

Sit-Stand Workstations

Sit-stand workstations have recently gained popularity as a means to reduce excessive sitting time and sedentary work, which has been linked to a number of chronic diseases such as obesity, heart disease, stroke and diabetes. Sit-stand workstations enable employees to work from both a sitting or standing position, however, there is no real consensus on their effectiveness to reduce sitting time, particularly in real work settings.

The following is a very brief summary of the evidence:

- although there appears to be sufficient evidence that use of sit-stand workstations lead to lower levels of reported whole body and local low back discomfort (Karakolis & Callaghan, 2014), an inconsistent effect on musculoskeletal symptoms and very low quality evidence that sit-stand desks reduce sitting time at work has also been reported (Shrestha, Ijaz, Kukkonen-Harjula, Kumar & Nwankwo, 2015).
- Long-term compliance can be problematic - there may be good short-term compliance in alternating postures but poor long-term compliance between 6 months to over a year after sit-stand workstations are installed; as few as 1 in 10 will actually use the sit-stand feature on a daily basis (Karakolis & Callaghan, 2014). Workers who experience pain while working may have better compliance (more than twice as likely to use the sit-stand feature at least once per day).
- providing sit-stand workstations alone may not be sufficient for sustained reductions in sitting time (Neuhaus, Healy, Dunstan, Owen, & Eakin, 2014). Multi-component interventions including organizational strategies and education and counseling may lead to more substantial and sustained reductions in sitting time.

The overall risks and benefits of sit-stand workstations remains to be determined, as well as the effectiveness as a means to reduce sedentary behavior and work-related musculoskeletal symptoms. Even if compliance is good, standing is still a relatively inactive and static posture and is not sufficient to address issues related to lack of movement. Standing is also associated with a number of other musculoskeletal issues. The goal should be to break up sitting with frequent MOVEMENT throughout the workday:

- “Dynamic” Sitting – adjust and vary seated position (e.g., use various adjustable features of chair such as tilt)
- Incorporate regular short & frequent breaks
 - Microbreaks (10-20 secs/5-10 mins) – shift position & give postural muscles a break, rest hands from typing
 - Mini rest breaks (2-5 mins every 30 mins; 5-10 mins every hour) - perform specific exercises and/or work tasks that require standing/walking
- Re-locate printers so employees have to get up and walk
- Stand/walk to speak with someone instead of sending an email
- Standing meetings
- Stand/walk around while talking on the phone
- Set Outlook or other reminders to get out of chair
- Construct a standing work area where hard copy documents can be reviewed or writing tasks can be completed
- Re-organize work to allow for a variety of tasks throughout the day (i.e. don't leave all the faxing/filing/mailing work for the end of the day)



The following provides a suitable summary of some of the risks of both sitting and standing static postures and overall recommendations to increase MOVEMENT:

<http://ergo.human.cornell.edu/CUESitStand.html>

The following chart also provides some additional benefits and drawbacks to consider before deciding to purchase a sit-stand workstation:

Potential Benefits (with regular use)	Potential Drawbacks
<ul style="list-style-type: none"> - Reduced time in sedentary work - Reduced pressure on low back, buttocks, legs and may help reduce compression of the spine and pressure on discs arising from long periods of sitting - Reduced low back and whole body discomfort - Increased caloric expenditure/aid in weight management (~20% more calories) - Increased energy levels - Improved cognition - Increased circulation and blood flow - Improved bone density over time - Promotes better sleep 	<ul style="list-style-type: none"> - Increased lower extremity & entire body discomfort & fatigue - Increased lower back pain - Lower extremity swelling and venous pooling; varicose veins - Increased neck & upper limb discomfort (e.g., shoulders, hand/wrists) - Reduced performance of fine motor skills (e.g. computer work) - Ergonomic issues <ul style="list-style-type: none"> o hand/wrist posture may increase upper limb discomfort o Monitor may be positioned too close (some models) - Cost (\$500-\$2000) - Reduced work surface area (depending on type) - may not meet needs of all task requirements (e.g., papers/books) - Lack of privacy when standing (i.e., monitor higher and more visible in cubical based offices)

References

Karakolis, T., Callaghan, J.P. (2014). The impact of sit-stand workstations on worker discomfort and productivity: A review. *Applied Ergonomics*, 45 (2014), 799-806.

Neuhaus, M., Healy, G.N., Dunstan, D.W., Owen, N., Eakin, E.G. (2014). Workplace sitting and height-adjustable workstations: A randomized controlled trial. *American Journal of Preventive Medicine*, 46 (1), 30-40.

Shrestha, N., Ijaz, S., Kukkonen-Harjula, K.T., Kumar, S. & Nwankwo, C.P. Workplace interventions for reducing sitting at work. *Cochrane Database of Systematic Reviews 2015*, Issue 1. Art. No.:CD010912. DOI: 10.1002/14651858.CD010912.pub2.