

Medical Nutrition Therapy: A Beneficial Intervention in Diabetes

An ADA position statement describes food guidelines that are based on specific medical conditions.

BY LAURA SUAREZ, MANAGING EDITOR

According to the US Department of Health and Human Services, diabetes-related prevention may be classified as: (1) primary prevention to prevent or delay diabetes; (2) secondary prevention to avoid complications in the presence of diabetes; and (3) tertiary prevention to prevent complications from worsening and to prevent morbidity and mortality. To this effect, the American Diabetes Association (ADA) issued a position statement that classifies medical nutrition therapy into three similar categories.

The new set of nutrition therapy guidelines, which updates information from the 2002 and 2004 ADA position statements, include categories for (1) patients with prediabetes or at risk for diabetes, (2) patients who have diabetes and (3) patients who need diabetes complications prevention. The recommendations also have a special section for patients with particular diabetic conditions (ie, type 1 diabetes, type 2 diabetic youth, pregnant and lactating diabetic women, patients managing acute illnesses and older adults with diabetes).

COORDINATED EFFORT

Each recommendation category shares the goals of sustaining moderate weight loss in overweight and obese patients and increasing physical activity among all patients with diabetes. For more specific categorical goals, see *Medical Nutrition Therapy Goals By Category*. The authors of the position statement emphasized the need for a coordinated team effort to achieve these goals. Patients with diabetes should work with a registered dieti-

MEDICAL NUTRITION THERAPY GOALS BY CATEGORY

At-risk and prediabetes patients:

- Decrease the risk of cardiovascular disease and diabetes
- Promote physical activity
- Make healthy nutritional choices
- Sustain moderate weight loss

Diabetes patients:

- Achieve/maintain the following: normal or almost normal blood glucose levels and blood pressure levels and a lipid/lipoprotein profile that may reduce the risk of vascular diseases
- Prevent or slow the rate of complications associated with diabetes with modified nutrition and lifestyle habits
- Consider personalized nutrition needs and patient acceptance of changing dietary habits
- Limit nutritional choices through scientific evidence

Specific patient sets:

- Youth with type 1 or 2 diabetes, pregnant/lactating mothers with diabetes and elderly adults with diabetes should meet the nutritional needs associated with their life cycle
- Insulin-requiring patients should learn self-management including exercise, diabetes treatment in times of acute illness and prevention/treatment of hypoglycemia

tian, primary care physician and nurse to create a medical nutrition therapy plan that complements treatment goals, lists strategies to reach those goals and considers the amount of changes the patient is willing to make. A registered dietician should take the lead from the health professional side, however, the patient should play an integral part in medical nutrition therapy planning. If they do not, the plan will not be as effective, said Ann Albright, PhD, RD, president-elect of Health Care & Education, ADA, and a member of the position statement panel, in an interview with *DIABETIC MICROVASCULAR COMPLICATIONS TODAY*.

BETTER LEVELS

Tailoring nutritional guidelines to individual needs based on health status may influence better levels of blood glucose, blood pressure and cholesterol as well as other variables affecting quality of life, according to Dr. Albright. For instance, previous reports showed that medical nutrition therapy reduced HbA1c approximately 1% and 1% to 2% in type 1 and type 2 diabetic patients, respectively. In other studies, LDL cholesterol appeared to drop by 15 mg/dL to 25 mg/dL in nondiabetic patients.

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“These recommendations are meant to be used in a way that allow this key feature — individualizing treatment — to have a prominent place in medical nutrition therapy,” Dr. Albright said. “Diabetes is a metabolic disorder, and so, nutrition is key to management of diabetes, whether you have diabetes or prediabetes.”

Individually tailored nutrition plans give patients the flexibility to meet their own goals and maintain healthy eating habits on their own terms instead of following a textbook diet. In the past, Dr. Albright explained, people focused over the “diabetic diet” or eating one way to manage diabetes. “In the past, there was a dynamic of finger-wagging at people. ‘Don’t eat that,’ or ‘You can’t eat that.’ That puts people in a difficult position where they may end up secretly eating. This is the cheating concept that people sometimes refer to. But, there is no cheating; you are making food choices.”

Now, with medical nutrition therapy, the new message is that one diet does not fit all. “This is good news. It means that people can have a choice — as long as it is

the appropriate therapy to meet the patient’s needs,” Dr. Albright said. “They can have flexibility. But, it does mean that people do need to make their own choices and learn about the food they eat.”

The health care team should equip patients with the tools and understanding they need to eat healthy. When patients participate in the development of the medical nutrition plan, it will be more sustainable.

NUTRITION RECOMMENDATIONS

“The current epidemic of type 2 diabetes likely reflects changes in lifestyle leading to diabetes,” Dr. Albright and colleagues wrote in the position statement. “Lifestyle changes characterized by increased energy intake and decreased physical activity appear to have together promoted overweight and obesity, which are strong risk factors for diabetes.”

To combat the diabetes epidemic, those who are at risk for diabetes or have prediabetes should follow the primary prevention medical nutrition therapy guidelines that include:

- Reduce body weight by 7% (ie, moderate weight loss).
- Participate in regular physical activity (ie, 150 min/week).
- Observe dietary changes including a reduced fat and calorie intake and an increased fiber intake (14 g/1,000 kcal).

Although, according to the authors, there is insufficient data to recommend guidelines for the at-risk childhood population, they should follow the same guidelines outlined above.

Secondary prevention guidelines include:

- Create a diet rich in fruits, vegetables, whole grains, legumes and low-fat milk.
- Do not follow a low-carbohydrate diet (ie, <130 g/day, the average minimum requirement), however, monitor carbohydrate intake with a strategy such as carbohydrate counting.
- Substitute sucrose and/or foods with sucrose instead of sugar to lower energy intake.
- According to the Food and Drug Administration, it is safe to include sugar alcohols (eg, erythritol, isomalt, lactitol, maltitol, mannitol, sorbitol, xylitol, tagatose and hydrogenated starch hydrolysates) and/or nonnutritive sweeteners (eg, acesulfame potassium, aspartame, neotame, saccharin and sucralose) in the diet.
- Limit saturated fat intake to <7% of total calories, limit dietary cholesterol to \leq 200 mg/day and lower intake of trans fat.
- Eat two or more weekly servings of fish.

Tertiary prevention guidelines are broken down into those for microvascular complications and cardiovascular disease (CVD) risk. In addition to improvements in

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glycemic control and blood pressure, the microvascular complications guidelines suggest:

- Patients with early-stage chronic kidney disease should reduce protein intake (ie, 0.8 to 1 g/kg body weight per day). Once the disease progresses to later stages or macroalbuminuria is present, make further reductions (ie, 0.8 g/kg body weight per day) to improve renal function including urine albumin excretion rate and glomerular filtration rate.

- Recommendations for CVD (see below) may have a positive effect on retinopathy and nephropathy conditions.

The CVD risk guidelines suggest:

- Type 1 diabetic patients should improve and sustain their glycemic control and reach an as near as possible HbA1c.

- Include a diet high in fruit, vegetables, whole grains and nuts.

- Diabetes patients who experienced symptomatic heart failure should decrease their sodium intake to $\leq 2,000$ mg/day, and normotensive or hypertensive patients should decrease intake to 2,300 mg/day.

- Obtain moderate weight loss.

The authors recommend that insulin therapy be adjusted to fit with the patient's lifestyle. It should be integrated into the dietary and activity plan. Additional medical nutrition therapy guidelines for type 2 diabetes patients include promoting modifications in daily life to reduce energy intake and increase expenditure and monitoring plasma glucose to meet HbA1c goals. For expecting or lactating mothers, energy intake should be modified to promote appropriate weight gain, unless mothers are overweight or obese.

Additionally, avoidance of ketonemia is suggested, as well as modifying lifestyle habits after delivery in the presence of gestational diabetes so it does not lead to type 2 diabetes.

The hope of these medical nutrition therapy guidelines is to give physicians and patients another resource to ensure the highest quality of life. If patients have the right tools to make choices about their diet and nutrition, they may be able to increase their chances of staying healthier longer. "Monitoring of metabolic parameters, including glucose, [Hb]A1c, lipids, blood pressure, body weight and renal function is essential to assess the need for changes in therapy and to ensure successful outcomes," the authors concluded. ■

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Bantle JP, Wylie-Rosett J, Albright AL, et al. Nutrition Recommendations and Interventions for Diabetes — 2006. A position statement of the American Diabetes Association. *Diabetes Care*. 2006;29:2140-2157.

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