

Cholesterol

What You Need To Know



Permafold® Topics

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2. Blood Cholesterol Test
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5. Exercise
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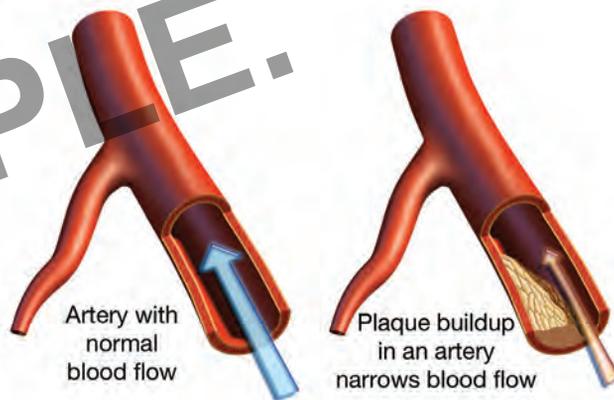
1. What Is Cholesterol?

Cholesterol is a waxy, fat-like substance. It occurs naturally in the body. It helps carry fat through your blood vessels.

Your body also needs cholesterol to:

- Make cell walls
- Make vitamin D and some hormones
- Give structure to the covering (myelin) that protects nerve fibers
- Make bile. This helps your body digest fat.

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



Too much cholesterol in your blood can collect with other fats and calcium to make plaque. This can clog the walls of the arteries and slow down or block blood flow to the heart or brain. The higher your blood cholesterol, the greater your chance of this buildup.

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 (hydrogenated oils) which raise blood cholesterol. (See topic 4.)

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.

2. Blood Cholesterol Test

A “lipoprotein profile” blood test checks your blood cholesterol (lipid) numbers. For accurate results, do not eat or drink anything, except water, for 9-12 hours before the test. A non-fasting test can screen for total and HDL-cholesterol levels.

Who should get a blood cholesterol test?

- All men age 35 and older
 - Men ages 20-35 and women age 45 and older who are at an increased risk for coronary artery disease
 - Persons with diabetes and/or heart disease
- Get tested as often as advised by your doctor.

What Should Your Cholesterol Numbers Be?

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

- LDL (low density lipoprotein) cholesterol
- HDL (high density lipoprotein) cholesterol
- VLDL (very low density lipoprotein) cholesterol.

Total Blood Cholesterol Goal (mg/dL*)

Less than 200 milligrams per deciliter (mg/dL)

*Milligrams per deciliter

LDL (bad) Cholesterol Goal

Too much of this type leads to cholesterol buildup in artery walls. This is a major risk factor for coronary artery disease. Ask your doctor what your heart disease risk factor is to know what LDL-cholesterol number to aim for.

Less than 70 mg/dL: If at very high risk

Less than 100 mg/dL: If at high risk

Less than 130 mg/dL: If at intermediate risk

Less than 160 mg/dL: If at low risk

HDL (good) Cholesterol Goal

This type helps remove cholesterol from the blood and helps prevent fatty buildup in the arteries. Aim for:

50 mg/dL or higher if you are a woman

40 mg/dL or higher if you are a man

VLDL- Cholesterol

This type is mostly triglycerides, another blood fat.

VLDL-cholesterol = triglycerides ÷ 5.

Triglyceride Goal: Less than 150 mg/dL

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 below.

Heart Disease Risk Factors

- Cigarette smoking. Secondhand smoke.
- Blood pressure $\geq 140/90$ mm Hg or you take medicine to lower high 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
- Other artery diseases (abdominal aortic aneurysm, carotid artery disease; peripheral artery disease).
- Metabolic syndrome. This is having 3 or more of these problems:
 - Waist size ≥ 40 inches for men; ≥ 35 inches for women
 - Blood pressure ≥ 130 mm Hg systolic and/or ≥ 85 mm Hg diastolic or you take medicine to lower blood pressure
 - A fasting blood sugar ≥ 100 mg/dL or you have diabetes
 - Triglycerides ≥ 150 mg/dL
 - HDL-cholesterol < 40 mg/dL for men; < 50 mg/dL for women.

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

3. Lose Weight, If Needed

Weight loss can help lower LDL (bad) cholesterol and triglycerides and help raise HDL (good) cholesterol.

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

4. Eat Healthy

- Choose foods low in saturated fat and with zero *trans* fat. These raise LDL (bad) cholesterol in the blood more than anything else in the diet. Read food labels. *Trans* fats are in foods that have hydrogenated oils.
- Eat foods with plant sterols and stanols, such as margarines and salad dressings made with these.
- Choose monounsaturated and polyunsaturated fats.

Fat Chart

Saturated and *Trans* Fats. (Limit or avoid these.)

- Foods made with or fried in hydrogenated or partially hydrogenated oils. Examples are stick margarine, solid shortening, and processed snack foods, such as some cookies and crackers.
- Animal fats: Lard, suet, beef and pork fats
- Coconut, palm and palm kernel oils. Cocoa butter.
- Fat in dairy foods, such as butter, cream, and milks

Monounsaturated Fats. (Use these in moderation.)

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

Polyunsaturated Fats. (Use these in moderation.)

- 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. Trim fat from meat. Choose chicken and turkey. 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. Ask your doctor about fish oil supplements. Find out about mercury and other pollutants in fish from www.epa.gov.



- Get 20 to 35 grams of dietary fiber a day, especially the water-soluble type from oat bran, oatmeal, kidney and other beans, lentils, 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 soy milk, soy yogurt, and tofu.
- Limit alcohol to 2 drinks a day for men and 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 1½ oz. of 80 proof liquor (whiskey, vodka, etc.).
- Your doctor may tell you to limit dietary cholesterol to 300 milligrams (mg) a day (200 mg 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

5. Exercise

Regular physical activity combined with healthy eating improves blood cholesterol levels.

Health Benefits of Regular Physical Activity

- It makes your heart and blood vessels stronger.
- It helps you lose weight and maintain weight loss. Being overweight raises LDL (bad) cholesterol.
- It helps lower stress. Stress can raise blood cholesterol.
- It helps lower high blood pressure.



Physical Activity Guidelines

Each week, do:

- **At least 150 minutes (2½ hours) of moderate-activity, such as brisk walking or dancing OR**
- **At least 75 minutes (1 hour and 15 minutes) of vigorous activity, such as jogging or aerobic dancing OR**
- **A mix of activities from A and B.**

Also, do strengthening activities, such as lifting weights, two days a week.

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.

Moderate to vigorous aerobic exercise can help:

- Lower LDL (bad) cholesterol and triglycerides
- Raise HDL (good) cholesterol

Aerobic Exercise

To improve cholesterol levels, do aerobic exercises. Walk briskly. Do aerobic dancing. Bicycle. Swim. Jog.

- 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.
- Vary the exercises you do so you won't get bored.
- Exercise with family and friends.



6. Don't Smoke

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

Aerobic exercise speeds your heart rate and breathing. Aim to do the aerobic activity at least 20 minutes a day, 5 or more times a week. The goal during an aerobic workout is to reach your target heart rate.

Target Heart Rate

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	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.

How To Quit Smoking

- Stop on your own all at once (“cold turkey”).
- Take over-the-counter medications that wean you off nicotine, 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. Discuss the benefits and risks of prescribed medicines.

{**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.lung.org/stop-smoking

Smokefree.Gov
800.QUIT.NOW (784.8669)
www.smokefree.gov • <http://women.smokefree.gov>

7. Take Prescribed Medicines

Your doctor may prescribe cholesterol-lowering medication. This is used with, not instead of, life style changes.

Types of Cholesterol-Lowering Medicines

- Statins.** These help your body make less cholesterol and help the liver remove 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	Started/Stopped	Date

For More Information, Contact:

American Heart Association
 800.AHA.U.S.A1 (242.8721)
www.heart.org/HEARTORG

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

Get Free Health Information, from:
www.HealthyLearn.com