



Advancing physical activity knowledge and participation
among Canadians living with spinal cord injury.

Regular Exercise is Related to Lower Levels of Heart Disease and Diabetes in People with SCI

Purpose

To determine if regular exercise is associated to lower levels of cardiovascular disease and type II diabetes in people with SCI.

Summary

- Those who were regular exercisers had lower levels of risk factors related to cardiovascular disease and type II diabetes.
- Those who did not exercise had higher levels of risk factors related to cardiovascular and type II diabetes.

Possible Applications

- It is possible that exercise may be a means of lowering chances of cardiovascular disease and type II diabetes.

Research Abstract

Greater daily leisure time physical activity is associated with lower chronic disease risk in adults with spinal cord injury

The objective of this study was to examine the relationship between leisure time physical activity (LTPA) and common risk factors for cardiovascular disease (CVD) and type 2 diabetes in community-dwelling adults with chronic spinal cord injury (SCI). LTPA was measured using the Physical Activity Recall Assessment for People with SCI in 76 men and women with chronic (± 1 year) paraplegia or tetraplegia, living in or near Hamilton, Ontario. Body mass index (BMI), waist circumference, body composition (fat mass (FM) and fat-free mass (FFM)), blood pressure, and biochemical data were collected. Thirty-seven percent ($n = 28$ participants) were inactive, reporting no LTPA whatsoever, and were compared with an equal-sized group consisting of the most active study participants (± 25 min of LTPA per day). After adjusting for significant covariates, BMI (18.7%), %FM (19.4%), and C-reactive protein (143%) were all lower, and %FFM was higher (7.2%), in active participants (all $p \leq 0.05$). Ten percent of active participants vs. 33% of inactive participants were insulin resistant ($p = 0.03$). Waist circumference (17.6%) and systolic blood pressure (15.3%) were lower in active vs. inactive participants with paraplegia (both $p \leq 0.05$), but not tetraplegia. In conclusion, greater daily LTPA is associated with lower levels of selected CVD and type 2 diabetes risk factors in individuals living with SCI. Whether this relationship translates into a lower incidence of these chronic diseases has yet to be determined.

Buchholz AC, Martin Ginis KA, Bray SR, Craven BC, Hayes KC, Hicks AL, Latimer AE, McColl MA, Potter PJ, Smith K, & Wolfe DL (2009). Greater daily leisure time physical activity is associated with lower chronic disease risk in adults with spinal cord injury. *Applied Physiology Nutrition & Metabolism*, 34, 640-647.