White Paper:

Stand up for the right to sit down

By Jessica Andrews

You may want to sit down before reading this…

Standing desks are in. Once the province of Scandinavian design magazines, the stand-up desk is extending to the world of corporate drones over here in the rest of Europe. And, as it appears, for good reason — there's an increasing array of medical evidence that hours of uninterrupted sitting can be surprisingly bad for your health[i]. The news, media and other outlets have recently taken to suggesting that people who spend a lot of time sitting down are in mortal danger.

Reports have claimed that sitting for prolonged periods of time can whittle down one's lifespan by two years or, for those who have a glass-half-full mentality, sitting less could extend lifespans by two years. Yet sitting studies haven't quite found their feet yet. This is mainly thanks to technological cost and ethical limitations. Still, the evidence so far points in the same direction: that sitting more is tied to higher mortality – but is standing for long periods really the answer?

At Baker Stuart we have undergone research into this area and written several articles on the dangers of prolonged sitting, but is sitting really as bad as recent evidence suggests? We decided to take a look at the other side of the coin and question whether spending more time sitting really does shave years off your life.

The Case against Sitting

Peter Katzmarzyk, executive director for population science at the Pennington Biomedical Research Centre, conducted the study that really brought the issue of prolonged sitting into the workplace[ii]. The study pooled epidemiological evidence linking sitting with an early death in meta-analysis. This analysis found that, after controlling for sex and age, reducing adults' average sitting to under three hours a day would increase U.S. life expectancy by two years, if—and this is a big if—there is an actual link between sedentary behaviour and mortality.

Researchers in this study made the assumption that this relationship between sedentary behaviour and early mortality exists because there was no way to be sure that another factor wasn't at play - for instance, an underlying disease that shortened the lives of survey respondents who sat more. Some of the studies made attempts to address this, by removing findings from participants with certain illnesses or those who died soon after the beginning of the study. Yet this was not a perfect way to address the flaws of the study and some of those whose results were kept could have been sick and not known, making them more likely to sit more frequently than healthy participants. This calls the entire study into question, especially if you happen to be a statistician. Donald Berry, a biostatistician at the University of Texas MD Anderson Cancer Centre in Houston, called the study and others like it "worthless for addressing the causation question," adding, "there are obvious associations that would lead unhealthy people to have a more sedentary lifestyle."[iii]

There are numerous other factors at play as well. Ekelund, co-author of Katzmarzyk's study, thought that other factors may explain sitting's apparent dangers stating that "many of the observed associations between sedentary time and health outcomes may be explained by poorly measured or unmeasured confounders". Among these possible confounders are occupation, climate and health awareness, in fact, there are probably so many that it would be impossible to measure and account for them all.[iv]

Katzmarzyk himself stated that there are numerous variables involved in determining ones life expectancy and has said that science needs to focus on the identification and weighting of these variables.[v] It may even be that the act of sitting is not deadly in itself. It could be that those who spend more time sitting are prone to being less healthy to begin with and those who sit less are using their vertical time undergoing healthy pursuits, such as hitting the gym. These are variables that need to be acknowledged within the boundaries of future studies.

An additional problem with establishing whether sitting leads to an early grave is that a randomised trial of lifestyle is not possible. You can't undergo blind trials and it would be ethically suspect to force groups of people to adhere to either a limited or extended daily sitting allowance for any meaningful period of time. This presents a problem, because in order for studies to have value, they would need to do just that.[vi] In the absence of direct studies, scientists must continue to attempt to combine observational studies with biological evidence.

The strength of observational studies depends on how well other influencing factors can be controlled. In the case of sitting, control factors might include smoking and exercise. In Katzmarzyk's study, these factors weren't accounted for. Other studies that did control factors such as these found sitting to have a smaller effect on mortality than the two years Katzmarzyk's study showed sitting to shave off life expectancy.

And what can be said for the trend among some office workers of using standing desks?

The Case against Standing

Scandinavian businesses have been providing employees with sit-stand desks for years and there have been several studies which support the argument that these desks can have benefits on employee health and productivity. Indeed, the Center for Disease Control (CDC) performed a study on the effectiveness of sit-stand desks and found that employees standing for one additional hour daily (four increments of 15 minutes) reported the following results:

87% felt more energized and comfortable at work

75% felt healthier overall

62% felt happier

33% felt less stressed

In terms of sit-stand desks having benefits for productivity, research by the Center for Disease Control and Prevention identified that compared to those who sat throughout the day, 71% of sit-stand workers felt they were more focused, while 66% felt they were more productive.[vii]

While these findings and statistics give us an insight to the potential benefits of sit-stand desks, one must consider the potential health concerns that standing can raise. Neville Owen, from the Baker IDI Heart and Diabetes Institute in Melbourne, highlights that standing for prolonged periods carries with it its own risks, particularly for “older, overweight people with musculoskeletal problems"—which, he notes, "counts for quite a significant portion of the working population.”[viii] It is estimated that lower limb disorders resulting from prolonged periods of standing cause over 2 million days sick leave a year. These lower limb disorders include: damaged joints, muscle ache and foot problems such as corns, bunions and flat feet.[ix]

Yet these side effects of standing are mild in comparison to some of the potential dangers of prolonged standing; there are numerous debilitating and potentially serious health concerns. Existing coronary heart disease and circulatory disorders can be worsened by extended periods of standing as well as varicose veins and chronic venous insufficiency. Standing to work also dramatically increases the risks of carotid atherosclerosis because of the additional load on the circulatory system.[x] If people chose to stand to use a computer, posture tends to become fixed; there is greater wrist extension and leaning which compromises posture and increases the risks of musculoskeletal disorders forming, like carpal tunnel syndrome.[xi]

An Alternative Approach

So what's a worker to do? It seems we can't win. Scepticism about the latest sitting study definitely shouldn't be taken as a call for less exercise and more sedentary behaviour. It seems a healthy mix of sitting and standing in the workplace is what's called for, avoiding prolonged periods of time spent doing either.

Being aware of the negative impacts of how you physically spend your time at the workplace is important but without more definitive evidence about the health effects of different 'doses' of breaks from sitting, it seems public-health advice in the area will remain general and tentative.[xii] It seems Scandinavia is onto something by encouraging workers to have a mix of sitting and standing whilst working, yet these sit-stand desks are debatably not enough on their own. Certainly, employers should not be swayed by scare mongering tactics and rush out to blow the monthly budget on expensive sit-stand desks.

Do you need to provide expensive sit stand desks at all or would providing different work settings, both traditional desks, standing tables and simple shelves (enabled with power and data) at standing height allow for not just choice in whether to sit and stand but also would encourage mobility in the workplace? Simple things like encouraging employees to take breaks to get them moving can also promote workplace wellbeing as well as improving collaboration and productivity. A well designed workplace can help promote a more active lifestyle and encourage staff to make healthier life choices. This can be achieved through providing staff with a number of different work settings which encourage mobility and through the provision of employee wellbeing programs. In our view, at Baker Stuart, this is a more holistic approach to the problem. This has significant benefits to the employer in terms of improved morale, reduced attrition and absenteeism as well as the productivity benefits that a collaborative, engaged workforce delivers.

In our experience, at Baker Stuart, we have found that it is often small life changes as simple as choosing to take the stairs over the lift, or walking the last bus stop that can have a large impact on overall health and well-being and that agile working can pave the way toward a more employee centric workspace which caters for employee's physical and emotional needs.

About Baker Stuart

Baker Stuart are a specialist consultancy provide a personal, bespoke and comprehensive service to occupiers. Being focused solely on the workplace this has allowed us to develop expertise in depth in the analysis of our Clients' businesses, the creation and delivery of effective real estate strategies and corresponding office environments.

We provide a range of consultancy services including workplace analysis, workplace consultancy, real estate strategies, project & programme management, project procurement, furniture consultancy, contract administration, design management, change management, facilities management, CAD/CFM and relocation consultancy.

We have an award winning track record and have helped businesses both public and private sector, from SMEs to multinationals to use the working environment as a catalyst to drive positive behavioural change.

Image: AlexandrL/Bigstock.com

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[i] Walsh, Bryan. **The Dangers of Sitting at Work — and Standing**. Time Magazine April 13 2011
[ii] Staiano A.E., T.V. Barreira, D.M. Harrington and P.T. Katzmarzyk. **Sitting time and cardiometabolic risk in U.S. adults**: Associations by sex, race, socio-economic status, and activity level. British Journal of Sports Medicine 2014;48:213-219.
[iii] Byalik, Carl. **Don't Blame Sitting—Yet—for Shorter Lives of the Sedentary**. Wall Street Journal, July 20 2012.
[iv] Byalik, Carl. **Sitting in Judgment of Sitting**. Wall Street Journal Blogs, July 20 2012
[v] Byalik, Carl. Don't Blame Sitting—Yet—for Shorter Lives of the Sedentary. As above
[vi] Byalik, Carl. Sitting in Judgment of Sitting. As above
[vii] **Can Sit Stand Desks Deliver a Return on Investment?** SBFI
[viii] Byalik, Carl. Don't Blame Sitting—Yet—for Shorter Lives of the Sedentary. As above
[ix] **Standing Problem**, Hazards Magazine 91, August 2005.
[x] Standing Problem, Hazards Magazine 91 as above
[xi] Walsh, Bryan. The Dangers of Sitting at Work — and Standing. As above.
[xii] Byalik, Carl. Sitting in Judgment of Sitting. As above.