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Health Hazards of Too Much Sitting

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'Stand Up, Sit Less, Move More, More Often'

Abstract: ***Even when we meet physical activity guidelines, prolong sitting increase premature death risk. In this article we are discussing detrimental effects of too much sitting. Sedentary behaviors include sitting during travel to and from work, in the workplace and at home during leisure time. Sedentary behaviors are in the energy expenditure range of 1.0 to 1.5 METs (multiples of the basal metabolic rate). More studies are needed to form specific guidelines and advice that can be given to patients and the general population.***

Keywords: sedentary lifestyle, physical activity, metabolic health

1. Introduction

Even when we meet physical activity guidelines, sitting for a long time can impact metabolic health. TV watching time and biochemical studies show deleterious associations, and breaking up sedentary time is beneficial. Sitting time, TV watching time, and time sitting in vehicles increase premature death risk.

Sedentary Behaviour
Sedentary behaviours include sitting during travel to and from work, inthe workplace and at home during leisure time. Sedentary behavioursare in the energy expenditurerange of 1.0 to 1.5 METs (multiples of the basal metabolic rate). Thus,sedentary behaviours are those which spend less energy. Incontrast, moderate-to-vigorous physical activity such as walking, or running bicycling, swimming, spend more energy (3to 8 METs). Light intensity activity behaviours are those done whilestanding, but that spend no more than 2.9 METS.

Time spent in sitting is significant, because it displaces time spent in higherintensity physical activity — contributing to a reduction in total energy spend. For example, shifting of two hours per day of light intensity activity (2.5METS) by sitting (1.5 METS) would be predicted to reduce energy spend by about two MET-hrs/d, or approximately the energy spends with walking for 30 min per day (0.5 hrs * 3.5 METs = 1.75 MET-hrs).

Underlying Physiology- Sedentary Behaviour and Health:
Physiologically, the loss of mobility leads to both the suppression of lipoprotein lipase (LPL) activity (necessary for HDLcholesterolproduction and for triglyceride uptake) and reduced glucose uptake in skeletal muscle. Standing, involves antigravity (postural) muscles and low levels of energyexpenditure, and skeletal muscle LPL changes. So, standing would not be a sedentary activity.

The Health Consequences of Too Much Sitting
Sitting for too longleads to increased risk of heart disease, diabetes, stroke, hypertension, and hypercholesterolemia. It could be that we're often by ourself and engaged in a screen-based activity. If this disrupts our sleep, we can get even more anxious. Plus, too much alone time can make us withdraw from friends and loved ones, which is linked to social anxiety. Wrong posture during sitting puts huge stress on our back muscles, neck, and spine. It's even worse if we slouch. Sitting for too long pool blood in our legs. This put added pressure in our veins. They could swell, twist, or bulge -leading to varicose veins. Elderly sedentary people may be more likely to get osteoporosis and could slowly become unable to perform basic household chores, like washing the dishes. Likelihood of colon, endometrial, or lung cancer also increases. If we sit too much, our brain could look just like that of someone with dementia.

Being Physically Activity and Sedentary at the same time: The Active Couch Potato

The particular metabolic consequences of timespent sedentary are hazardous, even among those involved in regular physical activity to reduce their chronic disease risk. There is potential importanceof the deleterious health consequences ofprolonged sitting time, which may be independentof the protective effect of regularmoderate-intensity physical activity.

Strategies individuals could consider include:

- Standing and taking a break from the work every 30 min
- Breaking the long meetings
- Walking during phone calls
- Instead of phoning or emailing someone sitting next door walking to them
- Using desk with adjustable height to enable frequent transitions between working in a standing or seated position
- Using stairs instead of lifts
- Participating in household chores like car washing, dish washing
- Using a headset or the speaker phone during telephonic conversations to be free to walk around

2. Conclusions

At present, there are no guidelines on how longpeople should sit for or how often people should take break. More studies areneeded to form specific guidelines and advice that

can begiven to patients and the general population. At this stage, no proper advice can be given with confidence,to encourage patients and general population to limit theirsitting time whilst at home, at work and during transportationand how to remain mobile throughout.

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