

Standing Work Stations

What?

Are standing work stations beneficial to implement in work environments. What are the benefits to the employer, employee and the work place as a whole.

Why?

- For most working adults, time spent sitting in the workplace is greater than time spent sitting during leisure time, with those sitting long periods during their working day not compensating by increasing physical activity or decreasing leisure time sitting
- Recent studies have shown that office workers sit for an average of 6 hours during an 8 hour workday with this sitting time often accumulated through prolonged unbroken bouts of 30mins or more
- Energy expenditure at work has decreased, with workers becoming more sedentary and less active over the past 50 years, a trend that is projected to continue to 2030
- Workers who have poor health are more likely to have high sickness absence, one major risk factor to workers health is sedentary behaviour
- Sedentary behaviour is defined as “any waking behaviour characterised by an energy expenditure of <1.5 METs while in a sitting or reclining posture”
- Significant correlations were found for higher work engagement, job performance and job grade with lower occupational sitting times
- Population groups that are most at risk of prolonged sitting include those working in offices, transportation and highly mechanised trades
- Greater sitting time has been associated with increased risk of obesity, some cancers, T2DM, metabolic syndrome, CV disease and all-cause mortality

How?

- As nearly half of sedentary time at work is accrued in prolonged sedentary bouts of at least 20-30mins, future work place health promotion initiatives should not only be aimed at increasing physical activity participation but also reducing and breaking up prolonged sedentary time
- 3 key intervention strategies that can be implemented in workplaces as outlined in the Stand Up Australia study:
 - Stand up: a prompt to break up long, unbroken bouts of sitting of 30mins or more
 - Sit less: aimed to reduce total workplace sitting time through substituting some sitting with standing, with the intent that the reductions in workplace sitting be substantial enough to reduce the health risks associated with high daily sitting time
 - Move more: increase movement throughout the day (take stairs instead of lift) to increase incidental physical activity, a key component of daily energy expenditure
- Height adjustable work stations enable workers to complete their desk work/computer tasks while alternating between sitting and standing without significant disruption of work



PORTLAND
DISTRICT HEALTH



practices. Manually height workstations of the type WorkFit-S (Ergatron) enable retro-fit to existing office furniture and are less expensive.

- Ergatron desks:
 - WorkFit-S and WorkFit-A: can be added to existing desk
 - WorkFit-D is whole adjustable desk
 - All desks come with floor mat and an ergonomic evaluation on proper standing/sitting height for the workstation
- Advice on sit-stand workstations:
 - Ease into it
 - Commit to doing a certain task while standing
 - Take standing breaks during meetings
 - Drink more water, it will keep you getting up to refill your glass and go to the bathroom
 - Install exertime, software application that encourages employees to break long bouts of sitting by engaging in short bouts of physical activity during work hours
 - Standing for long periods can also cause health problems
 - Keeping the body in an upright position requires considerable muscular effort that is particularly unhealthy. It effectively reduces the blood supply to the loaded muscles. Insufficient blood flow accelerates the onset of fatigue and causes pain in the muscles of the legs, back and neck (muscles used to maintain upright position)
 - Prolonged and frequent standing without some relief by walking causes blood to pool in the legs and feet
- How can job design reduce the ill effects of working in a standing position?
 - Change working positions frequently so that working in one position is of a reasonable short duration
 - Avoid extreme bending, stretching or twisting
 - Take suitable rest periods to relax, exercises may help
- What can workers do to reduce the discomfort of working in a standing position?
 - Adjust height of the work according to body dimensions, using elbow height as a guide
 - Organize your work so that the usual operations are done within easy reach
 - Always face the object of work
 - Keep body close to work
 - Adjust the workplace to get enough space to change working position
 - Use a foot rail or portable footrest to shift body weight from both to one or the other leg
- What should workers avoid while working in a standing position?
 - Avoid reaching behind the shoulder line. Shifting feet to face the object is the recommended way
 - Avoid overreaching beyond the point of comfort
 - Avoid reaching above shoulder line
- Once work station is installed:
 - Start small. Aim to stand for an hour a day in the first week and increase from there
 - Since you will be moving up and down a lot, create a desk that adjusts easily
 - Laptops are not conducive to standing because the keyboard and monitor are almost at the same level
- What are the dos and don'ts regarding footwear?
 - Do get a standing (anti fatigue) mat



- Do choose shoes that provide a firm grip for the heel. If the back of the shoe is too wide or too soft the shoe will slip, causing instability and soreness
- Do wear shoes that allow freedom to move your toes. Pain and fatigue result if shoes are too narrow or too shallow
- Do ensure that shoes have arch supports. Lack of arch support causes flattening of the foot
- Do choose footwear according to the hazard at your workplace
- Do not wear shoes that are completely flat or with heels higher than 5cm (2inches) for long periods of standing
- Sit-stand desk set up:
 - Regular postural breaks, every 20-30mins when sitting or standing
 - Alternating between sitting and standing on a regular basis, every 45-60mins
 - Using a foot stool to alternate weight bearing while standing
 - Wearing flat, supportive footwear and use of an anti-fatigue mat
 - Determine the standing desk height by relaxing your shoulders and bending your elbows to 90 degrees, adjust desk height to just below the forearms
 - Height position: top of screen slightly below eye level
 - Keyboard position: at about elbow height with wrists flat
 - Screen distance position: an arm's length from face – at least 20" (508mm)
 - Keyboard position: close enough to create a 90 degree angle to elbow
 - Screen angle tilt: to eliminate glare
 - Tilt the keyboard back 10degrees so that your wrists remain flat

Outcome?

- Having a higher number of breaks in sedentary time is inversely associated with waist circumference, BMI, triglycerides, 2-hour plasma glucose and C-reactive protein, independent of total time spent sitting and physical activity. Interrupting sitting time with short bouts of light or moderate intensity activity lowers postprandial glucose and insulin levels in overweight adults
- No likely harm from sensibly implemented breaks from or reductions in workplace sitting time
- Sit-stand interventions increased overall sense of well-being, energy, decreased fatigue, had no impact on productivity and reduced appetite and dietary intake
- When sitting time disruptions were paired with a physical activity prompt, people may be more likely to increase their workday physical activity
- Barriers:
 - Working in an open plan office, some participants felt self-conscious and concerned about disturbing others and their privacy
 - Design of the workstation
- Common facilitators:
 - A supportive work environment conducive of standing
 - Perceived physical health benefits
 - Perceived work benefits
- Participants impressions of sit-stand workstation revolved around 3 sub-themes:



PORTLAND
DISTRICT HEALTH



- Surprise and delight
- Impact on ability to work
- Having a choice

Recommendations:

- Involve all levels of workplace in planning of health promotion/physical activity initiatives
- Develop strategies to sit less and stand more/be more physical active throughout the day
- Promote regular breaks from prolonged sitting approximately every 20-30mins
- Consider office space employee works in before considering sit-stand work stations
- Consider job tasks of employee
- Install sit-stand workstations that can be added to existing office furniture, ensure adjusting between sit and stand position is relatively simple and doesn't take too much time
- Ensure employee is correctly assessed and station is set up for particular employee
- Provide employee with information in regard to alternating posture frequently, easing into use of standing station, correct footwear
- Follow up use of station with employee regularly in case difficulties arise
- If station is set up incorrectly or employee uses incorrectly they are at an increased risk of injury

Written by Amy Goetz

Exercise Physiologist

Portland District Health

July 2016



PORTLAND
DISTRICT HEALTH

