

## Sit-stand desks help workers sit less, stand more

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**A**s evidence that too much sitting is a risk factor for ill-health accumulates, employers are introducing sit-stand desks in their office spaces. Now, a new study suggests this may be a good move, as it finds employees with sit-stand desks stand for 1 hour more a day at work, compared with co-workers who have sit-only desks.

The study of 69 office workers also finds that the sit-stand desk users walked an additional 6 minutes a day at work and burned an extra 87 [calories](#) on average, compared with co-workers with sit-only desks.

The researchers, from the University of Iowa in Iowa City, report their findings in the *American Journal of Preventive Medicine*.

Several studies have highlighted the negative effects on health of prolonged sitting. Experts recently advised that office [workers should stand for at least 2 hours](#) of their typical working day as part of a cluster of strategies to protect against the negative health effects of sedentary jobs.

In their paper, the Iowa researchers note how sedentary jobs have increased by 83% in the US since 1960, and 43% of jobs in the country are now largely sedentary:

**"Office workers sit more than 80% of the workday, placing them at increased risk for many sedentary-related pathologies."**

Such a high level of physical inactivity is thought to raise the risk of developing chronic conditions such as cardiovascular disease, [high blood pressure](#) and [obesity](#).

The researchers note that today's American office workers also burn about 100 calories less per day than



Workers with sit-stand desks stood on average for 1 hour more a day than co-workers with sit-only desks. Image credit: University of Iowa Department of Health and Human Physiology

their 1960s counterparts - a reduction that is thought to have contributed to the obesity epidemic that has emerged over the same period.

## Sit-stand desks to encourage more standing, less sitting

Following such revelations, employers have started giving their office workers sit-stand desks, and research suggests this is having an impact on reducing sitting time.

A sit-stand desk is a height-adjustable desk designed to make it easy to move the worker's posture from sitting to standing and back again. There are many different designs. The sit-stand desks in this study were of the electric hoist type.

**However, the authors note that while most studies focus on the period following the introduction of the new desks, theirs looks at the period after the novelty has worn off - an average of 1.8 years after introduction.**

First author Lucas Carr, an assistant professor in the Department of Health and Human Physiology, says looking at this later time frame is likely to be a truer test of whether workers will continue to use their sit-stand desks over a decade-long career.

Also, their cross-sectional study - which looks at workers' activity over a 5-day working week - is one of the few to also examine links with measures of heart and metabolic health, he adds.

The Iowa team finds that while sit-stand desks on their own do not appear to improve markers of heart and metabolic health, they do offer a sustainable way to get our large and growing sedentary workforce to spend less time sitting and more time standing. Prof. Carr notes:

"Our findings are important because they support redesigning the traditionally sedentary office environment as a potentially cost-effective approach for fighting the obesity epidemic."

Of the 69 middle-aged, mostly female office workers observed in the study, 31 were users of sit-stand desks and 38 used sit-only desks. Their jobs ranged from administrative and clerical, through statistical and testing, to accounting, marketing, research and management.

## Increased standing 'could be part of a larger health plan'

The participants wore monitors known to be accurate at measuring physical activity in different postures (sitting, standing and walking) around the clock for 5 work days.

Measures of heart and metabolic health were collected in a controlled laboratory setting. These included heart rate, [blood pressure](#), weight, fat mass, waist size and cardiorespiratory fitness.

**The researchers found that while the sit-stand desk users burned more calories than their seated counterparts, there were no differences in cardiometabolic health risk factors such as weight, percent body fat, blood pressure and heart rate.**

However, Prof. Carr says perhaps it takes several years for the effect of standing for an hour or more each day to translate to such differences. Also, their study may have been too small to spot them.

"The message here is that we need to do more research to determine the true health benefits of replacing sitting with standing," he suggests. Also, as far as losing weight is concerned, it appears that standing alone is not likely to be enough - but it "could be one piece of an individual's larger health plan that also includes healthy eating and physical activity."

Meanwhile, *Medical News Today* recently learned that [replacing 1 hour of sitting with walking daily](#) can reduce the risk of premature death by up to 14%. Researchers from the University of Sydney in Australia came to this conclusion after a study of 200,000 middle-aged and older participants.

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#### References

[Cross-sectional examination of long-term access to sit-stand desks in a professional office setting](#), Lucas J. Carr et al., *American Journal of Preventive Medicine*, doi:10.1016/j.amepre.2015.07.013, published online 1 October 2015.

University of Iowa [news release](#), accessed 4 October 2015.

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