



What is cholesterol?

Cholesterol is a fat-like substance found in your bloodstream or stored in tissues. Your body produces cholesterol to build cell walls and to make hormones. Cholesterol is essential for many bodily functions, including the maintenance of cell membranes and proper brain functioning. Cholesterol comes from two main sources: it is made in your liver and it comes from the foods that you eat. Health problems can occur when there is too much cholesterol in your blood.

What is wrong with too much cholesterol?

Too much cholesterol in your blood increases your chances of having a heart attack or stroke. Cholesterol can build up on the artery walls. Eventually, the build-up of cholesterol in the arteries can block blood flow to your heart or your brain. Without enough blood flowing to your heart or brain, you could have a heart attack or a stroke.

Bad and good cholesterol – and triglycerides

Bad cholesterol is LDL, the “lousy” cholesterol. LDL stands for “low-density lipoproteins.” High amounts of these lipoproteins in the blood increase the chance that the particles could stick to the artery walls and form a buildup of particles called plaque. This buildup of cholesterol particles can narrow the artery opening. When the artery openings narrow, this condition is called atherosclerosis.

Good cholesterol is HDL, the “healthy” cholesterol. HDL, or “high-density lipoproteins,” actually prevent the harmful build-up of cholesterol in your arteries. The higher your HDL number the better. Exercise helps to raise your HDL number.

Triglycerides are a type of fat found in your blood. They are a major source of energy and the most common type of fat in your body. When you eat, your body uses the calories it needs for quick energy. Any extra calories are turned into triglycerides and stored in fat cells to be used later. In healthy amounts, triglycerides are fine. But high triglycerides are often part of a group of conditions associated with higher risk of heart disease. You can lower your triglycerides by losing weight, exercising, and limiting alcohol and sweets.

Do you know your cholesterol level?

To stay on track keeping your heart and arteries in good shape, ask your doctor for the cholesterol numbers that are right for you within these **target ranges**:

- **Total Cholesterol:** Less than 200mg/dl

- **LDL Cholesterol:**
 - Less than 130mg/dl
 - Less than 100mg/dl if history of heart attack, stroke, bypass surgery, or diabetes
- **HDL Cholesterol:** More than 45mg/dl
- **Triglycerides:** Less than 150mg/dl

What can you do to lower your risk of heart disease?

While lowering your cholesterol level can help lower your risk for heart disease, there is more that you can do to keep your heart and arteries healthy.

If you have diabetes or high blood pressure, work with your doctor or other health care professional to be sure your diabetes or high blood pressure is well controlled.

You can also help your heart and arteries by making healthy lifestyle choices. Visit your Health Education Center or Department or visit kp.org/healthyliving to choose a class, personalized online program, or other resource that best suits your needs and lifestyle to help you:

- Quit smoking.
- Enjoy regular physical activity at least 30 minutes on most days.
- Maintain a healthy weight. If you are not at a healthy weight, losing 5 to 10 pounds by eating less fat and smaller portions can help reduce your risk.
- Manage your stress. Reducing your stress can help you make (and maintain) other lifestyle changes that can help you lower your risk of heart disease. Choose a stress-reducing activity that you think you would enjoy, such as walking, dancing, Tai Chi, Yoga, or meditation.

FOOD CHOICES THAT CAN HELP LOWER YOUR CHOLESTEROL

GRAINS

- Eat more whole grains, such as 100% whole wheat bread, oatmeal, bran cereals, brown rice, corn tortillas.
- Choose breads, cereals, and crackers that contain 3 or fewer grams of total fat per serving. Check the food label.
- Limit high-fat baked goods (donuts, croissants, pastries, muffins).

VEGETABLES

- Eat a variety of vegetables twice a day.
- Add vegetables to soups, stews, casseroles, main dishes, and sandwiches.
- Choose raw vegetables for snacks.

FRUITS

- Eat a variety of fruit at least twice a day.
- Fruit choices can be fresh, frozen, dried, or canned.
- Choose fruit for snacks and desserts.
- Avoid fruit juice if you have high triglycerides or are trying to lose weight.

FATS AND OILS

- Use less oil, mayonnaise, margarine, and salad dressings. When using oil, choose mono-unsaturated oils such as olive or canola, or most nut oils.
- Avoid hydrogenated fat (trans fat) found in most margarines.
- Try to include plant sterols (cholesterol-lowering foods) in your diet. These include Benecol, Take Control, Canola Harvest and others.
- Avoid fried foods.
- Try low-fat or nonfat salad dressings and spreads in place of regular products.
- Avoid saturated fats, such as lard, butter, bacon fat, cream cheese, sour cream, shortening, stick margarine, coconut or palm oil, and chocolate.
- Flavor foods with vinegar, lemon juice, salsa, and spices instead of fat.
- Try 2 tablespoons of flax seed meal or ground flax seed daily.

MILK AND MILK PRODUCTS

- Choose low-fat or nonfat milk and yogurt.
- Choose low-fat or nonfat cheese or cottage cheese in place of whole milk cheese. Low-fat cheese has less than 3 grams of fat per ounce. Check the food label.

Other resources

- Connect to our Web site at kp.org.
- Contact your Kaiser Permanente Health Education Center or Department for health information, programs, and other resources.

DRIED BEANS, PEAS, LENTILS, TOFU, NUTS, SEEDS

- Choose dried beans (pinto, garbanzo, kidney, peas) or tofu more often in place of meat.
- Dried beans, legumes, nuts, seeds are good sources of fiber, protein, and vitamins.
- Nuts, seeds, and natural peanut butter are healthy in small amounts.
- Add beans to salads and soups.
- Eat meatless meals three or more times a week. Try beans and rice, tofu stir fry with rice, whole bean burritos, or low-fat bean chili.

MEATS, CHICKEN, TURKEY, FISH, AND EGGS

- Select lean/low-fat choices most often, such as fish, shellfish, skinless chicken or turkey, lean sandwich meats, and lean, trimmed red meats, such as sirloin, round, flank, or tenderloin.
- Limit portions to 4–6 ounces daily.
- Bake, broil, steam, or grill instead of frying.
- Avoid fatty or fried meats, sausages, hot dogs, and most lunch meats.
- Eat fish at least three times per week.
- Limit egg yolks to two or less a week, or use only egg whites or egg substitutes.

SUGAR AND SWEETS

- For snacks, try pretzels, air-popped popcorn, rice cakes, low-fat crackers, or fruit and vegetables instead of cookies, cakes, and chips.
- Good frozen dessert choices include non-fat frozen yogurt and sorbet.
- Avoid snacks high in hydrogenated fat (trans fat) found in most packaged cookies, crackers, and bakery items.
- Eat fat-free cookies, cakes, and frozen desserts in small amounts. Most of these are still high in calories, even though they are low in fat.

ALCOHOL

- Limit alcohol to one drink per day if you are a woman and no more than two drinks per day if you are a man. 1 drink = 4–5 ounces of wine or 12 ounces of beer or 1½ ounces of liquor.

SALT

Certain people are at higher risk for high blood pressure, as their bodies may respond more strongly to the effects of sodium. The USDA 2010 dietary guidelines recommend that you limit your sodium to less than 1500 mg daily if you:

- Are African American (of any age)
- Are 51 or older
- Have hypertension (high blood pressure), diabetes, or chronic kidney disease

For all others, limit your sodium to less than 2300 mg each day.

This information is not intended to diagnose or to take the place of medical advice or care you receive from your physician or other health care professional. If you have persistent health problems, or if you have additional questions, please consult with your doctor. If you have questions or need more information about your medication, please speak to your pharmacist. Kaiser Permanente does not endorse the medications or products mentioned. Any trade names listed are for easy identification only.