

Ergonomics 2018

SITTING VS STANDING; LATEST RESEARCH



Sitting Disease

SITTING SO MUCH SHOULD SCARE YOU

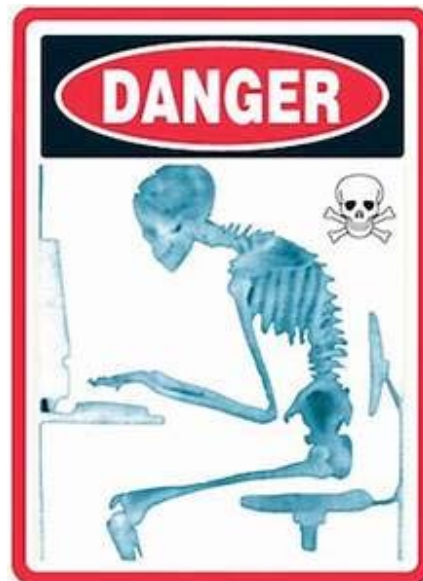
People across the U.S. are sitting almost all day, living an excessively sedentary lifestyle. They don't like it, they know it's bad for them, but they are doing it anyway.

How Sedentary is the Typical American Each Day?



Sedentary **21 Hours**
Active **3 Hours**

- Sleeping 8 Hours
- Sitting at Work 7.5 Hours
- Watching TV 2.5 Hours
- Leisure Time 2.5 Hours
- On Home Computer 1.5 Hours
- Eating 1 Hour
- Active/Standing 3 Hours



“Sitting Disease” by the numbers

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



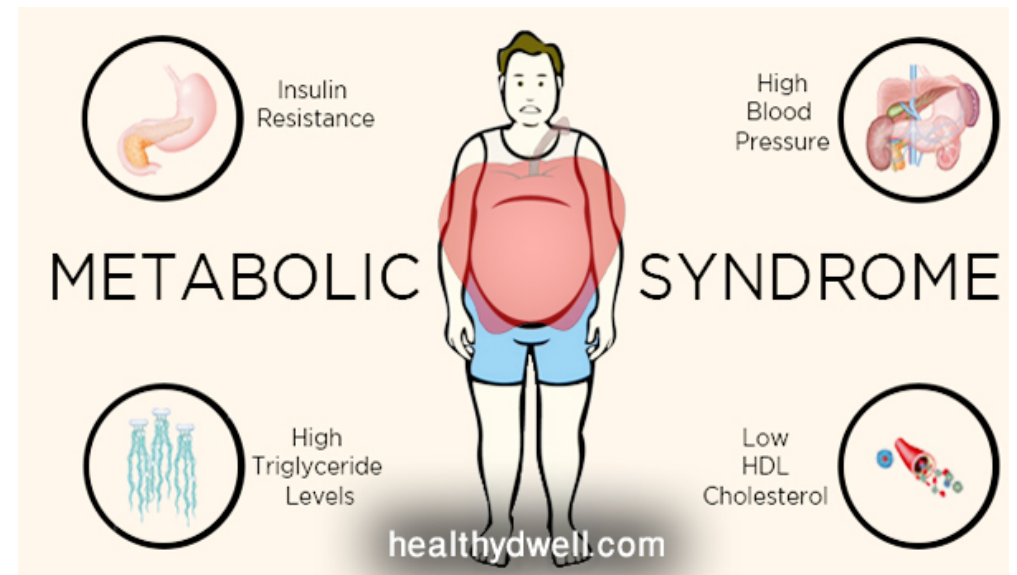
Average hours of seated commute + average hours of seated homelife = too much sitting!

+ + + = **7.7 hours**

A 2008 Vanderbilt University study of 6,300 people published in the *American Journal of Epidemiology* estimated that the average American spends 55% of waking time (7.7 hours per day) in sedentary behaviors such as sitting.

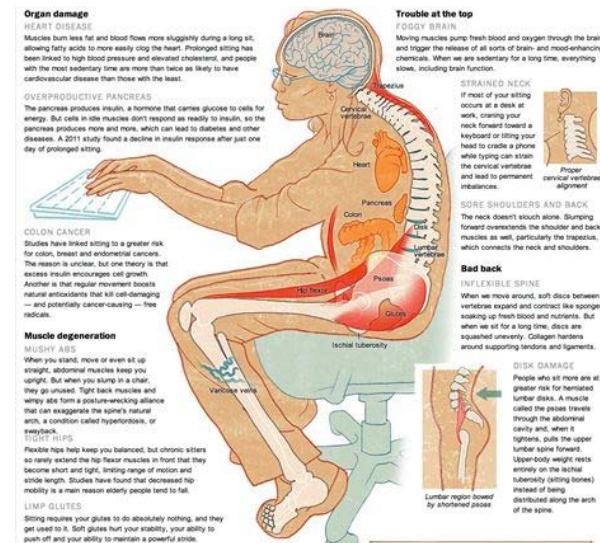
Sitting the New Smoking

- ▶ 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)



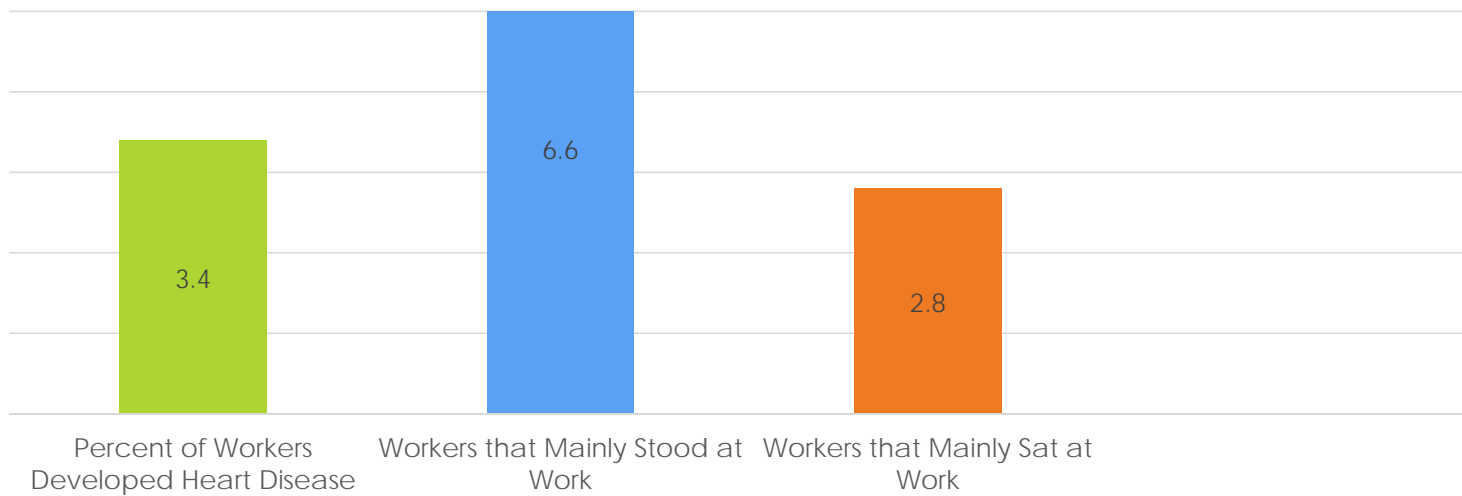
Ontario Workers Heart Disease Study

- ▶ 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.

<https://www.thestar.com/news/canada/2017/08/17/to-stand-or-not-to-stand-that-is-the-question.html>

Ontario Workers Heart Disease Study

7,300 workers studied from 2003-2015



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

Cornell University Study

► Bottom Line:

20 minutes sitting

8 minutes standing

2 minutes moving

Sit

+

Stand

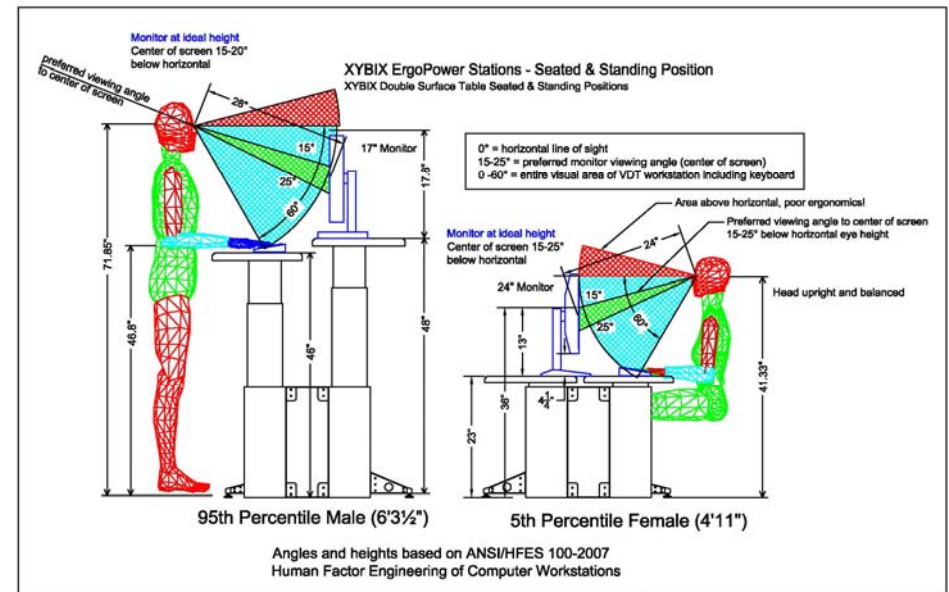
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Move



ASSE Seminar Sit vs Standing

- ▶ 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/stretchers at your desk

