

Cholesterol

What You Need To Know



Permafold® Topics

Cholesterol Facts

1. What Is Cholesterol?
2. Blood Cholesterol
- Control Blood Cholesterol
3. Lose Weight, If Needed
4. Eat Healthy
5. Exercise
6. Don't Smoke
7. Take Prescribed Medicines



Cholesterol Facts

1. What Is Cholesterol?

Cholesterol is a waxy, fat-like substance. It occurs naturally in the body.

Your body needs cholesterol:

- To make cell walls.
- To make vitamin D and some hormones.
- To give structure to the covering (myelin) that protects nerve fibers.
- To make bile. This helps you digest fat.



Your body only needs a small amount of cholesterol in your blood to meet these needs.

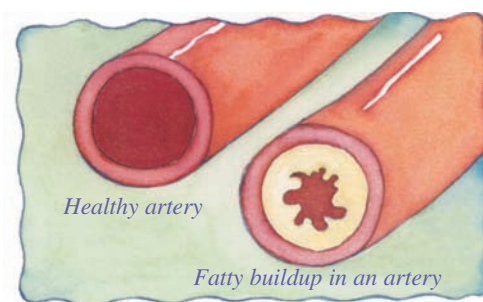
Where Does Cholesterol Come From?

- Cholesterol the body makes (mostly in the liver).
- Cholesterol in animal foods (dietary cholesterol).

Plants do not have cholesterol. Some plant foods have saturated and *trans* fat, though, which raise blood cholesterol. (See topic 4.)

Too much cholesterol in your blood can collect with other fats. These can clog the walls of the arteries. This

can slow down or block blood flow to the heart or brain. The higher your blood cholesterol, the greater your chance of this buildup.



2. Blood Cholesterol

All men age 35 and older and all women age 45 and older should have a blood test to check cholesterol levels. Persons with high cholesterol, diabetes, and/or heart disease should be tested yearly or as often as their doctors advise. It is best to have a blood test after not eating or drinking for 9 to 12 hours. This “lipoprotein profile” gives accurate measures of blood cholesterol levels.

What Should Your Cholesterol Numbers Be?

Total Blood Cholesterol Goal (mg/dL*)

Less than 200

* Milligrams per deciliter

For cholesterol to travel through blood, it is coated with a protein. This makes a “lipoprotein.” Total blood cholesterol is made-up of lipoproteins:

- LDL (low-density lipoprotein) cholesterol. This is called “bad” cholesterol. Why? Too much of it leads to cholesterol buildup in the arteries. This is a major risk factor for heart disease.

LDL (“bad”) Cholesterol Goal (mg/dL*)

This deposits cholesterol in the artery walls. Ask your doctor what your heart disease risk level is to know what LDL-cholesterol to aim for.

< 70	Aim for if at “very high-risk.”
<100	Aim for if at “high-risk.”
<130	Aim for if at “intermediate risk.”
<160	Aim for if at “low risk.”

* Milligrams per deciliter

- HDL (high-density lipoprotein). This is called “good” cholesterol. Why? It helps prevent fatty buildup in the arteries.

HDL (“good”) Cholesterol Goal (mg/dL*)

This helps remove cholesterol from the blood.

50 or higher – For women

40 or higher – For men

* Milligrams per deciliter

- VLDL (very low-density lipoprotein). This has some cholesterol, but is mostly triglycerides, a type of blood fat. VLDL-cholesterol = triglycerides ÷ 5.

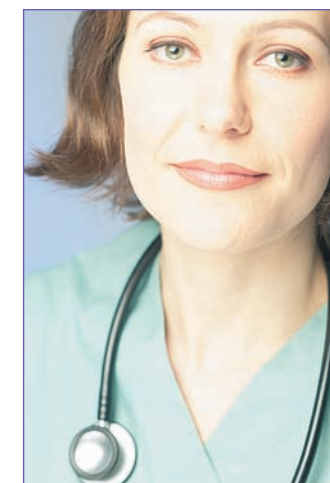
Triglycerides Goal (mg/dL*)

Less than 150

Sample Lipoprotein Profile

LDL-cholesterol	150 mg/dL
HDL-cholesterol	+ 40 mg/dL
VLDL-cholesterol (Triglycerides (100) ÷ 5)	+ 20 mg/dL
Total blood cholesterol	= 210 mg/dL

High total blood cholesterol is only one risk factor for heart disease. Others are listed on the next panel.



Heart Disease Risk Factors

- Cigarette smoking. Secondhand smoke.
- Blood pressure ≥ 140/90 mm Hg or you take medicine to lower blood pressure.
- High risk levels for LDL-cholesterol, HDL-cholesterol, and/or triglycerides.
- Diabetes.
- Being overweight. Lack of exercise.
- Being male 45 years+ or female 55 years+.
- Heart disease in a father or brother before age 55; in a mother or sister before age 65.
- Metabolic syndrome. This is having 3 or more of these problems.
 - Waist measurement of > 40 inches for men; > 35 inches for women.
 - Blood pressure of ≥ 130/≥ 85 mm Hg or you take medicine to lower blood pressure.
 - A fasting blood sugar of ≥ 110 mg/dL or you have diabetes.
 - Triglycerides of ≥ 150 mg/dL.
 - HDL – cholesterol of < 40 mg/dL for men; < 50 mg/dL for women.
- Other artery diseases (abdominal aortic aneurysm, carotid artery disease; peripheral artery disease).

The more risk factors you have, the greater your chance of heart disease.

Control Blood Cholesterol

3. Lose Weight, If Needed

- Do regular physical activity. (See topic 5.)
- Follow “Eat Healthy” tips. (See topic 4.)
- Avoid crash diets and over-the-counter diet pills.
- Eat at regular times. Control food portions.

4. Eat Healthy

- Eat less saturated and *trans* fats. These raise LDL (“bad”) cholesterol in the blood more than anything else in the diet. Read food labels. Choose foods low in saturated fat and *trans* fat. *Trans* fats are in foods that have hydrogenated oils. See “Fat Chart” below.
- Use spreads made with plant sterols and stanols. Look for margarines and salad dressings made with these.
- Use monounsaturated and polyunsaturated fats.

Fat Chart

Saturated and Trans Fats. (Avoid These.)

- Coconut, palm and palm kernel oils.
- Cocoa butter (chocolate).
- Animal fats: Beef, pork, lard, suet, bacon.
- Cream, butter, fat in whole milk dairy products.
- Hydrogenated oils (found in stick margarine and processed snack foods, such as crackers).

Monounsaturated Fats. (Use These.)

- Canola, olive, and peanut oils.
- Fat in avocados, almonds, peanuts, and pecans.

Polyunsaturated Fats. (Use These.)

- Safflower, corn, sunflower, soybean oils.
- Squeeze and soft tub margarines. Mayonnaise.
- Fat in walnuts, soybean nuts, and sunflower seeds.

- Limit meat serving sizes. Choose lean cuts of beef, pork and lamb, chicken, and turkey. Trim fat from meat. Take the skin off poultry before you eat it.

- Eat fish 2 to 3 times a week (e.g., salmon). Fish has omega-3 fatty acids, a healthy unsaturated fat. So does cod liver oil. Consult your doctor about using fish oil supplements. Find out if and what kinds of fish you should limit due to mercury and other pollutants from www.epa.gov.



Reviewed and Approved by the Senior Medical Advisory Board

This Permafold® is not meant to take the place of expert medical care or treatment. Follow your doctor's or health care provider's advice.

- Get 20 to 35 grams of dietary fiber a day, especially the water-soluble type from oat bran, oatmeal, kidney and other beans, lentils, and the flesh of apples, oranges, and carrots.



- Eat a variety of whole-grain breads, cereals, and pastas; fruits and vegetables; lentils; beans, etc. These plant foods are low in saturated fat and have no cholesterol (if you do not add fatty toppings and spreads). Have foods and beverages made with soy, such as soy milk and yogurt, tofu, tempeh, etc.
- Your doctor may tell you to limit dietary cholesterol to 300 milligrams a day (200 milligrams a day if your cholesterol is high).

Cholesterol in Foods	
Food Item	Average Milligrams of Cholesterol
3 oz. liver	470
1 medium egg yolk	213
3 oz. lean beef (top round, etc.)	84
3 oz. white meat chicken/turkey	70
3 oz. fish (haddock, etc.)	58
1 tablespoon butter	31
1 oz. cheddar cheese	30
1 oz. low-fat cheese	5 to 20
8 oz. whole milk	33
8 oz. skim milk	4
1/2 cup ice cream	30 to 44
1/2 cup frozen yogurt	6

- If you drink alcohol, do so in moderation: No more than 2 drinks a day for men and no more than 1 drink a day for women and persons age 65 and older. One drink = 4 to 5 oz. of wine, 12 oz. of beer, or 1 1/2 oz. of 80 proof liquor (whiskey, vodka, etc.).

5. Exercise

Benefits of Regular Physical Activity

- It raises “good” cholesterol and lowers “bad” cholesterol, triglycerides, and blood pressure.
- It makes your heart and blood vessels stronger.
- It helps you lose weight and keep it off.
- It lowers stress (which can raise blood cholesterol).

Exercise Cautions

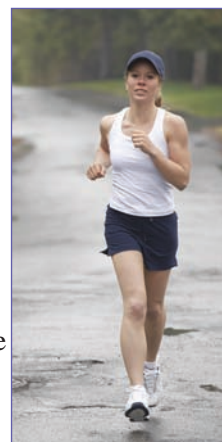
Talk with your doctor before you start (or greatly increase) your activity level if:

- You have pains or pressure in your chest. You get out of breath, or feel faint after mild exercise.
- You have a medical condition, such as heart disease.
- You are middle-aged or older and have not been physically active for a long period of time.
- You are very overweight.

Aerobic Exercise

To improve cholesterol levels, do aerobic exercises. Walking briskly. Do low-impact aerobics. Bicycle. Swim.

- Do warm-up exercises before aerobics. Loosen up your muscles by stretching and/or walking for 5 minutes. When the activity is done, cool down. Do 5 more minutes of walking and/or stretching.
- Ease into your exercise program. Start out slowly. Build up your pace gradually. If you can't talk while you exercise, you're overdoing it.



If you can't start with aerobic activities, try low to moderate ones, such as gardening, dancing, etc.

Do these activities, as well as aerobic ones. Vary the exercises you do, so you won't get bored.

Aim to do an aerobic activity at least 20 minutes a day, 4 or more times a week. The goal during an aerobic workout is to reach your target heart rate.

Target Heart Rate

If you reach your target heart rate during the aerobic part of your workout, your pace is good. To find out if you reach your target heart rate, check your pulse. Check it 10 minutes after you start your workout.

- Place your fingers (not your thumbs) on the pulse on one side of your neck below your jawbone. Or, check the pulse on the inside of your wrist.
- Count the number of beats you feel in 10 seconds.
- Find the line with your age (or the closest one to it) in the box below.
- Is the number of beats you counted in 10 seconds in the range of numbers on the line next to your age? If so, you have reached your target heart rate.

Target Heart Rate Zone

Age	Approximate Beats Per 10 Seconds
20	20 to 27
25	19 to 26
30	19 to 25
35	18 to 25
40	18 to 24
45	17 to 23
50	17 to 23
55	16 to 22
60	16 to 21
65+	15 to 20

Note: Check with your doctor before you use this target heart rate range. Your range may need to be lower for medical reasons.

6. Don't Smoke

Smoking lowers the HDL (“good”) cholesterol. Quitting smoking raises it.

How To Quit Smoking

- Stop on your own all at once (“cold turkey”).
- Over-the-counter medications that wean you off nicotine. Use them as directed. Examples are:

- Nicotine patches.
- Nicotine gum.
- Nicotine lozenges.

- Ask your doctor about stop smoking programs in your area and about these prescribed medicines:



- A nicotine nasal spray.
- A nicotine inhaler.
- Medicines that do not contain nicotine. One type alters brain chemistry to help reduce cigarette cravings. Another type interferes with nicotine receptors in the brain. It lessens nicotine withdrawal symptoms and physical pleasures a person gets from smoking.

{**Note:** Studies have shown that using a stop smoking medication along with behavior changes greatly increases your chances for success.}

Quit Smoking Resources

- American Lung Association
800.LUNG.USA (586.4872)
www.lungusa.org/tobacco
- Smokefree.Gov
877.44U.QUIT (448.7848)
800.QUIT.NOW (784.8669)
www.smokefree.gov

7. Take Prescribed Medicines

Your doctor may prescribe cholesterol-lowering medicine(s).

Medication is used with, not instead of, life habit changes.



Types of Cholesterol-Lowering Medicines

- Statins.** These help your body make less cholesterol and help the liver remove more LDL (“bad”) cholesterol already in the blood. Examples are lovastatin and pravastatin. Statins lower LDL (“bad”) cholesterol more than any other type of drugs. They also lower triglycerides and raise HDL (“good”) cholesterol.
- Resins.** These bind with cholesterol-containing bile acids in the intestines and are then passed in the stool. Examples are cholestyramine and colestipol. These lower LDL (“bad”) cholesterol.
- Nicotinic Acid or Niacin.** This is a B vitamin. You can buy this over-the-counter, but a doctor should prescribe the amount you take and monitor its use. Niacin lowers LDL (“bad”) cholesterol and triglycerides and raises HDL (“good”) cholesterol.
- Fibrates.** These medicines lower triglycerides and raise HDL (“good”) cholesterol. Examples are gemfibrozil and fenofibrate.

Tips On Taking Your Medication

- Take your medication as prescribed. If you have questions, talk to your doctor or pharmacist.
- Tell your doctor about side effects. Common side effects with many cholesterol-lowering medicines are bloating, gas, abdominal pain, constipation, and nausea. Hot flashes or flushing is common with niacin. Ask your doctor how to minimize these side effects. Often they wane with time. Make sure to tell your doctor if you have muscle soreness or weakness, and/or brown urine.

Blood Cholesterol Record (mg/dL)

Date	Total Cholesterol	LDL	HDL	Triglycerides

Medicines to Control Cholesterol

Name	Dose	Prescribed By	Date Started/Stopped

For More Information on Cholesterol, Contact:

American Heart Association
800.AHA.USA1 (242.8721)
www.americanheart.org

National Heart, Lung, and Blood Institute
www.nhlbi.nih.gov

For Free Health Information, go to:
HealthyLearn®
www.HealthyLearn.com