

# Cancer risk from obesity differs for men and women

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Killer T cells surround a cancer cell. Credit: NIH

This large study included over 100,000 people and was led by researchers at the University of Bristol and the International Agency for Research on Cancer. They found that a higher BMI (body mass index; a

measure of total fat) is more dangerous for men, whereas a higher waist-to-hip ratio (your waist circumference divided by your hip circumference; a measure of abdominal fat) is more dangerous for women. To discover this, they used an approach, called Mendelian randomisation, that uses genetic information as a proxy measure for weight to investigate the effect of different body fat measures on colorectal cancer risk in men and women.

An increase in BMI of about five  $\text{kg/m}^2$  raised the risk of colorectal [cancer](#) by 23 percent for men, but only nine percent for women. Whereas an equivalent increase in waist-to-hip ratio raised the risk for women by 25 percent, this was only five percent for men. Colorectal cancer is the fourth most common cancer in the UK but the second deadliest<sup>1</sup>, yet it is one of the most preventable cancers by eating a [balanced diet](#), being active and maintaining a healthy weight.

Dr. Emma Vincent, one of the researchers who led the study and is based at the University of Bristol, said: "Our study, which is the largest to look at the difference between body fat and [colorectal cancer risk](#) in men and women, reveals the need for a more nuanced approach when trying to prevent cancer. We are now working to understand exactly how increased body fat causes colorectal cancer, which may give us new targets for reducing risk. This is important because maintaining weight loss is still very difficult."

Dr. Anna Diaz Font, Head of Research funding at WCRF, added: "We know that being overweight or obese increases the risk of at least 12 different types of cancer, including [colorectal cancer](#). But this new research reinforces how important it is to include a wide and diverse range of people in research studies, as we don't yet fully know the differences gender or race may play when it comes to risk of cancer."

Natasha Paton, Cancer Research UK's health information manager,

explained: "It's well established that keeping a healthy weight affects many types of cancer. Most research linking excess weight to cancer uses BMI, but this study adds to the evidence that carrying excess fat around the waist is also important.

"People can reduce their risk of bowel cancer by keeping a healthy weight, eating a diet with lots of fiber and less red and processed meat, drinking less alcohol, and not smoking. Diagnosing bowel cancer early saves lives, so if you notice any changes that aren't normal for you tell your doctor. And we'd encourage people to consider taking up bowel cancer screening when invited."

More research is needed to help understand why this difference between men and women may exist. This study was published in *BMC Medicine*.

**More information:** *BMC Medicine* (2020).

[bmcmedicine.biomedcentral.com/ ... 6/s12916-020-01855-9](https://bmcmedicine.biomedcentral.com/.../6/s12916-020-01855-9)

Provided by University of Bristol

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