How the Heart Works

Information for patients and families who want to learn more about the heart

Read this guide to learn:

• Where your heart is
• How it works
• The different parts of your heart
• How those parts work together to pump your blood
**Where is my heart?**

Your heart is in the middle of your chest, slightly to the left. It is protected by your sternum (breastbone) and rib cage.

**What does it do?**

Your heart is a powerful muscle. It keeps blood moving around your body, like a pump.

The blood pumped by your heart carries oxygen and nutrients (food) to body cells and tissues. It also removes waste.

**What does my heart look like on the inside?**

**Chambers**

Inside your heart, there are 4 separate spaces called chambers. Blood moves in and out of these chambers when your heart pumps.

There are 2 chambers on the right side of your heart. They are called the right atrium and the right ventricle.

The 2 chambers on the left side are called the **left atrium** and the **left ventricle**.
What are coronary arteries?

Like any muscle, the heart needs oxygen and nutrients. Coronary arteries start from the aorta and bring fresh blood to your heart.

2 main coronary arteries lie on the surface of the heart:

**Left coronary artery**
The left coronary artery starts with a short part called the left main branch. It divides into two parts. One part is called the left anterior descending (LAD) branch. The second part is called the circumflex branch.

The LAD feeds the left side and the front of the heart. The circumflex takes blood to the back of the heart on the left side.

**Right coronary artery**
The right coronary artery feeds the right side of the heart. It also feeds the back and underside of the left side of the heart.

The coronary arteries divide into smaller branches.

This is so each part of the heart muscle receives oxygen and nutrients.
Valves
Inside your heart, there are 4 valves. Each valve is like a set of doors. They make sure blood moves through your heart in only one direction.

The tricuspid valve and pulmonic valve are on the right side of your heart. They control the blood flowing into your heart.

The mitral valve and aortic valve are on the left side of your heart. They control the blood flowing out of your heart.

How does my heart work?

1. Blood needs nutrients and oxygen. It gets this by flowing through your heart. Blood enters through the right side of your heart.

2. It flows into your right atrium, then into your right ventricle. Here it is pumped from your heart to your lungs. The the tricuspid and pulmonic valves keep it moving in the same direction.

3. Your blood picks up a fresh supply of oxygen from your lungs. It then returns to the left side of your heart.

4. It flows into your left atrium, then into your left ventricle. Here it is pumped from your heart to the rest of your body. The mitral and aortic valves keep it moving in the same direction.

5. The blood moves out of your heart through the aorta. The aorta is a large artery. An artery is a tube that carries blood away from your heart.

6. Your blood then travels to smaller arteries and to all parts of your body.