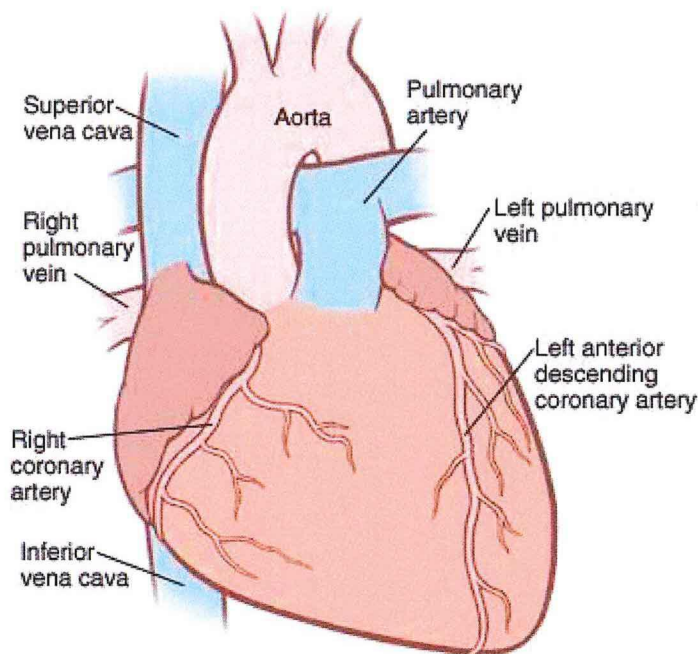


How the Heart Works



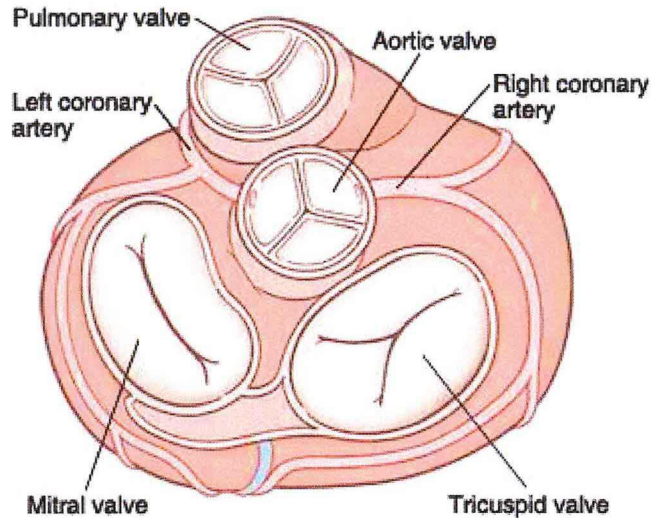
The heart pumps blood to the brain, lungs, and body. A heart that works well is needed for good health and to sustain life. To understand heart problems better, it may help to learn how a healthy heart works.

The heart muscle

The heart muscle squeezes (contracts) to pump blood. When it relaxes, it refills with blood. To do its work, the heart muscle needs a constant supply of oxygen. Oxygen is supplied to the heart muscle by blood vessels that wrap around the surface of the heart. They include:

- The **left main coronary artery**. This branches into the:
 - **Circumflex coronary artery**. This supplies blood to the back left side of the heart.
 - **Left anterior descending coronary artery**. This supplies blood to the front left side of the heart.
- The **right coronary artery**. This supplies blood to the bottom, right side, and back of the heart muscle.

Inside the heart

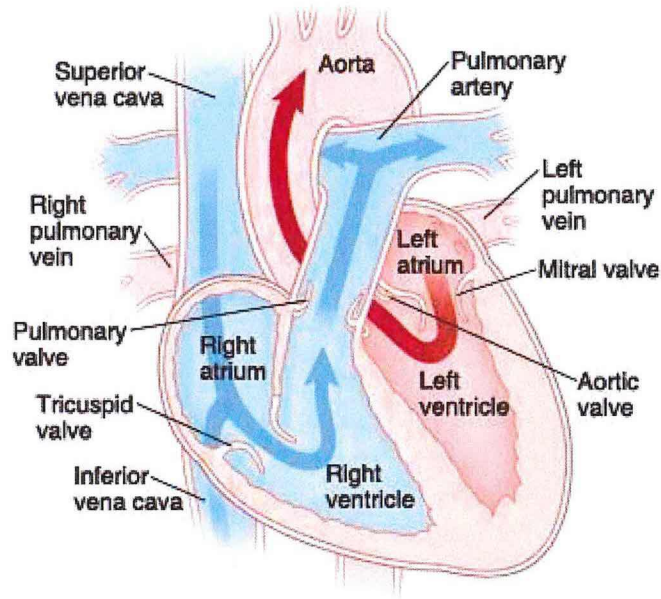


The inside of the heart is divided into right and left sides. Each side has an upper chamber and a lower chamber. The upper chamber is called the atrium. The lower chamber is called the ventricle. The right atrium fills with blood from the body while it's relaxed. When it contracts, it pumps blood to the right ventricle. The right ventricle then pumps blood to the lungs. The blood picks up oxygen in the lungs. The left atrium then fills with oxygen-rich blood from the lungs. It pumps this blood to the left ventricle. From there, the blood is pumped to the brain, coronary arteries, and the rest of the body.

Valves control the flow. There are 4 valves in the heart. When the heart beats, valves act like 1-way doors. This keeps blood moving forward through the heart and into the body and lungs.

The cycle continues. The right side of the heart pumps oxygen-poor blood from the body to the lungs, where gets oxygen again. The left side of the heart pumps oxygen-rich blood from the lungs to the body. Once the body's organs and tissues have removed the oxygen from the blood, the blood returns to the heart. The cycle is then repeated.

Parts of the heart



- **Superior vena cava.** This carries oxygen-poor blood from the upper part of the body to the right atrium.
- **Inferior vena cava.** This carries oxygen-poor blood from the lower part of the body to the right atrium.
- **Right atrium.** This gets oxygen-poor blood from the body through the superior vena cava and the inferior vena cava and pumps the blood to the right ventricle.
- **Tricuspid valve.** This lets oxygen-poor blood to flow forward from the right atrium to the right ventricle.
- **Right ventricle.** This pumps oxygen-poor blood through the pulmonary valve.
- **Pulmonary valve.** This lets oxygen-poor blood to flow forward to the pulmonary artery.
- **Pulmonary artery.** This carries oxygen-poor blood to the lungs to get oxygen.
- **Pulmonary veins.** These carry oxygen-rich blood from the lungs to the left atrium.
- **Left atrium.** This gets oxygen-rich blood from the lungs through the pulmonary veins and pumps the blood to the left ventricle.
- **Mitral valve.** This lets oxygen-rich blood to flow forward from the left atrium to the left ventricle.
- **Left ventricle.** This pumps oxygen-rich blood through the aortic valve.
- **Aortic valve.** This lets oxygen-rich blood to flow forward to the aorta.
- **Aorta.** This carries oxygen-rich blood to the rest of the body.

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