



The Sitting Disease...

A backward step in evolution...

Stand up for better health...

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CORONARY HEART DISEASE IN LONDON BUSMEN A PROGRESS REPORT WITH PARTICULAR REFERENCE TO PHYSIQUE

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Sitting is the smoking of the current generation.

Prof Morris in the 1950s identified that the incidence of coronary heart disease (CHD) was less in the middle-aged conductors of London's double-decker buses who are usually standing in their jobs, than in the drivers of the same age who remained sitting most of the time. The "sudden death" rate of conductors under 50 was one-third that of drivers.

Recent study shows**

1 cigarette reduces life span by 11 minutes

1 hour of sitting may reduce life span by 22 minutes

References

Coronary heart disease in London busmen. A progress report with particular reference to physique. Heady JA, Morris JN, Kagan A, Raffle PA. *Br J Prev Soc Med.* 1961 Oct;15:143-53.

**Television viewing time and reduced life expectancy: a life table analysis. Veerman JL, Healy GN, Cobiac LJ, Vos T, Winkler EA, Owen N, Dunstan DW. *Br J Sports Med.* 2012 Oct;46(13):927-30

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Bad-effects of prolonged sitting

On the Heart

Prolonged sitting increases the risk of heart attacks
Increases the risk of developing High Blood Pressure

On the Spine

Prolonged sitting causes increased inflammation, leading to pain and early degeneration of the spine
Sitting in a slouched position for as little as 5 minutes, may make it difficult to reposition the lower spine in a correct, neutral position

On Metabolism

Prolonged sitting slows down the processing of fats and increases blood glucose levels
This increases the risk of developing chronic disease – even when one meet's the recommended physical activity levels.
Prolonged sitting increases the risk of developing Metabolic syndrome.

On Bones

Decreases bone mineral density without increasing bone formation, which raises the risk of fracture.

Risk of Death

Prolonged sitting increases risks of disease and death. Every hour spent watching television (sitting) increases the risk of death from chronic disease by 11%

Even Cancer

Prolonged sitting can increase the risk of endometrial cancer, colorectal cancer, breast cancer and lung cancer

Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT; Lancet Physical Activity Series Working Group. Lancet. 2012 Jul 21;380(9838):219-29.

Sitting time and mortality from all causes, cardiovascular disease, and cancer. Katzmarzyk PT, Church TS, Craig CL, Bouchard C. Med Sci Sports Exerc. 2009 May;41(5):998-1005. .



Under-Standing Over-Sitting....

....Stand up for better health

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The Solution

Stand up for better health.. The obvious solution to sitting disease is standing.

Standing increases energy expenditure, burns extra calories and increases metabolism.

Standing tones up muscles, improves posture, increases blood flow .

Standing decreases appetite and helps reduce weight.

Standing elevates mood and mental well being.

Standing increases alertness, decreases sleepiness and thereby increases productivity.

However standing all day may not be practical as we may want to sit at times to rest.

Adjustable sit-to-stand workstations are an effective solution for reducing prolonged sitting.

N - Non

E - Exercise

A - Activity

T - Thermogenesis

NEAT (Non Exercise Activity Thermogenesis) is heat generation and burning of calories that accompanies physical activities other than exercise. These include activities of daily living, like standing and walking. Using a standing work station instead of a chair can increase your energy expenditure and help you to lose weight.

Science. 1999 Jan 8;283(5399):212-4.Role of nonexercise activity thermogenesis in resistance to fat gain in humans.Levine JA, Eberhardt NL, Jensen MD.



If you are busy at work and cannot go to the gym then a standing desk is a good way to keep fit. It may be less than the cost of an annual gym membership.

Standing up for 3 hours per day is like running 10 marathons.

Dr Mike Loosemore,

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Ref - <http://www.telegraph.co.uk/lifestyle/wellbeing/diet/10913737/Stand-up-three-hours-a-day-for-benefits-of-ten-marathons-says-top-medic.html>

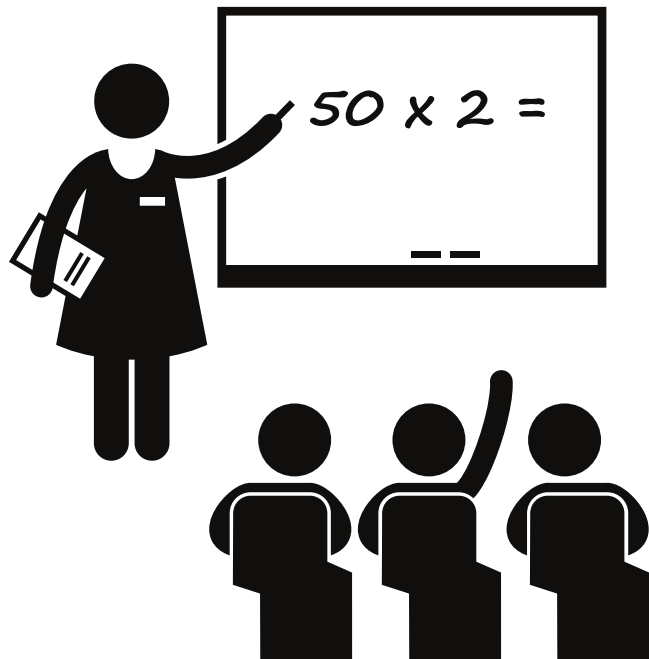
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If the teacher can stand & teach...



Advantages when students use a standing desk

- Burning of calories
- Decreased appetite
- Better glucose control
- Less sleepiness
- Increased alertness during lessons
- Maintains same posture as the teacher. Sense of equality.

Research

Following use of a standing desk a middle-school student would expend approximately an additional 114 kcal/day by using a standing desk. It has been suggested that obesity can occur from a positive energy balance of as little as 100 kcal per day. Increasing caloric expenditure by using a standing desk could be a great way to reduce childhood obesity.

Ref - Difference in caloric expenditure in sitting versus standing desks. Reiff C, Marlatt K, Dengel DR. J Phys Act Health. 2012 Sep;9(7):1009-11

Difficulties faced when keeping children seated in school for long hours

Childhood obesity leading to

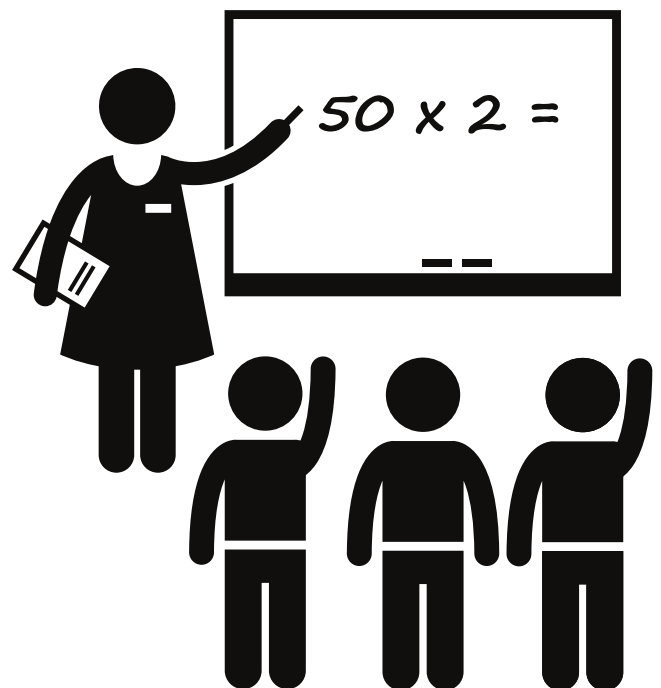
- Asthma
- Joint problems
- Sleep apnea
- Type II diabetes
- High blood pressure
- Depression
- Anxiety
- Low self-esteem and
- Peer victimization

If a teacher can stand for most of the day, why shouldn't the student?

If a factory worker can stand most of the day, why shouldn't the student?

By keeping children on seats are we encouraging sedentary behaviour?

A change however is not easy and requires radical input.



Why shouldn't the student stand and learn?

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