

We've been missing the boat on weight loss



Last week, top obesity researchers challenged the calories-in/calories-out hypothesis that has dominated our approach to weight loss for decades.

Study Finds heralded: "Overeating doesn't cause obesity"

And *Science Daily* proclaimed: "Scientists claim that overeating is not the primary cause of obesity"

It all sounds kind of counterintuitive. We dutifully weigh our portions and consult tables and apps to determine our caloric intake. Our smartwatches and gym equipment report how many calories we burn when we exercise. This is sometimes referred to as the Energy Balance Model of weight loss. It's based on 19th-century physics—the laws of thermodynamics—that launched the machine age.

And it makes sense, sort of. If you're a "lead-foot" driver, your car will burn fuel faster. If you soft-pedal it, like the test drivers who establish unrealistic mpg's that you never attain in actual traffic conditions, you save fuel. Fuel being the equivalent of dietary calories; car mileage and speed analogous to exercise intensity and duration.

Therefore, it's simple: Eat less, and exercise more. That's about as much nutritional advice as you'll get from your average doctor, who still subscribes to the outmoded steampunk Energy Balance Model of weight loss. Next patient!

Looking at weight loss in this fashion is the equivalent of attempting to launch the nuclear age relying on the physics of Isaac Newton, rather than the remarkable new perspective afforded by Einstein's Theory of Relativity.

A new article in the *American Journal of Clinical Nutrition* entitled "The carbohydrate-insulin model: a physiological perspective on the obesity pandemic" attempts to apply a correction.

It's not that this is a brand-new revelation. Physicians like Banting in the 19th century, whose principles were rediscovered by Dr. Robert Atkins and others in the 20th, have long invoked carbohydrate restriction as an alternative to caloric restriction as a way to shed weight. But their approach encountered resistance and derision from mainstream medicine.

It took the failure of the low-fat diet paradigm to prompt a reappraisal. Obesity and Type 2 diabetes rates soared while we demonized saturated fat and cholesterol and encouraged grains and starchy vegetables.

What's significant about the *AJCN* article is its positioning in the world's most authoritative nutrition journal, an acknowledgment that weight gain is not merely an energy surplus problem, but rather a hormonal disorder that can be mediated via diet. It is, quite literally, a "Sugar Disease" a subject that I first wrote about 30 years ago, and reprised in a 2013 article.

The *AJCN* article is a collaborative effort spearheaded by Dr. David Ludwig, an outspoken pediatrician at Harvard. He is the author of *Always Hungry?: Conquer Cravings, Retrain Your Fat Cells, and Lose Weight Permanently*, which posits that carb consumption perpetuates a cycle of craving that leads to progressive weight gain.

In the *AJCN* article, the authors turn the prevailing explanation for weight gain on its head: Rather than obesity being the result of excessive consumption of food, they argue that it's the *type* of food consumed that drives overeating, resulting in overweight. What characterizes obesogenic foods is their **glycemic index (GI)**, a measure of how rapidly and to what extent they dump glucose into your body.

In the carbohydrate insulin model (CIM) of weight gain that they propose, it's rising levels of insulin in response to dietary carbohydrates that perpetuates a vicious cycle of overconsumption and weight gain.

Instead of asking dieters to impose self-control over the *quantity* of food they eat—which seldom works long-term, Ludwig and his co-authors propose a change in dietary *quality*:

"According to the CIM, humans in the modern, industrial food environment may have greater long-term control over what than how much they eat. By reducing anabolic drive with a low-GI diet, patients may experience less hunger and improved energy level . . . A practical strategy is to substitute high-GI foods (refined grains, potato products, concentrated sugars) with high-fat foods (e.g., nuts, seeds, avocado, olive oil), allowing for moderate intake of total carbohydrate from whole-kernel grains, whole fruits, and legumes and nonstarchy vegetables. For those with special susceptibility, such as high insulin secretion or severe insulin resistance, stricter reduction in total carbohydrate may be optimal . . . Or perhaps time-

restricted eating could reduce hunger and thereby facilitate calorie restriction, in part through hormonal mechanisms.”

Oh, and here are a couple of other perspectives on weight loss that Ludwig, *et al* didn't have time to consider:

The microbiome matters: According to a new study, that confirms previous research, gut microbiota influence the ability to lose weight. People who have trouble shedding pounds may have different, pathogenic bacteria in their intestinal tracts. Healthier diets can favorably alter the bacterial composition. So, too, might specialized probiotics that reintroduce beneficial species, which biotech start-ups are racing to develop.

Toxins impede weight loss: Artificial chemicals, called **obesogens**, can impede weight loss. Plasticizers like BPH and phthalates, herbicides like atrazine, “forever chemicals” like PFOA used in non-stick cookware, and fire retardants ubiquitous in mattresses, pillows, furniture, and clothing are all acknowledged endocrine disrupters.

More factors likely remain to be discovered, but the latest research is a clarion call to revise our overly simplistic—and resoundingly unsuccessful—approach to weight loss.