



Summary from the Canadian Fitness and Lifestyle Research Institute and ParticipACTION

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Sedentary Behaviours

Is being “sufficiently active” enough to ward off the risks of inactivity? Four new studies suggest that the amount of time spent in sedentary behaviours may increase the risks of overweight and obesity, regardless of the amount of time spent in physically active behaviours, and that breaking up sedentary time with periods of movement may help mitigate the effects. Moreover, recent data suggest that Canadians spend an alarming amount of time in sedentary behaviours.

Leisure time physical activity and sedentary behaviours, can co-exist in many forms. An individual who meets physical activity guidelines can still spend a great deal of time in sedentary activities, such as sitting at work or watching television. On the other hand, someone who does not achieve recommended guidelines, by accumulating only light intensity activity throughout the day, may not spend much time being sedentary at work or in their leisure time. Further, sedentary activity itself may be uninterrupted, or broken up by periods of movement.

Sedentary breaks and metabolic risk

A recent Australian study found that, independent of total sedentary time, moderate-to-vigorous intensity physical activity time, mean intensity of breaks, and a greater number of interruptions in sedentary time were associated with lower metabolic risk factors. A higher number of breaks was associated with beneficial levels of body fatness, triglycerides and glucose, suggesting that it is not only the amount of sedentary time that is important but also its nature. The study used accelerometers and physical activity diaries, along with assessments of biochemical, anthropometric and behavioural factors.

Leisure time sedentary behaviour, overweight and obesity

A second Australian study examined the association between leisure time sedentary behaviours and physical activity, and obesity. It found that, compared to those who reported low levels of sedentary behaviour and sufficient physical activity, the odds of being overweight or obese were about 50% higher among those who reported:

- low levels of sedentary behaviour and insufficient physical activity; and,
- high amounts of sedentary behaviour and sufficient physical activity.

The odds of being overweight or obese were doubled among those who reported:



- high levels of sedentary behaviour and insufficient physical activity.

The study correlated self-reported height and weight with participation in six leisure time activities. Total leisure time sedentary behaviour was categorized into low and high levels while leisure time physical activity, assessed via the International Physical Activity Questionnaire, was categorized into sufficient and insufficient.

Relationships with obesity in Canada

Recently published analysis of self-report data collected via the 2007 Canadian Community Health Survey (CCHS) reveals that approximately one-quarter of Canadians who reported watching television for 21 or more hours per week were obese, while a substantially lower rate of obesity was found among Canadians who reported watching five or fewer hours per week. These associations existed regardless of levels of leisure time physical activity and dietary intake. The study also found a moderate association with computer use and obesity.

Sedentary time among Canadians

A recent report profiling screen time among Canadian adults (2007 CCHS) noted that 29% watch television for 15 or more hours per week - an average of over two hours per day, (indeed, 19% report 21 or more hours per week - an average of three hours per day). While leisure time computer use is less common, 15% of Canadians report 11 or more hours per week (6% report 21 or more hours per week). Furthermore, one adult in 20 is both a frequent television user and a frequent computer user. The most frequent television viewers:

- are older;



- have never been married;
- have lower income and education;
- are Canadian-born; and,
- live in New Brunswick, Quebec or Nunavut.

Residents of Alberta and British Columbia are less likely than the national average to be frequent television watchers.

Those who use the computer most often are most likely to:

- be male;
- be younger;
- have never been married;
- have higher levels of education;
- live in urban areas;
- be recent immigrants; and
- live in Ontario, British Columbia and Nunavut.

Residents of Newfoundland and Labrador, Quebec, Manitoba and Saskatchewan were less likely to be high leisure time computer users.



More Info...

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Sugiyama, T. Healy, G. Dunstan, D. Salmon, J. Owen, N. Joint associations of multiple leisure-time sedentary behaviours and physical activity with obesity in Australian adults. *International Journal of Behavioral Nutrition and Physical Activity*. July 2008. Available at <http://www.ijbnpa.org/content/5/1/35>.

Shields M. Tremblay, MS. Sedentary behaviour and obesity among Canadian adults. *Health Reports*, Volume 19, No 2, June 2008, 19-30.

Shields M. Tremblay, MS. Screen time among Canadian Adults: a profile. *Health Reports*, Volume 19, No 2, June 2008, 31-44.

What have we learned?

- *Even if adults meet physical activity guidelines, they may have higher risks for metabolic disorders and of overweight or obesity if they spend a large amount of leisure time in sedentary behaviours.*
- *Many Canadians spend a large proportion of the leisure time in sedentary activities such as television watching or computer use.*
- *High levels of overall sedentary behaviour time may contribute to obesity potentially as much as does lack of moderate to vigorous physical activity.*
- *Public health efforts to reduce sedentary time, particularly television viewing, may assist in reducing obesity among Canadians.*
- *Encouraging breaks in prolonged sedentary time, such as getting up during television announcements, breaking up extended periods of sitting at work or in the classroom, and even simply standing for sedentary activities, may reduce the impacts of extended sedentary time.*

