

What is sedentary behaviour?

Sedentary behaviour is not defined simply as a lack of physical activity. It is a group of behaviours that occur whilst sitting or lying down and that require very low energy expenditure. The low energy requirements distinguish sedentary behaviours from other activities that also occur while sitting down, but which require greater effort.

- Sitting while reading a book is a good example of a sedentary behaviour.
- Being seated while using a rowing machine would not count as sedentary behaviour as this activity requires effort.

A sedentary individual is different from someone who is considered inactive.

Inactive can be used to describe those who are performing insufficient amounts of moderate and vigorous physical activity, ie, not meeting the physical activity guidelines.

- An adult who completes the recommended 150 minutes per week of moderate physical activity can still be considered sedentary if they spend a large amount of time seated, for example, at their desk at work.

- A child who obtains at least 60 minutes per day of moderate physical activity can still be considered sedentary if they spend a great deal of their time sitting or lying down, eg, playing video games.

Common examples of sedentary behaviours include:

- sitting while at work or school
- watching television
- using a computer or playing video games - this excludes 'active' gaming
- reading
- sitting while socialising with friends or family
- sitting in a car or other form of motorised transport - for a young child, this could include being carried in a car seat or pushed in a buggy.

Examples of seated or reclining behaviours which are not sedentary:

- sleeping
- using an exercise machine, like a stationary exercise bike or bench press
- pushing yourself in a wheelchair
- performing chair-based exercise
- floor-based play in young babies.



Health outcomes of sedentary behaviour

Adults

- Sedentary behaviour is associated with an increased risk of:
 - type 2 diabetes
 - cardiovascular disease
 - metabolic syndrome
 - death from all causes.
- There is inconsistent evidence as to whether sedentary behaviours lead to an increased risk of certain types of cancer.
- Emerging evidence suggests sedentary behaviour has a negative effect on depression and mental wellbeing.
- The link between sedentary behaviours and overweight/obesity or weight gain remains possible, but is unproven.

Children

- There is some evidence that sedentary behaviour is linked with:
 - lower levels of aerobic fitness
 - risk of cardiovascular disease.
- As in adults, the relationship between sedentary behaviours and weight is mixed.

- Evidence suggests that children who spend more time in front of a television or computer screen are heavier, but this link is not strong. This relationship is further complicated as there is some evidence that increased screen time may lead to greater consumption of high calorie foods.
- Emerging evidence suggests a small link between sedentary behaviour and poor mental health.

Developing negative habits of sedentary behaviour over time

Children who tend to be more sedentary have a good chance of continuing to be sedentary as adolescents. This suggests sedentary habits developed early in life tend to be relatively unchanging over time.

References

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Sedentary Behaviour Research Network. 2012. Standardized use of the terms “sedentary” and “sedentary behaviours”. *Appl Physiol Nutr Metab.* 37: 540-542.

Pate RR, O'Neill JR, Lobelo F. The Evolving Definition of “Sedentary”. *Exerc Sport Sci Rev.* 2008 10;36(4):173-8.

Health Outcomes of sedentary behaviour

Proper KI, Singh AS, van Mechelen W, Chinapaw MJ. Sedentary Behaviors and Health Outcomes Among Adults: A Systematic Review of Prospective Studies. *Am J Prev Med.* 2011;40(2):174-82.

Grøntved A, Hu FB. Television Viewing and Risk of Type 2 Diabetes, Cardiovascular Disease, and All-Cause Mortality: A Meta-analysis. *JAMA.* 2011 06/15;305(1538-3598; 0098-7484; 23):2448-55.

Thorp AA, Owen N, Neuhaus M, Dunstan DW. Sedentary Behaviors and Subsequent Health Outcomes in Adults: A Systematic Review of Longitudinal Studies, 1996-2011. *Am J Prev Med.* 2011 08;41(1873-2607; 0749-3797; 2):207-15.

Boyle T, Fritschi L, Heyworth J, Bull F. Long-Term Sedentary Work and the Risk of Subsite-specific Colorectal Cancer. *Am J Epidemiol.* 2011 05/15;173(1476-6256; 0002-9262; 10):1183-91.

Hamer M, Stamatakis E, Mishra GD. Television- and Screen-Based Activity and Mental Well-Being in Adults. *Am J Prev Med.* 2010 04;38(4):375-80.

Teychenne M, Ball K, Salmon J. Sedentary Behavior and Depression Among Adults: A Review. *Int J Behav Med.* 2010 12;17(1532-7558; 1070-5503; 4):246-54.

Chinapaw MJ, Proper KI, Brug J, van Mechelen W, Singh AS. Relationship between young peoples' sedentary behaviour and biomedical health indicators: a systematic review of prospective studies. *Obes Rev.* 2011 07;12(1467-789; 1467-7881; 7):e621-32.

Tremblay MS, LeBlanc AG, Kho ME, Saunders TJ, Larouche R, Colley RC, et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *Int J Behav Nutr Phys Act.* 2011;8(98).

Marshall SJ, Biddle SJ, Gorely T, Cameron N, Murdey I. Relationships between media use, body fatness and physical activity in children and youth: a meta-analysis. *Int J Obes Relat Metab Disord.* 2004 10;28(0307-0565; 0307-0565; 10):1238-46.

Biddle SJH, Asare M. Physical activity and mental health in children and adolescents: a review of reviews. *Br J Sports Med* 2011;45:886-95.

Biddle SJH, Pearson N, Ross GM, Braithwaite R. Tracking of sedentary behaviours of young people: A systematic review. *Prev Med.* 2010;51:345-51.

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