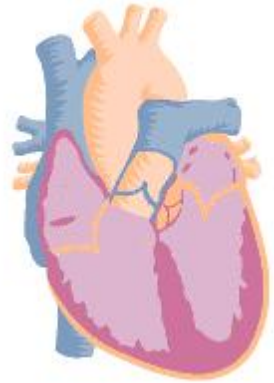


HEART STRUCTURE AND FUNCTION

The heart:

- is a muscle about the size of your fist.
- weighs approximately one pound.
- is located behind and slightly to the left of the breastbone.
- pumps about 5 quarts (4.7 liters) of blood every minute, or 1800 gallons (6768 liters) of blood every day.



The function of the heart is to circulate blood throughout the body.

- Pumping blood through the lungs removes carbon dioxide and refreshes the blood with oxygen.
- The oxygenated blood is pumped to the body to provide oxygen and nutrients and to remove waste products.

A healthy heart beats steadily and rhythmically at a rate of about 60 to 100 beats per minute when at rest (normal sinus rhythm). During strenuous exercise, the heart can increase the amount of blood it pumps up to four times the amount it pumps at rest, within only a matter of seconds.

The heart's structure has four chambers with one-way flaps called valves. The **atria** are the upper chambers and they receive blood that is being returned to the heart. The right atrium receives blood with little oxygen because the blood has already circulated throughout the body delivering oxygen and nutrients. The left atrium fills with newly oxygenated blood returning from the lungs. When the atria pump (contract), they push the blood through valves (tricuspid and mitral) into the relaxed **ventricles**. When the ventricles contract, the right ventricle pumps blood through the pulmonary valve into the lungs. The left ventricle pumps blood through the aortic valve to the body, including the heart (through coronary arteries). This continuous cycle of synchronized contractions is driven by the heart's electrical system.