

PORTION SIZE AND CALORIC INTAKE

The conventional approach to weight control is focused on calorie balance, with advice to “eat less, and move more.” Yet an astoundingly small proportion of people with excessive weight (more than two thirds of the U.S. adult population) can maintain significant weight loss over the long term, despite the simplicity of this advice.

One explanation for this failure is a combination of low willpower and our “toxic” obesogenic environment. Surrounded by inexpensive, high-calorie foods ubiquitously available in large portion sizes, many people are unable to exert self-control, so they mindlessly overeat and gain weight. Without doubt, the portions Americans eat have increased dramatically in the last half-century. For this reason, a major focus of public health in obesity prevention has been reducing and redefining portion size, as exemplified by the “100 calorie pack.”

However, a focus on calories alone disregards a fundamental scientific fact demonstrated repeatedly in the research laboratory: Body weight is determined more by biology than willpower over the long term. When people cut back on calories, they will initially lose weight. But the body fights back, with rising hunger and slowing metabolism.

Certainly, genetic make-up helps to explain individual differences in predisposition to obesity. But our genes haven’t changed in recent decades, as obesity prevalence has skyrocketed. Beyond calorie abundance and more sedentary lifestyles, the quality of the food supply has changed, brought on largely by the excessive focus on reducing dietary fat. During the low-fat craze of the last 40 years, the American public was told to eat fats sparingly and instead fill up on carbohydrates. Responding to this call, the packaged foods industry marketed tens of thousands of reformulated food products that substituted fat with refined starches and added sugars. But these highly processed carbohydrates have exceptionally low satiety value (see sidebar on the next page) and adversely affect metabolism. Fortunately, the public shows evidence of backing away from these simplistic, “all carbs good, all fats bad” message.

New research suggests that the *type* of calories consumed may also affect the number of calories burned. With a reduction in processed carbohydrates, metabolism may run faster, helping to maintain a healthy weight without needing to restrict calorie intake as severely.

The 2015 Dietary Guidelines Advisory Committee found that fat in the diet, despite its high calorie content, does not uniquely lead to weight gain, and that some high-fat foods are highly protective against diabetes and other chronic diseases.

Increasing the portion size and serving frequency of minimally processed carbohydrates (vegetables, fruits, legumes) and healthful fats (nuts, avocados, oil-based salad dressings), will displace less healthful foods, improve diet quality, and protect against chronic disease. In addition, high-quality plant-based proteins (nuts, legumes, soy products) and seafood have a special role in promoting satiety and balancing the metabolic effects of carbohydrates. Conversely, increasing the portion size of refined starchy foods (e.g., most extruded breakfast cereals, white bread, white rice, fries) and added or “free” sugars (e.g., sugar-sweetened beverages, highly sweetened desserts) erodes diet quality and leads to obesity and chronic disease.

The restaurant and foodservice sectors account for more than 30 percent of all calories sold in the U.S. While the packaged food and beverage industries have been working to reduce portion sizes and calorie counts thanks to consumer and legislative pressure, restaurant operators still have much to do to reduce calories and increase calorie quality in menu offerings. The calorie menu labeling legislation that went into effect in May 2018 has encouraged many operators to reformulate dishes and reconsider portion sizes, although its impact on consumer behavior is still being measured and this legislation does not apply to a large number of smaller chains or individually owned restaurants.

Interestingly, a multi-country study published in 2018 by Tufts University researchers found that 94 percent of full-service meals and 72 percent of fast food meals across five countries, including the U.S., contained 600 calories or more, and that fast food restaurant meals contained 33 percent fewer calories than meals from full-service restaurants (though it should be noted that fast food, or “quick-serve,” meals are typically designed as smaller portions and that many customers of these restaurants often order or share multiple portions).



While much of the blame for high-caloric, oversized portions is placed on fast food outlets, this research demonstrates the need for progress in strategic calorie reduction across all foodservice meals.

Innovative fast casual concepts such as Dig Inn, By Chloe, sweetgreen, Salad and Go, and others have found success in building convenient, healthier, high-quality alternatives into their DNA from inception, forcing legacy brands to introduce similar innovations into their menus. Americans' growing snacking habits and interest in spicy foods, as well as fermentation and pickling preparations (whose intensity inherently calls for limited consumption), also present opportunities for thoughtful menu innovation around smaller portions which nonetheless deliver on flavor, nutrient density, and satiety. The restaurant industry is starting to shift away from an older paradigm of big portions of varying quality food, and has learned the hard way that only reducing calories, without enhancing the quality of the calories that remain, is a strategy destined to fail in terms of health and sustainability.

Flavor and aesthetics are two key tools that chefs can use to move diners toward healthier habits when it comes to righting portion size

and balancing the right kind of calories. Chefs can hesitate to reduce portion sizes because customers often then complain that the value of the meal is not good (a perception of too little food for too much money). Ensuring that the healthier components on the plate are packed with flavor will help diners feel satiated, while clever plating practices can minimize perception issues around size. These “stealth health” tactics, along with creative and appealing—even decadent-sounding—menu names and descriptions, will help nudge diners in a healthier direction without them even realizing it.



SCORE: 3.5

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IN SUMMARY:

- All calories are not alike. The belief that they are has produced misguided attempts to modify the food supply and led to confusion about what to do within the culinary profession and the foodservice industry. Simply lowering the total calories in a meal by reducing fat content will not produce benefit if that meal is less satisfying and physiologically satiating and thus leads to subsequent overeating.
- To increase consumption of minimally processed carbohydrates, healthful fats, and high-quality proteins, changes in national policy that focus on decreasing prices of these foods relative to commodities are needed. Culinary strategies are also needed from the foodservice industry to make these options more available on menus and served in a variety of delicious ways.
- The calorie menu labeling legislation, now in effect, has encouraged many operators to reformulate dishes and reconsider portion sizes, but strategic calorie reduction and a focus on nutrient density, quality, and flavor across all foodservice meals is still needed.

IN A WORD: SATIETY

According to the “energy balance” view of weight control, an eight-ounce sugary soda at 100 calories would be better for your weight than a one-ounce serving of nuts at almost 200 calories. Of course, common sense and definitive research say that’s not so. Foods with the same calorie content can have markedly different effects on hormones, metabolism, and even microbiomes (microbes in the gut) in ways that influence how long we feel full after eating. The sugary beverage might give you a quick rush of energy, but it will leave you hungry again and prone to overeating soon. In contrast, the nuts will elicit strong satiety—that long-lasting sense of fullness after eating. Even though fat has about twice the calories per gram of carbohydrate, high-fat foods typically produce greater satiety per calorie than processed carbohydrates. Some of the most calorie-dense foods in existence (e.g., nuts, olive oil, dark chocolate) are consistently associated with lower body weight than refined grains, potato products, and concentrated sugars. They are also demonstrably healthier for the heart. All calories are *not* alike to the body.

Often repeated phrases in the public health community and media such as “balance energy intake with energy expenditure” and “there are no bad foods” do not reflect current science. These arguments distract us from focusing on the paramount importance of *diet quality* as a key determinant of long-term caloric intake and metabolic health for each of us individually—and ultimately as a key determinant of many of the largest food, health, and environmental challenges for all of us collectively.

