

OVADIA HEART HEALTH

WHITE PAPER

THE IMPACT OF PROLONGED SEDENTARY BEHAVIOR AT WORK

The potential health implications, negative impact on productivity and longevity, harmful effects on all-cause mortality and increased risks for chronic disease and compromised metabolic health are barriers to successful business endeavors.



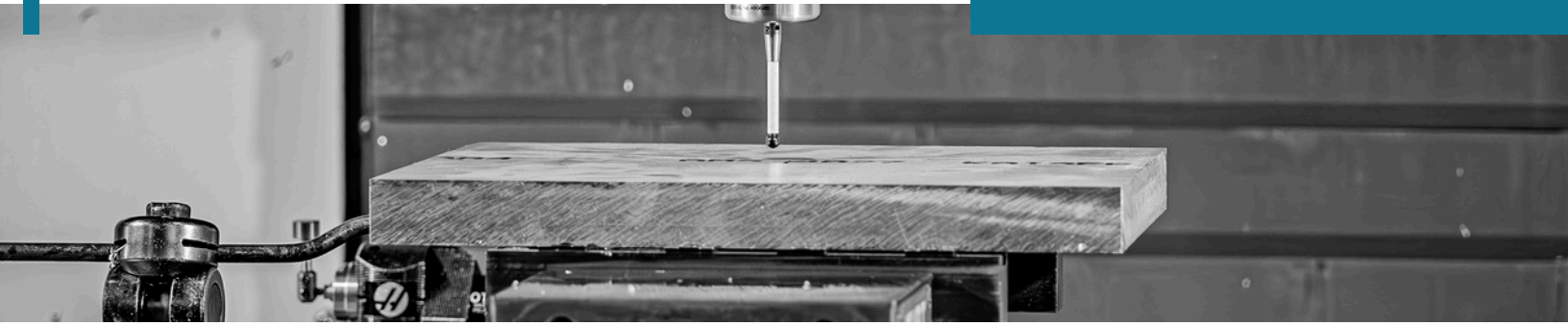


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EXECUTIVE SUMMARY

The deleterious effects of too much sitting continues to demand awareness and discussion in the workplace. Starting in 2010 with Stanford University's "The Science of Sedentary Behavior"[1] inaugural conference alarm bells have sounded, updated in 2018[2].

The potential health implications, negative impact on productivity and longevity, harmful effects on all-cause mortality and increased risks for chronic disease and compromised metabolic health are barriers to successful business endeavors.

Domestic and global corporations that build in opportunities to break up sitting time, especially given the high levels of "virtual" work today, will have an advantage by creating metabolically healthier and more resilient employees.

Research indicates that excessive sitting is not the same as too little exercise, making this distinction in knowledge is a first step forward in tackling the problem and creating a work environment to succeed and thrive.

DEFINITION OF SEDENTARY BEHAVIOR

Sedentary behavior, derived from the Latin term "sedere" meaning "to sit" involves low levels of energy expenditure. Common practical examples of sedentary behavior include watching television, computer and game console use, sitting during commuting, as well as working and leisure time activities. Studies suggest that many individuals spend 55 to 60 percent of their waking hours engaged in sedentary behavior.[3]

It is important to note that too much sitting is distinct from too little exercise, and recommendations are being made to reduce or break up prolonged sitting time, as it has independent negative implications on cardiovascular and metabolic health, regardless of meeting recommended daily Physical Activity (PA) requirements.[4]



DIVISION OF ENERGY EXPENDITURE

Understanding the division of energy expenditure highlights the importance and continued promotion of regular PA, as well as increased bouts of light-intensity activity. The measurement unit Metabolic Equivalent of Task (MET) represents the rate of energy expended compared to the rate of energy at rest.[5]

For example, sleeping is a unit of .9 MET, with sitting around a 1 to 1.9. What is called light intensity by certain standards is no more than 2.9 MET.

It is this light intensity activity that sedentary behavior researchers are seeking to incorporate. The Centers for Disease Control and Prevention (CDC) utilize moderate intensity as only up to 6.0 MET, while some sources allow up to 8.0 MET.

On the higher end running under a six-minute mile is around 18 MET. In more colloquial terms one can simply categorize moderate (walking fast) and vigorous (sprinting) activity.

The reason to review MET expenditure is that prolonged sitting is not equal to too little exercise and weaving light intensity into the workday, such as standing, sit to stand movement, walking around show positive cardio-metabolic health benefits.

In the work of Australian researchers, Owen et al specific metabolic markers were detrimentally associated with prolonged sitting time.[6] They used the terms a “prolonger” individual sitting continuous hours back-to-back and a “breaker” one who continually interrupts sitting time.

Metabolic measurements of concern include waist circumference, Body Mass Index (BMI), systolic blood pressure, fasting triglycerides, HDL cholesterol and fasting insulin, with some instances of women fairing worse than men.[7]



GETTING TO THE ROOT CAUSE

There are many reasons behind the sedentary nature of our lives at work and home. The technology demands from computers, phones, virtual meetings and beyond have only increased post Covid_19. Many parents must additionally assist children with online learning adding exponential hours of total sedentary time.

In addition to ever increasing sitting time is the overall metabolic health of adults nationwide. Some research states only 12% of US adults have good metabolic health.[8]

Tufts University says it might even be as low as 7%.[9] By any standard workplace initiatives that can positively impact metabolic health, such as interrupting bouts of sitting is a win.

Other workplace initiatives that address contributing factors to overall health such as stress reduction, environmental pollutants, nutrition, sleep hygiene and mindset should be part of a well-constructed employee wellness program.

UNIQUE PHYSIOLOGY OF INACTIVITY

Observational epidemiological studies suggest that daily sitting time or low light intensity activity levels have a direct relationship with mortality, cardiovascular disease, Type 2 diabetes, metabolic syndrome and obesity.[10]

This research highlights distinct molecular, physiological and clinical effects that are visible in the body and separate from responses caused by structured exercise.

Physiologically, prolonged sitting leads to a loss of contractile stimulation or suppression of skeletal muscle lipoprotein lipase (LPL) activity and reduced glucose uptake. LPL is necessary for triglyceride uptake and high-density lipoprotein (HDL) production.[11] Another way to say this is, certain metabolic processes shut down with prolonged sitting. However, simple intermittent bouts of low-level, light-intensity activity, such as standing, were enough to elicit LPL activity, thus positively influencing metabolic functions.



Wellness Schedule: P
CALENDAR

- Stress Needs Mon
Planning: BE CRE
- Focus on Solutions N
Problems
- Take Time to be Qui
Outdoors

Research points to small, incremental changes in the large-group muscles such as quadriceps and gluteal muscles (front thigh and buttock muscles) in addition to the large erector spinae muscles (large posterior postural muscles of the back). This is different than past thinking that only more formal exercise is the antidote to too much sitting.

THE ACTIVE COUCH POTATO

While there is a touch of humor to the title the active couch potato means you meet the recommendations of minutes per week of physical activity but are a “prolonger” with long hours back-to-back sitting. Current US Adult PA guidelines per the CDC are 150 minutes of moderate activity per week or 75 minutes of vigorous activity.

The “active couch potato” came to the forefront from the previously stated work of Neville Owen, PhD and colleagues.[12] In this study of 11,000 adults in Australia, individuals who met the requirements of 150 minutes a week of PA, were still negatively impacted by the amount of time they spent watching television.

Waist circumference, systolic blood pressure and glucose in both men and women, and HDL cholesterol in women only, were the markers detrimentally affected. The strongest correlations were in those adults with four hours or more of television time. Highlighting one could be ‘active’ but still have the negative effects of being sedentary ‘couch potato’ meeting PA recommendations did not exclude you from negative metabolic impact.

4 MAIN PROBLEMS FOR EMPLOYEE HEALTH AND WELLBEING

- 01 Metabolic Health Markers are Compromised
- 02 Increased Risk of All-Cause Mortality
- 03 Increased Risk of Weight Gain
- 04 Prolonged Sitting is Not Remediated by Exercise



Businesses that incorporate worksite wellness initiatives to augment metabolic health, break up sitting time, educate and empower employees on strategies to reduce risks physically and mentally will have a cutting edge in the workforce.

The 2023–24 Aflac Workforces Report[13], a research study looking at 1200 employers and 2000 employees, indicates the ongoing challenge of “health” in the workplace. Statistics such as 74% employees are stressed and 57% say they are experiencing a moderate level of burnout.

Additionally, the Society for Human Resources Management[14]. (SHRM) states 48% employees have lost confidence their employer cares about them. While alarming numbers, change is possible, “Putting Well-Being at the Heart of the Workplace” is a strategy for success.

WHAT CAN I DO?

- 01 Encourage regular breaks
- 02 Lead by example in meetings by offering movement breaks
- 03 Demonstrate with signage and action standing is allowed and encouraged
- 04 Incorporate sit to stand options for workers, home and office
- 05 Promote more face-to-face interaction with shorter meetings



GENERAL TO WORK ENVIRONMENT

- 01 Workplace wellness initiatives show you care as an employer
- 02 Metabolic health education programs address root causes
- 03 Constant communication and visibility of offerings invites participation
- 04 Create enthusiasm and energy around small endeavors to build momentum

FINAL NOTE

Whether a large or small corporation the workplace offers great opportunity to enhance individual and company wellbeing.

Small initiatives that encourage employees to break up sitting time is a simple low-cost initiative that excites individuals into a larger investment in their health.

It allows you the employer a chance to exhibit your concern, commitment and passion to health enhancement.



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OUR TEAM



White Paper Written By:

Krisna Hanks

Director of Employee Wellness

Ms. Hanks holds a MS in Kinesiology from Indiana University and an MBA from the University of San Francisco. She is a certified Metabolic Health Practitioner, Nutrition Network Coach Practitioner™ with decades of experience as a worksite wellness consultant and executive coach. Currently Krisna is Director of Employee Wellness and Metabolic Health Coach with Dr. Philip Ovadia and the I Fix Hearts Team. Her background combines years as a professional dancer in Europe and USA, certified worksite wellness advisor, Diabetes Prevention Specialist, Senior Fitness and certified Classical Pilates instructor.



Dr. Philip Ovadia

Board-certified Cardiac Surgeon and founder of Ovadia Heart Health

Our mission is to optimize the public's metabolic health and help people like you stay off my operating table. As a heart surgeon who used to be morbidly obese, I have seen firsthand the failures of mainstream diets and medicine. I realized that what helped me lose over 100 pounds was the same solution that could have prevented thousands of open heart surgeries I've performed — metabolic health. Through Ovadia Heart Health, I teach individuals and organizations my complete metabolic health system to prevent and reverse disease, avoid early death, and live well for life.



Next Steps: Your heart's health is too important to leave in the hands of someone who doesn't fully support your wellness journey.

CONTACT US

📞 ifixhearts.com/talk

✉️ jeremiah@ifixhearts.com

❤️ <https://ifixhearts.com/>

🌐 <https://ovadiahearthealth.com>

