

YOUR HEART

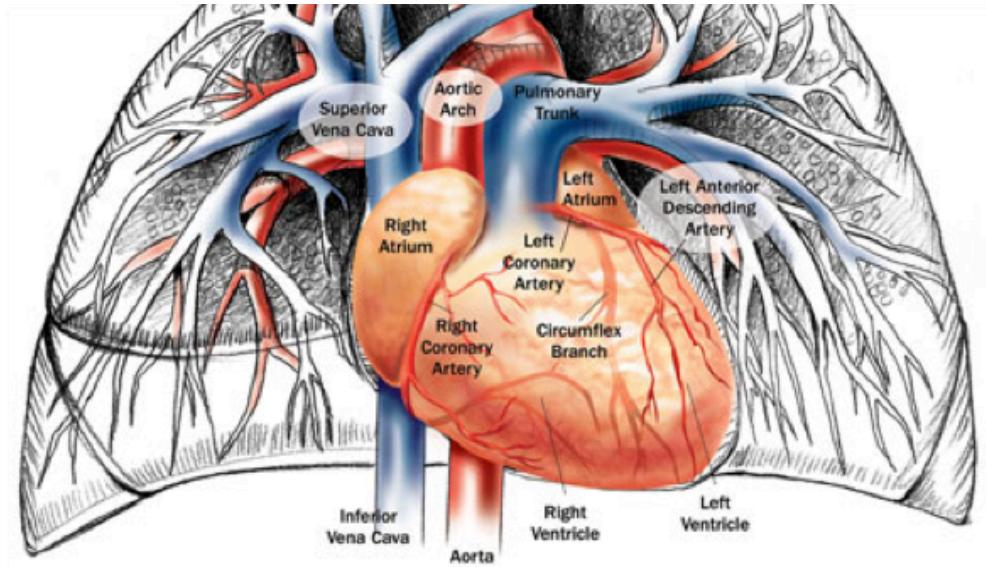


Your heart will beat every second of your life.

About the size of a fist, the heart muscle continually circulates blood throughout your body. An average person's heart will beat over 2.5 billion times in a lifetime. But what actually goes on inside the heart?

What can go wrong

Sometimes things can go wrong with a person's heart. Learn more in the following sections about what you can do to lower your chances of developing coronary artery disease, a progressive clogging of the arteries that feed the heart.

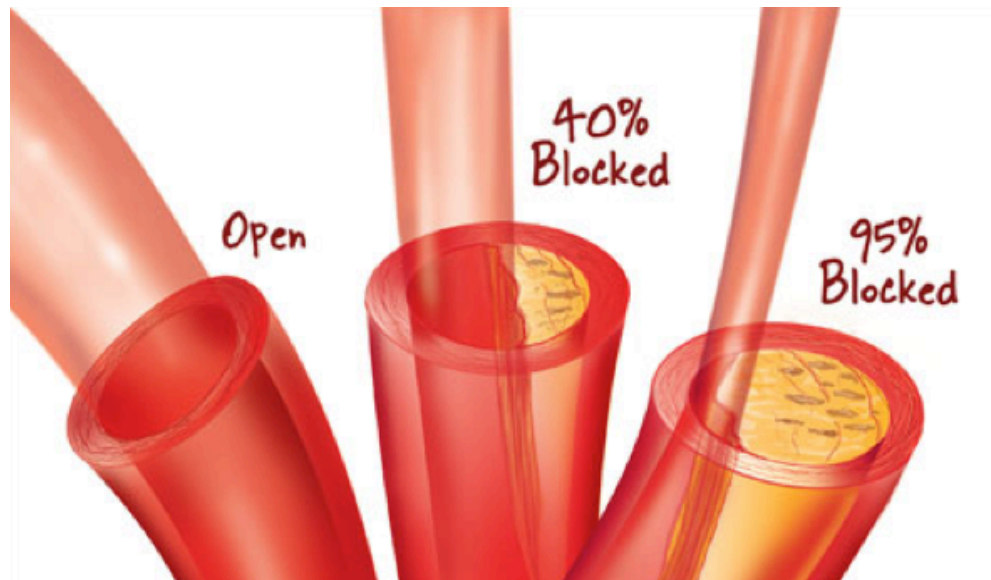


HEART DISEASE

CORONARY ARTERY DISEASE

Coronary artery disease (CAD) is the No. 1 killer in the United States, causing more than 500,000 deaths per year. Coronary artery disease results when fatty deposits called plaque build up in arteries in the heart, causing them to narrow and harden. If the arteries become blocked, the heart receives less oxygen and can become damaged.

In most people, CAD begins in young adulthood and gradually develops throughout life. While some risk factors for CAD cannot be controlled, there are many important lifestyle choices that may lower your risk for the disease.



RISK FACTORS

Controllable Risk Factors

SMOKING In addition to causing damage to the lungs, the nicotine in cigarettes causes blood vessels to narrow. This makes blood pressure rise and the heart beat faster. Also, the carbon monoxide in cigarettes reduces the blood's ability to carry oxygen. For more information on the effects of smoking, check out the American Lung Association website.

HIGH BLOOD PRESSURE High blood pressure makes the heart work even harder because of the extra strain it places on the arterial walls. Though this condition can't be cured, medication and lifestyle changes can lower blood pressure.

HIGH BLOOD CHOLESTEROL A diet high in cholesterol and fat can lead to fatty deposits on the arterial walls. To control your blood cholesterol, eat more fish and poultry and less red meat. Choose low-fat dairy products, and try not to eat more than two eggs per week.

SEDENTARY LIFESTYLE AND OBESITY

The heart, like any other muscle, needs regular exercise. Examples of exercises you can do to condition and strengthen the heart include walking, swimming and bicycling. Extra weight forces the heart to work harder in order to supply blood to the body, and it increases the risk of diabetes and high blood pressure. To control your weight, eat nutritious, well-balanced meals and exercise regularly.

Uncontrollable Risk Factors

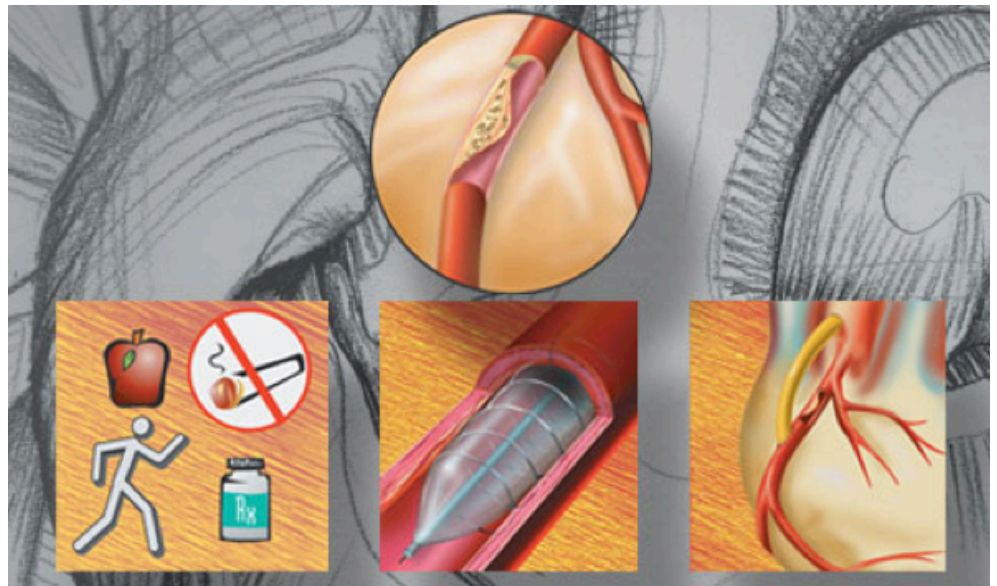
AGE Men over the age of 45 and women over the age of 55 are at greater risk for coronary artery disease. You can control some of the effects of aging by eating well, exercising and getting regular check-ups. **Family History** If either of your parents or any of your grandparents had heart disease, there is a greater chance that you will also develop it. Avoid copying any bad family habits like smoking, poor diet and lack of exercise. **Gender** Men are at a higher risk of having coronary artery disease than women. On average, men develop the disease about 10 years earlier than women.

TREATMENT

Depending on the extent of the patient's coronary artery disease, different approaches may be used to treat the condition.

Lifestyle Change and Medication

If there is only a small amount of plaque buildup (less than 70 percent) in a patient's arteries, the cardiologist may recommend that the patient exercise three times a week, quit smoking and eat less fatty food. Medications may also be prescribed to open blood vessels, lower the heart rate and blood pressure, decrease blood cholesterol, dissolve clots and prevent clots from forming.



Angioplasty and Stent

A thin, flexible tube called a catheter is inserted into the narrowed artery. A tiny balloon at the tip of the catheter is inflated, mashing the blockage against the vessel wall. A stent, a wire-mesh tube, is then inserted. The stent remains in the artery permanently and acts like a scaffold, preventing further closing or narrowing of the artery.

Bypass Surgery

Bypass surgery creates a detour to re-route blood around the blockage using blood vessels from another part of the body. The procedure is usually recommended when the vessel is almost completely blocked or if the blockage is too large or can't be reached with the catheter.

OTHER HEART CONDITIONS

HEART VALVE DISEASE

The heart has four chambers. The upper two are the right and left atria. The lower two are the right and left ventricles. Blood is pumped through the chambers, aided by four heart valves. The valves open and close to let the blood flow in only one direction. Each valve has a set of flaps (also called leaflets or cusps). When working properly, the heart valves open and close fully.

The tricuspid valve is between the right atrium and right ventricle.

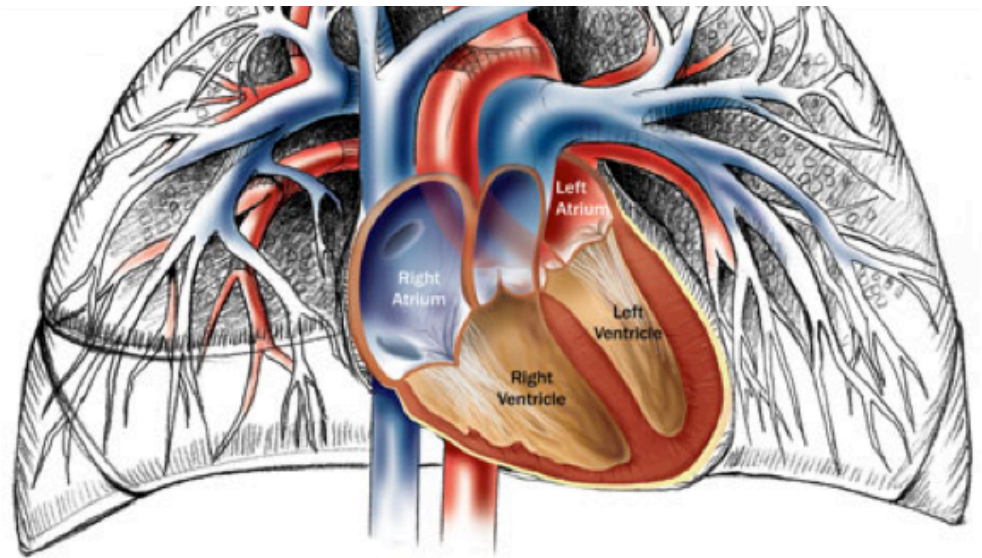
The pulmonary valve is between the right ventricle and the pulmonary artery.

The mitral (bicuspid) valve is between the left atrium and left ventricle.

The aortic valve is between the left ventricle and the aorta.

Issues

Heart valves don't always work as they should. A person can be born with an abnormal heart valve, a type of congenital heart defect.



Also, a valve can become damaged by infections or conditions such as rheumatic fever.

A defective heart valve is one that fails to fully open or close. A stenotic heart valve can't open completely, so blood is pumped through a smaller-than-normal opening. A valve also may not be able to close completely. This leads to regurgitation (blood leaking back through the valve when it should be closed).

Treatment

People with congenital heart valve defects may need treatment with

drugs. Some valve defects may be repaired or replaced during surgery.

Robotic Surgeries

Where traditional open surgeries require large incisions and long recovery times, the da Vinci® Surgical system provides surgeons with an alternative to both traditional open surgery and conventional laparoscopy, putting surgeons' hands at the controls of a state-of-the-art robotic platform. The da Vinci® System enables surgeons to perform even the most complex and delicate procedures through very small incisions with unmatched precision resulting

AORTIC ANEURYSM

An aortic aneurysm is a weakened and bulging area in the aorta, the major blood vessel that feeds blood to the body. The aorta, about the thickness of a garden hose, runs from your heart through the center of your chest and abdomen. Because the aorta is the body's main supplier of blood, a ruptured aortic aneurysm can cause life-threatening bleeding.

Treatment

Surgery to repair an aortic aneurysm involves removing the damaged section of the aorta and replacing it with a synthetic tube (graft), which is sewn into place. This procedure requires open-abdominal or open-chest surgery.

BEING HEART-HEALTHY

The heart, like any other muscle, needs to be exercised regularly. There are simple things you can do to take care of your heart. You can take walks, go inline skating or bike riding, or play sports like basketball or tennis. Everyone in your family – from newborns to grandparents – should get regular medical checkups.

TIPS FOR HEALTHY GROCERY SHOPPING

- Spend most of your time in the produce section. If you don't have time to prepare fresh produce, frozen fruits and vegetables are a great alternative.
- In the bakery section, look for whole-grain breads like ten-grain and rye. You don't have to go cold turkey on the sweets—allow yourself to purchase one dessert each week.
- Dairy foods can have a surprising amount of fat. In the dairy section, select non-fat or low-fat milks and cheeses.
- Go fish? Some fish contain omega-3 fatty acids, which can reduce the risk of heart disease. Purchase enough fish for at least two meals per week and a lean cut of meat for one meal per week.
- Read nutrition labels. According to the American Heart Association, no more than 30 percent of your daily calories should come from fat. Limit the saturated fat in your diet to no more than 15 percent of total calories.

TIPS FOR EATING OUT

- Get off to a good start! Skip the appetizer or order a fresh salad with dressing on the side or clear—not creamy—soup.
- Leave it out! Ask the server not to bring rolls, bread or crackers to the table. If you do indulge in a roll, choose whole-wheat breads and use butter or oil sparingly. Ask for your food to be cooked without added butter and oils.
- Beware the deep fryer! Ask how your food will be prepared. In general, choose foods that are steamed, baked, grilled or broiled. Stay away from fried foods.
- Skip dessert. Ask the server in advance not to bring a dessert menu or tray at the end of the meal.
- Research what's in fast foods. There are healthy items on these menus, but you may be surprised how much fat you will find in some of the other choices.