Should kids sit less or move more? CHEO Research answers

April 23 2013

Researchers have discovered that participation in physical activity of at least moderate intensity is more critical to childhood cardiometabolic health than overall sedentary time. However, when evaluating the risk of cardiovascular disease, screen time appears to be worse than overall sedentary time.

As members of TEAM PRODIGY, an inter-university research team that includes researchers from the University of Ottawa, University of Montreal, McGill University, and Laval University, researchers at the Children's Hospital of Eastern Ontario (CHEO) Research Institute set out to examine how time spent doing moderate-to-vigorous intensity physical activity (MVPA) and time spent in sedentary behaviour affects the risk of cardiovascular disease in children. The complete article will be published in the latest issue of *Applied Physiology, Nutrition, and Metabolism*.

"Although results in this study suggest that in children, time spent in moderate-to-vigorous physical activity appears more important than time spent in sedentary activities, with regard to cardiometabolic health, both increasing children's participation in physical activity AND reducing their screen-related sedentary time are important public health targets to achieve," said first author, Dr. Jean-Philippe Chaput, who is a researcher at the CHEO Research Institute and a cross-appointed professor at the University of Ottawa.

This cross-sectional study involved over 500 participants between the

ages of 8 and 10. The measured outcomes included waist circumference, systolic and diastolic blood pressure, fasting triglycerides, high-density lipoprotein cholesterol, and glucose concentrations.

Higher levels of MVPA were associated with lower waist circumference, fasting triglycerides and diastolic blood pressure, and higher HDL cholesterol, irrespective of sedentary time. In contrast, sedentary time was positively associated with diastolic blood pressure, but after adjustment for MVPA, the association was no longer statistically significant. Self-reported screen time was positively associated with waist circumference and negatively associated with HDL cholesterol independent of MVPA.

"Today we're offering empirical evidence that to reduce cardiovascular disease risk in children, being physically active throughout the day is probably more important than limiting sitting time," continued Dr. Chaput.

More information: The article is available open access in the journal *Applied Physiology, Nutrition, and Metabolism* at DOI: 10.1139/apnm-2012-0382

Provided by Canadian Science Publishing (NRC Research Press)

Citation: Should kids sit less or move more? CHEO Research answers (2013, April 23) retrieved 24 April 2024 from https://medicalxpress.com/news/2013-04-kids-cheo.html

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