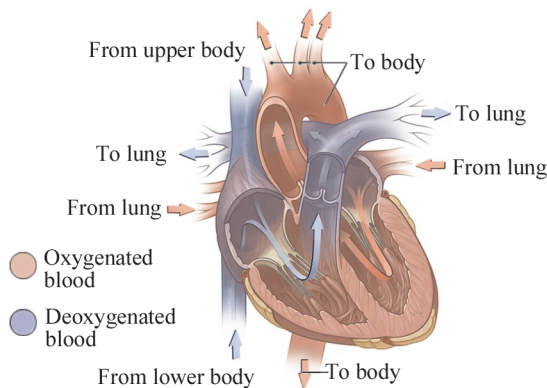


Heart Disease: How Your Heart Works



Your heart is a muscle. Its job is to pump blood to your whole body through a network of blood vessels. Blood carries oxygen and nutrients that all body organs need to stay healthy and to work properly.

How does your heart work?

Your heart has two pumps, one on the right side and one on the left.

- The left side of your heart takes oxygen-rich blood from your lungs and pumps it through your arteries to the rest of your body.
- The right side of your heart pumps the "used" blood from your body back to your lungs, where it picks up oxygen and gets rid of carbon dioxide.

When your heart functions normally, oxygen-rich blood circulates throughout your body. Your heart has its own electrical system that keeps the different areas of the heart working together (heart rhythm) and also controls how fast the heart beats (heart rate).

What does your heart need to work right?

Your heart has to pump enough blood to deliver a continuous supply of oxygen and other nutrients to your brain and your other vital organs. To do this important job:

Your heart needs to time your heartbeat.

Your heart's electrical system controls the timing of the pump. When the electrical system is working right, it maintains a normal heart rate and rhythm. Problems with this electrical system can cause an arrhythmia. An arrhythmia means that:

- Your heart beats in an irregular way.
- Your heart beats too fast (tachycardia).
- Your heart beats too slow (bradycardia).

Your heart needs to stay healthy. Your heart muscle relaxes to fill with blood and then squeezes, or contracts, to pump the blood. To pump enough blood each time it beats, your heart must be able to relax and contract properly. You may have problems with your heart muscle if:

- You have a viral infection or a health problem you were born with.
- You have a long-term illness like diabetes or high blood pressure.
- You drink too much alcohol.
- You have reduced blood flow to the heart muscle, called ischemia. Your heart pumps oxygen-rich blood to its own muscle through your coronary arteries. If arteries become blocked or narrowed, the heart muscle is damaged and will not work well.

Your heart needs to keep blood flowing efficiently. Your heart has four valves that control the flow of blood in and out of the chambers. There are valves between the upper chambers (atria) and lower chambers (ventricles)

on each side of your heart. There also are valves that control the blood flow out of your heart, to the lungs or the rest of the body.

Your heart valves are designed to keep blood flowing forward only. When each chamber contracts, a valve opens so blood can flow out.

When the chamber relaxes, the valve closes to prevent blood from leaking back into the chamber and to allow the chamber to fill with blood again. A problem with your heart valves can disrupt the normal flow of blood and cause problems.