

Heart Disease Risk Factors

High Blood Cholesterol and High Triglyceride Levels

Cholesterol

High blood cholesterol is a condition in which there's too much cholesterol—a waxy, fat-like substance—in your blood. The higher your blood cholesterol level, the greater your risk for heart disease and heart attack.

Cholesterol travels in the bloodstream in small packages called lipoproteins (LI-po-pro-teens). Two major kinds of lipoproteins carry cholesterol throughout your body:

- Low-density lipoproteins (LDL). LDL cholesterol is sometimes called "bad" cholesterol. This is because it carries cholesterol to tissues, including your heart arteries. The higher the level of LDL cholesterol in your blood, the greater your risk for heart disease.
- High-density lipoproteins (HDL). HDL cholesterol is sometimes called "good" cholesterol. This is because it helps remove cholesterol from your arteries. A low HDL cholesterol level raises your risk for heart disease.

A number of factors affect your blood cholesterol levels. For example, after menopause, women's LDL cholesterol levels tend to rise and their HDL cholesterol levels tends to fall. Other factors, such as age, gender, and diet, also affect your cholesterol levels.

Healthy levels of both LDL and HDL cholesterol will prevent plaque from building up in your arteries. Routine blood tests can show whether your blood cholesterol levels are healthy. Talk to your doctor about having your cholesterol tested and what the results mean.

Children also can have high blood cholesterol, especially if they're overweight. Talk to your child's doctor about testing your child' cholesterol levels.

Triglycerides

Triglycerides are another type of fat found in the blood. Some studies suggest that a high level of triglycerides in the blood also may raise the risk for heart disease, particularly in women.

High Blood Pressure

"Blood pressure" is the force of blood pushing against the walls of your arteries as your heart pumps out blood. If this pressure rises and stays high over time, it can damage your heart and lead to plaque buildup.

Often, high blood pressure (HBP) has no signs or symptoms. However, the condition can be detected using a simple test that involves placing a blood pressure cuff around your arm.

Most adults should have their blood pressure checked at least once a year. Talk to your doctor about how often you should have your blood pressure checked. If you have HBP, you will likely need to have your blood pressure checked more often.

Children also can develop HBP, especially if they're overweight. Your child's doctor should check your child's blood pressure at each routine checkup.

Blood pressure numbers consist of systolic (sis-TOL-ik) and diastolic (di-a-STOL-ik) pressures. Systolic blood pressure is the pressure when your heart beats. Diastolic blood pressure is the pressure when your heart is at rest between beats.

You will most often see blood pressure numbers written with the systolic number above or before the diastolic number, such as 120/80 mmHg. (The mmHg is millimeters of mercury—the units used to measure blood pressure.)

All levels above 120/80 mmHg raise your risk for heart disease. This risk grows as blood pressure levels rise. Only one of the two blood pressure numbers has to be above normal to put you at greater risk for heart disease and heart attack.

Blood pressure normally rises with age and body size. Newborns often have very low blood pressure numbers, while older teens have numbers similar to adults.

The ranges for normal blood pressure and HBP are generally lower for youth than for adults. These ranges are based on the average blood pressure numbers for age, gender, and height.

Your child should have routine blood pressure checks starting at 3 years of age. To find out whether a child has HBP, a doctor will compare the child's blood pressure numbers to average numbers for his or her age, height, and gender.

Both children and adults are more likely to develop HBP if they're overweight or have diabetes.

Diabetes and Prediabetes

Diabetes is a disease in which the body's blood sugar level is too high. The two types of diabetes are type 1 and type 2.

In type 1 diabetes, the body's blood sugar level is high because the body doesn't make enough insulin. Insulin is a hormone that helps move blood sugar into cells, where it's used for fuel. In type 2 diabetes, the body's blood sugar level is high mainly because the body doesn't use its insulin properly.

Over time, a high blood sugar level can lead to increased plaque buildup in your arteries. Having diabetes doubles your risk for heart disease.

Prediabetes is a condition in which your blood sugar level is higher than normal, but not as high as it is in diabetes. If you have prediabetes and don't take steps to manage it, you're likely to develop type 2 diabetes within 10 years. You're also at higher risk for heart disease.

Being overweight or obese raises your risk for type 2 diabetes. With modest weight loss and moderate physical activity, people who have prediabetes may be able to delay or prevent type 2 diabetes. They also may be able to lower their risk for heart disease and heart attack. Weight loss and physical activity also can help control diabetes.

Even children can develop type 2 diabetes. Most children who have type 2 diabetes are overweight.

Type 2 diabetes develops over time and sometimes has no symptoms. Go to your doctor or local clinic to have your blood sugar levels tested regularly to check for diabetes and prediabetes.

Overweight and Obesity

The terms "overweight" and "obesity" refer to a person's overall body weight and whether it's too high. Overweight is having extra body weight from muscle, bone, fat, and/or water. Obesity is having a high amount of extra body fat.

The most commonly used measure of overweight and obesity is body mass index (BMI). BMI is calculated from your height and weight.

In adults, a BMI of 18.5 to 24.9 is considered normal. A BMI of 25 to 29.9 is considered overweight. A BMI of 30 or above is considered obese. Over two-thirds of American adults are overweight, and almost one-third of these adults are obese.

You can use the NHLBI's online BMI calculator to figure out your BMI, or your doctor can help you.

Overweight is defined differently for children and teens than it is for adults. Children are still growing, and boys and girls mature at different rates. Thus, BMIs for children and teens compare their heights and weights against growth charts that take age and gender into account. This is called BMI-for-age percentile.

Being overweight or obese can raise your risk for heart disease and heart attack. This is mainly because overweight and obesity are linked to other heart disease risk factors, such as high blood cholesterol and triglyceride levels, high blood pressure, and diabetes.

[Smoking](#)

Smoking tobacco or long-term exposure to secondhand smoke raises your risk for heart disease and heart attack.

Smoking triggers a buildup of plaque in your arteries. Smoking also increases the risk of blood clots forming in your arteries. Blood clots can block plaque-narrowed arteries and cause a heart attack.

Some research shows that smoking raises your risk for heart disease in part by lowering HDL cholesterol levels.

The more you smoke, the greater your risk for heart attack. Studies show that if you quit smoking, you cut your risk for heart attack in half within a year. The benefits of quitting smoking occur no matter how long or how much you've smoked.

Most people who smoke start when they're teens. Parents can help prevent their children from smoking by not smoking themselves. Talk to your child about the health dangers of smoking and ways to overcome peer pressure to smoke.

[Lack of Physical Activity](#)

Inactive people are nearly twice as likely to develop heart disease as those who are active. A lack of physical activity can worsen other heart disease risk factors, such as high blood cholesterol and high triglyceride levels, high blood pressure, diabetes and prediabetes, and overweight and obesity.

It's important for children and adults to make physical activity part of their daily routines. One reason many Americans aren't active enough is because of hours spent in front of TVs and computers doing work, schoolwork, and leisure activities.

Some experts advise that children and youth reduce screen time because it limits time for physical activity. They recommend that children aged 2 and older should spend no more than 2 hours a day watching television or using a computer (except for school work).

Being physically active is one of the most important things you can do to keep your heart healthy. The good news is that even modest amounts of physical activity are good for your health. The more active you are, the more you will benefit.

Unhealthy Diet

An unhealthy diet can raise your risk for heart disease. For example, foods that are high in saturated and trans fats and cholesterol raise LDL cholesterol. Thus, you should try to limit these foods.

Saturated fats are found in some meats, dairy products, chocolate, baked goods, and deep-fried and processed foods. Trans fats are found in some fried and processed foods. Cholesterol is found in eggs, many meats, dairy products, commercial baked goods, and certain types of shellfish.

It's also important to limit foods that are high in sodium (salt) and added sugars. A high-salt diet can raise your risk for high blood pressure.

Added sugars will give you extra calories without nutrients like vitamins and minerals. This can cause you to gain weight, which raises your risk for heart disease. Added sugars are found in many desserts, canned fruits packed in syrup, fruit drinks, and nondiet sodas.

You also should try to limit how much alcohol you drink. Too much alcohol will raise your blood pressure. It also will add calories, which can cause weight gain.

Stress

Stress and anxiety may contribute to the development of heart disease. Stress and anxiety also can trigger your arteries to tighten. This can raise your blood pressure and your risk for heart attack.

The most commonly reported trigger for a heart attack is an emotionally upsetting event, especially one involving anger. Stress also may indirectly raise your risk for heart disease if it makes you more likely to smoke or overeat foods high in fat and sugar.

Age

As you get older, your risk for heart disease and heart attack rises. This is in part due to the slow buildup of plaque inside your heart arteries, which can start during childhood.

In men, the risk for heart disease increases after age 45. In women, the risk increases after age 55.

Most people have some plaque buildup in their heart arteries by the time they're in their seventies. However, only about 25 percent of those people have chest pain, heart attacks, or other signs of heart disease.

Gender

Before age 55, women have a lower risk for heart disease than men. After age 55, however, the risk for heart disease increases similarly in both women and men. This is because before menopause, estrogen provides some protection against heart disease for women.

Some risk factors may affect heart disease risk differently in women than in men. For example, diabetes raises the risk for heart disease more in women.

Family History

Family history plays a role in heart disease risk. Your risk increases if your father or brother was diagnosed with heart disease before 55 years of age, or if your mother or sister was diagnosed with the disease before 65 years of age.

However, having a family history of heart disease doesn't mean that you will have it too. This is especially true if your affected family member smoked or had other heart disease risk factors that were not well treated.

Making lifestyle changes and taking medicines to treat other risk factors often can lessen genetic influences and stop or slow the progress of heart disease.

How To Prevent and Control Heart Disease Risk Factors

You can prevent and control many heart disease risk factors, such as high blood cholesterol, high blood pressure, and overweight and obesity, with lifestyle changes and medicines. Only a few risk factors, such as age, gender, and family history, can't be controlled.

To reduce your risk for heart disease and heart attack, try to control each risk factor you can. The good news is that many lifestyle changes help control several heart

disease risk factors at the same time. For example, physical activity lowers your blood pressure, helps control diabetes and prediabetes, reduces stress, and helps control your weight.

A Lifelong Approach

Many lifestyle habits begin during childhood. Thus, parents and families should encourage their children to make heart healthy choices, such as following a healthy diet and doing enough physical activity. Make following a healthy lifestyle a family goal.

To achieve this goal, it's important to learn about key health measures, such as weight, body mass index (BMI), waist circumference, and your child's BMI-for-age percentile. For more information about BMI in adults and children, see "Heart Disease Risk Factors."

Be aware of you and your family members' blood pressure, blood cholesterol, and blood sugar levels. Once you know these numbers, you can work to bring them into, or keep them within, a healthy range.

Making lifestyle changes can be hard. However, making lifestyle changes as a family can make it easier for everyone to prevent or control their heart disease risk factors.

Lifestyle Changes

A healthy lifestyle can lower the risk for heart disease and may prevent current heart disease from worsening. A healthy lifestyle includes:

- Following a healthy diet
- Maintaining a healthy weight
- Doing physical activity regularly
- Quitting smoking
- Managing stress

Following a Healthy Diet

A healthy diet is an important part of a healthy lifestyle. To lower your risk for heart disease and heart attack, you and your family should follow a diet that's:

- Low in saturated and trans fats. Saturated fats are found in some meats, dairy products, chocolate, baked goods, and deep-fried and processed foods. Transfats are found in some fried and processed foods. Both types of fat raise your LDL, or "bad," cholesterol level.

- High in the types of fat found in fish and olive oil. These fats are rich in omega-3 fatty acids. Omega-3 fatty acids lower your risk for heart attack, in part by helping prevent blood clots.
- High in fiber, whole grains, fruits, and vegetables. A diet that's rich in these elements not only helps lower your LDL cholesterol level, but also provides nutrients that may help protect against heart disease.
- Low in salt and sugar. A low-salt diet can help you manage your blood pressure. A low-sugar diet can help you prevent weight gain and control diabetes and prediabetes.
- Research suggests that drinking small to moderate amounts of alcohol regularly also can lower your risk for heart disease. One drink a day can lower your risk by raising your HDL, or "good," cholesterol level. One drink is a glass of wine, beer, or a small amount of hard liquor.
- If you don't drink, this isn't a recommendation to start using alcohol. If you're pregnant, if you're planning to become pregnant, or if you have another health condition that could make alcohol use harmful, you shouldn't drink.
- Also, too much alcohol can cause you to gain weight and raise your blood pressure and triglyceride levels. In women, even one drink a day may raise the risk for certain types of cancer.

Teach your children how to make healthy food choices. For example, have them help you shop for and make healthy foods. Set a good example by following the same heart healthy diet that you ask your children to follow.

Maintaining a Healthy Weight

Following a healthy diet and being physically active can help you maintain a healthy weight. Controlling your weight helps you control heart disease risk factors.

If you're overweight or obese, try to lose weight. A loss of just 5 to 10 percent of your current weight can lower your heart disease risk. To lose weight, cut back your calorie intake and do more physical activity.

Eat smaller portions and choose lower calorie foods. Don't feel that you have to finish the entrees served at restaurants. Many restaurant portions are oversized and have too many calories for the average person.

For overweight children or teens, it's important to slow the rate of weight gain. However, reduced-calorie diets aren't advised before you talk to a doctor.

If you're obese, or if you haven't been active in the past, start physical activity slowly and build up the intensity over time.

Doing Physical Activity Regularly

You don't have to be an athlete to lower your risk for heart disease. People gain some health benefits from as little as 60 minutes of moderate-intensity aerobic activity per week.

For major health benefits, adults should do at least 150 minutes (2.5 hours) of moderate-intensity aerobic activity or 75 minutes (1 hour and 15 minutes) of vigorous-intensity aerobic activity each week.

Another option is to do a combination of both. A general rule is that 2 minutes of moderate-intensity activity counts the same as 1 minute of vigorous-intensity activity.

The more active you are, the more you will benefit.

Children and youth should do 60 minutes or more of physical activity every day. A great way to encourage physical activity is to do it as a family. You also may want to limit your children's TV, video, and computer time to encourage them to be more active.

If you have heart disease or symptoms such as chest pain and dizziness, talk to your doctor before you start a new exercise plan. Find out how much and what kinds of physical activity are safe for you. Avoid exercising outdoors when air pollution levels are high or the temperature is very hot or cold.

Quitting Smoking

If you smoke, quit. Smoking can raise your risk for heart disease and heart attack and worsen other heart disease risk factors. Talk to your doctor about programs and products that can help you quit smoking. Also, try to avoid secondhand smoke.

If you have trouble quitting smoking on your own, consider joining a support group. Many hospitals, workplaces, and community groups offer classes to help people quit smoking.

You can help your children avoid smoking or quit smoking. Talk with them about the health effects of smoking.

Teach them how to handle peer pressure to smoke.

Teens who have parents who smoke are more likely to smoke themselves. Set a good example by not smoking or quitting smoking. Set firm rules about no tobacco use in your home.

If you have a child who smokes, help him or her devise a plan to quit. Offer your child information and resources on how to quit. Stress the natural rewards that come with quitting, such as freedom from addiction, better fitness and sports performance, and improved appearance. Reinforce the decision to quit with praise.

Managing Stress

Learning how to manage stress, relax, and cope with problems can improve your emotional and physical health. Having supportive people in your life with whom you can share your feelings or concerns can help relieve stress.

Physical activity, medicine, and relaxation therapy also can help relieve stress. You may want to consider participating in a stress management program.

Other Lifestyle Concerns

If making lifestyle changes is hard for you, try taking things one step at a time. Learn about the benefits of lifestyle changes.

Figure out what's stopping you from making or sticking to your lifestyle changes. Think about how to overcome these issues. For example, if you're too tired to exercise after work, you may want to try working out before you go to work.

Make a plan to carry out your lifestyle changes that includes specific, realistic goals. Act on your plan and work toward your goals. You may want to do so with the help of a support group or supportive friends and family.

Reward yourself for the gains you've made. Think about what you need to do to maintain your lifestyle changes and avoid unhealthy habits.

Don't give up if you go off your diet or exercise plan or start smoking again. Instead, find out what you need to do to get back on track so you can meet your goals. Many people find that it takes more than one try to make long-term lifestyle changes.

Changing the eating and activity habits of children takes time. Start with small, easy steps. For example, cut out after-dinner snacks or go for an after-dinner walk instead of watching TV.

Set a good example, and try to get your children involved in choosing a new healthy step to take each day. Making lifestyle changes a group effort will make them easier.

Medicines

Sometimes lifestyle changes aren't enough to reduce your blood pressure, cholesterol levels, or other risk factors. Your doctor also may recommend medicines. For example, you may need medicines to:

- Lower your LDL cholesterol
- Lower your blood pressure
- Lower your blood sugar level
- Prevent blood clots and/or inflammation

Take your medicines as prescribed. Don't cut back on the dosage unless your doctor tells you to. If you have side effects or other problems related to your medicines, talk to your doctor. He or she may be able to provide other options.

You should still follow a heart healthy lifestyle, even if you take medicines to control your risk factors.

Key Points

- Heart disease risk factors are conditions or habits that raise your risk for coronary heart disease (CHD) and heart attack.
- CHD is a condition in which a fatty material called plaque builds up on the inner walls of your coronary (heart) arteries. Plaque narrows the arteries and reduces blood flow to your heart muscle. It also makes it more likely that blood clots will form and partly or completely block blood flow to a section of your heart muscle.
- There are a number of known heart disease risk factors. You can control some risk factors, and others you can't.
- Risk factors you can control include high blood cholesterol and high triglyceride levels, high blood pressure, diabetes and prediabetes, overweight and obesity, smoking, lack of physical activity, unhealthy diet, and stress.
- The risk factors you can't control include age, gender, and family history. However, even if you have a family history of heart disease, it doesn't mean that you will have heart disease too. Making lifestyle changes and taking medicines to treat other risk factors often can lessen the genetic influences and stop or slow the progress of heart disease.

- Your risk for heart disease and heart attack increases with the number of risk factors you have and their severity.
- Also, some risk factors, such as smoking and diabetes, put you at greater risk than others.
- Many heart disease risk factors start during childhood, and some can even develop within the first 10 years of life.
- Thus, parents should encourage children from a young age to make heart healthy choices.
- Following a healthy lifestyle can help you prevent or control many heart disease risk factors. A healthy lifestyle includes following a healthy diet and maintaining a healthy weight, doing physical activity regularly, quitting smoking, and managing stress.
- If lifestyle changes aren't enough to control your heart disease risk factors, your doctor may recommend medicines.
- Medicines can help lower your cholesterol level, blood pressure, and blood sugar level. Your doctor also may recommend medicines to prevent blood clots and/or inflammation.
- On average, people who have a low risk for heart disease live up to 10 years longer than people at high risk for heart disease. Even if you're in your seventies or eighties, a healthy lifestyle can reduce your risk of dying from heart disease by nearly two-thirds.
- Your doctor can help you find out whether you have risk factors for heart disease. He or she also can help you create a plan for lowering your risk for heart disease, heart attack, and other heart problems.
- If you have children, talk to their doctor about their heart health and whether they have heart disease risk factors.