

Which Way Should I Go?

We have to drive about 15 miles to get to work. We could drive the same way every day, but that gets to be a little boring. Sometimes we change the route a little. It is more interesting, and we still get to the same place in the end.

Your blood continuously moves through your body. Remember, it has the very important job of carrying the food, water, and oxygen to the body cells and removing the wastes from those cells. The blood has a special path it follows to make sure it is doing its jobs correctly. The blood cannot change the path, it must go exactly the same way every time! Let's take a closer look at the path of your blood.

If you start with the right side of the heart, the blood begins in the **right atrium**. (Remember, that is the chamber on top!) When the cardiac muscle contracts, the blood flows through the **tricuspid valve** into the **right ventricle**. With the next contraction, the blood is moved out of the right ventricle through the **pulmonary valve**. The blood travels through the **pulmonary arteries** to the lungs. You have two lungs, so part of your blood will travel to the right lung and part of it will travel to the left lung.

Your lungs are full of tiny capillaries. When your blood arrives in your lungs, it is carrying lots of carbon dioxide that it picked up as waste from the body cells. Remember that when hemoglobin is carrying carbon dioxide, it is dark red. The molecules of carbon dioxide move out of the capillaries. Fresh molecules of oxygen move into the blood. Remember that hemoglobin turns bright red when it is carrying oxygen. With the fresh oxygen supply, the blood is ready to go to all the cells in the body. It must, however, return to the heart first. The **pulmonary veins** carry the blood back to the left side of the heart.

When returning from the lungs, the blood first enters the **left atrium**. It passes through the **mitral valve** and enters the **left ventricle**. From there, the blood passes through the **aortic valve** and enters the largest artery in your body. This artery is called the **aorta**. The aorta divides into smaller and smaller arteries that carry the blood to all the cells in your body.

When the blood arrives at the individual body cells, the oxygen that was picked up in the lungs moves into the cells. Remember, the cells are supplied by tiny capillaries. The capillaries pick up carbon dioxide in exchange for the fresh oxygen. The blood that is full of carbon dioxide arrives at the heart. Blood from the upper part of the body enters the right atrium through the **superior vena cava**. Blood from the lower parts of the body enters the heart through the **inferior vena cava**.

Now we are back at the beginning. The blood goes through this circuit of paths over and over. It only takes about one minute for blood to travel the entire way through the heart, to the lungs, back to the heart, and through the body, ending up back at the heart. It takes longer to explain the whole process!