
RISK MANAGEMENT POSITION ON THE “WALKSTATION”

TO: COLORADO STATE UNIVERSITY EMPLOYEES
FROM: OFFICE OF RISK MANAGEMENT AND INSURANCE
SUBJECT: “WALKSTATION” (TREADMILL DESKS)
DATE: 8/12/2015

In light of recent requests regarding the Walkstation, the Office of Risk Management and Insurance has decided to take an official position on these new work space solutions. The Walkstation is a height adjustable desk that features a built-in treadmill. The idea behind the Walkstation is to have users walking while they’re working. Humans, by nature, are not well designed to maintain sedentary positions for prolonged periods of time. The Walkstation aims to fix this problem by allowing users to walk at a slow pace while working.

While the idea behind the Walkstation is a good one, Risk Management has concluded that, overall, the Walkstation’s costs outweigh the benefits. After conducting a brief review of the literature available on the Walkstation, the following are some of the concerns:

1. According to a study published in the Journal of NeuroEngineering and Rehabilitation,ⁱ people who were walking on treadmills had significantly slower reaction times on cognitive tasks when compared to people performing the cognitive tasks while seated. As one may imagine, trying to focus on walking detracts attention from the work task being performed (the “walking while chewing gum” issue).
2. According to Kodak’s Ergonomic Design for People at Work, any employee walking greater than 3.5 miles a day while performing job tasks may be at risk for developing a musculoskeletal disorder.ⁱⁱ
3. A webinar held by Humantech found that Walkstations have not shown higher overall productivity, may result in performance decrement, and typing and mousing abilities are actually diminished while walking.ⁱⁱⁱ
4. The unevenness of the treadmill surface and the floor introduces exposure to a trip and fall hazards not previously in the office workplace which could lead to injuries.^{iv} Although the risk may be low, the Walkstation raises safety concerns. The device, ultimately, is still a treadmill. A user could misstep getting on to or off of the Walkstation, or misstep while walking. Use of the safety strap is recommended however these devices are often neglected during more strenuous bouts of exercise and can certainly be ignored while walking and working on computer.
5. Sitting in a sedentary position while working exposes the body to static postures that may lead to pain or discomfort. However, walking almost constantly during an 8 hour working day also exposes the body to forces which may be detrimental. Several research articles

indicate that the heel strike performed while walking may, over time, lead to pathological conditions.^{v, vi}

6. Walkstations are expensive. Ranging in price from \$4,200 to \$6,500, there are more economical solutions to consider before investing such a large sum of money.
7. Walking on a Walkstation makes it more difficult to access documents or books that you may have to reference or write on while conducting your job tasks.
8. According to Straker et al., users of treadmill workstations reported a feeling of dizziness while walking and viewing the monitor given the movement of the head relative to the stationary monitor.^{vii}
9. As reported in *Ergonomics in Design Stand up and Move; Your Musculoskeletal Health Depends on It*, “treadmill workstations have increased in visibility but appear better equipped to reduce adverse effects of excessive weight than to improve musculoskeletal health. Compared with other types of workstations, there is an increased risk for falls with a treadmill workstation.” (p. 10).^{viii}
10. Musculoskeletal discomfort from walking for extended durations at a treadmill workstation may come from muscle damage, fatigue, and compromised neuromuscular pathways).^{ix}

Risk Management has several suggestions that are alternatives to the Walkstation:

1. Sit/stand workstations. As mentioned, the premise behind the Walkstation is a good one. Sitting or having a static posture for prolonged periods can be very hard on the body. Having a workstation that allows you to either sit OR stand is a great option. Although not on a treadmill, simply shifting weight from foot to foot, walking in place or alternating putting each foot onto a foot rest can be done, if “counting steps” is a major concern. The sit/stand workstation offers adjustability and versatility, giving the user options and not forcing them to stay in one position throughout the day. Several sources report that when switching between sitting and standing, reductions in upper and lower back discomfort can be seen. Davis and Kotowski suggest that switching every 30 minutes is sufficient in reducing discomfort without negatively affecting productivity.^x
2. Take frequent breaks. Regardless of whether you’re sitting in a chair all day or walking on the Walkstation, our bodies are designed to be dynamic and not just performing the same motions all day. In all cases, moderation is the key. Taking frequent breaks from ANY task is a good idea. We recommend one 5 minute break every hour. A break does not necessarily mean a break from work, but rather, should be a break from what you are doing. For example, if you’re typing on the computer, a break would be to walk to and from the copier.
3. Get an ergonomic evaluation. There may be tips and tricks that our experts can provide to help keep your workstation more comfortable. Contact the Risk Management office for more details or to set up an appointment.

Additional research of a longitudinal nature is warranted to determine if treadmill workstations are beneficial and do not negatively impact safety, productivity, and physiological or musculoskeletal health and until this research has been conducted, Risk Management and Insurance does NOT recommend the use of treadmill workstations and would highly discourage employees and departments from purchasing one. If a new workstation is desired, contact the Ergonomics program for further details on acceptable, safer and less expensive alternatives including sit to stand tables.

Sincerely,

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ⁱ Regnaud, J. P., Robertson, J., Smail, D. B., Daniel, O., & Bussel, B. (2006, August 21). Human treadmill walking needs attention [Electronic version]. *Journal of NeuroEngineering and Rehabilitation*, 3(19). doi:10.1186/1743-0003-3-19

ⁱⁱ (2004). *Kodak's ergonomic design for people at work*. 2nd ed. Hoboken, NJ: Wiley.

ⁱⁱⁱ Gonzales, Miguel, and Kent Hatcher. "Ergonomic Solutions: Fad vs. Fact." Humantech. Ann Arbor. 29 June 2011. Web. 15 Aug. 2011.

^{iv} Cifuentes, M., Fulmer, S., (2015). Research Needs for and Barriers to Use of Treadmill Workstations. *Ergonomics in Design*, 23(3), 25-30.

^v Collins, J. J., & Whittle, M. W. (1989). Impulsive forces during walking and their clinical implications. *Clinical Biomechanics*, 4, 179-187.

^{vi} Folman, Y., Wosk, J., Voloshin, A., & Liberty, S. (1986). Cyclic impacts on heel strike: A possible biomechanical factor in the etiology of degenerative disease of the human locomotor system. *Archives of Orthopaedic and Traumatic Surgery*, 10, 363-365.

^{vii} Straker, L., Levine, J., & Campbell, A. (2009). The effects of walking and cycling computer workstations on keyboard and mouse performance. *Human Factors*, 51, 831-844.

^{viii} Davis, K. G., & Kotowski, S. E. (2015). Stand Up and Move; Your Musculoskeletal Health Depends on It. *Ergonomics in Design*, 23(3), 9-13.

^{ix} Davis, K. G., & Kotowski, S. E. (2015). Stand Up and Move; Your Musculoskeletal Health Depends on It. *Ergonomics in Design*, 23(3), 9-13.

^x John, D., Lynden, K., & Bassett, D. R. (2015). A Physiological Perspective on Treadmill and Sit-to-Stand Workstations. *Ergonomics in Design*, 23(3), 14-19.