

The Research File



Summary from the Canadian Fitness and Lifestyle Research Institute and ParticipACTION

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The Gift of an Active Lifestyle

As the end of another year draws closer and a new one looms, many people will focus on what they can do to change their weight. But what about a focus on physical activity? Research has shown that those who are obese and fit have lower risk factors than those who are at a healthy weight but sedentary. Several recent articles have examined the impact of fatness and fitness on mental health, diabetes, cardiovascular health and metabolic disorder. Their findings indicate that, regardless of weight status or weight change, physical activity has a positive impact on these important components of health. This December issue examines the fitness-fatness debate in terms of its likely impact on one of Canada's most famous obese personalities, Santa.

How do we know that Santa is Physically Active?

Craig and colleagues hypothesized that Santa's physical activity routine includes coaching the Reindeer Games, a strict fitness regime similar to other racing drivers which provides

him with the stamina to travel at light speed, and JOLLY (JOGging and Life-Long Yoga) which provides him with the ability to race from rooftop to rooftop and contort through chimneys. Finally, they conclude that ELF (Enhanced Lung Function) appears to be associated with GIFT (Graduated Intensity Fitness Training).

Santa is jolly because he is physically active

A study of 2511 Canadians from 1988 to 2002-04, concluded that, like his countrymen, Santa is happy—despite the weight gain depicted in the popular culture since his days when he preferred to be known as St Nick—because he remains physically active. The study classified survey participants according to changes in their calculated body mass index (BMI) over time into: those who maintained or reduced to a healthy weight over time; those who became overweight or obese from a healthy weight; those who remained overweight; and those who remained obese. They were also classified into four physical activity categories: those who maintained a sufficient level of activity, those who increased from a low level of activity or sedentary to sufficiently active; those decreased



to low or who remained at a low level across time; and those who remained sedentary or decreased to sedentary over time. The study found that those who maintained a sedentary lifestyle over the 15 years, regardless of weight change, were more likely to experience low levels of jolliness than those who experienced weight gain but maintained an active lifestyle. This was even true for those who maintained a healthy weight but also maintained a sedentary lifestyle over time.



Brought to you by the Canadian Fitness and Lifestyle Research Institute in collaboration with ParticipACTION.



What's happening in Canada?

According to the 2008 Canadian Community Health Survey:

- Over half of Canadian adults (51%) reported excess weight (including the 17% of Canadians who were classified as obese).
- 55 to 64 year olds are most likely to report obesity (22% overall and 24% of men and 21% of women).
- Residents of rural areas were more likely to be obese than urban dwellers. And also more likely to report excess weight (58% of rural residents were overweight or obese, compared with 50% of urban Canadians).
- British Columbia (13.5%) and Quebec (15.5%) were the only provinces where obesity rates were significantly lower than the national average.

These findings indicate that there is a large group of Canadians who may reduce their risk factors by becoming and remaining physically active regardless of their weight.

Lowering his risk

How does Santa stay so youthful? Do all those cookies he eats on Christmas Eve have an impact? Even if he has developed Type 2 diabetes, his fitness level likely helps him to control his blood sugar and other risk factors. It's likely that, similar to participants in a study by Wing and colleagues, of 5,145, ethnically diverse overweight or obese individuals who had type 2 diabetes, that fitness level was strongly associated with glycemic control, independent of BMI. In addition, fitness was associated with lower cardiovascular risk factors in general (ankle/brachial blood pressure ratio, and Framingham risk score, which is calculated from cholesterol levels, blood pressure and smoking status). BMI was found to be more strongly associated only with systolic blood pressure.



Santa's Elves can learn from his example

Any of Santa's Elves who start to follow his fitness example will reduce their risk of metabolic disease by increasing their physical activity levels. A study by Ekelund found that, increases in physical activity energy expenditure was associated with improvements in insulin sensitivity, glucose tolerance, fasting triglycerides and clustered metabolic risk. These benefits are independent of an individual's initial activity level. While these findings were based on a study of 393 middle-aged white men and women, they suggest that if the most sedentary of middle aged people can benefit from starting a physical activity routine, Elves of all ethnicities are also likely reap these benefits.

Summary

Regardless of personal beliefs, we can probably all agree that Santa is a well known Canadian celebrity who sets

a strong example of being physically active despite his size. We can benefit from following his example and experience increased jolliness, better glycemic control, improved cardiovascular risk factors and lower risks of metabolic disease. While spending one evening a year consuming cookies and milk in mythical proportions is not recommended, all Canadians can certainly benefit from setting a goal of increasing physical activity levels and then maintaining them throughout the year and for years to come.

More Info...

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What have we learned?

- Regardless of weight, maintaining sufficient levels of physical activity or becoming sufficiently active from a less active lifestyle has a significant impact on jolliness and many risk factors for cardiovascular disease, type 2 diabetes and metabolic disease.
- Small improvements in physical activity levels are associated with improvements in metabolic risk factors, regardless of changes in fitness levels, suggesting that encouraging people to make increments in physical activity will reduce population levels of risk factors.
- The findings suggest that increasing levels of physical activity is likely to confer health benefits even if fat mass is unchanged.
- While obese individuals who are very fit are rare, they are likely to have lower risk factors for many diseases and are likely to be happier than those whose BMI is lower but who are not as fit.