

Is the cold weather making you hungrier?

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If the winter chill is making you reach for the cookie jar, don't beat yourself up—your brain is hard wired to seek calories, particularly when it's cold.

While the body's hunger controls are complicated and not fully understood, there are two key hormones that control appetite—leptin and ghrelin, nutritionists say.

If the belly is empty and [body fat levels](#) drop, [stomach cells](#) trigger the release of ghrelin, causing hunger pangs.

But when we eat, leptin is released from long-term fat cells that line the gut and colon.

Leptin then travels through the blood stream to the brain, to suppress appetite and communicate what was eaten and when.

A 2000 study published in the *International Journal of Obesity* found that rats given leptin ate less, but two weeks later developed a resistance to the hormone, rendering it less effective.

In humans, the more fat you have, the more leptin in your blood and scientists think that obese people also build up resistance to the hormone.

Foods and sleep patterns can influence the levels of leptin in the blood.

Fatty foods, which are full of [energy](#), can cause people to overeat by tricking the brain into thinking fewer calories have been consumed.

University of Western Australia public health researcher Dr David Lawrence says while the science is complex, the body regulates and balances energy intake like a thermostat.

"When we increase our physical activity, it stimulates our desire to eat more," he says.

"When we cut back on energy intake, say if we skip a meal, we might feel more tired and lethargic as the body reduces energy expenditure."

In the cold months you might end up feeling hungrier because the body needs to burn more energy to keep its temperature up, Dr Lawrence says.

"One way the body will respond to keep the energy's homeostasis [equilibrium] in balance will be to stimulate hunger."

People believe that they put on weight because they eat too much or don't exercise, but children are a good example of how that's not a strictly accurate model of how the body processes food and energy, Dr Lawrence says.

"Children don't have a growth spurt because they eat more on a particular day.

"Their growth is hormonally regulated by something programmed into their DNA."

Insulin and serotonin also influence appetite. While insulin is the key for telling the body how to use sugar, attaching to cells to allow the [body](#) to

absorb sugar, serotonin makes us feel happy about food.

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