

Nutrition Recommendations and Interventions for Diabetes

TEXAS
Department of
State Health ServicesTEXAS DIABETES
COUNCIL

Medical nutrition therapy (MNT) is important in preventing diabetes, managing existing diabetes, and preventing, or at least slowing, the rate of development of diabetes complications. It is an integral component of diabetes self-management education (or training). The following recommendations and interventions are evidence-based.

The goal of these recommendations is to make people with diabetes and health care providers aware of beneficial nutrition interventions. This requires the use of the best available scientific evidence while taking into account treatment goals, strategies to attain such goals, and changes individuals with diabetes are willing and able to make. Achieving nutrition-related goals requires a coordinated team effort that includes the person with diabetes and involves him or her in the decision-making process. It is recommended that a registered dietitian, knowledgeable and skilled in MNT, be the team member who plays the leading role in providing nutrition care. However, it is important that all team members, including physicians, certified diabetes educators, nurses, pharmacists and other providers, be knowledgeable about MNT and support its implementation.

Goals: At risk for diabetes or with pre-diabetes

- 1) To decrease the risk of diabetes and cardiovascular disease (CVD) by promoting healthy food choices and physical activity leading to moderate weight loss that is maintained.

Goals: Individuals with diabetes

- 1) Achieve and maintain
 - Blood glucose levels in the normal range or as close to normal as is safely possible
 - A lipid and lipoprotein profile that reduces the risk for cardiovascular disease
 - Blood pressure levels in the normal range, less than 130/80
- 2) To prevent, or at least slow, the rate of developing complications of diabetes by modifying nutrient intake and lifestyle
- 3) To address individual nutrition needs, taking into account personal and cultural preferences and willingness to change
- 4) To maintain the pleasure of eating by only limiting food choices when indicated by scientific evidence

Goals: Specific Situations

- 1) For youth with type 1 diabetes, youth with type 2 diabetes, pregnant and lactating women, and older adults with diabetes, to meet the nutritional needs of these unique times in the life cycle.
- 2) For individuals treated with insulin or insulin secretagogues, to provide self-management training for safe conduct of physical activity, including the prevention and treatment of hypoglycemia and diabetes treatment during acute illness.

EFFECTIVENESS of Medical Nutrition Therapy

Recommendations

- ♦ Individuals who have pre-diabetes or diabetes should receive Individualized MNT; such therapy is best provided by a registered dietitian familiar with the components of diabetes MNT.
- ♦ Nutrition counseling should be sensitive to the personal needs, willingness to change, and ability to make changes of the individual with pre-diabetes or diabetes.

Reference: *Diabetes Care*. 2007 Jan;30 Suppl 1:S48-65.

A. Nutrition Guidelines

1. Stress consistent timing of meals, snacks, and portion control. Review the number of servings needed per meal and snacks.
2. Eat a variety of foods every day including fruits and vegetables.
3. Achieve or maintain a desirable weight.
4. Reduce total calories if overweight or obese to lose weight.
5. Read nutrition facts labels.
6. Eat foods high in fiber (whole grain products, vegetables, raw fruit, beans, and legumes).
7. Eat the least amount of saturated fats and trans fats.

B. Carbohydrate (CHO) Intake

Low carbohydrate diets, restricting total CHO to less than 130 grams per day, are not recommended.

1. Total grams of carbohydrate should be individualized based on glucose control, medication and physical activity.
2. Consume more complex (unrefined) carbohydrates with fiber.
3. Eat 2 servings of fruits each day, preferably with lunch and dinner. One serving equals: ½ c. canned fruit or juice, or 1 c. fresh fruit. Avoid juices (except when hypoglycemic) which may cause the blood glucose to rise very rapidly. Focus on fresh fruits that have more fiber, but no more than 2–3 servings per day.
4. Eat 4–6 servings of non-starchy vegetables each day. One serving equals: ½ c. cooked vegetable, ½ c. vegetable juice, or 1 c. raw vegetable.
5. Other CHO choices include: 1 tortilla, 1 slice of bread, 1/3 c. cooked pasta, rice, garbanzo beans, ½ c corn, peas, potatoes, beans, or 6 saltine crackers. Limit CHO choices to 2–3 per meal.
6. Sucrose containing foods can be substituted for other CHO choices in the meal plan, if added to the meal plan.

C. Fiber Intake

1. Eat 14 grams per 1,000 calories. Example: 22 grams for 1,500 calories, 28 grams for 2,000 calories a day.
2. Major sources: raw fruits, unpeeled vegetables, beans, legumes, whole grain breads, pastas, and fiber-rich cereals (≥ 5 grams per serving).

D. Protein Intake

1. 15-20% of total calories per day; approximately 4-6 ounces per day (3 oz. = the size of a deck of cards).
2. Restrict to 0.8–1.0 gram protein/kg of body weight for adults with onset of early nephropathy. Restrict to 0.8gram protein/kg of body weight for adults with onset of later stages of nephropathy
3. One serving is: 1 oz. lean beef, chicken, turkey, pork, lamb or fish, 1 c. skim milk, yogurt, 1 oz. cheese, 1 egg, 1 T. peanut butter
4. Adjustments should be made for conditions such as renal failure, hypertension, or hyperlipidemia.

E. Fat Intake

1. Limit dietary cholesterol to less than 200 mg per day
2. Limit saturated fat to less than 7% of total calories per day
Sources: Animal fats (found in fatty meats, poultry skin, hydrogenated shortenings and fats, some vegetable oils (coconut, palm, palm kernel, cocoa butter), whole milk, whole milk products, butter, and most commercially baked products.
3. Minimum intake of trans fatty acids (found in most commercially baked products)
4. Use more mono-unsaturated fats, i.e., olive oil and poly-unsaturated fats, i.e., canola or corn oils.
5. Two or more servings of fish per week (with the exception of commercially fried filets)

F. Alcohol (Use with doctor's approval)

1. Limited to a moderate amount (less than 1 drink per day for adult women and less than 2 drinks per day for adult men).
2. One drink is: 1.5 oz. distilled spirits, 5 oz. wine or 12 oz. beer.
3. Food should be consumed with alcoholic beverages to prevent hypoglycemia.

G. Reduced Calorie Sweeteners

Nonnutritive Sweeteners:

1. Acesulfame potassium
2. Aspartame

3. Neotame
4. Saccharin
5. Sucralose

Nutritive Sweeteners:

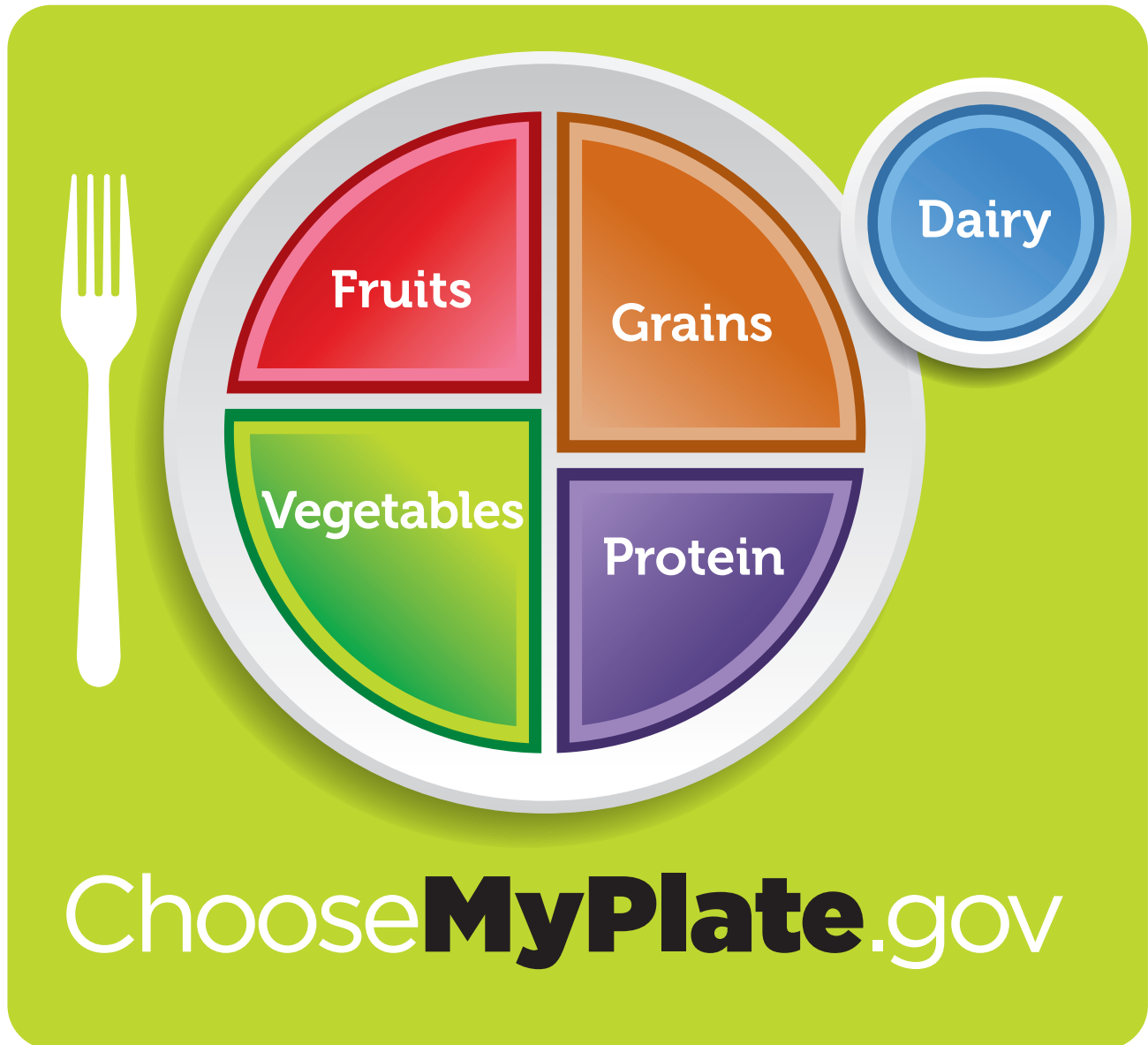
1. Glucose, dextrose, corn syrup
2. Fructose (fruit sugar), molasses, lactose
3. Honey, raw honey, invert sugar
4. Maltose, malted syrup, dextrin

Sugar Alcohols (Polyols):

1. Erythritol, isomalt, lactitol, maltitol, mannitol, sorbitol, xylitol, tagatose, and hydrogenated starch hydrolysates.

H. Sodium

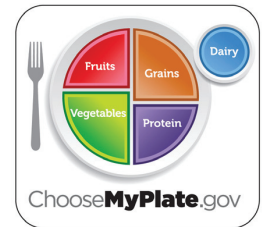
- ♦ In normotensive and hypertensive individuals, a reduced sodium intake (e.g., 2,300 mg per day with a diet high in fruits, vegetables, and low-fat dairy products lowers blood pressure.
- ♦ Individuals with diabetes at risk for CVD, diets high in fruits, vegetables, whole grains, and nuts may reduce the risk.
- ♦ Individuals with diabetes and symptomatic heart failure, dietary sodium intake of <2,000 mg. per day may reduce symptoms.
- ♦ In most individuals, a modest amount of weight loss beneficially affects blood pressure.
- ♦ Choose low-sodium foods: fresh or frozen vegetables (avoid regular canned foods) and powdered seasonings with sodium (avoid onion and garlic salt). Avoid salty sauces such as soy sauce. Eat less fast food and convenience foods, these foods contain high levels of sodium.



10
tipsNutrition
Education Series

choose MyPlate

10 tips to a great plate



Making food choices for a healthy lifestyle can be as simple as using these 10 Tips.

Use the ideas in this list to *balance your calories*, to choose foods to *eat more often*, and to cut back on foods to *eat less often*.

1 balance calories

Find out how many calories YOU need for a day as a first step in managing your weight. Go to www.ChooseMyPlate.gov to find your calorie level. Being physically active also helps you balance calories.

2 enjoy your food, but eat less

Take the time to fully enjoy your food as you eat it. Eating too fast or when your attention is elsewhere may lead to eating too many calories. Pay attention to hunger and fullness cues before, during, and after meals. Use them to recognize when to eat and when you've had enough.



3 avoid oversized portions

Use a smaller plate, bowl, and glass. Portion out foods before you eat. When eating out, choose a smaller size option, share a dish, or take home part of your meal.

4 foods to eat more often

Eat more vegetables, fruits, whole grains, and fat-free or 1% milk and dairy products. These foods have the nutrients you need for health—including potassium, calcium, vitamin D, and fiber. Make them the basis for meals and snacks.



5 make half your plate fruits and vegetables

Choose red, orange, and dark-green vegetables like tomatoes, sweet potatoes, and broccoli, along with other vegetables for your meals. Add fruit to meals as part of main or side dishes or as dessert.

6 switch to fat-free or low-fat (1%) milk

They have the same amount of calcium and other essential nutrients as whole milk, but fewer calories and less saturated fat.



7 make half your grains whole grains

To eat more whole grains, substitute a whole-grain product for a refined product—such as eating whole-wheat bread instead of white bread or brown rice instead of white rice.

8 foods to eat less often

Cut back on foods high in solid fats, added sugars, and salt. They include cakes, cookies, ice cream, candies, sweetened drinks, pizza, and fatty meats like ribs, sausages, bacon, and hot dogs. Use these foods as occasional treats, not everyday foods.

9 compare sodium in foods

Use the Nutrition Facts label to choose lower sodium versions of foods like soup, bread, and frozen meals. Select canned foods labeled "low sodium," "reduced sodium," or "no salt added."



10 drink water instead of sugary drinks

Cut calories by drinking water or unsweetened beverages. Soda, energy drinks, and sports drinks are a major source of added sugar, and calories, in American diets.



Center for Nutrition
Policy and Promotion

Go to www.ChooseMyPlate.gov for more information.

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