

Controlling Calories—The Simple Approach

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One, Two

Count my food.

Three, Four

Exercise more.

Five, Six

Small meals I fix.

Seven, Eight

Now how's my weight?

Nine, Ten

Start again.

(Apologies to Mother Goose)

Counting—everyone in today's health-conscious society is doing it, from calories to fat, from carbohydrates to fiber, from servings to portion sizes. When trying to match insulin with a food's expected effect on blood glucose, counting plays an important role in the overall theme of portion control.

Controlling portions is important whether one is trying to establish consistency in the foods consumed or trying to match insulin doses with a food's expected blood glucose influence. Portion control is also a key element in weight management, and awareness of portion sizes can be the difference between gaining, maintaining, or losing weight.

There is also evidence suggesting that moderate intentional weight loss, through the correct use of portion control, reduces mortality in type 2 diabetes.¹ This increased life span results from improved insulin sensitivity and glycemic control.² This finding clearly supports the notion that medical nutrition therapy is a powerful tool in overall diabetes management.

Nutrition and exercise are the cornerstones of successful diabetes therapy. The American Diabetes Association³ recommends that the composition of meal plans for people with diabetes be based on an individualized nutritional assessment taking into account the individual's desired outcomes. Consequently, meal plans can

now be designed to fit the person, instead of the person trying to fit a predetermined meal plan.

Still, most patients still identify food as the single largest challenge in balancing all the elements of diabetes therapy. Additionally, misinformation, long-standing habits, and cultural preferences toward food selection and physical activity may hinder patients' achievement of their health goals.⁴

Because people with diabetes face many challenges, offering a plan that can simplify food selection can be extremely helpful. There are various approaches to weight management and healthier eating, ranging in scope from the elementary to the complex. This article discusses two methods that have been verified as successful by our patients at the Diabetes Center of Oklahoma.

IDAHO PLATE METHOD

The Idaho Plate Method was adapted from a Swedish meal planning method by a group of Idaho dietitians who sought to meet the nutritional guide-

lines of the American Diabetes Association, the American Dietetic Association, and the United States Department of Agriculture's Food Guide Pyramid.⁵

The Idaho Plate Method works by visualizing how much space each of the major food groups should occupy on one's plate. At breakfast, one-fourth of the plate should have a protein or meat, half of the plate should have a starch, and one-fourth of the plate would be empty. The meal should be completed with a milk, yogurt, or fruit.

At lunch and dinner, the plate should show a similar pattern: one-fourth of the plate should have a starch, one-fourth should have a protein or a meat source, and half should be filled with low-calorie vegetables (not "starchy" vegetables, such as potatoes, corn, or peas). On the side of the plate there should be either 1 cup of milk or yogurt or a half-cup of pudding or ice cream, as well as one small piece of fruit (Figure 1).

Using low-calorie seasoning to fla-

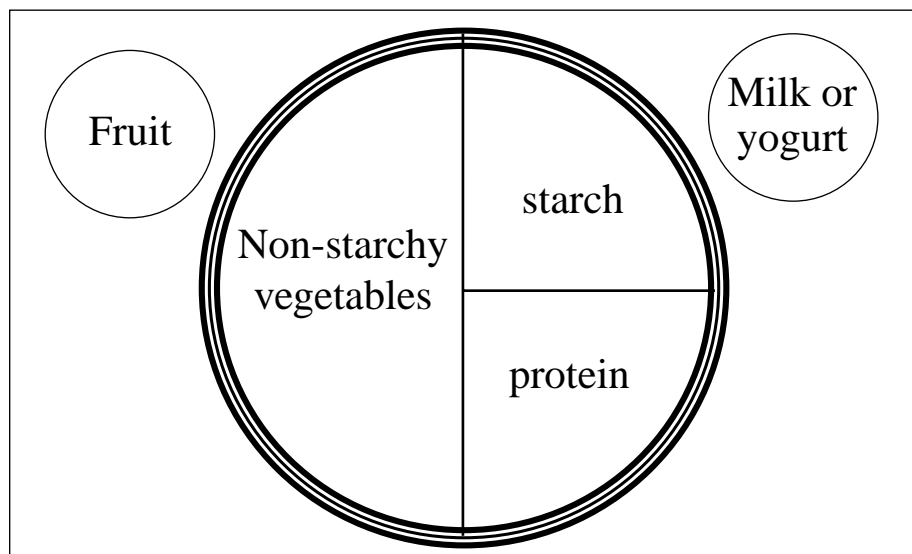


Figure 1. From Pyramid to Plate. The Idaho Plate Method recommendations for lunch and dinner.

vor food, the Plate Method provides approximately 1,200–1,500 calories. This approach is not only easy to use, but also works well when eating outside the home, such as in a restaurant or at a family gathering.

The Plate Method works particularly well for patients who eat three meals a day, are at a low literacy level, have cognitive difficulties, are elderly, have type 2 diabetes and need to lose weight, or are hospitalized and need “survival” information. It also adapts easily for patients who snack by allowing individuals to move side items to snack time. It does not require math skills or a high reading level.

For patients who are abstract thinkers, combination foods, such as casseroles or pizzas, can still be planned by visualizing how the various ingredients in the recipe can be broken down into specific food groups for the plate. For tuna noodle casserole with a salad, for example, half of the plate would have salad, celery, mushrooms, onions, and green peppers (vegetables); one-fourth of the plate would have tuna (protein); and one-fourth would have noodles (starch). When you add the side food groups (milk products and fruit), this is a well-balanced meal.

Although the Plate Method works well for many people, it may be challenging for people who are not accustomed to having low-calorie vegetables as half of their midday and evening meals and for those who enjoy only a limited variety of vegetables. Also, members of ethnic groups for whom rice or another starch is a staple may find the one-fourth-plate limit for starch foods inappropriate.

CHOICES METHOD

The CHOICES method, formerly known as the POINTS method, involves calorie unit counting. The new name helps to avoid confusion between this meal planning and lifestyle approach and that used by Weight Watchers and helps to distinguish it as a broader lifestyle plan. CHOICES is an acronym for **C**hoosing, **H**onesty, **O**rganization, **I**nnovation, **C**ommitment, and **E**xcellence, which are all considered watchwords for positive change.⁶ This approach was developed by Lanell

Olson and M. Dianne Brown, diabetes nutrition specialists at the Diabetes Center of Oklahoma.

Educators at our center find CHOICES to be successful because it encompasses many lifestyle elements. We emphasize that all decisions involving CHOICES are important for a healthy lifestyle and that patients can learn to build healthy eating practices by redefining foods into “choices” rather than characterizing foods as being either “good” or “bad.”² In addition, the idea of choices is expanded to include attitudes, physical activities, and time management.

The elements of the CHOICES approach are:

- **Choosing.** Educators emphasize that clients’ lifestyle choices, such as physical activity, food management, and time allocation, directly affect their future health and vitality.
- **Honesty.** Clients learn that honesty with oneself about actual food consumption and exercise, as well as emotional honesty, facilitates progress.
- **Organization.** This method promotes planning through the technique of “banking” calories. Patients learn to make choices by tracking and budgeting calories.
- **Innovation.** Here, we adapt each client’s lifestyle plan for a good “fit.” This involves using creativity to modify recipes or adapt exercise and eating plans to accommodate the unexpected.
- **Commitment.** Clients learn that lifestyle goals are achieved through steadfastness, which keeps the momentum going.
- **Excellence.** This is a satisfying by-product of a clear commitment to positive choices.

Calorie Choices

The CHOICES approach to healthier living and calorie control is user-friendly. Many people find it difficult to count hundreds of calories per meal. But with CHOICES, one calorie choice equals 75 calories, thus providing a simplified shortcut to traditional calorie counting.

Newly diagnosed patients with type 2 diabetes, those who are unable or unwilling to make more complex food changes, or anyone desiring or needing to lose weight may be good

candidates for this simple method. Here’s how it works:

Julie needs 1,500 calories/day for weight loss. Using the CHOICES method, 1,500 calories is converted into 20 calorie choices per day (75 calories per calorie choice \times 20 = 1,500).

For optimal nutrition, Julie will be guided to consume a variety of foods based on the Diabetes Food Guide Pyramid. To assist with her blood glucose control, she will be advised to distribute her 20 calorie choices consistently throughout each day.

For example, Julie’s breakfast could consist of four to five calorie choices. Lunch could include five more, and an afternoon snack could be one to two more. Her dinner could include five to six calorie choices, and her bedtime snack could consist of two to three calorie choices, for a total of 20 calorie choices (1,500 calories) per day.

Carbohydrate Choices

For clients who are at a healthy weight, a different type of counting may be helpful. Carbohydrate counting is an emerging meal-planning method that typically has an immediate effect on blood glucose.⁷ Becoming more aware of the carbohydrate content of foods can help patients unravel the mystery of how various foods affect their blood glucose level.

Carbohydrate counting can be especially useful for people whose diabetes is controlled with oral agents that increase insulin production or with insulin injections. As with calorie counting, the CHOICES method simplifies the carbohydrate counting process; one carbohydrate choice equals 15 g carbohydrate.

Moderate and consistent carbohydrate intake works well for people on a conventional insulin regimen, such as 70/30 or 75/25 NPH and regular insulin. Here’s how it works:

Sarah needs ~1,500 calories/day, with half of her calories coming from carbohydrate. Her dietitian translates her carbohydrate requirement into ~180–190 g carbohydrate or 12–13 carbohydrate choices per day (180 g carbohydrate \div 15 g per carbohydrate choice = 12 carbohydrate choices).

For example, Sarah's breakfast might include three carbohydrate choices. Her lunch could provide three to four more, and her dinner could include four more carbohydrate choices. Her bedtime snack could include one carbohydrate choice.

It is important to note that in order for Sarah to stay within her 1,500-calorie plan, she will need to pay attention to her fat and protein consumption, as well.

For patients who are candidates for both weight loss and carbohydrate counting, dual use of calorie and carbohydrate choices can work well.

Fine-Tuning Insulin-to-Carbohydrate Ratios

A further refinement of the CHOICES carbohydrate counting approach is used for more intensive insulin regimens, in which an insulin-to-carbohydrate ratio is established. Using the CHOICES approach, the educators at our center developed a chart to match various insulin-to-carbohydrate ratios with the correct number of carbohydrate choices (Table 1). This has reduced errors in insulin dosing calculations. Here's how it works:

Jim has a 1:20 insulin-to-carbohydrate ratio (1 U lispro or regular insulin for every 20 g carbohydrate consumed). Using the chart shown in Table 1, he can determine the number of carbohydrate choices he will eat and the corresponding insulin dose he should administer before his meal. If, for example, he plans to eat a food that contains 24 g carbohydrate, he would find the 21- to 25-g range in the first column of the chart. Moving across that row, he would see in column 2 that that amount of carbohydrate equals 1.5 carbohydrate choices. In column 3, he would see that his premeal insulin dose should be 1 U, assuming that his premeal blood glucose is within target range.

If Jim's premeal blood glucose is not within target range, a blood glucose modifier or sensitivity factor may be used. This is a scale to help him determine the mg/dl drop in blood glucose when 1 U of rapid- or fast-acting insulin is given. For example, if Jim's sensitivity factor is 50 mg and his target blood glucose range is 70–130 mg/dl, then for every 50 mg above 130 mg/dl, 1 U of insulin

should be given.

Thus, the CHOICES method allows people with diabetes to fine-tune their insulin requirements while using a simple, understandable, and sensible meal-planning approach.

SUMMARY

Clients at the Diabetes Center of Oklahoma have experienced success using both the Idaho Plate Method and the CHOICES method of meal planning. Both plans can be tailored to fit patients' individual goals and preferences. Both are flexible—the Plate Method through its use of side food groups and the CHOICES method through calorie budgeting and behavior modifications. Both provide a framework that incorporates portion control with other tools to achieve weight loss and improve blood glucose control.

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Table 1. Insulin-to-Carbohydrate Ratios and Carbohydrate Choices

Grams of Total Carbohydrate	Total Carbohydrate Choices	1:20	1:15	1:12	1:10	1:8	1:5
1–5	0	0	0	0	0.5	0.5	1.0
6–10	0.5	0	0.5	0.5	0.8	1.0	1.5
11–20	1.0	0.5	1.0	1.0	1.5	1.8	3.0
21–25	1.5	1.0	1.5	2.0	2.3	2.8	4.5
26–35	2.0	1.5	2.0	2.5	3.0	3.8	6.0
36–40	2.5	1.9	2.5	3.1	3.8	4.7	7.5
41–50	3.0	2.3	3.0	3.8	4.5	5.6	9.0
51–55	3.5	2.6	3.5	4.4	5.3	6.6	10.5
56–65	4.0	3.0	4.0	5.0	6.0	7.5	12.0
66–70	4.5	3.4	4.5	5.6	6.8	8.4	13.5
71–80	5.0	3.8	5.0	6.3	7.5	9.4	15.0
81–85	5.5	4.1	5.5	6.9	8.3	10.3	16.5
86–95	6.0	4.5	6.0	7.5	9.0	11.3	18.0
96–100	6.5	4.9	6.5	8.1	9.8	12.2	19.5
101–110	7.0	5.3	7.0	8.8	10.5	13.1	21.0
111–115	7.5	5.6	7.5	9.4	11.3	14.1	22.5
116–125	8.0	6.0	8.0	10.0	12.0	15.0	24.0
126–130	8.5	6.4	8.5	10.6	12.8	15.9	25.5
131–140	9.0	6.8	9.0	11.3	13.5	16.9	27.0
141–145	9.5	7.1	9.5	11.9	14.3	17.8	28.5
146–155	10.0	7.5	10.0	12.5	15.0	18.8	30.0
156–160	10.5	7.9	10.5	13.1	15.8	19.7	31.5
161–170	11.0	8.3	11.0	13.8	16.5	20.6	33.0
171–175	11.5	8.6	11.5	14.4	17.3	21.6	34.5
176–185	12.0	9.0	12.0	15.0	18.0	22.5	36.0