

Move more, sit less, and be well!

By Carol Kennedy-Armbruster, Ph.D.

You've probably been reading about companies investing in standing desks and workstations. So, what does the average person (who sits at a desk all day) do to decrease sitting time? Many of you have your own office/desks and may have invested in a standing desk. However, if you are not convinced that moving more throughout the day may be good for your health, read on!

Recent studies have suggested that workers who used sit-stand desks were 78% more likely to report a pain-free day than those who used regular workstations/desks according to a 2016 Stanford University back pain study (1). A 2016 study published in *Diabetologia* concluded that an extra hour of sedentary time was associated with 22% increased odds for type 2 diabetes and 39% increased odds for metabolic syndrome (2). It's understood by physiologists that a lack of whole-body muscular movement is strongly associated with obesity, abnormal glucose metabolism, diabetes, metabolic syndrome, cardiovascular disease risk and cancer as well as total mortality **independent** of moderate- to vigorous-intensity physical activity. This may come as a surprise to many exercisers that either run in the morning before work or take a noon walk. The older guidelines for exercise are fulfilled, so why do you need to move more throughout the day?

A new paradigm of inactivity physiology continues to show up in the literature. In fact, in 2013 (3) the American Medical Association adopted a policy recognizing the potential risks of prolonged sitting and suggested that employers, employees and others provide alternatives to sitting such as standing desks. This new way of thinking emphasizes the distinction between not exercising and the health consequences of sedentary behavior that is limiting everyday life non-exercise activity. Until now, the expression "sedentary behavior" has been misleadingly used as a synonym for not exercising. Sedentary time should be defined as muscular inactivity rather the absence of exercise. In 2011 Pronk et al (4) researched the impact of sitting time through his "Take-a-Stand Project." This project reduced time spent sitting by 224% (66 minutes per day), reduced upper back and neck pain by 54%, and improved mood states. Removal of the program largely negated all observed improvements within two weeks.

This paradigm of inactivity physiology or sitting time is based on four issues: 1) Sitting and limiting non-exercise activity independently increase disease risk; 2) sedentary behavior (i.e., not choosing to exercise) is another risk factor; 3) the molecular and physiological response in the body of too much sitting is not always the same as the response that follows a bout of additional physical activity; and 4) prolonged sitting can further increase disease risk in persons who are already insufficiently physically active.

The solution to this dilemma for many is to be aware of your sitting time whether you exercise or not and try to reduce it. If you reduce your sitting time you will be healthier overall. This is what the new "inactivity physiology" research is touting.

What kinds of things could you do to reduce sitting time? These methods are easy to incorporate into your day: 1) Have a walking meeting versus a sit-down meeting; 2) encourage standing at work versus sitting by purchasing a standing desk and/or occasionally stand at your next meeting; 3) climb the stairs versus take the elevator; 4) get an activity tracker that has an alarm that buzzes when you are sitting for more than an hour; 5) walk to a restroom that is farther from your office than just down the hall; 6) perform five to ten sit-to-stand movements at your desk per hour to reduce sitting time and increase blood flow in your lower body; 7) place your printer outside of your office so you have to walk more; and 8) walk/pace while you are having a phone conversation in your office.

A simple Google search on the topic will yield even more information on how sitting time is not only detrimental to our health but how we also don't like it. Read the juststand.org research site and see all the studies that have been added to the evidence on this topic and you will see that it is not going away anytime soon (5).

So, why do we sit so much? Is it because the "norm" is to sit at work? Over the last 40 years we have replaced much of our daily movement with either technology and/or devices. Think about it -- when was the last time you took the stairs instead of the elevator? Shoveled your snow versus using a snow blower? Used a vacuum cleaner that was not self-propelled? Opened a can using a regular can opener? Drove around a parking lot to find the closest space? Shopped online versus going to the mall?

These are just a few examples of ways we have replaced daily movement with activities that are less intense and require less muscle movement. It's no wonder we are discussing inactivity physiology and sitting time as a health risk factor. Awareness is the first factor in tackling a health risk; look around and see what you can do to move more, sit less and be well!

1. http://journals.lww.com/joem/Citation/2016/03000/Impact_of_a_Sit_Stand_Workstation_on_Chronic_Low.11.aspx
2. <http://link.springer.com/article/10.1007/s00125-015-3861-8>
3. <http://www.latimes.com/science/sciencenow/la-sci-sn-ama-policy-sitting-20130619-story.html>
4. http://www.cdc.gov/pcd/issues/2012/11_0323.htm?s_cid=pcd9e154_x
5. <http://www.juststand.org/tabid/636/language/en-US/default.aspx>

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