

# The Heart

## Introduction:



The heart is made up of cardiac muscles which do not experience fatigue. There are two types of circulation:

1. Systemic
2. Pulmonary

## Explanation:

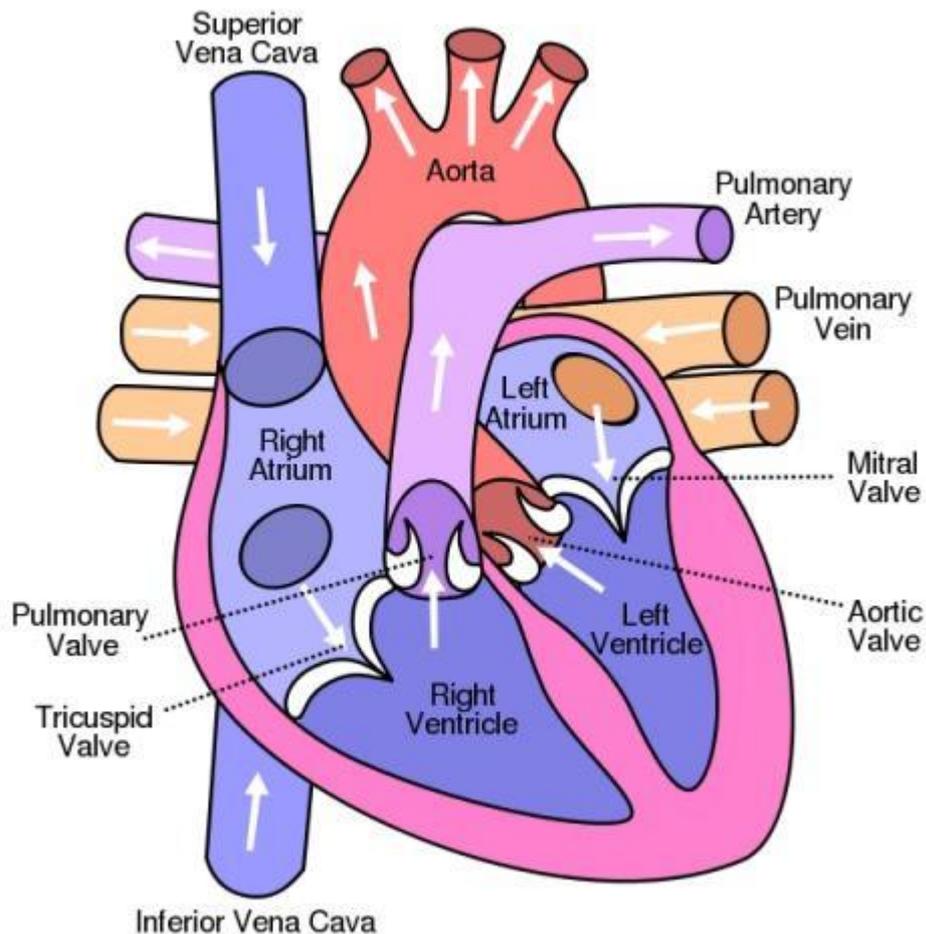
**Pulmonary Circulation** involves the passing of the blood through the right side of the heart to the lungs and back to the heart via the left side.

Heart → Lungs

**Systemic Circulation** involves the passing of the blood from the heart to the rest of the body and back to the heart.

Heart → Body

## The Human Heart



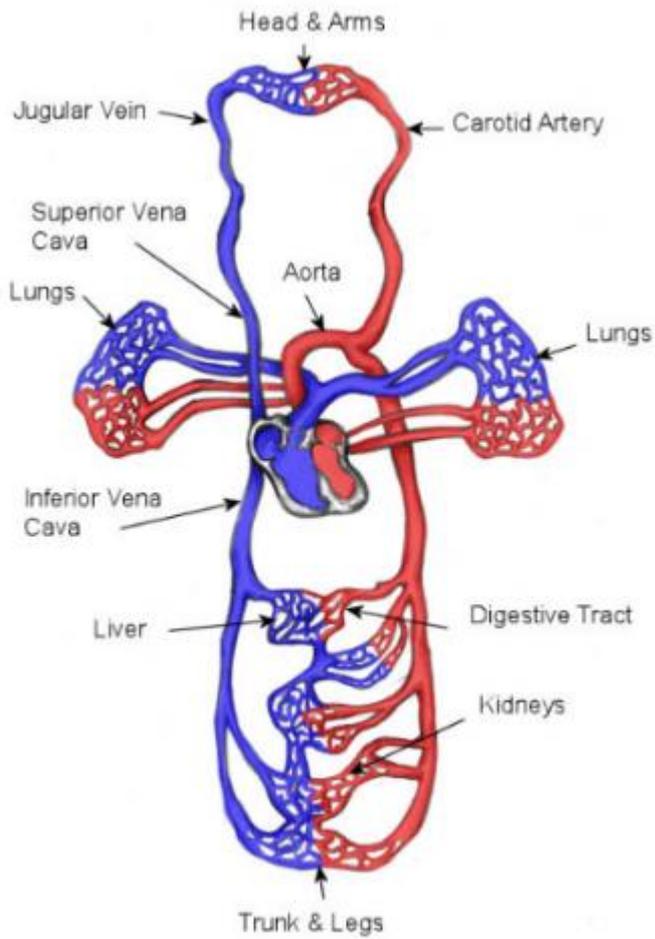
### Explanation

Deoxygenated blood enters the heart by way of the vena cava (superior and inferior). It enters the right atrium. It then passes into the right ventricle with opening of the tricuspid valve. When the right ventricle is filled it is pumped out of the heart via the pulmonary artery to the lungs.

The blood becomes oxygenated in the lungs and then returns to the heart via the pulmonary vein. The oxygenated blood enters the left atrium. When the left atrium is full the bicuspid valve opens and the blood enters the left ventricle. The left ventricle then contracts to push the blood out through the aorta, which takes blood to the rest of the body.

The right and left sides are separated by the septum. The left side of the heart is thicker than the right side. This is because the left side of the heart pumps blood to all parts of the body while the right side pumps blood to the lungs which is in close vicinity to the heart.

The right side of the heart contains the sino-atrial node (pacemaker). This sets the pace at which the heart beats. The right side of the heart also contains the atrio-ventricular node (AVN). The entire heart relaxes and contracts at the same time.



*Circulatory system*

### **Diastole and Systole**

Systole: contractions of the heart chambers

Diastole: relaxation of the chambers