

Study explores the effect of sit-to-stand workstations on sedentary behaviour outside of office hours

November 6 2015

Introducing sit-to-stand workstations in the office significantly reduces sitting at work but can result in slight increases in sitting outside of working hours, new research reveals.

This so-called 'compensation effect' is one of the main findings to come out of a study into the benefits of using sit-to-stand workstations in the office to combat sedentary behaviour.

Led by researchers at Loughborough University with support from the Leicester-Loughborough Diet, Lifestyle and Physical Activity Biomedical Research Unit (BRU), the study introduced specialist Ergotron sit-to-stand workstations to 40 male and female office workers.

Each participant wore a position sensor attached to the leg continuously for 24 hours a day, initially for a period of 14 days prior to the desk installation, as part of a baseline assessment. The participants then received a sit-to-stand workstation to use for three months alongside a six-page information booklet about the advantages of sit-to-stand working.

The study showed that participants reduced their [sitting time](#) at work by 20% - this is equivalent to a 96 minute reduction in sitting time over a typical 8 hour work day, after three months of using the sit-to-stand workstation.

However, this study examined - for the first time - whether a reduction in sedentary time and an increase in light activity levels (standing and stepping time) during [working hours](#) were compensated for outside of work during leisure time.

The findings indicated that participants were slightly more sedentary during non-working hours following workstation installation, but, despite this, overall sedentary time across the day was still reduced when participants were using their sit-to-stand desks at work. For example, total sitting time on work days decreased by 44 minutes from an average of 10 hours 5 minutes a day (prior to workstation installation) to 9 hours 21 minutes a day after three months.

Sedentary behaviour has been linked to health risks including an increased risk of Type 2 diabetes, cancer and obesity. A recent study has shown that office workers typically sit for more than 10 hours a day, with more than half of their total daily sitting time occurring in the workplace.

Dr Stacy Clemes from Loughborough University's School of Sport, Exercise and Health Sciences (SSEHS) and National Centre for Sport and Exercise Medicine East Midlands, said: "Our research sheds new light on how sedentary behaviour and physical activity are compensated outside of working hours. The findings suggest that sit-to-stand workstations are a promising alternative to the traditional desk and chair, and could lead to substantial health benefits in workers leading a sedentary lifestyle. Further research is needed, however, to examine the long-term use of sit-to-stand desks on combatting sedentary behaviour and improving overall health.

"For those using sit-to-stand workstations, it is recommended that individuals consciously think about ways they can reduce their sitting time outside of work, so as to avoid undoing any beneficial effects of

reduced sitting at work. You can do this, for example, by adopting strategies at home such as standing up and walking around during TV advert breaks, standing when talking on the phone, and/or standing on public transport (if safe to do so)."

Carrie Schmitz, Senior Manager of Ergonomic and Wellness Research at Ergotron - the United States-based company responsible for donating the sit-to-stand workstations used in this study - said: "These results provide some interesting insights into human behaviour and our efforts to improve overall health, but they should also serve as a rallying cry. Through the use of sit-stand desks we have made great strides in reducing sedentary behaviour in the office setting which does carry over into the home environment.

"Any significant change begins with increasing awareness, and our education efforts in the office over the last six years have been addressing home life too."

More information: Using Sit-to-Stand Workstations in Offices: Is There a Compensation Effect? *Med Sci Sports Exerc.* 2015 Oct 22. [Epub ahead of print] www.ncbi.nlm.nih.gov/pubmed/26496419

Provided by Loughborough University

Citation: Study explores the effect of sit-to-stand workstations on sedentary behaviour outside of office hours (2015, November 6) retrieved 23 April 2024 from <https://medicalxpress.com/news/2015-11-explores-effect-sit-to-stand-workstations-sedentary.html>

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