Ergonomics 2018

SITTING VS STANDING; LATEST RESEARCH
Sitting Disease

SITTING SO MUCH SHOULD SCARE YOU

People across the U.S. are sitting almost all day, living an excessively sedentary lifestyle. They don't feel it, they know it's bad for them, but they do it anyway.

How Sedentary is the Typical American Each Day?

Sedentary 21 Hours
Active 3 Hours

DANGER

“Sitting Disease”

by the numbers

Our modern sedentary lifestyles, both at home and in the workplace, are costly to us and for our employers.

Average hours of seated commute:

+ average hours of seated household = too much sitting!

A 2008 Vanderbilt University study of 6,300 people published in the American Journal of Epidemiology estimated that the average American spends 85% of waking time (7.7 hours per day) in sedentary behaviors such as sitting.

6.5% $24 billion

Only 6.5% of Americans meet the minimum of 30 minutes per week recommendations for exercise.

65% 8% of Americans

LifeSpan

300,000

300,000 adults a year annually due to being sedentary.

20%

20% of all deaths in people 54 and older are attributed to lack of exercise.

LifeSpan
Metabolic Syndrome: Metabolic syndrome is a combination of disorders that multiply a person's risk for heart disease, diabetes and stroke.
Danger of Prolonged Sitting

- Physical inactivity is now the 4th leading risk factor for global mortality (According to WHO)

- Too much sitting at work and home

- Even if you exercise, too much sitting is bad (According to AHA)
Ontario Workers Heart Disease Study

- Studied looked at 7,300 workers over a 12 year period
- Study found that workers that primarily stand are twice as likely to have heart disease than workers that mainly sit
  - Higher risk than smokers
- Risk of heart disease remained the same even after accounting for age, education, health, ethnicity
- Could be due to blood pooling legs and increased pressure in your body
- Solution was to sit more.

Ontario Workers Heart Disease Study

7,300 workers studied from 2003-2015

- Percent of Workers Developed Heart Disease: 3.4%
- Workers that Mainly Stood at Work: 6.6%
- Workers that Mainly Sat at Work: 2.8%
**Cornell University Study**

**Sitting**
Sitting for more than 1 hour causes biochemical changes that lower ability to metabolize fat and sugar.
Long term leads to heart and kidney failure
Doesn’t matter if your fit or not
Recommend taking microbreaks and periodic standing 1 to 20

**Standing**
Standing is better on back, but causes greater strain on circulatory system, legs, feet; some cardiac concerns
Recommend using anti-fatigue mats and shoes, chairs for resting

**Sit/Stand Workstations**
Found little evidence of dramatic widespread benefits, but users only stood for 15 minutes or less per day
Other studies showed little standing use after 1 month

http://ergo.human.cornell.edu/CUESitStand.html
Cornell University Study

- Bottom Line:
  - 20 minutes sitting
  - 8 minutes standing
  - 2 minutes moving
ANSI/HFES 100-2007 Human Factors Engineering of computer workstations

- Sitting and standing burn the same amount of calories
- CA Employer must now prove that standing is necessary or they must provide seating options (CA Supreme Court Ruling)
- Most people stop using standing option after 1-3 months
- Discussed both prior studies
Attempts to Improve Office Ergonomics

- **Tread Desk**: Increase typing errors, slows productivity, repetitive issues. **SCC**: less risky, more practical options.

- **Yoga Ball Chair**: Doesn’t comply with ANSI/HFE 100, leads to muscle fatigue, fall hazard. **SCC**: not for long term.

- **Sit to Stand Devices**:
  - can be conducive to moving,
  - train employees how to adjust, use so employees don’t stop using them
  - limit prolonged standing
  - slight negative tilt on keyboard
  - standing alone is not enough, encourage movement
Focus on Adjusting Your Chair

- Most people stop using sit to stands after a month
- Underlying issue is often Chair Discomfort
- Emphasize the importance of employees taking time to properly adjust their chair
- Visit chair website
- Get an Ergo Eval
The Human Body is Designed to Move

- The solution seems to be less sitting and standing; more moving overall
- The impact of movement — even leisurely movement — can be profound
- “Sit less move more,” says AHA
- Take a movement break every 30 minutes according to a recent study (September 2017) Annals of Internal Medicine
- The best position is the next position
Tips to Get You Moving in the Office

- Even if you don’t have forward-thinking boss to transform your workplace
  - fielding phone calls on your feet
  - pacing while you talk
  - keep a small glass of water on your desk so you’re inclined to get up more frequently to refill it
  - taking walks around the office or use stairs
  - move the printer away from you
  - walk over to talk to coworker instead of email or a call
  - Walking meetings
  - perform exercises/stretches at your desk