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Portion control products: Do they work?

Portion control products take the guesswork out of serving sizes. But whether they really prevent overeating depends on the individual.

By Karen Ravn, Special to The Times

A portion is a portion is a portion -- unless, that is, it's a giant, super, king or grande portion, in which case it's probably trouble.

Over the last 30 years, portions have grown by heaps and mounds in restaurants across the country and in many homes as well. During that same time, the waistlines of Americans consuming those mega-meals have grown more and more generous too -- to the point that now two-thirds of American adults are considered overweight.



[Diet plate](#)



[EZ Weight Plate](#)



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Some companies say they've got what it takes to help turn both trends around and serve up svelte good health -- if not on a silver platter, at least on a microwaveable, dishwasher-safe plate.

A plate intended to give people the sad news about just how little they really ought to be eating.

These so-called portion-control plates -- with names such as the Diet Plate, EZ Weight Plate and Portion Doctor -- are marked into sections, or divided into compartments, designated to be filled with different types of food. There are large areas for vegetables and much smaller areas for everything else. The theory is that people will eat appropriate amounts when using the plates (some of them originally designed for people with diabetes) and learn to recognize, and reject, inappropriate amounts whenever they're tempted by them.

Portion-control products make sense, says John Hamberg, vice president of marketing for Portionpals in Port Washington, N.Y., which manufactures special cutting boards to help dole out portions. "Why is the nation getting fatter and fatter? They're overeating," he says. "We're telling them how to eat proper amounts."

No need to count calories, says Kay Illingworth, managing director of the Diet Plate, based in Glossop in the United Kingdom. "People only need use their eyes to slim."

To date, only one published study has tested a portion-control plate. When used properly, this study found, the plate promoted weight loss among people with Type 2 diabetes.

"If something as simple as a plate can do that, it's very significant," says study lead author Dr. Sue Pedersen, a specialist in endocrinology and metabolism at the universities of Calgary and Saskatchewan in Canada.

But not all nutrition experts think that something as simple as a plate or bowl can take a bite out of long-ingrained eating habits.

"I wasn't personally too impressed with the numbers [in the diabetes study]," says Susan Roberts, a senior scientist in the Human Nutrition Research Center at Tufts University in Boston. Besides, "the plate method only touches the stuff you eat at home. . . . I would say eating at home is the least of our problems. Many people cook very little these days."

Overall, diet and nutrition experts agree that portion-control devices can't hurt and might help.

"If people use plate size as a tool to guide portion sizes, it would probably be useful," says Barbara Rolls, professor of nutritional sciences at Pennsylvania State University in University Park. "Anything we can try to do to educate people about appropriate portions is good."

Out of proportion

Portion-control plates are intended to do just what their name says: get portion sizes under control. Most experts agree that portions have run amok.

Starting in the 1970s, portions in all food categories except bread have been growing, according to a 2002 study conducted at New York University. That includes portions served in restaurants, packaged items sold in grocery stores and portion sizes in cookbook recipes.

Some examples: Twenty years ago, an average-sized bagel was 3 inches in diameter and had 140 calories, according to figures from the National Heart, Lung, and Blood Institute. Now it's 6 inches across and packs about 350 calories. Twenty years ago, a cheeseburger, order of fries and a soda had 630 calories, fewer than half as many calories as the same 1,450-calorie meal, on average, today, according to the institute.

"People know portions are big, but they have no idea how big, and how much bigger they are than what we should eat," says Lisa Young, adjunct professor of nutrition at New York University.

And while portion sizes have been expanding, people have been doing the same. From 1976 through 1980, health professionals interviewed and examined thousands of people for the National Health and Nutrition Examination Survey and found that 15% of adults ages 20 to 74

were obese. When the survey was conducted during the period 2003 to 2004, the figure had more than doubled to 33%.

No one thinks that extra-large portions are totally responsible for extra-large people. And just because portions are mountainous doesn't mean people have to treat them like Everest and eat them just because they're there.

Still, that may be just what happens. "The ability to eat calories to simply sustain health has all but been lost," says Kim Gorman, weight management program director at the Center for Human Nutrition at the University of Colorado in Denver.

Study after study has shown that the more people have on their plates -- or in their bags of chips or boxes of popcorn -- the more they're likely to eat. Even the size of a plate (or bowl or spoon) can influence how much people eat. For example, in a study reported by Brian Wansink, then a food psychology professor at Cornell University, in his 2006 book "Mindless Eating," people served themselves more on a bigger plate than on a smaller one. In another study led by Wansink and published in the American Journal of Preventive Medicine in the same year, 85 nutrition experts served themselves more ice cream when given a larger bowl and spoon than when given a smaller bowl and spoon -- and most of them proceeded to eat the full portion.

Not all research in this area points in the same direction, however. Rolls, for example, led a team that found plate size did not influence how much people actually ate whether food was served to them or they served themselves.

The study, published in the journal *Appetite* in 2007, also found that when people served themselves from a buffet, the ones who were given the smallest plate went back for refills more often than those with bigger plates.

'Something easier'

In general, portion-control plates try to make portions equal to serving sizes recommended by the government's Food Pyramid and ones used in product labeling. "We take these nutritional guidelines and translate them right onto the plate," says Carol Jubert, program designer for Portion Doctor made by Portion Health Products in St. Augustine, Fla.

For example, the Portion Doctor plate is divided into three sections -- the largest meant to hold a cup of vegetables, another to hold half a cup of potatoes, pasta or rice, and the third to hold 3 ounces of meat, poultry or fish.

Another product, the EZ Weight plate, distributed by L&L of Luling in Luling, La., is divided into eight compartments: two teaspoon-size, two tablespoon-size, two that hold a cup each, one that holds two-thirds cup and one that holds 6 ounces. It comes with an instruction manual that lists recommended amounts of various foods.

Although people could use scales or measuring cups, "people don't like to," says Laurie Acosta, one of the designers and the dietitian for the EZ Weight Plate. "They want something easier."

Last year, the Archives of Internal Medicine published the first, and so far the only, study of a portion-control plate -- the Diet Plate. Available in male and female versions (the latter intended to yield lower-calorie meals), the Diet Plate is divided into sections for carbohydrates, proteins, cheese and sauces, with the rest of the space for vegetables.

All study participants were obese, had Type 2 diabetes and were required to eat most of their meals at home. Of the original 130, 122 completed the six-month study. The group using the Diet Plate lost more weight overall than the group who didn't use the plate. A greater proportion of those using the plate lost at least 5% of their weight -- an amount that's been shown to have significant health benefits -- and more of them were able to lower the levels of medication they were taking to treat their diabetes.

However, the study also may have revealed some limits on what portion-control plates can do. "This is a population who are highly motivated to lose weight so they can reduce meds, and yet only 17% lost more than 5% [of their weight]," says Roberts of Tufts University. "I know that will have some health benefits, but in terms of the big picture, it isn't a whole lot."

More than serving size

The basic concept underlying portion-control plates -- if you eat less, you'll weigh less -- is beautiful in its simplicity. "And considering what people eat, anything smaller would be better," says Ruth Frechman, spokeswoman for the American Dietetic Assn. in Burbank.

But many experts caution that the concept is a little *too* simple and that it matters what you have a portion *of*.

"Calorie density," Rolls says, "has an even bigger effect."

Portion-control plates take density into consideration somewhat. They often come with information about healthful eating, even sample menus. And calorie-dense carbs and proteins are given much less space than low-carb veggies, for instance. But on one of these plates, a piece of steak is equivalent to a piece of white fish if both fit into the allotted room. Steak and white fish are far from equivalent calorically.

"If a person replaced 3 ounces of broiled strip steak [trimmed of fat] with 3 ounces of broiled white fish [prepared without fat] once a day over a year, the calorie savings is approximately 24,000," Gorman says. "A 24,000 calorie deficit over a year can turn into a 6-pound weight loss."

Another problem: Spaces on the plates may be limited, but how high folks pile food into these spaces is often left to their discretion -- which isn't always the better part of dieting.

Portion plates are not the epitome of convenience either. Though they're designed to be easy to use, that doesn't apply at restaurants or friends' houses. The study with diabetes patients was limited to people who mostly ate at home. And still, the authors said, compliance with proper use of the plate was poor.

Accordingly, some variations on the portion-control plate theme have appeared. Last month the Fit & Fresh company of Providence, R.I., launched the Fit & Fresh System, an elaborate line of products -- including a scale, cutting board and containers of numerous sizes, even some with removable ice packs -- that customers can use to prepare and store portion-controlled meals, which they can then bring along with them wherever they please.

Another company, 6-month-old Portionpals, provides a set of small cutting-board discs showing appropriate portions for various types of food, so you can cut your food to fit. "If you want to have a piece of chocolate cake, you're going to have a piece of chocolate cake," says Portionpals'

Hamberg. "So just have it in the proper portion."

The fact remains that people don't always stick with their diets, and they might not stick with portion-control plates (or cutting boards or preparation systems) either. In fact, one weakness with the Pedersen study is that it lasted only six months, says Susan McLaughlin of the American Diabetes Assn. "The data for most weight-loss studies is good at six months. People need to continue longer."

But the hope for portion-control plates is that people will get a better idea of what portions are supposed to look like -- and apply that knowledge even when the plate is out of reach or when they've stopped using it altogether. Many clients of EZ Weight Plate, Acosta says, claim to have learned their lessons well -- so well, in fact, they think they can abandon their plates. Acosta thinks this is risky. "We all lose perspective," she says. "A cup of pasta will turn into two or three, after six months. That's why I tell them to check themselves" -- by eating off the plates at least once a month.

Portion-control devices come in different styles and at different prices. (**Young of New York University suggests that people can save money by making their own.**)

But like anything else, whether the plates are helpful depends on how people use them. "They might learn, 'OK, I've been eating three times as much food as I should be,' " Rolls says. "And when they have that moment -- what do they do with it? That's what matters."

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