Active workstations in the office

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The promotion of active work stations, such as standing desks and even treadmills in the office has been promoted by manufacturers recently with claims of better physical health, improved posture, even reduced mental stress, and a general boost to wellbeing. A new study by researchers in Finland suggests that many of the proposed benefits and claims are little more than marketing hyperbole.

Markus Makkonen, Minna Silvennoinen, Tuula Nousiainen, Arto Pesola, and Mikko Vesisenaho of the University of Jyvaskyla, explain that several studies in recent years have added to warnings about the perils of prolonged sedentary behaviour on our health and wellbeing. These studies have ultimately led to a new sector of ergonomics and thence products aimed at improving work posture and other factors. The team points out that one particular field of work seems more stereotypically prone to issues associated with being sedentary in the workplace and that is the software industry. As such, the team has investigated a small cohort of individuals in this sector to see whether or not there are benefits to standing workstations.

The team has investigated the physical activity, mental alertness, stress, and musculoskeletal strain in employees of a large software company in Finland. The employees completed a questionnaire and participated in the Firstbeat Lifestyle Assessment service.

The team found that the benefits of standing at work over sitting for workers in this industry were not at all as clear-cut as the marketing hype for standing workstations might suggest. "the findings of this study

suggest that the usage of standing instead of sitting workstations results in only modest promotions of physical activity," the team reports. Moreover, the change "does not have an effect on mental alertness." Indeed, standing to work seems to shift the stress-recovery balance more towards stress than recovery. They did see a decrease in musculoskeletal strain in the user's neck and shoulders, although stress and strain was raised in the legs and feet. Interestingly, the use of standing workstations did not have an impact on work posture comfort or workstation satisfaction, the team found.

The modest physical improvements to health—heart rate increased by 4.2 beats per minute on average, a rise in VO2 of 0.3 ml per kg body mass per minute, and in an extra 6.1 kilocalories burned per hour and marginally reduced upper body tension—would have to be offset against the increased risk of varicose veins, common in those who stand for long periods, and perhaps lower back problem exacerbated by always being upright.

More information: Markus Makkonen et al. To sit or to stand, that is the question: examining the effects of work posture change on the well-being at work of software professionals, *International Journal of Networking and Virtual Organisations* (2017). DOI: 10.1504/IJNVO.2017.088504

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