

# Cancer prevention—why body shape may matter more than weight

February 4 2019

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A study published in *Nature Communications* in January finds that excess weight around the midsection appears to be a stronger predictor of all-cancer risk than body size. Credit: Flickr photo by bradhoc, licensed under Creative Commons

Nearly half of Canadians will be diagnosed with cancer at some point during their lifetime, and although the mortality rate in Canada continues to decline, one in four will die from the disease.

But the news isn't all bad. More and more, researchers are using big data to uncover [modifiable risk factors](#) for developing cancer, giving people practical information and tools to lower their cancer risk.

A new study published in *Nature Communications* that followed

thousands of Albertans over a span of nearly a decade found that when it comes to weight, what matters most may not be the number on the scale, but where it is distributed—specifically, the midsection.

"We know that having a higher body mass index—or BMI—is associated with a higher cancer risk, but our study found that waist circumference is an even stronger predictor," says Dr. Darren Brenner, Ph.D., lead investigator on the study and a member of the O'Brien Institute for Public Health and the Arnie Charbonneau Cancer Institute at the Cumming School of Medicine. "What this suggests is that carrying weight around the waist is a stronger risk factor for cancer than just having an all-around larger body size."

The researchers followed 27,000 adults involved in Alberta's Tomorrow Project, a longitudinal study tracking the health of 55,000 adults in Western Canada. Over the nine years that the participants were tracked, [waist circumference](#) was a stronger predictor of developing several cancers including colon, endometrial and hematological, over BMI alone.

Carrying weight around the waist generally indicates having [higher levels](#) of stored fat, which wreaks havoc on several of the body's systems including managing inflammation, blood sugar levels and hormone levels, says Brenner, who is also an assistant professor in the departments of oncology and community health sciences. This all has an impact at the cellular level, eventually leading to cancer development and progression.

## **Taking positive steps toward cancer prevention**

"You can literally use someone's waist size as a general measuring stick of their cancer risk, along with other factors of course," says Brenner.

"But the important takeaway here is that wherever you are on that scale, it's possible to reduce your risk. Waist circumference is easy to measure and track over time—so, if you work to reduce it, you're taking positive

steps towards cancer prevention."

While reaching and maintaining a healthy weight is one of the best things you can do for your overall health and to lower your cancer risk, Brenner acknowledges that getting there can be a major challenge in our busy lives.

Individuals can start small—focusing on achievable goals like standing up more throughout the day—but Brenner says this is an issue that needs government attention as well.

"Multifaceted interventions are needed for this multifaceted problem. Targeting change at a broad range of points is needed, which could include neighbourhood design, transportation, workplace health, school-based programs, and food availability," he says.

And effective interventions require good data.

The Canadian Population Attributable Risk of Cancer (ComPARE) project is working to estimate the number of cancer cases in Canada, now and projected to 2042, that could be prevented with targeted interventions for [cancer risk](#) factors including smoking, poor diet, infectious diseases, hormonal therapies and environmental factors such as air pollution and residential radon.

Brenner, who is part of a Canada-wide group of researchers working on the project, says their findings are important for future cancer prevention and control research, developing health promotion programs, and advocating for and implementing new policies aimed at decreasing the burden of cancer in Canada.

"At the end of the day, we want to provide policy-makers with good information to implement programs that would help move the metrics of

these risk factors for [cancer](#) in Canada," he says.

**More information:** Amanda M. Barberio et al. Central body fatness is a stronger predictor of cancer risk than overall body size, *Nature Communications* (2019). [DOI: 10.1038/s41467-018-08159-w](https://doi.org/10.1038/s41467-018-08159-w)

Provided by University of Calgary

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