

AT WORK AND FIT

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AT WORK AND FIT

Different offices function in a variety of ways, however, they all face the same problem: conventional office work today almost exclusively involves computer use which results in the worker lacking the necessary movement a body needs to remain healthy and alert.

Research shows that the average office worker spends over 5 hours and 41 minutes sitting each day at their desk, which has caused some people to say that, “Sitting is the new smoking”. This phrase might be somewhat of an exaggeration, yet the negative impact to a worker’s health due to sitting the majority of the work day are very real.

Based on the fact that a sedentary lifestyle is detrimental in the long-term, people are wondering how can they be at work and remain fit? Fortunately, a variety of product solutions have been created that will help us work and keep fit.

Propelled by LUMI’s professional R&D team, sit-stand desks can build movement into your daily work life thus promoting an active way to keep you fit. Being at work and remain fit can be as easy as pushing a button.

FOLLOW YOUR HEART: SIT OR STAND AS WISH

The way we live now is to sit all day, occasionally punctuated by a walk from the parking lot to the office, in the US, sedentary behavior now occupies around 60% of people’s total waking hours in the general population and over 70% in those with a high risk of chronic disease^[1].

For those working in offices, 65 to 75% of their working hours are spent sitting, of which more than 50% of this is accumulated in prolonged bouts of sustained sitting; on non-working days people sit less by up to 2.5 hours^{[2][3]}. More than two thirds of the mid-age population in developed countries are now overweight or obese, which poses additional significant health risks for this generation^[4].

Thus, reducing sitting time is the first action we take in maintaining healthy weight, and lowering the possibility of chronic diseases in workers.

Then, what about standing? Working in standing position can be linked to versatility because the mobility of legs position and having large degree of freedom. This working position promotes workers to be more efficient and productive. Such advantages contribute high value for company profits; however, standing in a long period of time can lead to discomfort, muscle fatigue, and occupational injuries to

workers. In the long terms, workers will potentially experience occupational injuries. A worker is considered to be exposed to prolonged standing if he/ she spent over fifty percent of the total working hours during a full work shift in standing position. When standing, the pressure on the lower back is fairly low, much lower than when we sit unsupported. Besides, standing uses about 20% more energy than sitting, so we get tired more quickly and look to sit down.

In addition, it is also well known that prolonged standing can contribute to the onset of work-related musculoskeletal disorders associated with lower back pain among office workers [5]. A hypothesized reason for the increased discomfort and body fatigue associated with prolonged standing conditions is reduced blood circulation in the lower legs combined with localized muscle fatigue [6]. This reduced blood circulation caused by prolonged standing can result in blood pooling, commonly represented as foot and lower leg swelling [7]. For example, pain in the lower back associated with prolonged standing can affect the ability of a worker to perform bending posture or body twisting in his or her routine job. This may in turn affect the productivity of the worker. In addition, workers who suffered from occupational injuries must be referred to clinical experts for health treatment, which definitely involve substantial amount of consultancy and medical costs.

The amount of time standing has also been identified as a significant contributor to work-related musculoskeletal disorders (WMSD). When workers perform jobs in a standing position for more than 4 hours each day, they will expose themselves to the possibility of WMSD associated with lower back pain [8].

Since prolonged sitting and standing are potentially doing harm to us, then the logical answer would be to alternate between the two. Thankfully, switching between sit and stand positions can adjust the amount of load on your body, avoiding the side-effects of sitting and standing, thus reducing the adverse impact of health risks. The following is a table showing the effects of prolonged sitting, standing, sitting and standing alternatively.

Effects of prolonged sitting	Effects of prolonged standing	Effects of sitting and standing
Increased risk of heart diseases and diabetes	aching joints and sore feet	Less obesity and cancer risk
Increased spinal muscular activity and intradiscal pressure	muscle fatigue	Longer life
Decreased brain function	Varicose veins and night leg cramps	Better posture
Strained Neck and Shoulders	Swelling of the legs	Increased productivity

Table 1.

Table Source: Lumi Corp's Rsearch

We are working for a better life, but what if we suffer working injuries for too much sedentary activities and only find ourselves lost in how to get out of this vicious circle? Obviously, to have a better life and reduce the possibility of harm from too much sitting or standing, the sit-to-stand movement is an excellent idea that helps us improve our overall health while contributing to a reduction in the possibility of chronic ailments from poor work habits.

There are some options for combining sitting and standing:

- Sit-stand Desks
- Sit-stand Desktop Workstations
- Sit-stand Monitor Arms
- Monitor & Laptop Risers

SUPPORTING RESEARCH

Higher Productivity

Despite a growing number of intervention studies are looking at the impact of sit-stand desks on workers' sitting and standing behaviors, relatively little is known about the effects on workers productivity. New research from the University of Sydney has found that workers who use sit-stand desks are feeling more energized, more productive and being more satisfied.

Better Health

A growing body of research suggests that prolonged periods of sitting is linked to a higher risk of developing chronic diseases, including obesity, heart disease and type 2 diabetes. Sit-stand desks are a good option for office workers who want to reduce the amount of time they spend sitting during their working day, and the findings are good news for office workers who want to make the case for sit-stand desks in their workplaces ^[9].

Another research by Mayo Clinic shows you can burn additional 340 calories a day if you spend just two hours of your workday standing instead of sitting. If you were to maintain your current lifestyle, this could equate to one-pound weight loss every ten days ^[10].

HISTORY EXPLORATION: SIT STAND DESK'S STORY

As studies have alarmed the ill-effects of prolonged sitting in the past couple of years, the popularity of sit-stand or standing up desks has soared. But as it is with many things, everything old is new again. Do you know that sit stand desks have been actually used for centuries?

When Did Standing Desks First Appear?

No doubt we can never know the exact time a standing desk appeared, but you might get shocked when told the earliest one can be dated back to the 1400s. It's been said while using a standing desk Leonardo da Vinci got his amazing ideas in flying machines and the armored car.

FAMOUS USERS OF SIT STAND DESKS

Thomas Jefferson

Thomas Jefferson is perhaps the most famous user of the stand-up desk. His six-legged "tall desk" had an adjustable slanted top that was large enough to place a folio. Jefferson used the desk to draw up architectural blueprints for buildings like the Virginia State Capitol.

Old inventories of furniture during the 19th century often include an entry for stand-up desks. And you'll find references like this one in industrial journals:

"Mr. W. H. Thompson, President of the gas company, with his hat off, stood near the centre of the room, behind a standing desk used by the weigher of the establishment. To his right Emerson McMillin, with his silk hat on, chewed at a cigar."

Donald Rumsfeld

Donald Rumsfeld says Thomas Jefferson's stand up desk is still in the State Department. The former Defense Secretary carried on the standing desk tradition by working without a chair in his office. A spokeswoman says Rumsfeld stood 8-10 hours a day, except when he had lunch with other people.

Ernest Hemingway

Ernest Hemingway discovered the standing desk method from his editor at Charles Scribner's Sons, Maxwell Perkins. In "Papa Hemingway: A Personal Memoir", AE Hotchner describes Hemingway's set-up in his home in Havana:

"In Ernest's room there was a large desk covered with stacks of letters, magazines, and newspaper clippings, a small sack of carnivores' teeth, two unwound clocks, shoehorns, an unfilled pen in an onyx holder, a wood carved zebra, wart hog, rhino and lion in single file, and a wide-assortment of souvenirs, mementos and good luck charms."

He never worked at the desk. Instead, he used a stand up work place he had fashioned out of a bookcase near his bed. His portable typewriter was snugged in there and papers were spread along the top of the bookcase on either side of it. He used a reading board for longhand writing.”

AT WORK AND FIT: SIT STAND DESKS

Increased Productivity

Many employees don't have the flexibility to get away from their workstations every hour. Using a sit-stand desk allows employees to take a break from their static posture without leaving their area ^[11]. A recent study from Texas A&M University found that employees who used sit-stand desks were 46% more productive than those at traditional desks ^[12].

Better Health

“Both standing and taking breaks from sitting are beneficial for your physical health. Standing increases caloric expenditure by about 30% over sitting,” according to Lucas J. Carr, assistant professor in the Department of Health & Human Physiology at the University of Iowa, while “taking regular breaks from sitting (altering posture, standing up, stretching, etc.) has been shown to reduce musculoskeletal discomfort, reduce fatigue and stiffness, and increase blood flow.”

Reduce Costs

Most companies have suffered the health care costs that account for a large part of their profits. To avoid such situations, many company sponsored wellness programs emerged as the times required. But what if there is a more perfect solution that reduces sick time and improves an employee's health condition? By sitting and standing alternatively, office workers' health will surely be improved, which will in turn reduce company costs indirectly.

WHAT THE CUSTOMERS SAY

“The design makes me feel happier and office feels more relaxing. The sit and stand feature makes me feel I am not at work but am still working. This desk not just helped me improve my work efficiency but more importantly saved lots of my money from my weekly chiropractor expenses. The controller only takes an easy push to adjust the height of the desk to your comfortable level. If you want to live healthier and work smarter, then I strongly recommend you give this desk a try.”

“...This desk has been a life saver. My old standard desk was killing my back.”

“The adjustable table/desk works exactly as described. I had spine surgery and can't sit or stand in the same position for long periods and this makes my work do-able!”

“The easy variable height adjustment is great whether I want my laptop at nearly eye level when standing, or if I want to use a tall stool, or sit on my desk chair.”

“Got tired of always sitting at the desk when I used my computer, day after day, year after year. This Sit Stand Desk has made my time at my computer much more enjoyable. Having the computer at eye level while standing is easier on my back and helps me stay focused. I would recommend this product to anyone with a pc or Mac.”

“I absolutely LOVE this desk! I attached this frame to my existing desk top - it was very easy to set up and works wonderfully. It has made my workday so much more enjoyable and I get a lot more done.”

“With everything on the desk, I was able to easily lift and lower the desk within 2 seconds. Stability is spectacular. It comes with a basic two- button control panel. The operation is smooth and robust”

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