

Risk Factors for Heart Disease



THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

Risk factors are traits and lifestyle habits that increase your chance of having a disease. There are risk factors for heart disease that you cannot control, such as your age, gender, and family history. Risk factors you can control include:

- High blood pressure
- High blood cholesterol
- High triglycerides
- Tobacco use
- Being overweight
- Inactivity or sedentary lifestyle
- Uncontrolled or poorly controlled diabetes
- Poor diet
- Excessive alcohol use
- Stress and tension

Blood pressure

- Blood pressure is the force put on artery walls when your heart pumps and relaxes with each heartbeat. It is measured with a blood pressure cuff.
- High blood pressure is also called **hypertension**. It is caused by the narrowing of arteries from plaque deposits. The harder it is for your blood to flow through your arteries, the higher your blood pressure.
- Having high blood pressure puts you at risk for heart disease, kidney disease, and stroke. Most people have no symptoms. The only way to know is to have it checked.

Your blood pressure reading

The top number of your blood pressure reading is called **systolic**. It is the pressure measured in the arteries when the heart pumps out blood to the body. The bottom number is called **diastolic**. It is the pressure measured in the arteries when the heart relaxes and fills up with blood to prepare for the next pump of blood to the body.

- **Normal blood pressure:** systolic less than 120 and diastolic less than 80.
- **Elevated blood pressure:** systolic 120 to 129 and diastolic less than 80.
- **High blood pressure (hypertension) stage 1:** systolic 130 to 139 or diastolic 80 to 89.
- **High blood pressure (hypertension) stage 2:** systolic 140 or higher or diastolic 90 or higher.
- **Hypertensive crisis (consult your doctor right away):** systolic higher than 180 and/or diastolic higher than 120.

Lowering your blood pressure

- Check your blood pressure often. Call your healthcare provider if it stays high.
- Take your blood pressure medicine as ordered. Continue to take your medicine even if you feel well and your blood pressure is normal.
- Lose weight if you are overweight.
- Limit sodium in your foods and drinks.

- Stop tobacco use and limit alcohol.
- Aim to be active at least 30 minutes a day.
- Practice relaxation daily to reduce stress.

Cholesterol and triglycerides

Cholesterol and triglycerides are different types of fats found in your blood. Too much cholesterol or triglycerides in your blood can be harmful and increase your risk for heart disease and stroke.

- **Total cholesterol** is a measure of the total amount of cholesterol in your blood and is based on HDL, LDL, and triglycerides numbers (HDL + LDL + 20 percent of your triglycerides level). **A healthy level is below 200.**
- **LDL cholesterol** makes up the majority of your body's cholesterol. It is known as "bad" cholesterol because it causes plaque to build up on artery walls, making it hard for blood to flow. The higher the level of LDL cholesterol in your blood, the greater your risk of heart disease and stroke. **A healthy level is less than 70.**
- **HDL cholesterol** carries extra cholesterol away from your arteries and back to your liver, which flushes it from your body. It is known as "good" cholesterol because having high levels can reduce your risk of heart disease and stroke. **A healthy level is at least 40 for men and at least 50 for women. An HDL above 60 is optimal for cardiovascular health.**
- **Triglycerides** are a type of fat found in the blood that your body uses for energy. The combination of high level of triglycerides with low HDL cholesterol or high LDL cholesterol can increase your risk for heart disease and stroke. High triglycerides can also be caused by poorly controlled diabetes. **A healthy level is less than 150.**

Your triglycerides may be high if you regularly eat more calories, like carbohydrates and fats, than your body needs for energy. Examples of foods that increase triglycerides include:

- ▶ Alcohol: Beer, wine, hard liquor, and liqueurs.
- ▶ Sugar: Concentrated sweets, such as sugar, honey, molasses, jams, jellies, and candy. Desserts, such as pies, cakes, cookies, candy, doughnuts, ice cream, frozen yogurt, and sweetened gelatin.
- ▶ Starch: Concentrated starchy foods, such as bagels, pasta, rice, potatoes, large rolls, pizza, pretzels, popcorn, chips, many fat-free foods, and ready-to-eat cereals. Choose small portions of these due to their high carbohydrate density. Choose whole grains and legumes (starchy beans) over refined starches.
- ▶ Saturated fats: Fats solid at room temperature, including animal fats, lard, butter, and shortening. Also, fried foods, whole milk, whole milk dairy products, cheese, cream cheese, high-fat meats, and fast foods.
- ▶ Trans fats: Hydrogenated fats found in margarine, vegetable shortening, fried foods, fast foods, and most commercial snack foods, such as pastries, cakes, pies, and crackers.

Get your cholesterol and triglycerides tested at least every year. Your cardiologist may recommend that you be tested every six months. If you are taking cholesterol lowering medicine, get your liver function tested as well.

Lowering your cholesterol and triglycerides

- Take your cholesterol lowering medicine as ordered.
- Eat a heart healthy diet that is low in fat and cholesterol and high in fiber.
 - Limit foods that contain high amounts of cholesterol, such as beef, pork, butter, cheese, egg yolks, and whole milk.
 - Eat foods high in fiber, such as whole grains, beans, fruit, and vegetables. Fiber helps to block cholesterol and fats from being absorbed through the wall of your intestines and into your blood stream.
 - Bake, grill, or roast foods instead of frying them.
- Exercise at least 30 minutes a day, 5 days a week.

Quitting tobacco use

Cigarettes, cigars, pipes, and smokeless tobacco all expose the body to toxic chemicals and make it harder for the body to get enough oxygen. The more you use, the greater your risk for:

- High blood pressure
- Blood clots that can lead to a heart attack or stroke
- Cardiovascular disease where the blood vessels and arteries of the body get blocked or narrow
- Cancer, including cancer of the lungs, liver, throat, trachea (airway), larynx (voice box), and others
- Diseases, such as emphysema or chronic bronchitis, that make it hard to breathe and get enough oxygen
- Heart disease and heart attacks
- Type 2 diabetes
- Other problems, including vision loss, bone loss, or problems with pregnancy or reproduction

Benefits of quitting - if you quit right now...

- Within 20 minutes, your heart rate and blood pressure drop.
- Within 12 hours, the carbon monoxide level in your blood drops to normal.
- Within 3 months, your circulation and lung function improves.
- Within 9 months, you will cough less and breathe easier.
- After 1 year, your risk of heart disease is cut in half.
- After 5 years, your risk of cancer of the mouth, throat, esophagus and bladder are cut in half. Your risk of cervical cancer and stroke return to normal.
- After 10 years, you are half as likely to die from lung cancer.
- After 15 years, your risk of coronary heart disease is the same as a non-smoker's.

The 5 steps to quitting tobacco

1. Set a quit date.
2. Tell family and friends you plan to quit. Having support is key to successful quitting.
3. Prepare for your quit date. Buy gum, throw away tobacco products, clean your home and car, and visit your dentist to clean your teeth of tobacco stains.
4. Talk to your healthcare provider or pharmacist about quit aids, nicotine replacement products, and support groups.
5. Plan a reward system for quitting. Reward yourself for choosing healthy behaviors that replace tobacco use and for meeting certain milestones, such as 1 day, 1 week, 1 month, 3 months, and 6 months.

Tobacco cessation resources

Quit Lines:

- Ohio Quit Line, 800-784-8669
- American Lung Association, 800-586-4872
- BeTobaccoFree.gov Smoking Quit Line, 877-448-7848

Ohio State Clinics:

- Ross Heart Hospital Smoking Cessation Clinic, 614-293-0932
- The Lung Center, Tobacco Dependence Clinic, 614-293-4925
- College of Pharmacy Clinical Partners, 614-293-5075

Quitting Tobacco Use Book:

Available from your healthcare provider or visit <https://patienteducation.osumc.edu/Documents/QuittingTobaccoUse.pdf>.

Mobile Apps:

Search your mobile device's app store for quit smoking apps, such as:

- QuitGuide
- QuitSTART

Maintaining a healthy weight

Maintaining a healthy weight is important for overall health. It can help you prevent and control many diseases and conditions, such as heart disease, high blood pressure, type 2 diabetes, gallstones, breathing problems, and certain cancers. It also helps you to feel good about yourself and gives your body energy.

Am I at a healthy weight?

Body Mass Index (BMI) is an estimate of body fat based on your height and weight. It helps you and your healthcare team find your ideal weight and create a goal for weight loss, if needed. Ask your team for help to determine your BMI.

Aim for a BMI between 18.5 and 24.9.

If you need to lose weight, losing just 5 to 10 percent of your current weight over 6 months will lower your risk for heart disease and other conditions.

Be active every day

Health experts recommend that adults be active at least 150 minutes per week, or 2 hours and 30 minutes. This may sound like a lot, but you can break it up into bouts as short as 10 minutes if needed. Try some of these tips to build more exercise and activity into your day.

Every day

- **Walk and be active.** Park in a space farther away, so you have to walk. Walk with a friend or play with the kids.
- Take the stairs instead of the elevator or escalator.
- Take a stretch break and stand up and move. Do this for at least every 1 hour of sitting.
- Work in your yard or garden.
- Walk your dog or the neighbor's dog.

4 to 6 days each week

Increase your cardiovascular fitness with aerobic exercise, such as:

- Fast walking
- Biking
- Swimming
- Dancing
- Hiking
- Running
- Tennis

Be sure to do stretching exercises after each exercise session.

2 to 3 days each week

Strengthen your muscles:

- Do exercises using free weights, resistance bands, or your own body weight.
- Try yoga.

Be sure to do stretching exercises after each exercise session.

Cut down on the time you spend

- Watching TV.
- Working, surfing the web, or playing on the computer.
- Sitting.



If you aren't very active

- Walk when you can. Even a few steps can make a difference, and they add up over time.
- Try to get active during your free time.
- Set a goal that you can meet in a short time. For example, I will walk 2 blocks at least 3 days a week.
- Build on your success and add a bit more activity each week.

If you are active sometimes

- Try to plan exercise or physical activity into each day.
- Ask a partner, friend, or neighbor to be active with you. You can help to keep each other motivated.
- Keep up your activity.
- Mix up your routine. Try a new activity, so you do not get bored.
- Have fun and challenge yourself.

Activity safety instructions**Cardiovascular precautions:**

If any of these signs or symptoms occur or persist at any time during or after exercising, tell your healthcare provider:

- Chest pain, pressure, or discomfort
- Unusual shortness of breath
- Irregular pulse - too fast or too slow
- Dizziness or light-headedness
- Extreme fatigue that lasts an hour or more after exercise
- Cold sweat
- Nausea or vomiting
- Unusual joint or muscle pain
- Any other unusual signs or symptoms that concern you

General recommendations:

- Do NOT exercise for at least 2 hours following a heavy meal.
- Avoid extreme hot or cold temperatures.
- Avoid exercise when you are not feeling well, especially if you have a fever.
- Avoid drinking caffeinated (coffee, tea, colas) and alcoholic beverages before and after exercise.
- Do NOT take an extremely hot or cold shower before or right after exercise.
- Maintain your heart rate within your prescribed training heart rate range.

Diabetes

Diabetes results in high blood sugar levels (glucose). Diabetes occurs when the pancreas does not produce enough insulin or the body cannot use insulin properly. With diabetes there is an abnormal amount of lipoprotein, which speeds up atherosclerosis and raises the risk of heart attack. Having high blood pressure and being overweight are more common in people with diabetes.

An **A1C** test measures blood glucose over the last 2 to 3 months. **An A1C of 6.5% or above indicates diabetes.**

To control diabetes

- Check your glucose levels at home and try to keep them as close to normal as possible.
- Follow your meal plan as prescribed.
- Take medicines as prescribed.
- Control your weight.
- Exercise regularly.

Diet and alcohol use

Eat a healthy diet with fruits, vegetables, whole grains, fat-free or low-fat milk products, and plant-based protein or lean cuts of meat.

- Choose foods low in saturated fats, cholesterol, sodium, and added sugars.
- Read food labels and plan for low sodium meals and snacks. Cook at home and use herbs and spices for great tasting meals instead of pre-packaged meals or processed foods.

Limit alcohol use. If you do choose to drink, limit to 1 drink a day (women) or 2 drinks a day (men).

Stress and tension

Stress is a normal part of our lives. Stress causes the release of adrenalin, which speeds up your heart rate, narrows your blood vessels, and increases your blood pressure. Stress makes you heart work harder. **It is not the stressful situation, but your reaction to stress that is important.**

People who feel time pressures and who are hard-driving are more prone to heart disease. Those who are calm, unhurried, and easy-going are at less risk.

Suggestions to reduce stress

- Identify events in your life that create stress and how you respond to it.
- Avoid things that cause stress, if possible.
- Learn stress management techniques, such as journaling, yoga, and listening to music.
- When you cannot avoid stressful situations, choose to respond in a way that is less stressful for you.
- Exercise regularly.