



Food and Meal Planning

Because food intake affects the body's need for insulin and insulin's ability to lower blood sugar, diet is the cornerstone of diabetes treatment. Today, diabetes experts no longer recommend a single meal plan for all people with diabetes. Instead, they recommend meal plans that are flexible and take into account a person's lifestyle and particular health needs. The American Diabetes Association recommends that people with diabetes consult a registered dietician to design a meal plan.

Selecting Foods for a Healthy Meal Plan

By following the government's Dietary Guidelines for Americans, you can promote your health and reduce your risk for chronic diseases such as heart disease, certain types of cancer, diabetes, stroke, and osteoporosis. These diseases are leading causes of death and disability among Americans. Good diets can also reduce major risk factors for chronic disease—such as obesity, high blood pressure, and high blood cholesterol. Your food choices, your lifestyle, your environment, and your family history all affect your well-being. It is important for everyone to follow the 10 Dietary Guidelines listed below. If you are at higher risk of having a chronic disease, it is especially important.

The Dietary Guidelines for Americans include the following:

AIM FOR FITNESS . . .

- Aim for a healthy weight.
- Be physically active each day.

BUILD A HEALTHY BASE . . .

- Let the Pyramid guide your food choices.
- Choose a variety of grains daily, especially whole grains.
- Choose a variety of fruits and vegetables daily.
- Keep food safe to eat.

CHOOSE SENSIBLY . . .

- Choose a diet that is low in saturated fat and cholesterol and moderate in total fat.
- Choose beverages and foods to moderate your intake of sugars.
- Choose and prepare foods with less salt.

- If you drink alcoholic beverages, do so in moderation.

Some people with diabetes use the Exchange Lists for Meal Planning. This system, established by the American Dietetic and American Diabetes associations, separates foods into six categories based on their nutritional makeup. People following this plan choose a set number of servings from each category daily, depending on their nutritional needs.

For detailed information about nutritional guidelines for people with diabetes, see the following links:

Nutrition and Your Health: Dietary Guidelines for Americans

<http://www.health.gov/dietaryguidelines/>

American Diabetes Association Position Statement: Evidence-Based Nutrition Principles and Recommendations for the Treatment and Prevention of Diabetes and Related Complications

http://care.diabetesjournals.org/cgi/content/full/25/suppl_1/s50

The Food Guide Pyramid

The Food Guide Pyramid can help you put the Dietary Guidelines into action. The pyramid illustrates the research-based food guidance developed by the U.S. Department of Agriculture and supported by the Department of Health and Human Services. It is based on USDA's research on what foods Americans eat, what nutrients are in these foods, and how to make the best food choices to promote good health. It outlines what to eat each day, but it is not a rigid prescription. You can use it as a general guide in choosing a healthful diet that is right for you. The pyramid calls for eating a variety of foods to get the nutrients you need, and, at the same time, the right amount of calories to maintain a healthy weight.

The food guide pyramid is available at www.mypyramid.gov.

Using the food label to help with food choices

Under regulations from the Food and Drug Administration of the Department of Health and Human Services and the Food Safety and Inspection Service of the U.S. Department of Agriculture, the food label offers more complete, useful and accurate nutrition information than ever before.

With today's food labels, consumers get

- nutrition information about almost every food in the grocery store
- distinctive, easy-to-read formats that enable consumers to more quickly find the information they need to make healthful food choices
- information on the amount per serving of saturated fat, cholesterol, dietary fiber, and other nutrients of major health concern

- nutrient reference values, expressed as % Daily Values, that help consumers see how a food fits into an overall daily diet
- uniform definitions for terms that describe a food's nutrient content--such as "light," "low-fat," and "high-fiber"--to ensure that such terms mean the same for any product on which they appear
- claims about the relationship between a nutrient or food and a disease or health-related condition, such as calcium and osteoporosis, and fat and cancer. These are helpful for people who are concerned about eating foods that may help keep them healthier longer.
- standardized serving sizes that make nutritional comparisons of similar products easier
- declaration of total percentage of juice in juice drinks. This enables consumers to know exactly how much juice is in a product.



Begin with the Nutrition Facts panel, usually on the side or back of the package. The Nutrition Facts panel has two parts: The main or top section, which contains product-specific information (serving size, calories, and nutrient information) that varies with each food product; and the bottom part, which contains a footnote. This footnote is only on larger packages and provides general dietary information about important nutrients.

Several features of the Nutrition Panel help people with diabetes manage their diets. First of all, serving sizes now are more uniform among similar products and reflect the amounts people actually eat. The similarity makes it easier to compare the nutritional qualities of related foods. People who use the Exchange Lists should be aware that the serving size on the label may not be the same as that in the

Exchange Lists. For example, the label serving size for orange juice is 8 fluid ounces (240 milliliters). In the exchange lists, the serving size is 4 ounces (one-half cup) or 120 mL. So, a person who drinks one cup of orange juice has used two fruit exchanges.

The label also gives grams of total carbohydrate, protein and fat, which can be used for carbohydrate counting. The values listed for total carbohydrates include all carbohydrates, including dietary fiber and sugars listed below it. Not singled out is complex carbohydrates, such as starches. The sugars include naturally present sugars, such as lactose in milk and fructose in fruits, and those added to the food, such as table sugar, corn syrup, and dextrose. The listing of grams of protein also is helpful for those restricting their protein intake, either to reduce their risk of kidney disease or to manage the kidney disease they have developed.

Elsewhere on the label, consumers may find claims about the food's nutritional benefits. These claims signal that the food contains desirable levels of certain nutrients. Some claims, such as "low fat," "no saturated fat," and "high fiber," describe nutrient levels. Some of these are particularly interesting to people with diabetes because they highlight foods containing nutrients at beneficial levels.

Other claims, called health claims, show a relationship between a nutrient or food and a disease or health condition. FDA has authorized a number of claims, which are based on significant scientific agreement. Three claims that relate to heart disease are of particular interest to people with diabetes:

- A diet low in saturated fat and cholesterol may help reduce the risk of coronary heart disease.
- A diet rich in fruits, vegetables and grain products that contain fiber, particularly soluble fiber, and are low in saturated fat and cholesterol may help reduce the risk of coronary heart disease.
- Soluble fiber from whole oats, as part of a diet low in saturated fat and cholesterol, may help reduce the risk of coronary heart disease.

Nutrient and health claims can be used only under certain circumstances, such as when the food contains appropriate levels of the stated nutrients.

For more information about food labels, use the following links:

FDA Guidance on How to Understand and Use the Nutrition Facts Panel on Food Labels

<http://www.cfsan.fda.gov/~dms/foodlab.html>

Test Your Food Label Knowledge!

<http://www.cfsan.fda.gov/~dms/flquiz1.html>

Claims That Can Be Made for Conventional Foods and Dietary Supplements

<http://www.cfsan.fda.gov/~dms/hclaims.html>

FDA Backgrounder, The Food Label (May 1999)

<http://www.cfsan.fda.gov/~dms/fdnewlab.html>

For the most recent listing of health claims, use the following link:

A Food Labeling Guide--Appendix C

<http://www.cfsan.fda.gov/~dms/flg-6c.html>

For information on significant scientific agreement, use the following link:

Guidance for Industry (1): Notification of a Health Claim or Nutrient Content Claim Based on an Authoritative Statement of a Scientific Body

<http://www.cfsan.fda.gov/~dms/hclmguid.html>

Overweight, Obesity, and Weight-Loss

More than 60 percent of U.S. adults are either overweight or obese, according to the Centers for Disease Control and Prevention (CDC). While the number of overweight people has been slowly climbing since the 1980s, the number of obese adults has nearly doubled since then.

Excess weight and physical inactivity account for more than 300,000 premature deaths each year in the United States, second only to deaths related to smoking, says the CDC. People who are overweight or obese are more likely to develop heart disease, stroke, high blood pressure, diabetes, gallbladder disease and joint pain caused by excess uric acid (gout). Excess weight can also cause interrupted breathing during sleep (sleep apnea) and wearing away of the joints (osteoarthritis).

To address the public health epidemic of being overweight or obese, former Surgeon General David Satcher issued a "call to action" in December 2001. Satcher's report, *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*, outlined strategies that communities can use in helping to address the problems. Those options included requiring physical education at all school grades, providing more healthy food options on school campuses, and providing safe and accessible recreational facilities for residents of all ages.

For the Surgeon General's Call to Action To Prevent and Decrease Overweight and Obesity, use the following link:

U.S. Department of Health and Human Services: The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity, 2001

<http://www.surgeongeneral.gov/topics/obesity/>

For information about determining healthy weight and weight loss, use the following links:

FDA Consumer Magazine, Losing Weight: More Than Counting Calories (January-February 2002)

http://www.fda.gov/fdac/features/2002/102_fat.html

FDA Information about Losing Weight and Maintaining a Healthy Weight

<http://www.cfsan.fda.gov/~dms/wh-wght.html>

NIDDK Weight-control Information Network (WIN)

<http://www.niddk.nih.gov/health/nutrit/win.htm>

NHLBI Obesity Education Initiative

http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt

American Dietetic Association

<http://www.eatright.org/>

American Obesity Association

<http://www.obesity.org/>

Dietary Supplements

Congress defined the term "dietary supplement" in the Dietary Supplement Health and Education Act (DSHEA) of 1994. A dietary supplement is a product taken by mouth that contains a "dietary ingredient"

intended to supplement the diet. The "dietary ingredients" in these products may include: vitamins, minerals, herbs or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandulars, and metabolites. Dietary supplements can also be extracts or concentrates, and may be found in many forms such as tablets, capsules, softgels, gelcaps, liquids, or powders. They can also be in other forms, such as a bar, but if they are, information on their label must not represent the product as a conventional food or a sole item of a meal or diet. Whatever their form may be, DSHEA places dietary supplements in a special category under the general umbrella of "foods," not drugs, and requires that every supplement be labeled a dietary supplement.

In October 1994, the Dietary Supplement Health and Education Act (DSHEA) was signed into law by President Clinton. Before this time, dietary supplements were subject to the same regulatory requirements as were other foods. This new law, which amended the Federal Food, Drug, and Cosmetic Act, created a new regulatory framework for the safety and labeling of dietary supplements.

Under DSHEA, a firm is responsible for determining that the dietary supplements it manufactures or distributes are safe and that any representations or claims made about them are substantiated by adequate evidence to show that they are not false or misleading. This means that dietary supplements do not need approval from FDA before they are marketed. Except in the case of a new dietary ingredient, where pre-market review for safety data and other information is required by law, a firm does not have to provide FDA with the evidence it relies on to substantiate safety or effectiveness before or after it markets its products.

Also, manufacturers do not need to register themselves nor their dietary supplement products with FDA before producing or selling them. Currently, there are no FDA regulations that are specific to dietary supplements that establish a minimum standard of practice for manufacturing dietary supplements. However, FDA intends to issue regulations on good manufacturing practices that will focus on practices that ensure the identity, purity, quality, strength and composition of dietary supplements. At present, the manufacturer is responsible for establishing its own manufacturing practice guidelines to ensure that the dietary supplements it produces are safe and contain the ingredients listed on the label.

People with diabetes should be sure to consult a doctor or pharmacist before purchasing or taking any supplement. Many supplements contain active ingredients that have strong biological effects and their safety is not always assured in all users. Other supplements may interact with prescription and over-the-counter medicines. By taking these products, you may be placing yourself at risk.

Adverse effects from the use of dietary supplements should be reported to MedWatch. You, your health care provider, or anyone may report a serious adverse event or illness directly to FDA if you believe it is related to the use of any dietary supplement product, by calling FDA at 1-800-FDA-1088, by fax at 1-800-FDA-0178 or reporting on-line at: <http://www.fda.gov/medwatch/how.htm>. FDA would like to know whenever you think a product caused you a serious problem, even if you are not sure that the product was the cause, and even if you do not visit a doctor or clinic. In addition to communicating with FDA on-line or by phone, you may use the MedWatch form available from the FDA Web site.

For more information about dietary supplements, see the following:

FDA's "Tips for the Savvy Supplement User: Making Informed Decisions and Evaluating Information,"
January 2002

<http://www.cfsan.fda.gov/~dms/ds-savvy.html>

FDA's "Overview of Dietary Supplements," January 3, 2001

<http://www.cfsan.fda.gov/~dms/ds-oview.html>

CFSAN Dietary Supplements Home Page

<http://www.cfsan.fda.gov/~dms/supplmnt.html>

FDA's Role in Regulating Food and Diet

FDA's Center for Food Safety and Applied Nutrition (CFSAN), in conjunction with the Agency's field staff, is responsible for promoting and protecting the public's health by ensuring that the nation's food supply is safe, sanitary, wholesome, and honestly labeled. The Center's primary responsibilities include:

- the safety of substances added to food, e.g., food additives (including ionizing radiation) and color additives
- the safety of foods and ingredients developed through biotechnology
- seafood Hazard Analysis and Critical Control Point (HACCP) regulations
- regulatory and research programs to address health risks associated with foodborne chemical, and biological contaminants
- regulations and activities dealing with the proper labeling of foods (e.g., ingredients, nutrition health claims) and cosmetics
- regulations and policy governing the safety of dietary supplements, infant formulas, and medical foods
- safe and properly labeled cosmetic ingredients and products
- food industry postmarket surveillance and compliance
- consumer education and industry outreach
- cooperative programs with state and local governments
- international food standard and safety harmonization efforts