

# One-third of kids with obesity 'metabolically healthy,' study shows

March 20 2014

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Geoff Ball is an associate professor of pediatrics at UAlberta and clinical director of the Stollery Children's Hospital's Pediatric Centre for Weight and Health. Credit: Richard Siemens/University of Alberta

Digits on a scale can help determine a child's weight, but their overall health status can be influenced by other factors such as physical activity, diet and screen time, according to new research from the University of Alberta and Alberta Health Services.

A study of 181 children with obesity aged eight to 17 years old showed that up to a third could be classified as "metabolically healthy," meaning they're not imminently at risk of developing insulin resistance—a precursor to Type 2 diabetes—high blood pressure, [high cholesterol](#) or other obesity-related diseases.

"It's not all about fat, even for kids who meet the definition of obesity," explained Geoff Ball, senior author and associate professor of [pediatrics](#) in the U of A's Faculty of Medicine & Dentistry, and clinical director of Stollery Children's Hospital's Pediatric Centre for Weight and Health, a weight management clinic for children with obesity. "Lifestyle behaviours—how physically active they are and what they eat—those things have an effect on their health, independent of fatness."

A PhD in nutrition and metabolism, Ball and his team studied five years' worth of clinical data, tracking the age and body composition of obese children, lifestyle behaviours such as [physical activity](#) and diet, along with clinical indicators associated with obesity such as insulin resistance, blood pressure, and fat and glucose levels in the blood.

## **Fewer calories consumed, less screen time**

Though numerous studies have explored whether patients with obesity can be metabolically healthy, few have focused on children. In addition to being more physically active, metabolically healthier children were younger, shorter, lighter and less overweight than their metabolically unhealthy peers. They also spent less time in front of the TV, computer or video game console and ate fewer overall calories, including less fat and fewer servings of meat.

The study included traditional measures of obesity such as body mass index, which factors in an individual's height and weight but doesn't tell the whole story, Ball said.

"Obesity is often described as a complex disease with lots of causes and lots of consequences. Not everyone has the same consequences," he said. "Someone with Type 2 diabetes could have less body fat than somebody who has quite a bit more body fat and doesn't have Type 2 diabetes. There is considerable variability between individuals."

Ball said the findings should help physicians and other health professionals understand the complexity of obesity for treating patients and prioritizing referral to specialized weight-management care. Roughly two million young, obese Canadians meet eligibility criteria for such treatment—far more than the two dozen or so clinics across the country can accommodate, he added.

For Edmonton-area patients, having access to the comprehensive management approach at the Stollery's Pediatric Centre for Weight and Health means families receive the most appropriate intervention based on their [health status](#) and individual needs. The multidisciplinary team, including a physician, registered nurse, registered dietitian, exercise specialist, and psychologist provide healthy lifestyle messages to children and families that assist them on their journey towards greater health and well-being.

## **National study recruiting 1,600 children**

Ball's team is now focusing on a larger national study, including what happens to children with obesity—metabolically healthy or otherwise—over time and whether risks of obesity-related illness eventually catch up. That work will see the researchers recruit 1,600 Canadian children currently receiving weight-management care and follow them over several years through lifestyle interventions that focus on improving health and well-being.

Ball said these kids and their families are accessing health services that

hopefully have a positive effect on their health and well-being. Health professionals need to know whether children who are metabolically healthy stay that way over time as they mature and if there are conditions in the health system and beyond that help make it possible.

"Since most [children](#) with obesity find it challenging to lose and maintain weight loss over time, improving metabolic [health](#) by being physically active and eating healthfully is an important result in and of itself."

Ball's research was published in the journal *Diabetes Care* and funded by Alberta Innovates – Health Solutions and the Canadian Institutes of Health Research.

Provided by University of Alberta

Citation: One-third of kids with obesity 'metabolically healthy,' study shows (2014, March 20) retrieved 26 April 2024 from

<https://medicalxpress.com/news/2014-03-one-third-kids-obesity-metabolically-healthy.html>

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