

When eating and dieting, follow your gut

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(PhysOrg.com) -- Eating a small lunch doesn't necessarily mean you'll be so hungry for dinner that you'll eat more than usual, a new study suggests.

Exercising after a small meal can reduce the sensation of hunger and potentially help lose weight, according to Katarina Borer, professor in the University of Michigan School of [Kinesiology](#) and principal investigator on the study.

When the meal was small, people felt hungrier than when the meal was larger. But for the next meal, hunger ratings were equally high, the study showed.

Exercising makes you less hungry, but does not make you hungrier or eat more at the next meal.

“The [stomach](#) or gut knows when we are full, and that has to do with volume and energy contained in food,” she said. “Our body tracks the amount of food that goes into our mouth and the stomach. Our stomach is the smart guy who knows what’s going on and tells our brain.”

Borer withheld [calories](#) through diet, and also had people burn calories through exercise. The study showed that caloric deficit in the form of small [meals](#) causes hunger but the reverse is true when we expend calories through exercise after a large meal. But when she replaced those calories and nutrients intravenously, people still did not feel full after either a small meal or exercise, which suggests again that the volume of

food actually passing through the mouth and gut triggers hunger or fullness.

Borer's findings disclaim the widely held position that the [hormone leptin](#) acts as a satiety signal in controlling appetites, and that the hormone [ghrelin](#) signals hunger, Borer says.

Current thinking is that hormones and other sensors in the body somehow track our energy/caloric deficit or excess, and then ghrelin signals our bodies that we need to eat during an energy deficit and leptin directs that we should stop in response to caloric fill. Hormones [leptin](#) and ghrelin did track energy availability (deficit due to small meals and exercise and excess due to large meals and intravenous nutrients), but did not affect [appetite](#), she said.

Borer's findings certainly do not give license to eat a small volume of calorie-rich food like a pizza while dieting, she stressed. You'd feel hungry sooner than after consuming large volumes of healthy low-energy foods. The added benefit of low energy but nutrient-rich food is a possible weight loss and general good health, she says. Lots of vegetables and lean meat are wiser choices than pizza, she says, though equal volumes of both make us feel full.

"You need to satisfy your stomach but not add a lot of calories," she said.

More information: [Appetite Responds to Changes in Meal Content While Ghrelin, Leptin, and Insulin Track Changes in Energy Availability](#)

Provided by University of Michigan ([news](#) : [web](#))

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