



A-Tech Consulting, Inc.

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CONSULTING

Ergonomics Office & WFH

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Victoria Lopez, ASP, EIT, COEE
Ola Sinelnikova, RKin, CEP

Add Questions in the Q&A Chat!



Who's Who

A-Tech Team

- **Patrick Naffah:** Certified Industrial Hygienist (CIH) and Certified Office Ergonomics Evaluator (COEE) with over 7 years of environmental and EH&S consulting experience.
- **Victoria Lopez:** Associate Safety Professional (ASP) and Certified Office Ergonomics Evaluator (COEE) with over 4 years of EH&S consulting experience.
- **Kai Chiu:** Certified Professional Ergonomist (CPE) with A-Tech. Tens of thousands of hours in professional-level ergonomics!
- **Special Guest/A-Tech Partner – Ola Sinelnikova:** Registered Kinesiologist & Clinical Physiologist with over 15 years of experience in corporate ergonomics programs.



Experience

A-Tech Team

- **Sample #1:** Our Certified Professional Ergonomist (CPE) implemented a company-wide office ergonomic program for a well-known Southern-California utility company, resulting multimillion dollar savings over nine (9) years.
- **Sample #2:** Our CPE implemented an office and industrial ergonomic program for an aerospace company which reduced injuries by 25% over a two (2) year window.



I N D E X

1

CHAPTER 1

Ergonomic
Workstation

2

CHAPTER 2

Risk Factor
Categories

3

CHAPTER 3

Prevention
Techniques

4

CHAPTER 4

Ergonomic
Evaluations





1

CHAPTER 1

Ergonomic Workstation

Overview

- **Ergonomics:** The science of creating a fit between the task and the individual to maximize productivity and minimize discomfort.
- Office/WFH **equipment** refers to items such as chairs, desks, keyboards, monitors, etc.
- Ergonomic **workstations** vary between employees and work environments (office vs. industrial).



Office Workstation – Ergonomic Elements

- Chair
- Work Surface
- Keyboard and Mouse
- Monitor and Document Placement
- Laptop Considerations
- Proper Lighting



WFH Workstation – Ergonomic Elements

- Chair
- Work Surface
- Keyboard and Mouse
- Monitor/Document/Phone Placement
- Laptop Considerations
- Proper Lighting



Improper Workstation

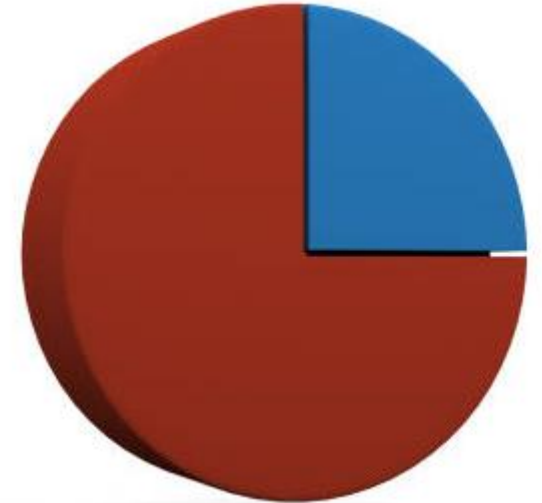
How many of you are sitting like this right now?

Bad Example



How long are you behind a screen?

- 8 hours a day
- 40 hours a week
- 160 hours a month
- 1,920 hours a year




Many ergonomic-related injuries take time.



2

CHAPTER 2

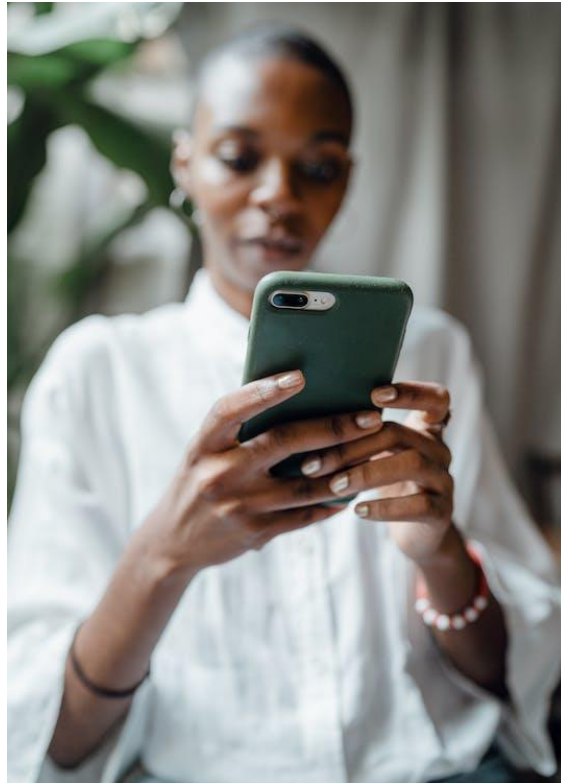
Types of Risk Factors



Musculoskeletal Disorder (MSD) Risk Factors

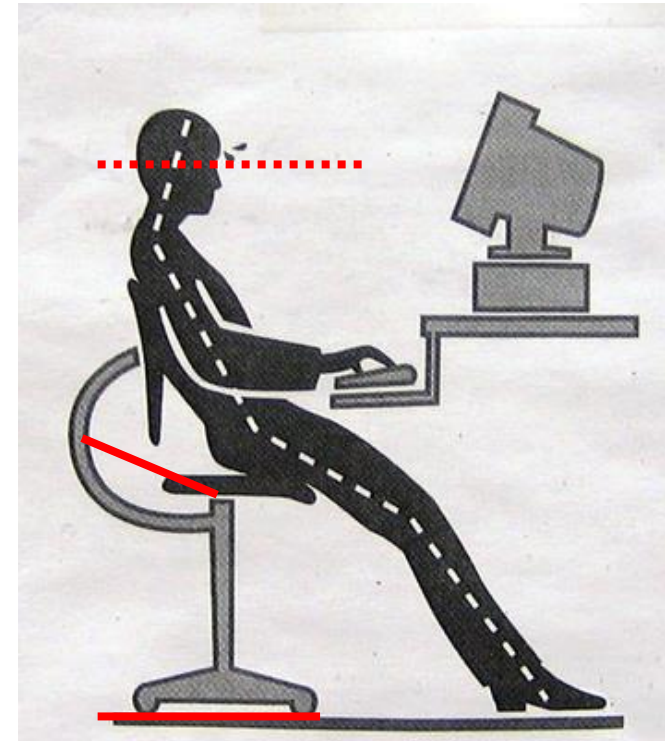
MSD is a common term used to describe injuries or disorders (e.g., muscles, tendons)

- Posture
- Repetition/Frequency
- Duration
- Force
- Contact Stress
- Hobbies/Habits



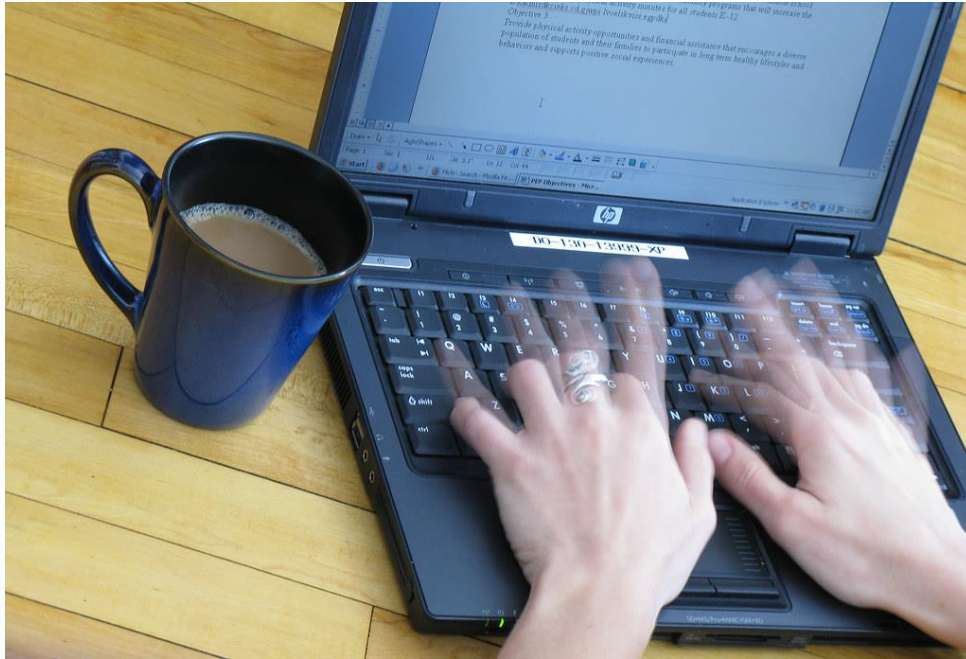
Awkward Postures

- Neck Extension
- Wrist Extension
- Trunk Flexion
- Contact Stress (arms/legs)
- Unsupported Feet



Repetitiveness & Frequency

- The **higher the frequency**, the greater the potential risk for discomfort



Duration & Force

- Duration – **length of time** an exertion is held



- Force – **torque/movement**



Contact Stress

Pressure against a hard or sharp surface

Desk Edge



Arm Rest



Chair Edge



3

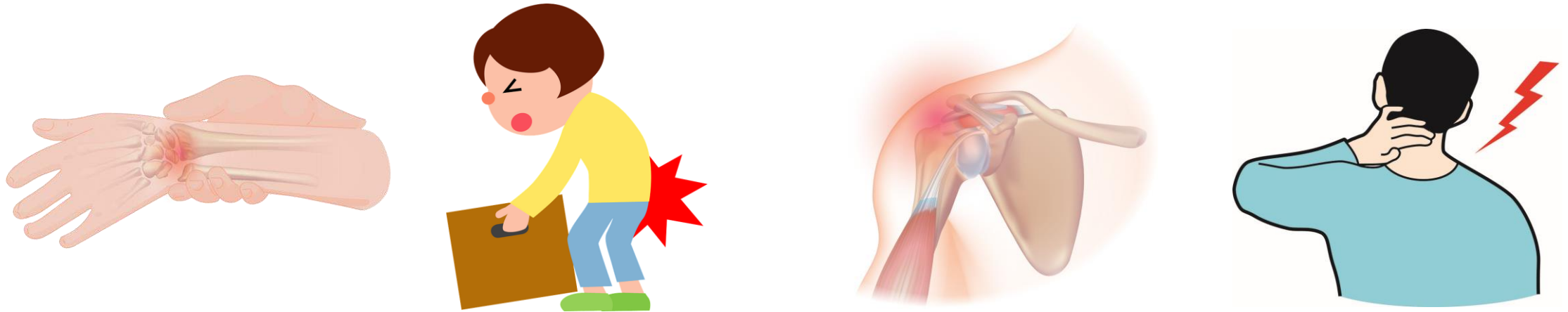
CHAPTER 3

Prevention Techniques



Musculoskeletal Disorders (MSD)

MSD vary in the parts of the body and severity



ONLY A MEDICAL PROFESSIONAL CAN DIAGNOSE EXPERIENCED DISCOMFORT



Prevention Techniques & Controls

Lots of Options! Question is – Who's Responsible?

Employee-Focused

- Proper Posture
- Workstation Setup
- Micro-Breaks
- Stretching
- Recognition of Discomfort

Employer-Focused

- Office Equipment
- Redesigning Work Tasks
- Ergonomics Policies/Written Programs
- Employee Training
- Ergonomic Evaluations

No single solution, on its own, will mitigate ergonomic risks in the workplace.



Proper Office Workstation

General Pointers (Not a Complete List!)

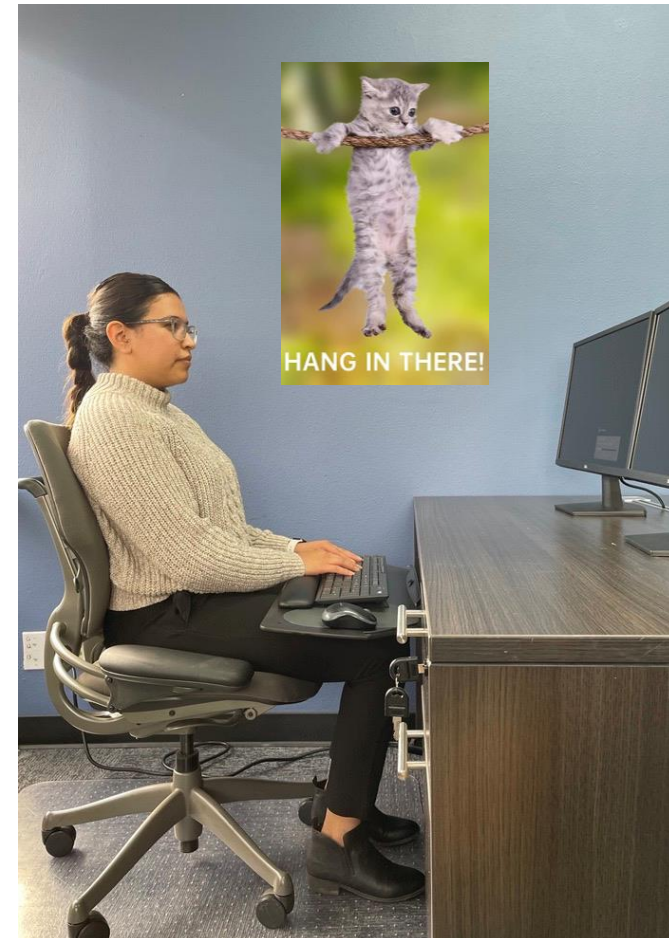
Legs:

- Thighs parallel to ground
- Feet flat on floor or footrest
- 2-inch clearance from back of knees to edge of seat

Back:

- Backrest should allow user to recline back
- Lower back should contour to backrest

Good Example



Proper WFH Workstation

General Pointers (Not a Complete List!)

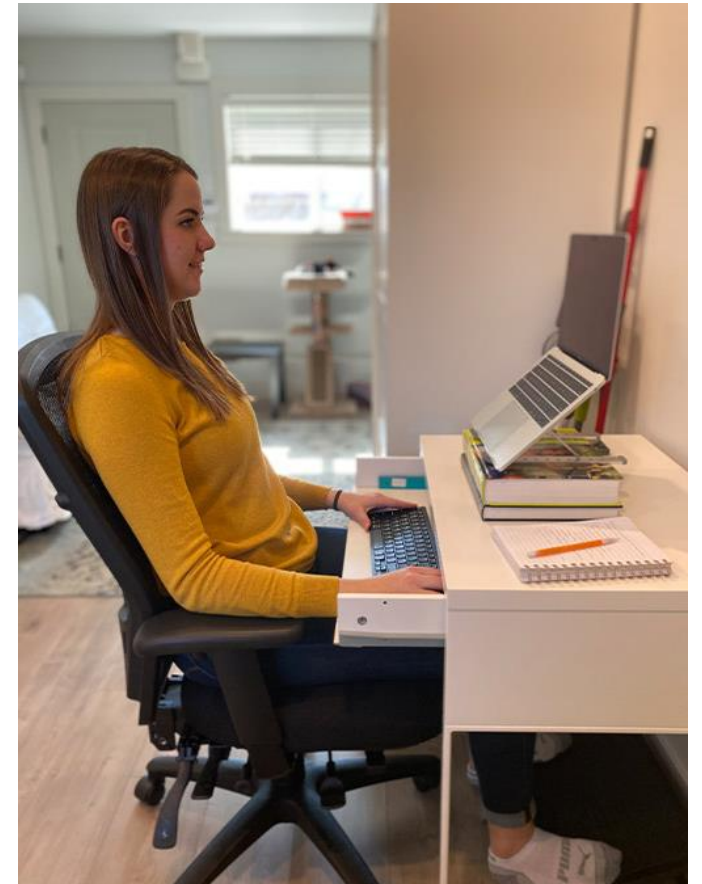
Arms/Hands:

- Shoulders should be relaxed at your sides
- Use articulating keyboard trays to allow adjustability
- Wrists should be in neutral positions and angles (e.g., mousing/typing)

Eyes:

- Position monitor at least at arm's length away
- Eye level slightly above or at the upper-part of the screen

Good Example



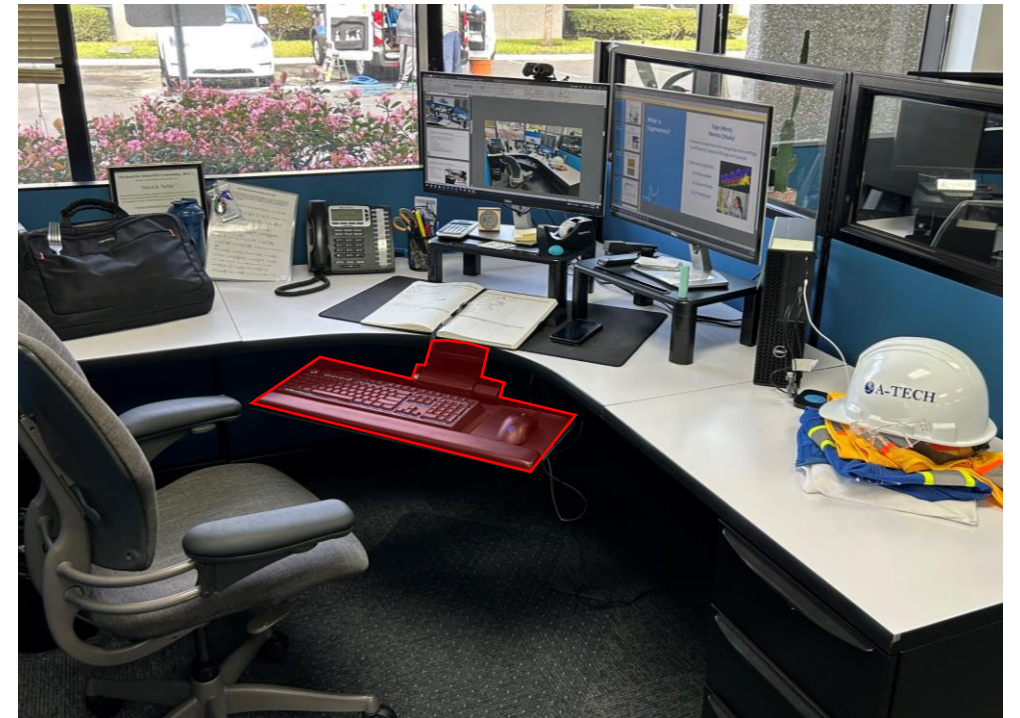
Improvements – Standing Workstations

- Standing workstations
 - Allows for varying positions (reduces stiffness)
 - Reduces time sitting down
 - Helps maintain good posture
 - Adjusts to varying body heights



Improvements – Articulating Keyboard Trays

- Implementing articulating keyboard trays
 - Maintains a neutral wrist position
 - Keeps arms at your sides
 - Assists with relaxing the shoulders/arms
 - Reduces physical workload on shoulders/arms



Additional Ergonomically-Friendly Equipment



Do you have ergonomic concerns? Escalate the matter to your employer!



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CHAPTER 4

Ergonomic Evaluations

Ergonomic Evaluation

A-Tech Ergonomic Assessment Form  A-Tech Consulting, Inc.

Name


Patrick Naffah

First Name Last Name

Pre-Assessment Discomfort

	No Discomfort	Slight Discomfort	Mild Discomfort	Moderate Discomfort	Severe Discomfort
Neck	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Shoulders	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wrists	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Thighs	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knee	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feet	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



A-Tech Ergonomic Assessment Form  A-Tech Consulting, Inc.

Name

Patrick Naffah

First Name Last Name

Post-Assessment Discomfort

	No Discomfort	Slight Discomfort	Mild Discomfort	Moderate Discomfort	Severe Discomfort
Neck	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Back	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shoulders	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wrists	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thighs	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knee	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feet	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ensure that Ergonomic Evaluations Involve a CPE – Consequences may be Significant.




Ergonomic Evaluation

Resolve the problem before it occurs!

Ergonomic Assessment will include:

- Workstation Reviews
- Questionnaires
- Recommendations of Workstation Improvements
- Comparison of Pre-/Post-Assessment Discomfort
- Professional Analysis by a CPE
- CPE Report for Recordkeeping
- Short and Non-Invasive Process (e.g., virtual, video)

A-Tech Ergonomic Assessment Form 

Name

First Name Last Name

Pre-Assessment Discomfort

	No Discomfort	Slight Discomfort	Mild Discomfort	Moderate Discomfort	Severe Discomfort
Neck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shoulders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wrists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thighs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Protect the employees and your organization.



Unfortunate Outcomes

Lose-Lose for All Parties

- **Employee Impacts**

- Protect the **health and safety** of all employees
- Impact on employee **quality of life**
- Loss of **workforce morale**

- **Employer Impacts**

- California OSHA **Ergonomics Standards**
- Company **survivability (e.g., ISN, employee turnover)**
- Company **health and safety standing and insurance rates**
- **Worker's Compensation Claims and Lawsuits** may be involved
- **Costly** company expenses
 - According to CAL/OSHA, the average cost per RMI is \$40,000.



A Worker's Compensation Attorney's Thoughts

Ways to Reduce and Defend Against Worker's Compensation Claims



Whether at OFFICE or HOME, employers should ensure:

- Written Programs
- Employees **learn and understand** proper ergonomics (training)
- Provide employees with appropriate **ergonomic equipment**

Typically, these deficiencies are identified and resolved with **ergonomic evaluations**.

Proactiveness and documentation is key!





ergoIQ[®]
by Humanscale

Developed by board certified ergonomists, ergoIQ is an innovative cloud-based SaaS platform designed to **streamline the process of optimizing employee health and wellness.**

ergoIQ PLATFORM

ergoIQ[®]HOME



WFH Needs Assessment

- Comprehensive rules-based needs assessment pinpoints postural concerns, identifies equipment requirements and streamlines the purchasing process

ergoIQ[®]FIT



Online Self-Assessment

- Intuitive AI driven self-assessment empowers employees to configure their existing work environment for optimal health and comfort

ergoIQ[®]LIVE



Virtual Consultations

- Ergonomist led online ergonomic consultations for those who require additional assistance

ergoIQ[®]LEARN



Education & Training

- Narrated training videos, webinars and interactive eLearning courses

ergoIQ[™]PRO

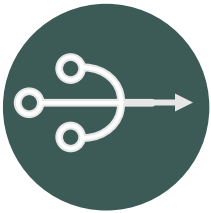


Practitioner Assessment Tool

- Empowers in-house EH&S staff to document & manage ergonomic assessments

An intuitive **needs assessment** designed to pinpoint postural concerns, identify equipment needs and eliminate the root causes of discomfort among WFH employees

Streamlines



Streamlines the process of equipping home work environments for optimal health and comfort

Pinpoints



Pinpoints the root causes of discomfort among WFH employees in less than 4 minutes per employee

Intuitive



Intuitive user interface features unparalleled ease-of-use and requires no training

Customizable



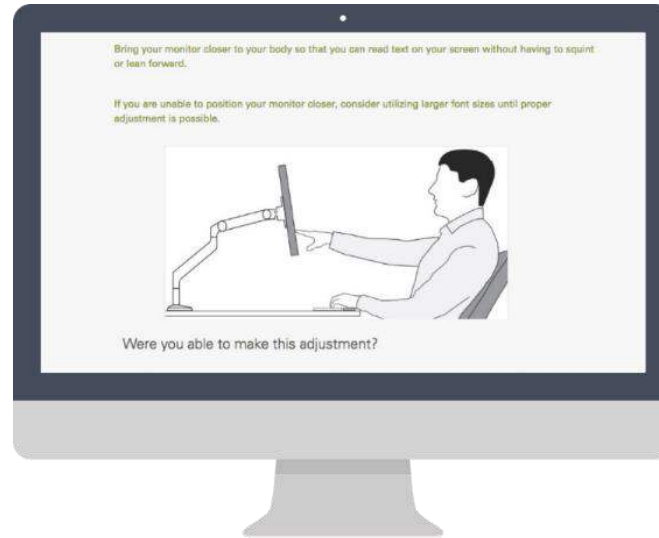
Highly customizable reporting and workflows meet the complex needs of large organizations

Web based **self-assessment** empowers employees to configure computer workstations for optimal health and comfort



Each self-assessment is customized based on the user's existing workstation set-up

Only questions that are relevant to the user's current setup are asked



Intuitive modern interface illustrates recommended adjustments and ergonomic guidelines

Educates users the rationale for each recommendation



Unique scoring system gauges overall fit and improvement levels pre and post-assessment

Average completion time is under 10 minutes; Available in 8 languages

Inspired by telemedicine, **ergoIQ^{LIVE}** connects remote employees to our global network of certified ergonomists.



Online Scheduling

Online scheduling and appointment management portal automates the process and reduces administration costs



Expert Consultation

Individualized 30-minute ergonomist-led consultations quickly identify and eliminate the underlying causes of discomfort.



Detailed Reporting

Standardized reports summarize areas of concern and recommendations for further improvement

- Scorm compatible narrated ergonomics eLearning courses are designed to integrate into any existing LMS.
- Curriculum empowers WFH employees to improve their posture and overall workstation setup
- Integrated knowledge checks evaluate user understanding of key concepts

The image displays three overlapping screenshots from the ergoIQ LEARN eLearning course interface.

The top screenshot shows a "KNOWLEDGE CHECK" section. It features a photograph of a person sitting at a desk with a laptop, with five green numbered callouts (1-5) highlighting specific posture points. Below the photo, there are two buttons: "Trunk Flexion" and "Neck Flexion". To the right of each button is a dashed-line text box containing the number 1 and 2 respectively. A "Submit" button is located at the bottom right of this section.

The middle screenshot shows the main title screen for "WORK@HOME ERGONOMICS". The title is prominently displayed in white text on a dark green background. Below the title, it reads "Guidelines for healthy & productive WFH environments". The Humanscale Consulting logo is visible in the top right corner. A video player interface is overlaid on the bottom half of the screen, showing a play button and a progress bar.

The bottom screenshot shows a course progress menu. On the left, there is a list of topics: "Optimal Workstation Configuration", "Sit/Stand Considerations", "Visual Considerations", and "Review". On the right, there are six circular icons representing course modules: "1. Introduction to Ergonomics" (with a checkmark), "2. Postural Awareness", "3. Optimal Workstation Configuration", "4. Sit/Stand Considerations", "5. Visual Considerations", and "6. Review". A green progress bar at the bottom indicates that 38% of the course has been completed.



- Online ergonomic assessment tool for EH&S practitioners
- Allows EH&S staff to quickly generate detailed reports and manage individual cases
- Three levels of reporting are available based on the severity of discomfort

Equipment Audit			
Keyboard Support	<input checked="" type="checkbox"/>	Footrest	<input type="checkbox"/>
Monitor Arm	<input type="checkbox"/>	Split Keyboard	<input checked="" type="checkbox"/>
Task Light	<input checked="" type="checkbox"/>	Palm Support	<input type="checkbox"/>
Document Holder	<input checked="" type="checkbox"/>	Telephone Headset	<input type="checkbox"/>
Laptop Holder	<input type="checkbox"/>	Sit/Stand Desk	<input type="checkbox"/>
Lap Desk	<input type="checkbox"/>	Sit/Stand Device	<input type="checkbox"/>

Workstation Assessment		
Task Chair	Keyboard & Mouse Position	Monitor/Documents/Phone
Seat height	<input checked="" type="checkbox"/>	Keyboard at elbow height
		<input checked="" type="checkbox"/> Monitor(s) aligned with body
		<input checked="" type="checkbox"/> Monitor(s) at proper height
		<input checked="" type="checkbox"/> Monitor(s) at proper distance
		<input checked="" type="checkbox"/> Monitor(s) at proper angle
		<input checked="" type="checkbox"/> Documents aligned with body
		<input checked="" type="checkbox"/> Phone at arm's reach

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ERGONOMIC ASSESSMENT REPORT			
Ergonomist:	Vanessa Shepsman	Date:	8/21/20
		Level:	Basic
Employee Information			
First Name:	Jane	Age Range:	26-39
Last Name:	Richardson	Height:	5 ft 7 in
Company:	Jones Day	Dominant Hand:	Right
Work Habits			
Work Computer Use:	8 hr/day	Mobile Device Use:	2 hr/day
Home Computer Use:	2 hr/day	Web Conferences:	> 4 hr/day
Typing Style:	Proficient	Corrective Lenses:	Yes
Paper Based Work:	Frequent	Work From Home:	2 day/week
Technology Survey			
Computing Device:	Laptop	External Keyboard:	Yes
Using Laptop Display:	No	External Mouse:	Yes
External Monitor(s):	Yes	Sit/Stand Capability:	No
Number of Monitors:	2	Shared Workstation:	No
Discomfort Survey			
Discomfort Area	Discomfort Area	L	R
Neck	<input checked="" type="checkbox"/> Shoulder	<input checked="" type="checkbox"/> Wrist	<input checked="" type="checkbox"/> Thigh
Upper Back	<input type="checkbox"/> Upper Arm	<input type="checkbox"/> Hand	<input type="checkbox"/> Knee
Lower Back	<input type="checkbox"/> Elbow	<input type="checkbox"/> Hip	<input type="checkbox"/> Foot
Eyes	<input type="checkbox"/> Forearm	<input type="checkbox"/> Buttocks	<input type="checkbox"/> Other

Postural Analysis			
Risk Factor	Source	Risk Factor	Source
Neck Flexion	<input checked="" type="checkbox"/> Text here	Forearm Pronation	<input checked="" type="checkbox"/> Text here
Neck Extension	<input checked="" type="checkbox"/>	Elbow Extension	<input checked="" type="checkbox"/>
Neck Rotation	<input checked="" type="checkbox"/>	Trunk Flexion	<input checked="" type="checkbox"/>
Shoulder Abduction	<input checked="" type="checkbox"/>	Trunk Rotation	<input checked="" type="checkbox"/>
Shoulder Adduction	<input checked="" type="checkbox"/>	Feet Unsupported	<input checked="" type="checkbox"/>
Shoulder Shrugging	<input checked="" type="checkbox"/>	Insufficient Lighting	<input checked="" type="checkbox"/>
Wrist Extension	<input checked="" type="checkbox"/>	Contact Stress:	
Wrist Flexion	<input checked="" type="checkbox"/>	Wrist	<input checked="" type="checkbox"/>
Ulnar Deviation	<input checked="" type="checkbox"/>	Forearm/elbow	<input checked="" type="checkbox"/>
Radial Deviation	<input checked="" type="checkbox"/>	Thighs/knee	<input checked="" type="checkbox"/>

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Questions?

- A-Tech is here to protect employees **AND** organizations
- Take advantage of CPE and industry expertise
- Slides and ergonomic resources available at: <https://www.atechinc.net/education/>
- Contact us! info@atechinc.net or 714-434-6360
- Humanscale: Ola Sinelnikova RKin, CEP-CSEP : osinelnikova@humanscale.com