen chairs--DVT**
- ▶ **Trampoline standing—slips, trips, falls**





- ▶ **Separate keyboard**
- ▶ **Separate mouse**
  - Do not lean/reach forward
- ▶ **Raise documents**
  - Document holder
  - Three-ring binder
- ▶ **Raise monitor (regular vision)**



Screens at  
right angles  
to windows

Avoid  
overhead  
lights

Blinds &  
shades to  
deflect light





- ▶ **Top of screen about eye level (sit or stand)**
  - Lower for bifocal/progressive lenses
- ▶ **Screen aligned with the keyboard/mouse**
- ▶ **Primary monitor on the side of the dominant eye**



- ▶ Hide tape
- ▶ Hide scissors
- ▶ Electric staplers out of reach
- ▶ Keep shredders out of reach
- ▶ Protect wires & cables
- ▶ Don't overload circuits
- ▶ Grounded cords/power strips
- ▶ Online school = work from home



## Used more in WFH environments

- 52% have company-provided smartphone

## Hand/wrist/neck issues

- Adult & adolescent spinal deformities

## Limit stress

- Short messages
- Alternate fingers
- Portrait orientation
- Support devices
- Headsets

(Applied Ergonomics Conference talk & article in *ISE Magazine*)



- ▶ **Dedicated space**
- ▶ **Daily schedule**
- ▶ **To-do list**
- ▶ **Get up & move**
- ▶ **Raise laptop screen if necessary**
- ▶ **Avoid “other” screens**





- ▶ **72% of employees prefer WFH 2+ days/week (PWC)**
- ▶ **55% of executives expect more WFH (PWC)**
- ▶ **Return to offices continues to be extended**
- ▶ **Google: WFH until January 2022**
- ▶ **Fewer “assigned” desks & more “hoteling”**
- ▶ **Online at-home education affecting return to offices**

# US Regulatory Requirements (Ergonomics)



## Federal OSHA

- General duty clause—must address hazards/complaints

## California:

- IIPP--conduct claims-related assessments
- Ergonomics Program Standard-general industry
- Suitable Seating Standard
- Hotel Housekeeper MIPP Standard-annual requirements

## Maine

- Computer workstation ergonomics training

## Ohio & Washington

- Patient handling requirements

## New Hampshire

“Shall evaluate all incidences of ergonomically related injuries”



# Select International Ergonomics Requirements



- ▶ **Canada**
  - Most provinces—address MSDs
- ▶ **Mexico**
  - Assess production jobs for risks
  - Material handling requirements
- ▶ **UK**
  - Assess work & train employees
- ▶ **EU**
  - Employee assessments & training
  - Production job assessments
- ▶ **Japan**
  - “General Duty Clause”
- ▶ **Singapore**
  - Conduct risk assessments



## Policy & Process

- What is your written plan?

## WFH Ergonomics Training

- Live webinars with feedback
- LMS based/on-demand

## Employee Assessments

- Proactive
- Reactive (claims & complaints)
- Senior Staff & C-Suite
- Accessories & equipment

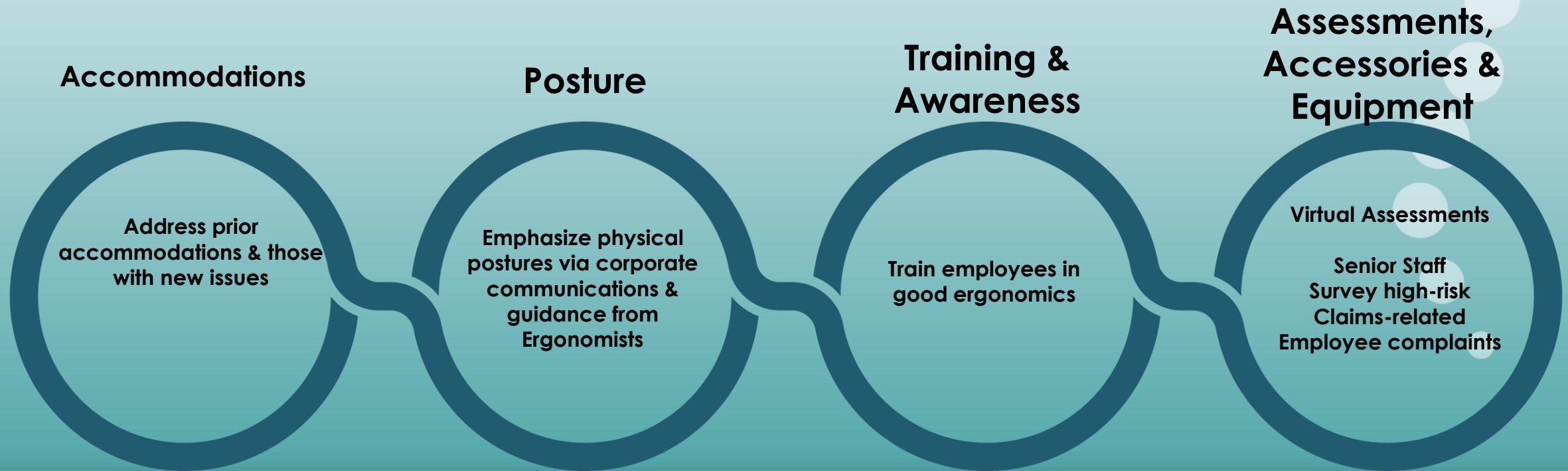
## Overtime for non-exempts?

## Equipment & accessories

## Industrial Ergonomics & Safety

- Productivity, Quality, Profitability improvements

# Invest that Savings





- ▶ **Ergonomics Assessments & Training**
- ▶ **Physical Job Demands Analyses & Stretching**
- ▶ **Industrial Hygiene**
- ▶ **Machine Guarding**
- ▶ **General Liability**
- ▶ **Hazardous Materials Management**
- ▶ **Process Safety Management**
- ▶ **Property Protection (including HPR)**





## ▶ Global Reach/Global Clients

Asia  
North America  
South America  
Europe

## ▶ Languages

English  
German  
Spanish & Catalan  
French  
Japanese  
Hindi, Gujarati, Sindhi



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