

# How Your Heart Works

Your heart is the main muscle in your circulatory [SUR-kue-luh-tor-ee] system, which pumps blood throughout your body. Blood carries oxygen to your organs, muscles, tissues, and bones. If an injury or disease keeps your heart from working right, your body parts may not get enough oxygen. This can cause additional health problems or even death.

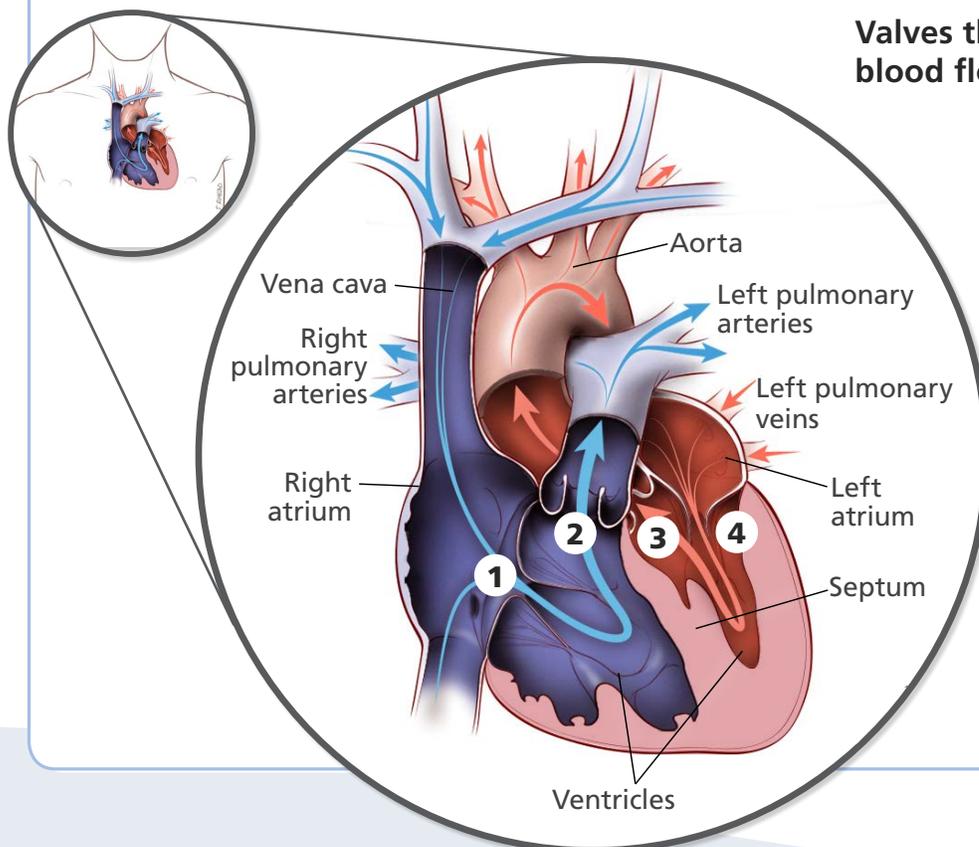
The **heart** is about the size of your fist and is divided into 4 chambers: 2 on the top—the **atria** [AY-tree-uh]—and 2 on the bottom—the **ventricles** [VEN-treh-kuhlz]. The **septum** is a wall of tissue that separates the right and left sides of the heart.

The chambers are connected by 4 **valves** that keep blood flowing in one direction through the heart. They are the **tricuspid** [try-KUSS-pid], **mitral** [MY-truhl], **pulmonary** [PULL-mon-air-ee], and **aortic** valves.

An **electrical system** tells the heart when to contract (beat). Each beat pumps blood through the heart's chambers and a network of blood vessels (see [page 2](#)) that include:

- **Arteries** that carry blood with fresh oxygen away from the heart and lungs
- **Veins** that carry blood with low oxygen back to the heart to then be sent to the lungs for more oxygen.

## Parts of the heart and circulatory system



### Valves that open and close to control blood flow within the heart:

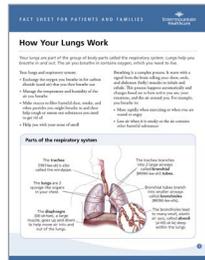
- 1 The **tricuspid valve** controls blood flow from the right atrium to the right ventricle.
- 2 The **pulmonary valve** controls blood flow from the right ventricle into the pulmonary artery that delivers blood to the lungs.
- 3 The **aortic valve** controls blood flow from the left ventricle into the aorta.
- 4 The **mitral valve** controls blood flow from the left atrium to the left ventricle.

## Your circulatory system

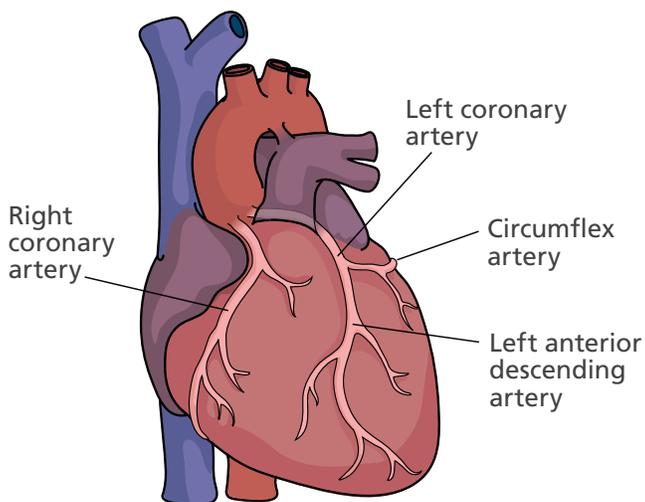
Oxygen-poor blood is carried back to the heart through the veins. It enters the heart through the **vena cava**—the largest vein in the body.

The blood flows into your right atrium, then into the right ventricle. From there, it is pumped through the **pulmonary arteries** to the lungs.

In the lungs, carbon dioxide is exchanged for oxygen in your red blood cells. To learn more, ask your doctor for a copy of the Intermountain fact sheet, ***How Your Lungs Work***.



The blood is pumped back into your left atrium and then into the left ventricle. From the ventricle, blood is pumped into the **aorta** [ay-OR-tuh], the largest blood vessel in the body. The aorta carries blood to all parts of your body, including the **coronary arteries**, which deliver oxygen-rich blood to your heart muscle.

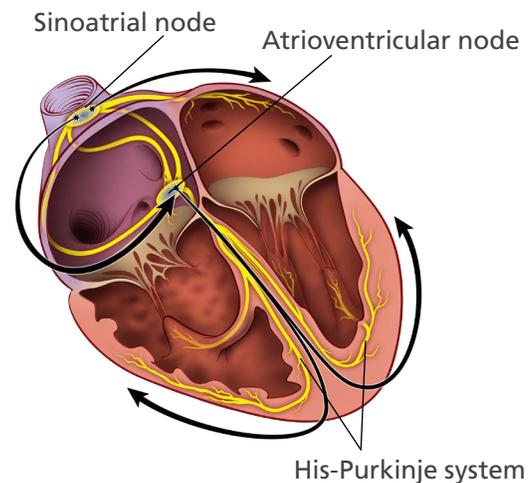


## Your heart's electrical system

Everything your heart does is controlled by an “electrical system,” or **cardiac conduction system**. This system has 3 main parts:

- 1 **Sinoatrial** [see-noh-AY-tree-uhl] (SA) node
- 2 **Arterioventricular** [ar-tir-ee-oh-ven-TRIK-you-lar] (AV) node
- 3 **His-Purkinje** [hiss-pur-KEEN-jee] system

These control the rhythm and frequency of your heart beats.



### Where can I learn more?

- Medline Plus  
[medlineplus.gov/ency/imagepages/19387.htm](https://medlineplus.gov/ency/imagepages/19387.htm)
- National Heart, Lung, and Blood Institute  
[nhlbi.nih.gov/health-topics/how-heart-works](https://nhlbi.nih.gov/health-topics/how-heart-works)
- The American Heart Association: How the healthy heart works  
[heart.org/en/health-topics/congenital-heart-defects/about-congenital-heart-defects/how-the-healthy-heart-works](https://heart.org/en/health-topics/congenital-heart-defects/about-congenital-heart-defects/how-the-healthy-heart-works)

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