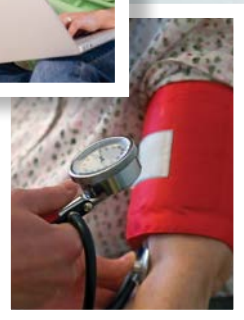
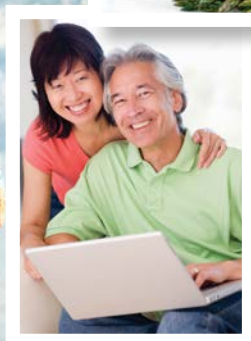


Understanding and Managing High Cholesterol

and the Importance of Managing Coronary Heart Disease



What is Cholesterol?

Cholesterol is a soft, waxy, fatlike substance that the body produces naturally. Cholesterol is in the bloodstream and your body's cells. It's important to your body because it is used to make new cells. The rest of the cholesterol found in the body comes from the food you eat, primarily from animal products such as meat, cheese and butter. Foods that come from plants contain no cholesterol.

Too much cholesterol creates a higher risk for cardiovascular disease and stroke, the No. 1 and No. 4 killers in the United States.

The good news is that more people are making better decisions for their heart health and are getting treated for high cholesterol. According to the new 2013 American Heart Association guidelines, lifestyle modifications, such as a heart-healthy diet, regular exercise, avoiding tobacco products and maintaining a healthy weight, are critical components of a healthy heart and life.

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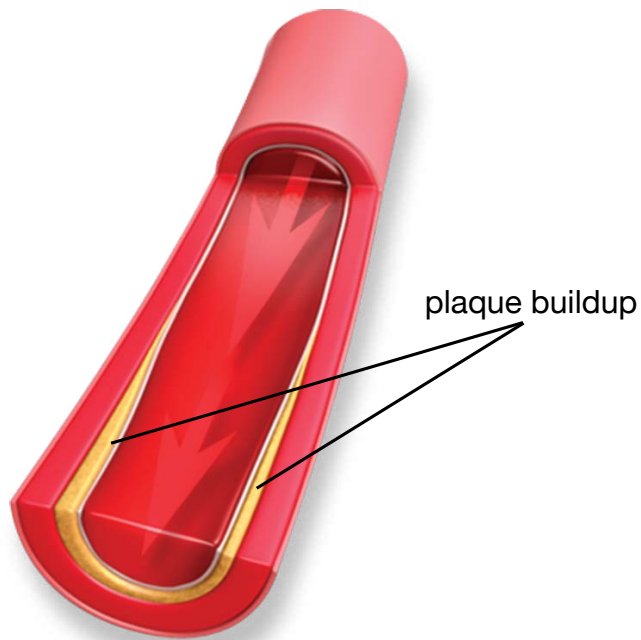


Understanding Cholesterol

Too much cholesterol can bind with other substances in the blood to form a plaque buildup in the arteries that carry blood to the heart. As plaque accumulates in the artery walls, it begins to clog the artery. This condition is called atherosclerosis. It causes the inside walls of the arteries to become rough and the openings to become smaller. As the condition gets worse, the muscular walls of the arteries get thicker and stiffer, which narrows the openings even more and makes it more difficult for blood to flow.

All along these rough areas on the inner artery walls, blood cells called platelets can stick to the surface, clumping together and potentially forming a blood clot. Eventually, the artery can become completely closed or the plaque can rupture and trigger a blood clot, which can travel to the heart (causing a heart attack) or to the brain (causing a stroke), among other serious conditions.

This is why controlling cholesterol levels is so important.



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There are three types of cholesterol:

- **Low-density lipoprotein cholesterol (LDL-C):** LDL cholesterol (LDL-C) is sometimes called “bad” cholesterol. This type helps cholesterol stick to the walls of your arteries. A low level of LDL-C is considered good for your heart health.
- **High-density lipoprotein cholesterol (HDL-C):** HDL cholesterol (HDL-C) is sometimes called “good” cholesterol. It works to remove cholesterol from your arteries, and transport it to your liver for removal. A higher level of HDL-C is considered good for your heart health.
- **Triglycerides:** Triglycerides can also lead to clogged arteries. They’re also made in the body, but certain factors can increase levels of triglycerides: being overweight or obese; being physically inactive; smoking; consuming too much alcohol; eating too many carbohydrates; or having diabetes. A family history of high triglyceride levels can also lead to higher levels.



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Know Your Risks

How high your cholesterol and other lipid levels are can depend on several factors, including your lifestyle, genetics and medical conditions. When two or more of these factors are present, the risks are even higher. These can include:

- **Diet:** Eating foods that are high in saturated or *trans* fats can increase your levels of LDL-C and total cholesterol.
- **Overweight and obesity:** Carrying too much weight can raise your LDL-C, total cholesterol and triglyceride levels.
- **Smoking:** Tobacco smoke also raises your triglyceride levels and lowers your HDL-C levels.
- **Physical activity:** Not getting enough physical activity can contribute to being overweight or obese, while getting enough physical activity can help you lose weight and reduce your LDL-C levels.
- **Genes:** You can genetically inherit high LDL-C and triglyceride levels and low HDL-C levels from your parents or other family members.
- **Age:** As people age, they are more prone to having higher levels of cholesterol.



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In addition to these risk factors, certain medical conditions can affect your cholesterol and triglyceride levels. These include:

- Liver disease
- Underactive thyroid
- Kidney disease
- Diabetes
- Pancreatic disease

These factors can not only raise your LDL-C and triglycerides levels and lower your HDL-C levels, they increase your risk for coronary heart disease, angina, arrhythmias, heart attack, stroke and other diseases. For people who have other conditions, such as high blood pressure, the risks for these serious cardiovascular conditions are even higher.



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Know Your Numbers ... But Treat Your Risk

In the past, managing high cholesterol was a matter of knowing your numbers for total cholesterol, LDL-C, HDL-C and triglycerides. But further research has shown that a better way to manage high cholesterol is to understand what your risks are, including your cholesterol numbers, and working with your healthcare provider to lower your risk.

How can you know what your risk is? Four key measures help define that risk for you. These are your body mass index (BMI, a calculation of your weight related to your height), blood pressure, fasting blood sugar, and total cholesterol. The ideal numbers are:

- BMI less than 25 kg/m²
- Blood pressure lower than 120/80 mmHg
- Fasting blood sugar less than 100 mg/dL
- Total cholesterol less than 180 mg/dL



One helpful way to help you understand your risk is to use the American Heart Association's Life's Simple 7™ online risk calculator. Talk about your risk calculator results with your healthcare provider. You can find it at mylifecheck.heart.org/

Your healthcare provider will help you understand what your numbers mean and what you can do to get them in healthy ranges. From there, you can work together to treat your risk for high cholesterol and the conditions it can lead to.



Treatment

If your critical numbers—total cholesterol, blood sugar, blood pressure, and BMI—are not in healthy ranges, your healthcare provider will work with you to help you improve your health and reduce your risk of getting cholesterol-related diseases, such as heart disease and stroke.

The first line of “defense” is usually making changes to your diet and physical activity level.

Diet

Eating a heart-healthy diet is critical to keeping your cholesterol levels under control. It’s also important to keeping your other critical numbers under control, such as your blood pressure, blood sugar and weight.

The American Heart Association recommends eating no more than 6 ounces of lean meat, poultry or fish per day, and using low-fat and skim/fat-free dairy products.

Limit:

- Whole milk, cream and ice cream
- Butter and cheese—and foods made with them
- Organ meats, such as liver, sweetbreads, kidney and brain
- High-fat processed meats such as sausage, bologna, salami and hot dogs
- Fatty meats that aren’t trimmed
- Duck and goose meat (raised for market)
- Bakery goods made with egg yolks, saturated fats and *trans* fats

You should also eat foods that are low in saturated fat and *trans* fat, and foods that are high in fiber, such as whole grains, fruits and vegetables.



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The American Heart Association recommends:

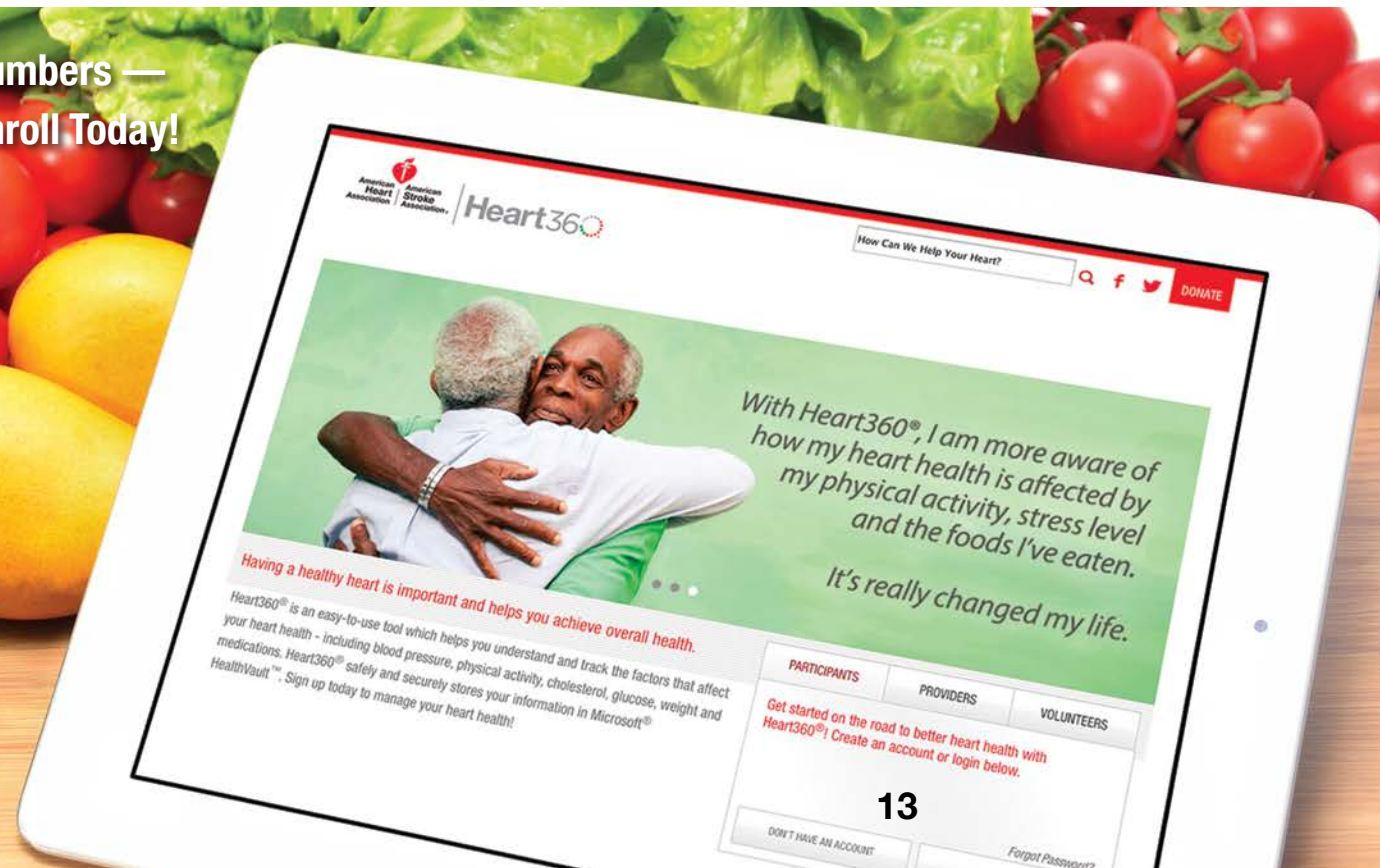
- Eating 8 or more fruit and vegetable servings every day. An average adult consuming 2,000 calories daily should aim for 4.5 cups of fruits and vegetables a day
- Eating 6 to 8 servings of grain foods a day, especially whole grains.
- Low-fat dairy products
- Poultry without skin (choose up to 5 to 6 total ounces per day—about the size of your fist)
- Fatty fish (at least two servings baked or grilled each week)
- Legumes (such as beans or peas), nuts and seeds in limited amounts (4 to 5 servings per week)

- Unsaturated vegetable oils such as canola, corn, olive oil and safflower oil (but a limited amount of tub or liquid unsalted margarines and spreads made from them)

The American Heart Association also recommends:

- Limit saturated fat intake to 5 percent to 6 percent of total daily calories.
- Reduce *trans* fat intake as much as possible.
- The remaining fat should come from sources of monounsaturated and polyunsaturated fats such as unsalted nuts and seeds, fish (especially oily fish, such as salmon, trout and herring, at least twice per week) and vegetable oils.

Grasp the Power of Knowing Your Numbers —
Visit heart360.org/cholesterol to Enroll Today!



Cooking Tips

Saturated fat can sneak into your cooking if you aren't careful. Here are some tips to help keep your kitchen low in fats:

- Use a rack to drain off fat when you broil, roast or bake.
- Don't baste with drippings; use wine, fruit juice or marinade.
- Broil or grill instead of pan-frying.
- Cut off all visible fat from meat before cooking, and take all the skin off poultry pieces. (Note: If you're roasting a whole chicken or turkey, remove the skin after cooking.)
- Use a vegetable oil spray to brown or sauté foods.
- Serve smaller portions of high-calorie foods.
- Instead of regular cheese, use low-fat, low-sodium cottage cheese and other fat-free, low-fat, low-sodium cheeses.



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Snacking Ideas

Here are some healthier alternatives to traditional snack fare for people being careful about their blood cholesterol levels:

- Whole grain snacks (control portions and watch calories)
- Unsweetened, ready-to-eat cereal
- Fresh fruit or dried fruit
- Vegetables such as celery or carrots
- Pretzels
- Air-popped popcorn (plain)
- Frozen low-fat or nonfat yogurt



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Physical Activity

An important part of getting healthy is increasing the amount of physical activity you get each week. The AHA recommends getting 40 minutes of moderate-to-vigorous-intensity physical activity 3 to 4 times per week, to help lower LDL and total cholesterol.

Keep in mind that you can do physical activity throughout the day; it doesn't have to be all at once.

Here are some tips for doing that:

- Park farther away from your workplace or the store, and walk the extra distance.
- Take the stairs instead of the elevator.
- Walk short distances instead of driving.
- Go on a walk with your family or friends.
- Take the dog for a longer walk a couple of times per day.
- Start out by taking at least 10-minute walks throughout the day.



Medication

If an improved diet and physical activity don't lower your risk for heart disease and cholesterol enough, your doctor may prescribe medicine(s) for you. Talk with your doctor about what type of medicine will work best for you.

The most commonly prescribed medications for high LDL-cholesterol are called statins. This type of medicine stimulates the body to remove cholesterol. Mainly, statins lower LDL cholesterol. Side effects can include constipation, stomach pain, or cramps and gas. In rare cases, muscle pain, weakness, or brown urine can occur.



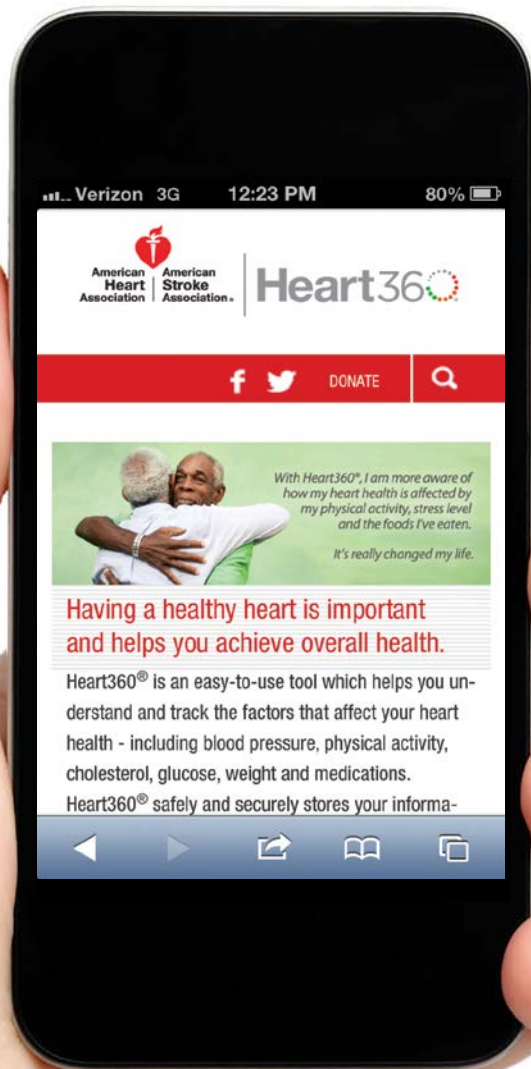
Taking Medications Safely

For medications to work properly and help you manage your cholesterol levels, they need to be taken safely and according to your doctor's instructions. Follow these tips:

- Never stop taking your medications unless your doctor instructs you to.
- Take your medications at the same time each day, according to your doctor's instructions. It's a good idea to take them with meals (if instructed to do so) or along with other daily events such as brushing your teeth.
- Read the labels on your medication bottles carefully. They contain important information, such as dosage, whether to take with food or drink, and possibly foods and drinks to avoid while taking the medication.
- Use a weekly pillbox with separate compartments for each day or time of day.
- Use a pill calendar or drug reminder chart.
- Wear a wristwatch with an alarm, or use the alarm on your smartphone, tablet or computer.
- Ask your family and friends to help you remember to take your medications at the same time each day.



Visit heart360.org/cholesterol
to enroll today!



Questions to Ask Yourself

- Do you eat a heart and brain healthy diet?
 - Does your diet include fruits, vegetables, high fiber whole grains, low-fat and no-fat dairy products, lean meat, poultry, and fish two times per week?
 - Are you limiting saturated fats, *trans* fats, and any added sugar to your diet?
 - Is your diet low in salt (sodium)? Currently the AHA recommends an ideal sodium intake of no more than 1500 mg per day.
 - Are you limiting yourself to moderate amounts of alcohol, i.e., no more than 2 drinks for men and no more than 1 drink for women per day?
- Are you overweight or obese? What is your BMI?
- What is your total cholesterol number? Is it less than 180 mg/dL?
- What is your blood pressure? Is it less than 120/80 mmHg?
- What is your fasting blood sugar? Is it less than 100 mg/dL?
- Do you get enough physical activity or exercise per week? The AHA recommends 40 minutes 3 to 4 times per week for lowering blood pressure and cholesterol.

Discuss these questions with your healthcare provider. Working together, you can take important steps toward improving your health.

Managing Coronary Heart Disease

It's important to manage cholesterol to help prevent cardiovascular disease, such as heart disease, heart attack or stroke. But what if you have been diagnosed with coronary heart disease (CHD)?


CHD means there's a buildup of plaque in the heart's arteries that could lead to a heart event. For people with CHD, managing cholesterol and other risk factors becomes even more important. The goal is to prevent a major heart event or stroke, and to manage CHD effectively so the condition doesn't get worse. You can do that by managing the risk factors that can make CHD worse, or lead to a major heart event. In addition to your cholesterol levels, they include:

- **Smoking.** Tobacco smoke is terrible for your health. If you smoke now, it's time to quit. Talk with your doctor about tools that can help you do just that. If you don't smoke, don't start.
- **High blood pressure.** High blood pressure makes the heart work harder to pump blood, causing the heart muscle to thicken and stiffen. It also increases your risk of CHD, stroke and heart attack, among other serious conditions.
- **Physical activity.** This is critical to improving your cholesterol and triglyceride levels. Physical activity also helps lower other risk factors for CHD. Simply put, the more physically active you are, the better for your heart health.

- **Overweight and obesity.** A person carrying too much weight, especially around the waist, has additional risk for CHD even if no other risk factors are present. The good news is that losing even as little as 10 percent of your weight, if you're overweight or obese, can significantly lower your risk of CHD and other major cardiovascular conditions.
- **Diabetes.** Having diabetes greatly increases your risk of CHD. The risks are even greater if blood sugar isn't under control. That's why it's so important for people with diabetes to work with their doctors to keep their blood sugar levels under control.
- **Stress.** Although more research is needed to determine how high stress levels contribute to an increased risk for CHD, stress can cause people to overeat, start smoking or smoke more than they otherwise would. It's important to control stress factors by learning and practicing relaxation techniques. Talk with your doctor about what you can do to control stress.
- **Alcohol.** Consuming too much alcohol can increase blood pressure and the risk of heart failure and stroke. If you drink, limit your alcohol consumption to no more than two drinks per day for men and no more than one drink per day for women. One drink is defined as 1-1/2 fluid ounces of 80-proof spirits (such as bourbon, Scotch, vodka, gin, etc.), 1 fluid ounce of 100-proof spirits, 4 fluid ounces of wine or 12 fluid ounces of beer (for example 5% alcohol). It's not recommended that nondrinkers start drinking or that drinkers increase the amount they drink.
- **Diet.** The food you eat affects your cholesterol and other risk factors for CHD. Work with your health care provider to develop a healthy eating plan, and be sure to read food labels for nutrients, sodium, saturated and *trans* fats, and added sugars.



Take Control of Your Heart Health — Enroll in Heart360

 You can easily keep track of your cholesterol and other key health numbers by enrolling in **Heart360**, a free online tool from the American Heart Association. It's easy to use and can be accessed by you and your doctor, so you both stay up to date on your cholesterol, blood pressure, blood sugar, weight, physical activity and medications. Enrolling is simple — just log on to heart360.org/cholesterol and get started today!

