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CALORIES IN, CALORIES OUT-DATED

BY ANDRÉA MARIA CECIL

Researchers say traditional weight-loss guidelines obscure the effects of calories from different sources.





Scientists and researchers warn sugar has a metabolic effect on the body independent of its caloric value. And it's not good.

It's a law of thermodynamics: A calorie in equals a calorie out. Energy is neither created nor destroyed.

"Energy balance requires that the energy that comes in has to equal the energy that comes out," said Richard Johnson, professor of renal diseases and hypertension at the University of Colorado Denver's Anschutz Medical Campus in Aurora.

The body uses calories in one of two ways: general metabolic requirements—from simply standing and breathing to exercising—or energy storage.

In other words: Calories don't disappear.

The idea is that as long as you're eating fewer calories than you're expending, you shed pounds. You can do this with a diet of Twinkies and candy bars or with salmon and arugula.

But food is more than just its caloric value.

"It isn't just about calories. It's about the kind of food you eat," Johnson emphasized. "All of my research only shows that calories tell part of the picture."

Likewise, there's a significant difference between 200 calories of chocolate-frosted doughnut and 200 calories of chicken breast, researchers said. Because they're providing different vitamins and minerals, they noted, the body processes them differently. And when the calories are empty—such as those from soda—the body receives energy void of vitamins or minerals.

"(Food) can be modified by fiber in the diet, how much you absorb," Johnson said. "What the energy balance will translate into is weight. But it doesn't reflect body composition. So body composition can change dramatically even though weight doesn't change."

Johnson continued: "You can change your fat to muscle and be the same weight."

Or, he said, "You can have fatty liver (disease) or not have fatty liver (disease) and be the same weight."

A Description—Not an Explanation

The problem with focusing on a calories-in-calories-out method of eating—also referred to as "energy balance"—is that it's



All calories are not created equal. Healthy food contains nutrients—vitamins, minerals, dietary fiber and so on—that add value above and beyond calorie content.

based on science that is more than 100 years old, explained Gary Taubes, investigative journalist and best-selling author of "Good Calories, Bad Calories" and "Why We Get Fat." Science, needless to say, has made some advances since the 1900s.

"The argument that I've been making—and others—is that when you consume sugars, a lot of things happen other than the consumption of calories. The fructose and glucose components of sugar are not only metabolized differently but metabolized by entirely different tissues and organs," Taubes explained.

He added: "Why would you expect them to have the same effect just because they have the same amount of calories?"

Repeated consumption of that 200-calorie chocolate-frosted doughnut—rather than the 200-calorie chicken breast—can lead to metabolic derangement that could manifest itself as anything from being overweight to diabetes to nonalcoholic fatty liver disease. It's the content of the food—not its caloric value—that matters. Cyanide, after all, has few calories.

"So things like soda, which have sugar or high-fructose corn syrup, have metabolic effects independent of calories," Johnson noted.

One of the biggest problems with the calories-in-calories-out equation is that it led to the theory that obesity is simply an imbalance of energy, Taubes said.

"But the question is why is that happening? And what we really want to know is why are the fat cells taking in more calories than they expend?"

It's like answering the question of "Why is Bill Gates so rich?" with "because he makes more money than he spends," Taubes added.

"It's weirdly meaningless. It just doesn't tell you anything that you didn't already know." ■

About the Author

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