



Guidelines for Heart Disease Prevention

As the reigning number-one killer in the United States for several years going, heart disease demands a preventive focus. The U.S. Dietary Guidelines are developed by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services every five years to shape Americans' eating patterns for prevention of *all* chronic diseases – heart disease, stroke, certain cancers, diabetes and osteoporosis (1). Since the mission of the American Heart Association (AHA) is to reduce disability and death from cardiovascular diseases and stroke, the AHA identifies health goals and establishes dietary guidelines aimed specifically at lowering risk of heart disease and stroke (2). The AHA guidelines complement the more broadly-focused U.S. Dietary Guidelines.

The three primary health goals for reducing heart disease identified by the AHA are:

1. Achieve/maintain a healthy body weight
2. Achieve/maintain desirable blood cholesterol and blood lipid levels (e.g., total cholesterol, triglycerides, high-density lipoproteins or HDL, low-density lipoproteins or LDL)
3. Achieve/maintain a desirable blood pressure

Food choices and eating patterns can be shaped to meet each and every one of these goals.

1. A healthy body weight can be maintained by matching the calories you consume (energy intake) to the calories you expend in activity (energy expenditure) on a daily basis. This means limiting food choices that are high in calories and low nutritional quality, (i.e., “junk food”) and getting regular physical activity, at least 30 minutes per day.
2. Desirable blood lipid levels can be achieved by limiting foods rich in saturated fatty acids and cholesterol and enriching the diet with whole grains, vegetables, fish, nuts and legumes.

3. Blood pressure can be controlled by reducing the intake of salt and “salty” foods; limiting alcohol consumption; and increasing the intake of fruits, vegetables and low-fat dairy products.

These goals may seem somewhat vague and unattainable at first. Most of us prefer guidelines that give clear, specific direction about how to make appropriate food choices. Realizing this, the American Heart Association translates their major guidelines into actionable steps:

Choose a variety of fruits and vegetables – five or more servings per day

Fruits and vegetables are full of nutrients and fiber and rather low in calories, thus they have a *high nutrient density*. Because these foods also have a high water content, they are considered to have a *low energy density* (few calories for their weight). The potato is a good example to demonstrate these concepts. The potato eaten with the skin provides 3 grams of dietary fiber, 21 percent daily value of vitamin C and 45 percent daily value of potassium – all for 100 calories per serving. People who consume high amounts of nutrient-dense foods, particularly fruits and vegetables, enjoy a reduced risk of heart disease, stroke, and hypertension (high blood pressure). Eating more foods that have a low energy density helps reduce total caloric intake and may help control body weight.

Consume a variety of grain products (including whole grains) – six or more servings per day

Grain products provide energy, vitamins, minerals, and fiber. Research shows that diets that are high in whole grain foods and fiber are associated with decreased risk of heart disease (3-5). Although scientists are not quite certain as to exact reason for the protective effect of whole grains, it is believed to be due to the soluble dietary fiber, which has been shown to

reduce total and LDL cholesterol levels beyond those which can be achieved by decreasing saturated fats and dietary cholesterol alone.

Match energy intake to energy output

Calories are key when it comes to monitoring body weight. Weight loss can be achieved by taking in fewer calories and expending more through physical activity. Because fat and alcohol contain more calories (9 and 7 calories per gram respectively) than carbohydrates or protein (4 calories per gram each), it's wise to limit fatty foods and alcoholic beverages to lose weight. Matching energy intake to energy output is easier with a diet rich in fruits, vegetables, legumes and whole grains and low in saturated fat, cholesterol and added sugar (2).

Limit intake of foods high in blood cholesterol-raising fatty acids and cholesterol

Fatty acids that have been shown to raise total and LDL cholesterol included saturated fatty acids and trans-fatty acids.

- **Saturated fatty acids** are found primarily in fatty meats, full-fat dairy products, and tropical oils (i.e., coconut oil, palm kernel oil).
- **Trans-fatty acids** have been found not only to increase LDL ("bad") cholesterol but also to lower HDL ("good") cholesterol. *Trans*-fatty acids lurk in hydrogenated fats, like shortenings and margarines, and prepared foods containing partially hydrogenated oils as an ingredient, like cookies, crackers, and other baked goods. Also, *trans*-fatty acids are used in many restaurants to prepare fried items.
- **Dietary cholesterol**, or cholesterol found in foods, elevates LDL cholesterol but to a lesser degree than saturated fat. It's not surprising that many foods high in saturated fats are also high in dietary cholesterol, like fatty meats and full-fat dairy products. Some cholesterol-rich foods can be fairly low in saturated fat, like egg yolks and shellfish, so they have smaller effects on LDL in the body. That's why eggs and shellfish can be an occasional part of a healthy eating plan.

Choose foods containing unsaturated fatty acids, like fish, vegetables, legumes, and nuts

Food sources of omega-3 fatty acids are good alternatives to fatty foods known to increase heart disease risk. More and more, scientific evidence indicates that foods rich in omega-3 fatty acids provide additional heart disease protection beyond their quality of improving blood lipid profiles as unsaturated fatty acids. Turn to fish, walnuts, canola oil, soybean oil and flaxseed for omega-3 fatty acids and aim to have at least two servings of fish per week.

Limit salt (sodium chloride) and alcohol intake while accentuating consumption of fruits, vegetables, low-fat dairy foods

There is much scientific evidence showing that high intake of salt raises blood pressure. Decreasing salt intake may even prevent hypertension in some people. But limiting sodium intake can be difficult due to the abundance of processed foods that contain salt.

Ideally, a combination diet that includes 5-9 servings of fruits and vegetables, 2-4 servings of low-fat dairy products, whole grains, poultry, fish, and nuts and low amounts of high-fat meats, sweets, and sugar-containing beverages, will help reduce blood pressure in hypertensive individuals. Eating this way will naturally provide potassium, magnesium, and calcium – nutrients known to help control blood pressure. Of special note, skin-on potatoes make the top of the list as an excellent source of potassium. In fact, potatoes meet the FDA requirements for the following health claim, "Foods, such as potatoes, that are good sources of potassium and low in sodium, may reduce the risk of high blood pressure and stroke."

Taking on the challenge of reducing your risk for our nation's number-one killer, heart disease can seem daunting. These guidelines that contain specific ideas for food choices will not only help you achieve the major goals outlined by the American Heart Association, but also ensure you'll achieve an overall balance of nutrient intake. Following these guidelines, along with physical activity and abstinence from smoking, can help you make great strides toward enjoying a longer, healthier life.

1. Center for Nutrition Policy and Promotion. Available at: <http://www.usda.gov/cnpp/publications.html>. Accessed June 23, 2004.
2. Krauss, RM, et al. AHA Dietary Guidelines: Revision 2000: A statement for healthcare professionals from the nutrition committee of the American Heart Association. *Circulation*. 2000;102:2284-2299.
3. Jacobs DR Jr., et al. Whole grain intake may reduce the risk of ischemic heart disease death in postmenopausal women: the Iowa Women's Health Study. *Am J Clin Nutr*. 1998;68:248-257.
4. Jeppesen, J, et al. Effects of low-fat, high-carbohydrate diets on risk factors for ischemic heart disease in postmenopausal women. *Am J Clin Nutr*. 1997;65:1027-1033.
5. Pietinen, P, et al. Intake of dietary fiber and risk of CHD in a cohort of Finnish men: the Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study. *Circulation*. 1996;94:2720-2727/

For healthy recipes and nutrition information, go to: www.healthypotato.com

