

## Question 1



### Advanced ERGO ERGOhealthy Topics

**Beyond the Basics: Protecting your company and office employees from injury**

Today we'll explore:

- Apps and Software
- Sit-stand
- Remote workforce – the rules and best practices
- Using data to reduce risk and injuries
- Safety and wellness programs and their success (and failures)
- Q&A with ERGOhealthy Coach

Steve Thompson, ARM, COSS  
[www.ergohealthy.com](http://www.ergohealthy.com)



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## Recap of Recent findings – sedentary lives

- Inactivity disrupts DNA repair mechanisms
- Exercise only slightly lessens the health risks of sitting
- Frequent breaks help stabilize blood sugar levels
- Prolonged sitting increases diabetes risk in women
- Time spent sitting is associated with increased risk of cardiovascular disease mortality

**BEE GEES**  
**STAYIN' ALIVE**



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## Recap of Recent findings – sedentary lives

- Excessive sitting (10 hours/day) can slow down the body's metabolism, which can affect a person's ability to regulate to metabolize fat.
- New research has found that sitting down for 10 or more hours a day without regular exercise can make a person's cells age prematurely.

LIVE  
LONG &  
PROSPER



### Question 2

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## Recap - Why office ergonomics

- Sedentary workforce
- Frequently ignored (versus “high hazard” work)
- Proliferation of remote work
- “Explosion” of social networking

- Facebook
  - More than 1.49 billion active users
- LinkedIn
  - 365 million members
- Twitter
  - More than 300 million active users
- Intagra
  - 300 million active users



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Does having health insurance...



Does having health insurance...

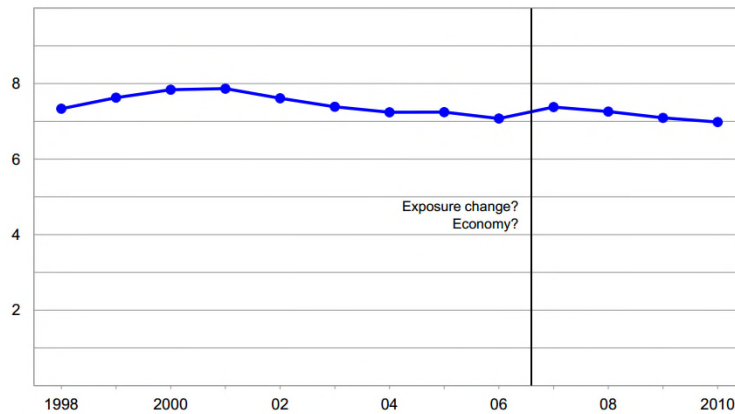
- Improve healthy behavior?
- Reduce obesity rates?
- Improve safe behavior?



## Does engineering and technology reduce collision rates

### Collision claim frequencies

By calendar year and vehicle type, 4 most current model years  
Claims per 100 insured vehicle years



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## In modern times, does engineering and technology reduce ergonomic injury rates

- Desk vs. Workstation
- Typewriter vs. PC vs. laptop vs. tablet vs. smart phone
- Metal chair vs. padded chair vs. expensive ergonomic chair vs. inexpensive ergonomic chair
- Small ergonomic equipment (document holder, foot rest, other, etc.)
- Regular rest breaks vs. sit-stand workstations

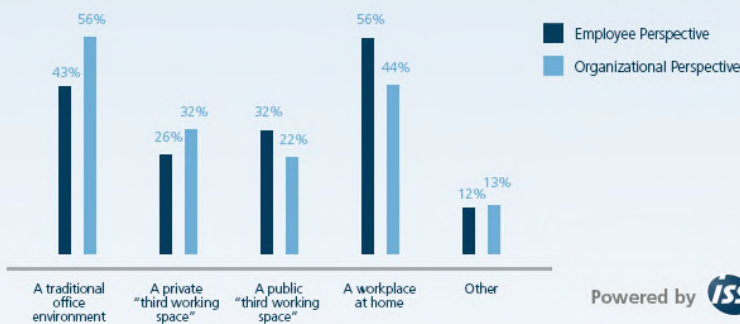


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## Employee perspective 2020

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From an EMPLOYEE perspective, the "office" in 2020 will be...  
From an ORGANIZATIONAL perspective, the "office" in 2020 will be...



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Speaking of what works/what 's changing...

### Technology is/will be dead/dying/changing

- ❑ Traditional cable... growth of content providers
- ❑ Blurred lines... TVs, computers, phones, wearables
- ❑ Landlines are just about gone – 10%
- ❑ Printed materials – going, going...

### Other

- ❑ Cash, checkbooks, credit cards and ATMs
- ❑ USB drives
- ❑ VCR machines - Jan 2017 no longer manufactured

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## Remote work is changing

- Estimates... 78% laptop, 33% mobile phone, Tablet 21%
- Telework (in some form) is offered by 85% of organizations
- Most prevalent flexibility programs offered to nonexempt/hourly workers
  - PT schedules (93%), phased return from leave (93%)
  - Shift flex (91%), Compressed workweeks (88%)
- Career opportunities are not limited by the use of flexible work arrangements. 69% of organizations... career progression or development opportunities are not impacted by an employee's use of flexibility
- Flexibility training for managers and employees remains a rarity. Only 17% of organizations with at least one flexibility program said they provide training to managers about how to successfully manage employees with flexible work arrangements.

*World at Work's "Survey on Workplace Flexibility"*  
<https://www.worldatwork.org/adimLink?id=79123>



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## Melding of work, non-work activities

- **Employer is mostly likely liable for injuries that occur at home or remotely (WC)**
- **"Daily" oversight of teleworkers is difficult**
- **With mobile devices... houses, cars, subways, libraries, bars, airports, parks, beach, etc.**
- **Email when on vacation... home ill, or at kid's b-day party?**
- **24/7 global economy**

***The lines between work and personal time are now permanently blurred***



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## Remote work resources

### Telework Toolkit (free) (<http://teleworktoolkit.com/>)

- Sample policies
- Q&A for employers/employees
- Manager toolkit
- Training materials
- CalHR Telework Policy (free good samples)  
<http://www.calhr.ca.gov/employees/Pages/telework-policy.aspx>



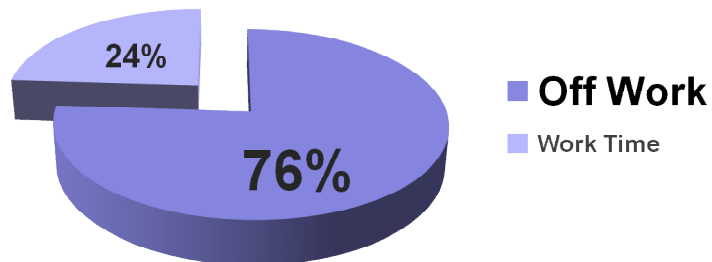
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## How much time do we really spend at work

24 hours/day x 7 days = 168 total hours

Average work hours = 40

40 work hours / 168 total hours = 24%



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## Sit-stand-lay



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## Sit-stand



Question 4





## Sit-stand study

**Health effects of sit-stand desks, interventions aimed to reduce sitting at work are still unproven**

<https://www.sciencedaily.com/releases/2016/03/160316215136.htm>

Question 5



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## Health among health professionals

**Do As We Say, Not as We Do: a cross-sectional survey**

**Healthcare workers "adhered variably to healthy life choices, the researchers noted, but were usually no better than other Americans."**

Question 6



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## Do wellness programs work – what does the scientific evidence tell us

- 1998 – 11 Studies “Inconclusive”  
<http://www.ncbi.nlm.nih.gov/pubmed/9469146>
- 2012 – 33 Studies “yielded mixed results.”  
<http://www.ncbi.nlm.nih.gov/pubmed/22435887>
- 2016 – 5 yr study: “Improvements occurred primarily in the 1st year of participation;” however, “the relative impact of specific incentives could not be discerned.”  
<http://www.ncbi.nlm.nih.gov/pubmed/27067350>
- 6/2016



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## Studies of predicting injuries and ways to reduce risk

- The way things will happen in the future
- Large corporations invest heavily on possible events, risks and business opportunities
- Prediction in business "... is at least two things – important and hard“

Question 7

## “Life table”

10 National Vital Statistics Reports, Vol. 61, No. 3, September 24, 2012

**Table 1. Life table for the total population: United States, 2008**

Spreadsheet version available from: [http://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/61\\_03/Table01.xls](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/61_03/Table01.xls).

Age (years)	Probability of dying between ages $x$ and $x + 1$	Number surviving to age $x$	Number dying between ages $x$ and $x + 1$	Person-years lived between ages $x$ and $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
29-30	0.000993	97,960	97	97,912	4,943,883	50.5
30-31	0.001020	97,863	100	97,813	4,845,971	49.5
31-32	0.001052	97,763	103	97,712	4,748,158	48.6
32-33	0.001088	97,660	106	97,607	4,650,446	47.6
33-34	0.001134	97,554	111	97,499	4,552,839	46.7
34-35	0.001183	97,443	115	97,386	4,455,340	45.7
35-36	0.001242	97,328	121	97,268	4,357,954	44.8
36-37	0.001314	97,207	128	97,143	4,260,687	43.8
37-38	0.001400	97,080	136	97,012	4,163,543	42.9
38-39	0.001507	96,944	146	96,871	4,066,531	41.9
39-40	0.001635	96,798	158	96,718	3,969,661	41.0
40-41	0.001777	96,639	172	96,553	3,872,942	40.1
41-42	0.001937	96,468	187	96,374	3,776,389	39.1
42-43	0.002128	96,281	205	96,178	3,680,015	38.2
43-44	0.002348	96,076	226	95,963	3,583,837	37.3
44-45	0.002588	95,850	248	95,726	3,487,873	36.4
45-46	0.002833	95,602	271	95,467	3,392,147	35.5
46-47	0.003082	95,331	294	95,184	3,296,681	34.6
47-48	0.003350	95,038	318	94,878	3,201,496	33.7
48-49	0.003647	94,719	345	94,546	3,106,618	32.8
49-50	0.003974	94,374	375	94,186	3,012,071	31.9
50-51	0.004331	93,999	407	93,795	2,917,885	31.0
51-52	0.004703	93,592	440	93,371	2,824,090	30.2
52-53	0.005080	93,151	473	92,915	2,730,719	29.3
53-54	0.005455	92,678	506	92,425	2,637,804	28.5
54-55	0.005837	92,173	538	91,904	2,545,379	27.6
55-56	0.006244	91,635	572	91,348	2,453,475	26.8
56-57	0.006696	91,062	610	90,757	2,362,127	25.9
57-58	0.007200	90,453	651	90,127	2,271,369	25.1
58-59	0.007767	89,801	698	89,453	2,181,242	24.3
59-60	0.008397	89,104	748	88,730	2,091,790	23.5

## Injury prediction studies

- **Listening to injured workers: how recovery expectations predict outcomes--a prospective study**  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC99453/?tool=pubmed>
- **Positive recovery expectations were associated with reductions in pain grade and improvement in functional status outcomes.**
- **Worker recovery expectations and fear-avoidance predict work disability in a population-based workers' compensation back pain sample** <http://www.ncbi.nlm.nih.gov/pubmed/16540874>
- **Those with acute work-related pain and low recovery expectations, and fears that work may increase pain or cause harm are risk factors for chronic work disability**

## Injury prediction studies

- **High pain ratings predict treatment failure in chronic occupational musculoskeletal disorders**  
<http://www.ncbi.nlm.nih.gov/pubmed/16452743>
- **High pain ratings before rehabilitation are associated with higher rehabilitation dropout rates.**

**As an organization you may need to voice an opinion. With the Federal Government looking for ways to further cut back on pain medication, this could result in significant cost increases in WC and health care**

## Decision Making – based on Analytics

**"What's past is prologue"** (a quotation by William Shakespeare from his play The Tempest)

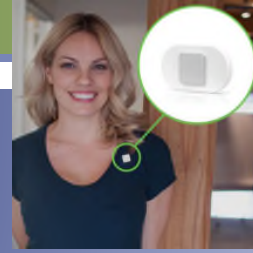
- **Using data mining as a decision maker**
- **Claims data (but very in-depth)**
  - Day of week, time of day, time on the job, age or worker, other factors
- **Industry comparisons**

Question 8

## Apps for Health

- Posture

- *Lumo Lift* (shoulder sensor)
- *UpRight* (lower back)
- *MacBreakZ* (stretching and breaks)
- *Posture Man Pat* (webcam app for posture)



## Getting Practical



Don't Let Your Tablet or Phone Ruin Your Sleep

## Practical tools and tips for health



- Shut down one hour before bed
- Dim your tablet or phone or use a filter
- Distance from face
- Alternatives (books, magazine, newspaper)
- Turn off alerts
- Filter content
- *Zencast, Headspace, Buddhify*

## Apps for Health

- Anti-sedentary... getting up and move
  - *Big Stretch Reminder* (breaks and reminders)
  - *Move* (stretches and exercises)
  - *Workrave* (breaks and exercises)
  - *Break Time* (alerts for breaks)



## Apps for Health

### ▪ Eyes

- Orange-tinted glasses (acts as filter for blue light)
- *F.lux* (auto adjust of monitor tint and brightness)
- *Awareness* (break reminder with singing bowl)
- *EVO* (breaks and screen blackout)
- *Eyelo* (eye exercises)



## The Basics

### Start with your seat

- Knee height
- Lumbar support
- Depth of seat



### 5 STEPS to setting up your workstation



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# Multiple monitors

**Distance**    **Eye-line**    **Tilt & Swivel**

1. Choose primary monitor and adjust according to typical working position.
2. Set additional monitors 1-2 inches apart horizontally.
3. Vertical positions of monitors should match primary screen.
4. Tilt and swivel each monitor so that the line of sight is centered and perpendicular to the screen.

The diagram shows a person sitting at a desk with three monitors. The primary monitor is on the left. Two additional monitors are placed to its right, with a 1-2 inch gap between them. Dotted lines represent the person's line of sight, which is centered on the primary monitor. A caption below the diagram states: "vertical positions of monitors should match primary screen".

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## Remember this... Smart Phone & Tablet Ergonomics





## Texting Health

- Limit activities that may cause neck problems
- When possible, bring your tablet, books, and smartphones up to eye level during use
- Integrate stretching of your neck muscles regularly
- Sit with correct posture. Take regular breaks from prolonged sitting.

- 25 pounds = an average 2 year old
- 33 pounds = a cinder block
- 36 pounds = a mid-size microwave
- 40 pounds = a 5-gallon bottle of water
- 50 pounds = a small bale of hay
- 55 pounds = a 5000 BTU air conditioner

Effective weight on the spine as forward tilt increases

0° 12lb	15° 27lb	30° 40lb	45° 49lb	60° 60lb
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GUARDIAN GRAPHIC

SOURCE: SURGICAL TECHNOLOGY INTERNATIONAL

## Individual Injury Factors

- Gender - some studies have found a higher prevalence of some musculoskeletal disorders in women
- Cigarette Smoking - some studies have found smoking related to pain in the extremities, including the neck and back
- Strength - the risk for musculoskeletal injuries (in some studies) was three times greater in weaker subjects
- Anthropometry - weight, height, body mass index, and obesity have all been identified as indicators for certain musculoskeletal disorders
- Physical Activity - a lack (or over exertion) of physical activity may increase susceptibility to injury (sedentary lifestyles?)



## Today's summary

- A ton of good reasons to live an anti-sedentary life
- Proliferation of social media, gaming, and other sedentary activities. Shouldn't technology be our friend?
- Health insurance does not lead to a healthier lifestyle (in fact the opposite can occur)
- We only spend 24% of a given week at work
- Sit-stand workstations are not yet proven to enhance health in general
- There are a number of apps and tools available for ergonomic health

Question 9



