



The Washington Post

Democracy Dies in Darkness

Yes, calories in/calories out really is the key to weight loss



Perspective by [Tamar Haspel](#)

Columnist, Food

August 23, 2023 at 8:00 a.m. EDT

All calories are the same, and the only way to lose weight is to burn more of them than you absorb, but nothing good happens if you go out in the world and say that out loud.

“LOL!” the responses tend to go. “Calories-in-calories-out has been debunked.” Then there’s the addendum: “this idiot thinks that 1,000 calories of sugar is the same as 1,000 calories of lentils!”

Sigh.

You know who thinks that? Nobody. Because it’s idiotic.

There’s massive confusion about calories-in-calories-out (often abbreviated CICO), but it’s a fundamental weight-loss truth, so I’m going to try to clear it up. (And I hear you saying “Good luck with that.”)

The debunking crowd seems to have gotten the idea that a calorie is a unit of food. It isn’t; it’s a unit of energy. The calorie count tells you only one thing about what you eat: the amount of energy that is theoretically available for your body to absorb.

Saying all calories are the same is like saying all kilometers, or ounces, or minutes are the same. All minutes are definitely the same! Although you may be feeling that the ones you spend, say, watching baby panda videos are way better than the ones you spend reading this column.

Despite being all the same, the calories come in a food package, and there are lots of other things about food that can affect both the calories-in and the calories-out sides of the equation. The real disagreement isn’t over whether this is true; it’s whether the effect is large enough to make a difference in weight loss.

So let’s look at how what you’re eating can affect how many of the available calories you absorb and how many you burn.

Let's do absorption first; there are several ways the food matters:

Hard-to-digest carbohydrates: While some carbs (think sugar) are easy for our bodies to break down, others (think lentils) are harder. Foods that are high in fiber and other digestion-resistant carbs, like oligosaccharides, and resistant starch don't get completely broken down. They exit your body, if all goes smoothly, first thing in the morning.

Particle size: The bigger the particle size of your food, the less surface area your digestive enzymes have to work with, and the less efficiently you absorb the energy. Almond butter, for example, will net you more calories than whole almonds. Ditto instant oats vs. whole oats. And if you've ever eaten corn on the cob, you may have noticed that some of those large particles pass right through you. (This is one of the reasons highly processed foods, which tend to be pulverized, are so insidious.)

Your microbiome: Microbes gotta eat! And different foods feed different kinds of microbes. If your microorganisms use the calories, you can't. We're just starting to get a handle on how food content fosters, or doesn't, different microbial communities.

Now let's look at the burn side:

Macronutrient content: Food is made of up of carbohydrates, fat and protein, and your body has to break all of those down to make the calories accessible. That breaking down takes energy (calories!). I think of this as digestive overhead, but scientists call it the "thermic effect of food," and estimate that it's about 10 percent of the calories you burn in a day.

Each macronutrient is different, though. Fat is easiest for your body to access, and requires under 3 percent of its calories. Carbohydrates are next, at 5 to 10 percent, and protein is highest, at 20 to 30 percent. (People sometimes disagree about the specific numbers, but not the concept or the ballpark.)

Metabolism boosting: Some foods may rev you up, at least a little. There's some evidence that caffeine and capsaicin (the heat in chile peppers), for example, can increase resting metabolism.

Hormonal effects: Food can affect the hormones that regulate your metabolism. Low-carb diets, for example, hang their hat on the idea that, if you release less insulin (a hormone integral to fat storage), you cannot store fat, and your body will burn more calories.

There are undoubtedly other ways in which what you eat affects how many calories you absorb, many of which we have yet to discover. Of course, there's also the issue of satiety; if what you eat helps you eat less later, you obviously absorb fewer calories. What all those effects have in common is that someone has tried to sell you a diet based on it.

So here's the burning question: Given all the ways different foods affect calorie absorption and burn, why the focus on calories rather than food?

Because all those ways are small. So small that, in trial after trial, no diet, based on any of these things, significantly outperforms any other diet in the long term.

And yet, the idea that what you eat is more important than the number of calories you consume has taken hold in the public understanding of weight loss. To figure out why, I checked in with nutrition scientist Marion Nestle. She's co-author of the book "[Why Calories Count](#)," so you know exactly where she stands.

I started off talking about all those ways that what we eat affect how we absorb or burn calories, but she dismissed them wholesale. "It's trivial!" she said. "In studies where people were locked in metabolic wards, if the calories were lower, they lost weight at a predictable rate, regardless of the composition of the diet." The diets, she said, "varied from 80 or 90 percent carbs to 80 to 90 percent fat." And it just didn't make much difference.

This doesn't mean your food choices are irrelevant. Take highly processed foods, which tend to be calorie-dense, nutrient-challenged, easily eaten and absorbed, and minimally satiating.

That's a combination that can easily lead to overeating, which means, as I'm sure you know by now, more calories.

It's absolutely possible to eat a diet of foods that make it nearly impossible to keep calories in balance. The Häagen-Dazs Diet. The Pepsi Diet. The Bacon Diet. But if you're looking at reasonable permutations of whole-ish plant and animal foods, the percent of calories you get from protein and the grams of carbs you eat in a day are all but irrelevant for weight loss.

If you don't believe me, or Nestle, I invite you to pop on over to PubMed, the repository of academic papers, and look around. Look at the meta-analyses, which try to make sense of the body of evidence, and find one where a particular kind of diet outperforms others long-term by more than a few pounds.

If you find one, send it along.

Why, I asked Nestle, are people so resistant to the fact that calories are central to weight loss?

"Because you can't see them," she said. "And you also can't count them." You don't know *exactly* how many are in your food, and you don't know *exactly* how many of those you absorb, and you don't know *exactly* how many you burn. But you can read labels, check calorie counts and venture a guess, and you have an infallible tool to find out if you're right: "Weigh yourself on a scale," Nestle said. If you're not losing weight, you have to find a way to rejigger the equation.

It's the calories, people. It's the calories.