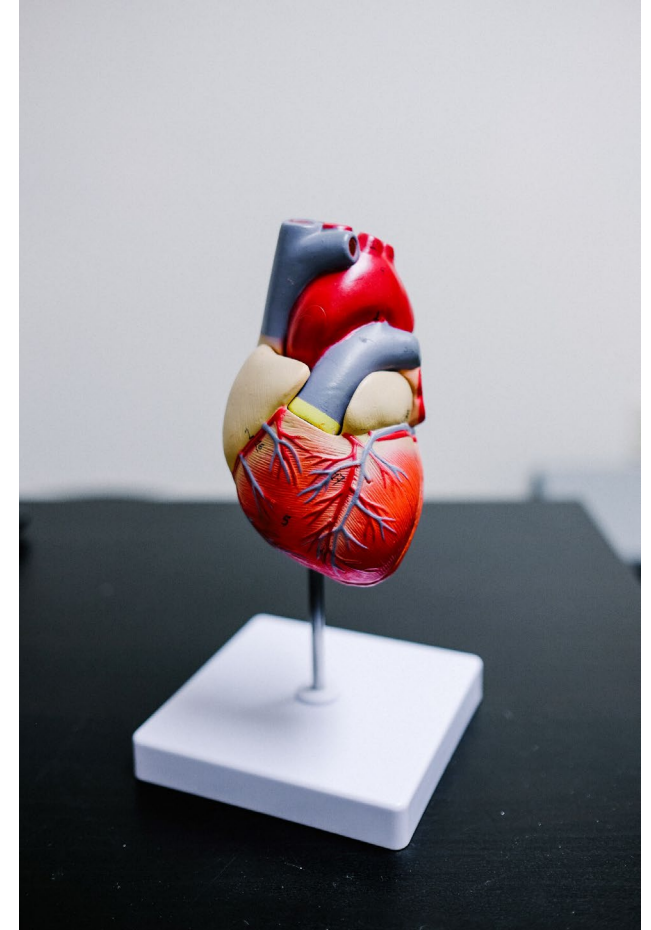


Cardiovascular Disease (CVD)

What Is Cardiovascular Disease?

- Cardiovascular disease (CVD) is the world's number one killer, causing an estimated 17.9 million deaths every year.
- CVD is a class of diseases and conditions that affect the heart or blood vessels (veins and arteries), including heart disease, heart attack, stroke, and many other conditions.
- Approximately 85% of CVD deaths are due to heart attacks and strokes, and 1/3 of these deaths occur prematurely in people under the age of 70.
- Most cardiovascular diseases can be prevented by addressing behavioral risk factors, so it is important to detect CVD as early as possible so that management with counseling and medicines can begin.

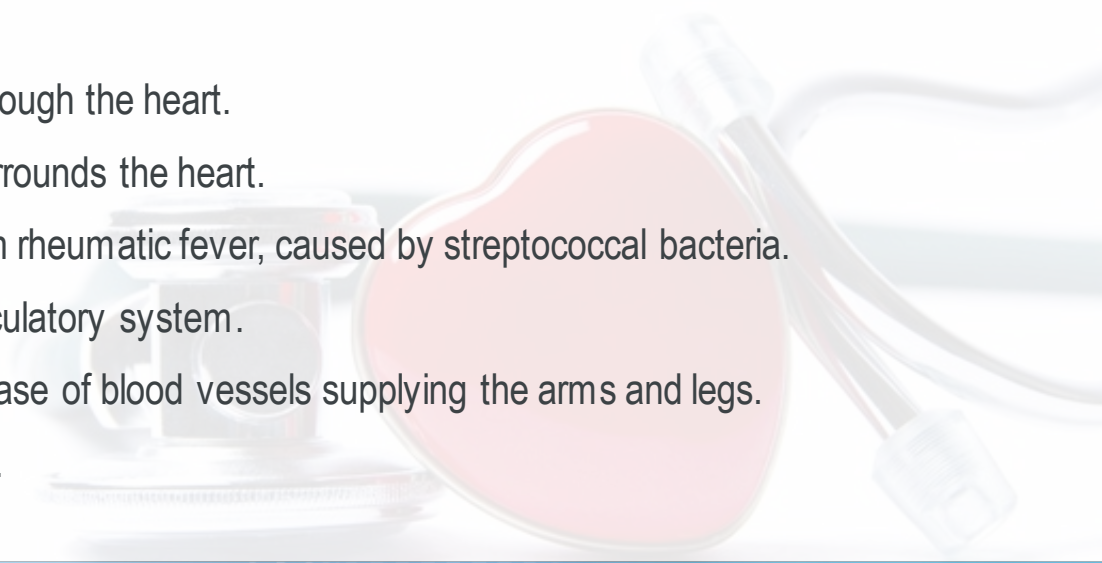


Types of Cardiovascular Disease and Conditions

- **Coronary heart disease** – Coronary heart disease, sometimes called coronary artery disease or ischemic heart disease, is the most common type of heart disease. It refers to heart problems caused by narrowed coronary arteries that supply blood to the heart muscle. For some people, the first sign of coronary heart disease is a heart attack.
- **Heart attack** – A heart attack, or myocardial infarction, occurs when something, usually a blood clot, cuts off the flow of blood to the heart. Without oxygen and nutrients, the heart muscle begins to die. A heart attack may not be fatal, especially if you receive immediate medical attention and treatment, but it can still cause lasting damage to the heart.
- **Stroke** – A stroke occurs when the blood supply to the brain is interrupted, causing the brain to lose its vital supply of oxygen and nutrients. A stroke can either be caused by a blood clot in the brain artery or when a blood vessel in the brain bursts and bleeds, damaging the brain tissue.

Types of Cardiovascular Disease and Conditions

- **Arrhythmia** – Irregular or abnormal heartbeat.
- **Aortic disease (including aortic aneurysm)** – A disease that causes the aorta to widen or tear.
- **Cardiomyopathies** – Diseases of the heart muscle.
- **Congenital heart disease** – Problems with the heart or blood vessels that exist at birth.
- **Deep vein thrombosis and pulmonary embolism** – Blood clots in the leg veins, which can break loose and travel to the heart and lungs.
- **Heart failure** – When your heart isn't pumping as well as it should be.
- **Heart valve disease** – A disease of the heart valves that keep blood flowing through the heart.
- **Pericardial disease (pericarditis)** – Inflammation of the thin tissue sac that surrounds the heart.
- **Rheumatic heart disease** – Damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria.
- **Vascular disease (blood vessel disease)** – Any condition that affects your circulatory system.
- **Peripheral vascular disease (including peripheral arterial disease)** – A disease of blood vessels supplying the arms and legs.
- **Cerebrovascular disease** – A disease of the blood vessels supplying the brain.



Major Risk Factors of CVD You Can Modify, Treat, or Control

- **Tobacco smoke** – The risk that smokers will develop CVD is much higher than that for nonsmokers. Cigarette smoking is a powerful independent risk factor for sudden cardiac death in patients with coronary heart disease. Cigarette smoking also interacts with other risk factors to greatly increase the risk for coronary heart disease. Exposure to other people's smoke increases the risk of heart disease even for nonsmokers.

Find resources on **Smoking & Tobacco Cessation** in the Total Health Topics A-Z Library at [TotalHealth.cat.com](https://www.TotalHealth.cat.com).

Major Risk Factors of CVD You Can Modify, Treat, or Control

- **High blood cholesterol** – As your blood cholesterol rises, so does your risk of CVD. When other risk factors (such as high blood pressure and tobacco smoke) are also present, this risk increases even more. A person's cholesterol level is also affected by age, sex, heredity and diet.

Your total cholesterol score is calculated using the following equation: $\text{HDL} + \text{LDL} + 20 \text{ percent of your triglyceride level}$.

- **Desirable level:** Below 200 mg/dL
- **Borderline high level:** 200-239 mg/dL
- **High level:** 240 mg/dL and above

Major Risk Factors of CVD You Can Modify, Treat, or Control

- High blood pressure** – High blood pressure increases the heart’s workload, causing the heart muscle to thicken and become stiffer. This stiffening of the heart muscle is not normal and causes the heart to function abnormally. It also increases your risk of stroke, heart attack, kidney failure, and congestive heart failure. When high blood pressure is present alongside obesity, smoking, high blood cholesterol levels or diabetes, the risk of heart attack or stroke increases even more.

Blood Pressure Category	Systolic mm Hg (upper number)		Diastolic mm Hg (lower number)
Normal	Less than 120	and	Less than 80
Elevated	120 – 129	and	Less than 80
High Blood Pressure (Hypertension) Stage 1	130 – 139	or	80 – 89
High Blood Pressure (Hypertension) Stage 2	140 or higher	or	90 or higher
Hypertensive Crisis (Consult your doctor immediately!)	Higher than 180	and/or	Higher than 120

Major Risk Factors of CVD You Can Modify, Treat, or Control

- **Physical inactivity** – An inactive lifestyle is a risk factor for CVD. Regular, moderate to vigorous physical activity helps reduce the risk of cardiovascular disease. Physical activity can help control blood cholesterol, diabetes, and obesity. It can also help to lower blood pressure in some people.
- **Obesity and being overweight** – People who have excess body fat, especially if a lot of it is at the waist, are more likely to develop heart disease and stroke, even if those same people have no other risk factors. Overweight and obese adults with risk factors for CVD such as high blood pressure, high cholesterol, or high blood sugar can make lifestyle changes to lose weight and produce significant reductions in risk factors such as triglycerides, blood glucose, HbA1c, and the risk of developing Type 2 diabetes

Find resources on **Physical Activity** in the Total Health Topics A-Z Library at TotalHealth.cat.com.

Major Risk Factors of CVD You Can Modify, Treat, or Control

- **Diabetes** – Diabetes seriously increases your risk of developing CVD. Even when glucose levels are under control, diabetes increases the risk of heart disease and stroke. The risks are even greater if blood sugar is not well-controlled. At least 68% of people with diabetes over 65 years of age die of some form of heart disease. Among that same group, 16 % die of stroke.

Find resources on **Diabetes** in the Total Health Topics A-Z Library at TotalHealth.cat.com.

Major Risk Factors of CVD That Cannot Be Changed

You may be born with certain risk factors that cannot be changed. The more of these risk factors you have, the greater your chance of developing CVD. Since you can't do anything about these risk factors, it's even more important that you manage your risk factors that can be changed.

- **Increasing age** – The majority of people who die of coronary heart disease are 65 or older. While heart attacks can strike people of both sexes in old age, women are at greater risk of dying.
- **Male gender** – Men have a greater risk of heart attack than women do, and men have attacks earlier in life. Even after women reach the age of menopause, when women's death rate from heart disease increases, women's risk for heart attack is less than that for men.
- **Heredity (including race)** – Children of parents with heart disease are more likely to develop heart disease themselves. African-Americans have more severe high blood pressure than Caucasians, and a higher risk of heart disease. Heart disease risk is also higher among Mexican-Americans, American Indians, native Hawaiians, and some Asian-Americans.

Other Factors That Contribute to CVD

- **Stress** – Individual response to stress may be a contributing factor for heart attacks. Some scientists have noted a relationship between CVD risk and stress in a person’s life, along with their health behaviors and socioeconomic status. These factors may affect established risk factors. (For example, people under stress may overeat, start smoking, or smoke more than they otherwise would.)
- **Alcohol** – Drinking too much alcohol can raise blood pressure and increase your risk for cardiomyopathy, stroke, cancer, and other diseases. It can also contribute to high triglycerides and produce irregular heartbeats. Additionally, excessive alcohol consumption contributes to obesity, alcoholism, suicide, and accidents. 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.

The graphic features the text 'EMPLOYEE ASSISTANCE PROGRAM' in large, bold, white capital letters. The background is a solid orange color with a silhouette of a construction site, including scaffolding and workers, visible behind the text.

EMPLOYEE ASSISTANCE PROGRAM

Caterpillar’s Employee Assistance Program (EAP) is a free, voluntary and completely confidential service provided to employees and their eligible family members to help meet many challenges at home and work. Learn more [EAP.cat.com](https://www.eap.cat.com).

Other Factors That Contribute to CVD

- **Diet and nutrition** – A healthy diet is one of the best weapons you have to fight CVD. What you eat (and how much) can affect other controllable risk factors, such as cholesterol, blood pressure, diabetes, and being overweight. Choose nutrient-rich foods, which have vitamins, minerals, fiber, and other nutrients, but are lower in calories than nutrient-poor foods. Choose a diet that emphasizes vegetables, fruits, and whole grains. A heart-healthy diet also includes low-fat dairy products, poultry, fish, legumes, nuts, and non-tropical vegetable oils. Be sure to limit your intake of sweets, sugar-sweetened beverages, and red meats.

ASK A DIETITIAN

Hungry for some nutrition knowledge?

Caterpillar Registered Dietitian Rhonda Haller provides FREE nutrition consultations to employees as well as offers comprehensive nutrition assessment, nutrition planning, and health, well-being, and disease prevention strategies. For more information, email her at Haller_Rhonda_M@cat.com or call 309-675-1704.

Take Charge of Your Health to Lower Your Risk of CVD

If you have high cholesterol, high blood pressure, or diabetes, you can take steps to lower your risk for CVD.

- **Check your cholesterol** – Your healthcare team should test your blood levels of cholesterol at least once every 4 to 6 years. If you have already been diagnosed with high cholesterol or have a family history of the condition, you may need to have your cholesterol checked more often. Talk with your healthcare team about this simple blood test. If you have high cholesterol, medicines and lifestyle changes can help reduce your risk for heart disease.
- **Control your blood pressure** – High blood pressure usually has no symptoms, so have it checked on a regular basis. Your healthcare team should measure your blood pressure at least once every 2 years if you have never had high blood pressure or other risk factors for heart disease. If you have been diagnosed with high blood pressure, also called hypertension, your healthcare team will measure your blood pressure more often to make sure you have the condition under control. Talk with your healthcare team about how often you should check your blood pressure. You can check it at a doctor's office, at a pharmacy, or at home. If you have high blood pressure, your healthcare team might recommend some changes in your lifestyle, such as lowering the sodium in your diet; your doctor may also prescribe medicine to help lower your blood pressure.

Take Charge of Your Health to Lower Your Risk of CVD

If you have high cholesterol, high blood pressure, or diabetes, you can take steps to lower your risk for CVD.

- **Manage your diabetes** – If you have diabetes, monitor your blood sugar levels carefully. Talk with your healthcare team about treatment options. Your doctor may recommend certain lifestyle changes to help keep your blood sugar under control. These actions will help reduce your risk for heart disease.
- **Take medicines as prescribed** – If you take medicine to treat high blood cholesterol, high blood pressure, or diabetes, follow your doctor's instructions carefully. Always ask questions if you don't understand something. Never stop taking your medicine without first talking to your doctor, nurse, or pharmacist.
- **Work with your healthcare team** – You and your healthcare team can work together to prevent or treat the medical conditions that lead to heart disease. Discuss your treatment plan regularly, and bring a list of questions to your appointments. If you've already had a heart attack, your healthcare team will work with you to prevent another one. Your treatment plan may include medicines or surgery and lifestyle changes to reduce your risk. Be sure to take your medicines as directed and follow your doctor's instructions.

Knows the Signs of CVD

Often, there are no symptoms of the underlying disease of the blood vessels. A heart attack or stroke may be the first sign of underlying disease.

If you or someone else is experiencing the below symptoms, seek medical care immediately!

Symptoms of Heart Attack

- Pain or discomfort in the center of the chest; and/or
- Pain or discomfort in the arms, the left shoulder, elbows, jaw, or back.

In addition, a person may experience difficulty in breathing or shortness of breath; nausea or vomiting; light-headedness or faintness; a cold sweat; and turning pale. Women are more likely than men to have shortness of breath, nausea, vomiting, and back or jaw pain.

Symptoms of Stroke

The most common symptom of a stroke is sudden weakness of the face, arm, or leg, most often on one side of the body. Other symptoms include sudden onset of:

- numbness of the face, arm, or leg, especially on one side of the body;
- confusion, difficulty speaking or understanding speech;
- difficulty seeing with one or both eyes;
- difficulty walking, dizziness and/or loss of balance or coordination;
- severe headache with no known cause; and/or
- fainting or unconsciousness.

Sources

- American Heart Association
 - <https://www.heart.org>
- Centers for Disease Control and Prevention
 - <https://www.cdc.gov/heartdisease>
- World Health Organization
 - <https://www.who.int/health-topics/cardiovascular-diseases>
- World Heart Federation
 - <https://world-heart-federation.org>

Total health



Emotional



Financial



Physical



Purpose



Social