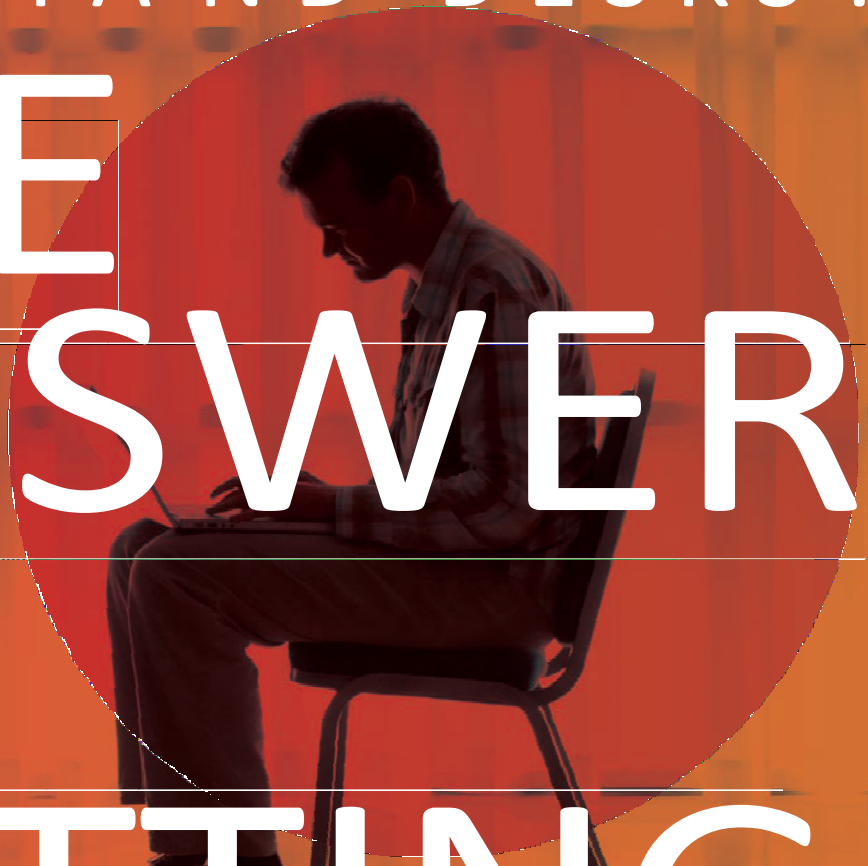
SIT/STAND DESKS:

THE SWER TO "SITTING DISEASE"?



BY SHONA ANDERSON

Think about the position you are in right now, reading this article. If you are like most of us, you are sitting at your desk, perhaps even slumped over it, maybe as you have been for hours already. Are you at risk of getting "sitting disease"?

"Sitting disease" has been mentioned and/or published by many major media outlets in North America during the past year. It is a term coined for the negative effects associated with sitting all day and, although we have been doing this for decades, it has now brought to light some fear surrounding how sedentary our society is. Some media even say "sitting is the new smoking," suggesting it is as bad for our health as smoking is. So, how much of a risk is sitting and what is best for us?

Research shows that prolonged uninterrupted sitting time has been associated with poor health outcomes, such as musculoskeletal discomfort and obesity.[1, 2] One major study showed that women who sit longer than 30 minutes per day were found to be 2.5 times as likely to be obese as women who reported sitting for 30 minutes or less.[3] However, in another review of 43 papers on the topic, there was "limited evidence to support a positive relationship between occupational sitting and health risks."[4]

Often data that supports increases in coronary heart disease and kidney disease (from sitting) are correlational and it is unclear whether sitting is causing these problems or whether people with these problems just sit more.[5] Obesity has a strong correlation to other health-related issues, including cardiovascular disease and diabetes.

Is standing all day the answer?

Some suggest we should stand to work. However, prolonged standing has been found to correlate with discomfort in the lower back, increased fatigue, increased blood volume in the lower limbs and a higher incidence of varicose veins.

Researchers agree that having the option to alternate between a seated and a standing position can be helpful in achieving better health in desk workers, but it has also been found that simply standing is not enough to counteract the negative health effects of sitting for hours on end. What people do during their time outside of work is also very important, as sedentary behavior during non-work hours can add to these health issues. Moving our bodies is of the utmost importance.

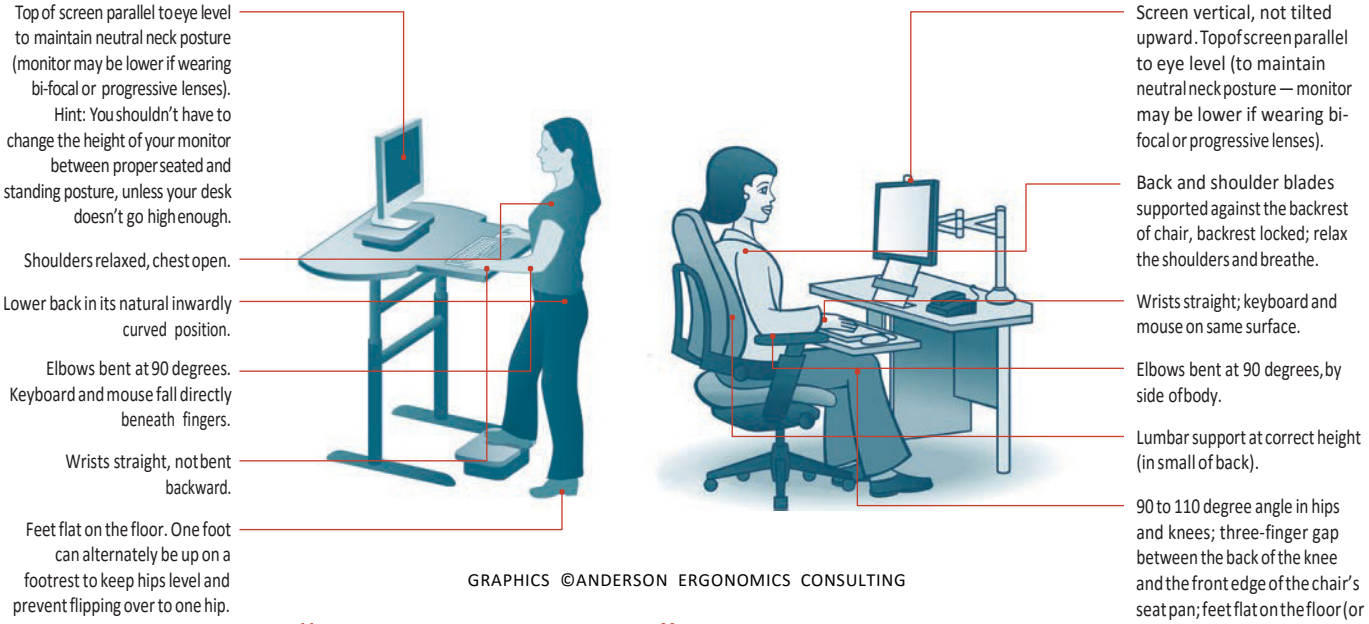
So, what is best? As a facility management professional, you are likely getting requests for sit/stand desks as people in your company seek answers to this same question. But is it necessary to provide them? It's true that people should alternate between sitting and standing to achieve the most comfort and health benefits. However, studies have shown that "users of sit/stand desks only stand for very short periods (15 minutes or less total per day) and their use rapidly declines so that after one month, a majority of people are sitting all the time, so compliance can be problematic."[6] Most people can achieve enough movement by getting up every hour.

Some companies offer an alternative by providing one seated desk and one desk at a higher (standing) height. The seated desk can used for some activities, such as the majority of computer work, while the standing desk can be used for laptop work or doing reading/writing activities. This can work well as long as the users have enough variety of activities between which they can alternate.

Ergonomics consultants typically find that only a small percentage of people really need a sit/stand desk; those with either acute or chronic soft tissue or joint issues in their lower back or hips that make it very difficult for them to sit for too long. But these same injuries often prevent them from standing for too long.

Before you decide to provide someone with a standing option to work at his or her computer, it is important to properly assess the individual to determine if a sit/stand desk is an appropriate option. It's often best to get medical approval for the person's use of a sit/stand desk

PROPER WORKSTATION SETUP The illustrations below outline the ideal postures for both seated and standing computer desks.



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"SITTING DISEASE" IS A TERM COINED FOR THE NEGATIVE EFFECTS ASSOCIATED WITH SITTING ALL DAY.

to ensure that it is the right solution for his or her issues. Several factors are important to consider:

- The capacities of the individual compared with the physical demands of the job
- The work tasks that he or she performs (if someone is rarely in an office but sits in meetings all day, a sit/stand desk won't help)
- The current furniture layout (standing to work at a computer is not conducive in an open work environment where the person will tower over the employee beside them if the wall is too low)
- The individual's medical health (if he or she has varicose veins or is prone to them, standing frequently is not a good idea)

Once a person has been deemed to need a sit/stand desk, it is very important that it suits the individual and is set up properly. A few things need to be considered:

- Minimum and maximum height ranges. The desk should adjust between the individual's seated elbow height (when the person is sitting with feet flat on the floor and elbows bent at 90 degrees) and standing elbow height (when the person is standing upright with shoulders relaxed and elbows bent at 90 degrees).
- The entire desk, rather than just the keyboard section, needs to move up and down. The problem with only the keyboard section moving is that the monitor ends up being too low when a person is standing. This can contribute to a hunched forward posture and/or neck flexion.
- How much non-computer work the individual does. If he or she is doing a lot of reading and writing tasks, non-computer surfaces should move with the computer surface (unless the person is going to work standing for one activity and seated for another, as discussed above). However, if the person needs to do a lot of reading/writing while working at the computer, there needs to be room available for papers.

Types of sit/stand desks

There are a few different kinds of mechanisms for moving a desk from a seated to a standing position: crank, torsion or counter-balanced and electric. Each of these has pros and cons in relation to sit/stand workstations.

Crank is not a good choice for a sit-to-stand desk as it requires too much work for people to move it the large distance between seated height (typically between 24-30 inches from the floor) and standing height (typically between 34-47 inches from the floor). An injured person may find the mechanism too difficult to crank and a non-injured person will likely find it too cumbersome and time consuming. Also, crank desks often don't adjust to the higher ranges needed for standing.

Torsion works on a counter-balanced mechanism and once it is set to the weight of the items on the desk, it typically works quite well. A paddle beneath the desk is pulled upward to adjust the desk and it can generally move the desk within the seated to standing range quite easily.

The main problem with this type of desk is that different users typically add or remove items, such as monitors and/or the computer itself, thus considerably changing the weight on the surface of the desk. This causes the desk to no longer be properly counter-balanced, which makes it very difficult to lift to a standing height. This can be easily corrected by someone with the right tool and knowledge to adjust the balance, but most often these desks are placed into a companies in which the people sitting in the offices don't have that ability.

The other issue with this type of desk is that the paddles are often located directly in the front bottom of the work surface and some people will hit them with their legs as they try to get close to the workstation or move to the side of the desk. This can be very bothersome for those people.

Electric desks move up and down very easily with the push of a button. If purchased with the correct height-adjustment range in mind (ensure that it goes to the lower height ranges), it is the best alternative for an injured person to move and works well with all other people. However, it is the most costly type of desk.

Other characteristics to consider

- Overhead bins or shelves that don't move with the desks may prevent them from going high enough without the monitors hitting them.
- Bulletin boards or whiteboards on the walls may prevent the desks from going high enough as the desk hits the boards or papers attached to them.
- If the computer is stored on the floor, the keyboard, mouse and monitor cords to it, as well as phone cords, need to be long enough to allow the desk to be raised properly. If they are not, these items will be pulled off the desk as it is raised.
- If the computer is stored in a CPU holder attached to the desk, the desk may not go low enough. It is a shame to purchase a sit/stand desk only to have to put a keyboard tray onto it.

Alternatives to sit-to-stand desks

There are additional ways to encourage movement if your company is not investing in sit/stand desks. If you want to get people moving more, here are some design and company culture ideas to consider:

- Place printers and photocopiers in central location so that people must walk to them
- Encourage a culture of talking to each other versus sending emails and walking meetings
- Provide some stand-up-only meeting rooms and comfortable open stand-up spaces in which to meet
- Provide wireless headsets for employees so they can stand up and talk on the phone
- Reminder software/tools (such as an app encouraging employees to move and stretch)
- Encourage gym memberships or onsite gyms and remind employees to drink lots of water
- Design an open, inviting staircase in your office environment and encourage its use

If your organization's employees are at risk of sitting too much, all is not lost. There are many ways to get moving more. And I now challenge you to reread this article in a less sedentary position! FMJ

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