

Taste buds lining up as the first line of defence against obesity

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Training our taste buds to be more sensitive to the taste of fat could be key in the battle to curb the world's growing obesity problem.

In a study published in the latest issue of the international journal *Obesity*, Deakin University sensory scientists have shown for the first time that it is possible to increase the ability of overweight/obese people to taste [fat](#) by altering their [diet](#).

These results build on a growing body of research by Deakin's Centre for Advanced Sensory Science that has previously identified fat as part of the tongue's taste range (along with sweet, salt, sour, bitter and umami) and found that people who do not taste fat in food are more likely to overeat.

"It is becoming clear that our ability to taste fat is a factor in the development of obesity," said head of the Centre, Professor Russell Keast.

"The results of this recent study, along with previous work, point to increasing fat taste sensitivity in those who are insensitive as a target for obesity treatment and prevention."

For the current study, the scientists assessed the effect of a six week low-fat or portion controlled diet on fat taste thresholds, fat perception and food preference in 53 overweight/obese people.

The participants were randomly allocated to eat either a low-fat diet (with less than 25 per cent of total kilojoules from fat) or a portion controlled diet (with 33 per cent of kilojoules from fat and designed to reduce energy intake by 25 per cent) for six weeks. Their fat taste thresholds (the lowest fat concentration they could detect), perception of [fat levels](#) in food samples and preference for low-fat and regular fat foods were assessed before and after the diet along with height, weight,

waist and hip measurements.

The scientists found that the fat taste thresholds decreased for participants on both diets, with the effect strongest for those on the low-fat diet. The ability to perceive different fat concentrations in foods increased only for those on the low-fat diet. While participants on both diets lost around the same amount of weight – 2.9 per cent weight reduction in the low-fat diet group and 2.7 per cent for the portion control group.

Dr Lisa Newman, who conducted the study for her PhD, said these results show that, through diet, it is possible to train the body to be sensitive to the [taste](#) of fat.

"This could then lead to people being less inclined to fatty foods, which in turn could impact on not only reducing weight in people already overweight or obese, but also in preventing weight gain in the first instance," Dr Newman said.

More information: Lisa P. Newman et al. Dietary fat restriction increases fat taste sensitivity in people with obesity, *Obesity* (2016). [DOI: 10.1002/oby.21357](#)

Provided by Deakin University

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