



HEART & LUNG CENTER

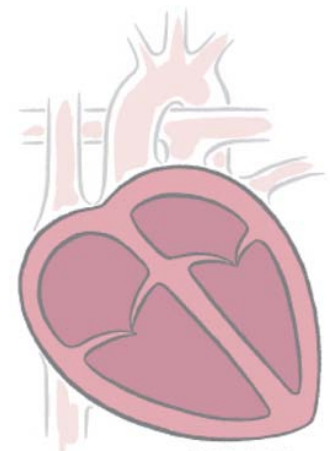
What Happens during Normal Heart Function

The normal heart is a strong muscle that beats about 120,000 times a day to pump blood through the body. The blood carries oxygen and nutrients to tissues and organs and waste products to the kidneys and liver. The blood travels through a large network of blood vessels known as the circulatory system. This system includes the arteries, veins, and lungs. The heart responds to the body's needs and adjusts its rate of pumping to meet the body's requirements.

The heart consists of four chambers that work together:

- **Right and left atria** – these are the small upper chambers
- **Right and left ventricles** – these are the larger, lower chambers.

The right ventricle pumps blood out of the heart to the lungs, and the left ventricle pumps blood to the rest of the body. The left ventricle is the heart's main pumping chamber.

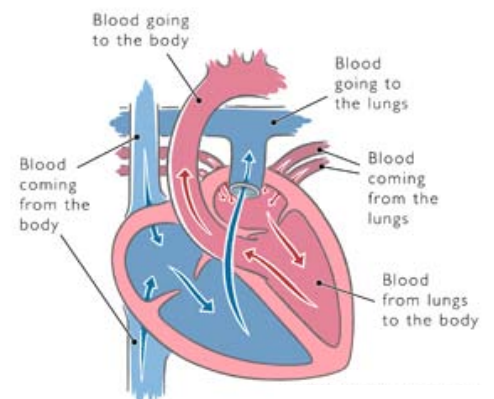


normal heart

Blood Flow

During each heartbeat, the right side of the heart receives blood from your body and then sends it to the lungs to pick up oxygen (see the blue arrows in the picture on the right).

The left side of the heart receives the blood from the lungs and then sends the blood to the rest of the body to deliver oxygen (see the red arrows).

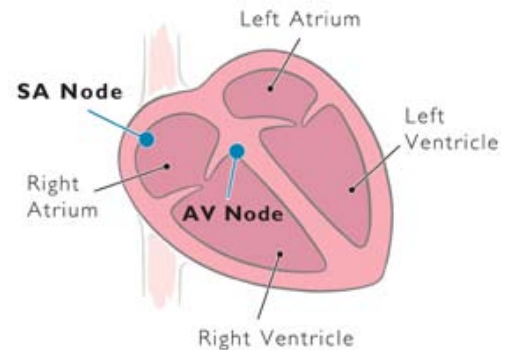


How the Heart's Electrical System Works

The heart has an electrical system that causes it to beat and pump blood in a smooth and regular way (like a clock or an engine). Special cells in the heart start electrical signals. These signals then travel along pathways through the heart and cause it to beat.

During a normal heartbeat, an electrical signal is first made in a group of cells called the sinus node (SA node). The signal then spreads as a wave through both of the upper chambers of the heart (the atria). The signal then travels to another group of cells called the atrioventricular node (AV node). The AV node serves as an electrical filter between the upper and lower chambers (ventricles) of the heart. After a pause, the electrical signal spreads through the ventricles.

In a healthy heart, the heart beats once and pumps blood for each electrical signal that starts in the SA node. A normal heart rate is generally between 60 and 100 beats per minute, but will vary based on age and how active a person is.



Adapted by the SCA Prevention Medical Advisory Team from the IMPROVE HF registry toolkit.
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