

Everything you know about dieting is wrong: scientists

February 20 2012, by Kerry Sheridan

Everything you know about dieting is wrong, say US scientists who have devised a new formula for calculating calories and weight loss that they hope will revolutionize the way people tackle obesity.

Obesity rates have doubled worldwide in the past 30 years, coinciding with a growing food surplus, and the ensuing [epidemic](#) has sparked a multibillion dollar weight loss industry that has largely failed to curb the problem.

Current standards in the United States, where two thirds of people are overweight or obese, advise people that cutting [calories](#) by a certain amount will result in a slow and steady weight loss over time.

But that advice fails to account for how the body changes as it slims down, burning less energy and acquiring a slower [metabolism](#), researchers told the [American Association for the Advancement of Science](#) meeting in Vancouver.

The result is a plateau effect that ends up discouraging dieters and sending them back into harmful patterns of overeating.

As an example, researcher Kevin Hall offered up his large vanilla latte, purchased at a popular coffee shop. When he asked, the barista told him it contained about 240 calories.

"The notion was if I drank one of these every day and then I replaced it

with just black coffee no sugar, then over the course of a year I should lose about 25 pounds, and that should just keep going," Hall told reporters.

"People have used this sort of rule of thumb to predict how much people should lose for decades now, and it turns out to be completely wrong."

Hall, a scientist with the US National Institutes of Health, said his work aims to "come up with better rules and better predictions of what is going to happen when an individual changes their diet."

He and colleagues said their scientific model is aimed to help doctors and [policymakers](#), while a "back-of-the-envelope calculation" for consumers means cutting small amounts of daily calories, but expecting to cut more over time.

"If I want to lose 10 pounds of weight eventually, I have to cut 100 calories per day out of my diet," Hall explained.

"You'll get halfway there in about a year, and then you will eventually plateau, (reaching the goal) after about three years," he added.

"For folks abroad that works out to about 100 kilojoules per day per kilogram. The contrast is the old rule of thumb predicts twice as much weight loss after a year, and it gets worse after that."

The new model gives [dieters](#) one calorie goal for short term weight loss and another for permanent weight loss. Exercise is also calculated in to help set realistic goals.

Tests on small numbers of adults who were fed strictly controlled diets showed the model was accurate, though real-life situations are harder to predict.

Study co-author Carson Chow, also with NIH, said the daily calorie cut needed for weight loss was actually smaller than researchers anticipated.

"It is essentially one cookie different a day, so a 150 calorie cookie leads to a seven kilogram (15 pound) difference in weight. That is huge in my opinion," Chow said.

Their model was first published in *The Lancet* in August 2011, and a link is available at bwsimulator.niddk.nih.gov.

"People can plug in some information about their initial age, their height, their weight, some estimate of their physical activity level," Hall said.

Add in a goal weight and the "model will simulate what changes of diet or exercise that person would have to do to achieve that goal weight, and then even more importantly what they need to do permanently maintain that weight loss."

Since *The Lancet* article appeared, the notion has not exactly taken the world by storm, in part because it's not primed for public use, but is mainly aimed at doctors and researchers with adult American patients for now.

Also, if a dieter enters an extreme weight goal, the number of calories the model returns may be much too low to be realistic or healthy, so it needs an expert's interpretation.

"It's not particularly user friendly... but it is still relatively informative," said Hall, who maintains hope that some day his message will be heard.

"There is a lot of inertia behind these old rules of thumb," he said, adding that he was heartened by an editorial in December in the journal of the American Dietetic Association that commented on the idea of a

[weight loss](#) plateau and mentioned the new simulator.

"It's going to take some time to get the public and the professional community aware that there is a new way of doing things, and we actually have some tools that weren't available before."

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