

# Obesity increases risk of developing cancer

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Cancer is more likely to develop in people who are very overweight (obese), because surplus body fat interferes with various hormone cycles and with glucose and fat metabolism. On the occasion of European Obesity Day this coming Saturday (16 May), metabolic expert Alexandra Kautzky-Willer, Comprehensive Cancer Center (CCC) at MedUni Vienna and Vienna General Hospital, draws attention to the fact that, even in Austria, more and more people are suffering from obesity. Several studies are therefore being conducted at CCC to investigate the links between obesity, metabolic disorders and cancer.

Obesity is very much on the increase in [industrialized countries](#).

Currently 15% of men and 10% of women in Austria are morbidly obese. The latest studies show that young women and postmenopausal women are particularly affected by this negative trend. Adults are regarded as being obese if they have a Body Mass Index (BMI) of more than 30. A BMI of between 18.5 and 24.9 is considered normal but, at a BMI of more than 25, you are considered to be overweight.

## **Abdominal fat is particularly dangerous**

New data from an international study, which was published in *Lancet Oncology* in 2015, show that 5.4% of all cancers in women and 1.9% of cancers in men are associated with a high BMI. This is particularly true of cancers of the oesophagus, bowel, kidneys, pancreas and – in women – the gallbladder, ovaries, uterus and postmenopausal breast [cancer](#).

Endocrinologist and consultant in gender medicine, Alexandra Kautzky-Willer, Vice Principal of the University Department of Internal Medicine III of MedUni Vienna and member of the Comprehensive Cancer Center (CCC) Vienna: "People with a BMI of 30 and above are predominantly affected. An increase in BMI by only a factor of 1, for example from 29 to 30, increases your [cancer risk](#) by between 3% and 10% for the said types of cancer. Particularly abdominal fat, also known as visceral fat, has a negative impact on health, since it increases your cancer risk and encourages the development of [metabolic disorders](#) such as diabetes, or cardiovascular disease."

Fatty deposits in the abdominal area increase the cancer risk for several reasons: first of all, fatty tissue is hormonally active, produces adipose tissue hormones and changes the balance of sex hormones – for example by converting more androgen precursors into oestrogen. This encourages the development and growth of hormone-related tumours, such as various forms of breast cancer or endometrial cancer. The detrimental shift in the balance of sex hormones and adipose tissue hormones directly and indirectly encourages tumour growth. It also leads to an

increase in insulin resistance, which the body responds to in turn by increasing insulin production. Kautzky-Willer: "The problem with that is that insulin not only regulates the metabolism but can also act as a growth-stimulating hormone and encourage cell division and hence tumour growth. We can therefore see a close relationship between diabetes and certain types of cancer, in particular liver and pancreatic cancer. High blood sugar levels also seem to further promote tumour growth." Another aspect is that chronic inflammatory processes can occur in the region of the abdominal fat and these also favour the development of cancer. Kautzky-Willer: "The positive thing is that you can do something about this risk by losing weight or keeping an eye on your weight from the outset. Many types of cancer could be easily avoided in this way; a Mediterranean diet and exercise also help."

## **Further research into the links**

At the Comprehensive Cancer Center (CCC) of MedUni Vienna and Vienna General Hospital they are conducting further research into the links between obesity, diabetes and cancer. For example, the CANDY study (CANCER AND DIABESITY) has been set up. This looks at the link between diabetes and tumour diseases. Other studies are investigating the influence of various diabetes drugs on the development of cancer and the course of the disease. This should help to further improve drug treatments.

## **Abdominal girth a better marker than BMI**

Although, even in scientific publications, the BMI is commonly used as a guide value, experts only regard it as a general marker. Kautzky-Willer: "The BMI relates to body weight and makes no distinction between fatty tissue and muscle mass. So, for example, a bodybuilder, who is very heavy because of his muscle mass but hardly has any fat at all, would

have a very high BMI. Abdominal girth, on the other hand, is a much more reliable indicator of overweight or [obesity](#), because it can be used to specifically determine the proportion of [fatty tissue](#)."

**More information:** "Global burden of cancer attributable to high body-mass index in 2012: a population-based study." DOI: [dx.doi.org/10.1016/S1470-2045\(14\)71123-4](https://doi.org/10.1016/S1470-2045(14)71123-4)

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