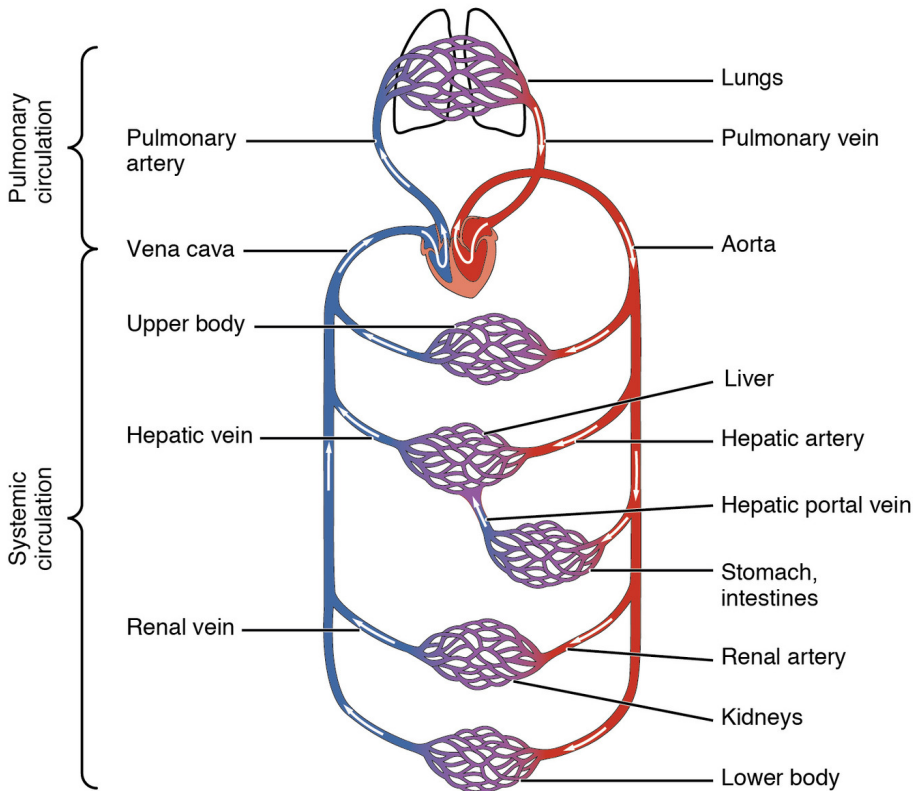
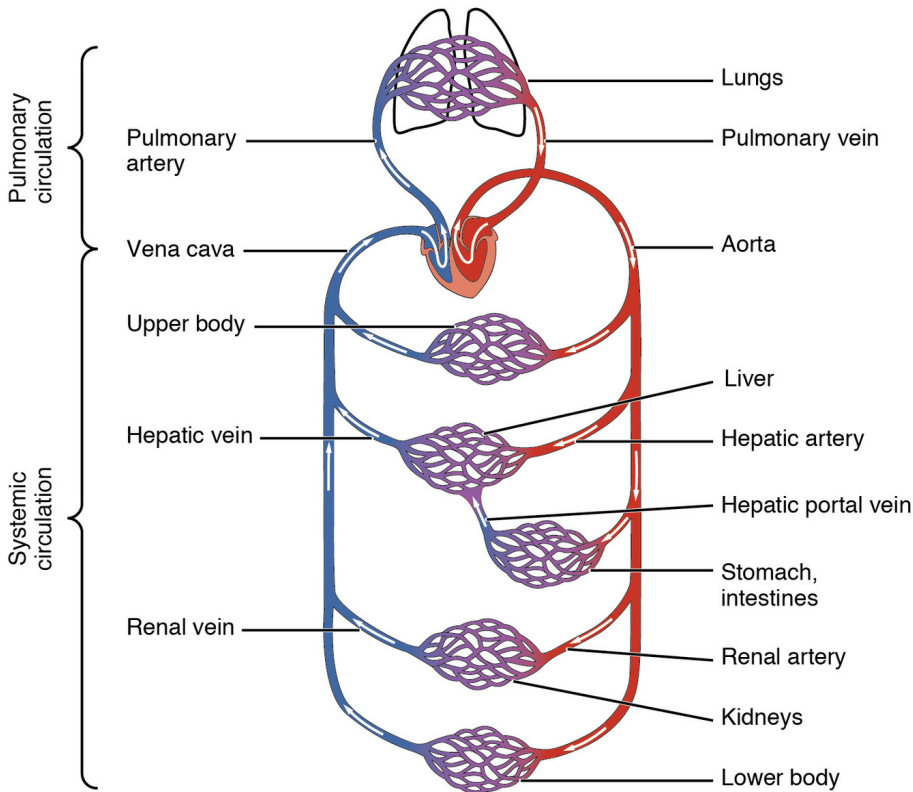


The Circulation



- **Transport system**
- **Carries oxygen, nutrients, hormones etc around the body.**
- **Removes waste**

The Circulation

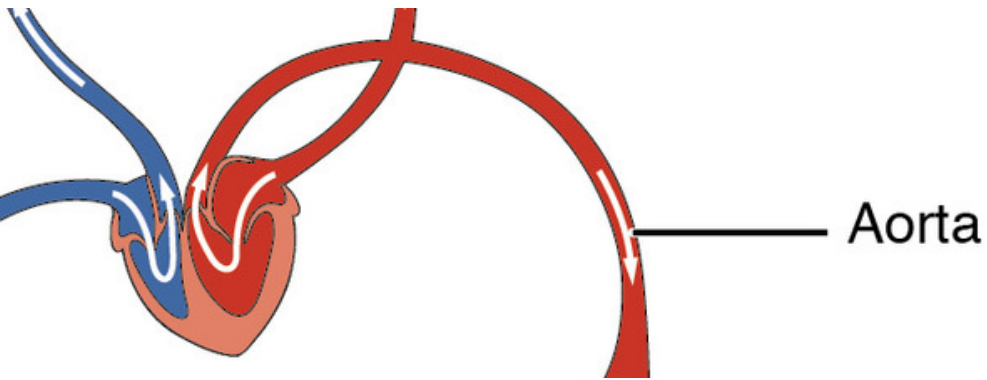


Think of the heart as a pump

The blood vessels as roads

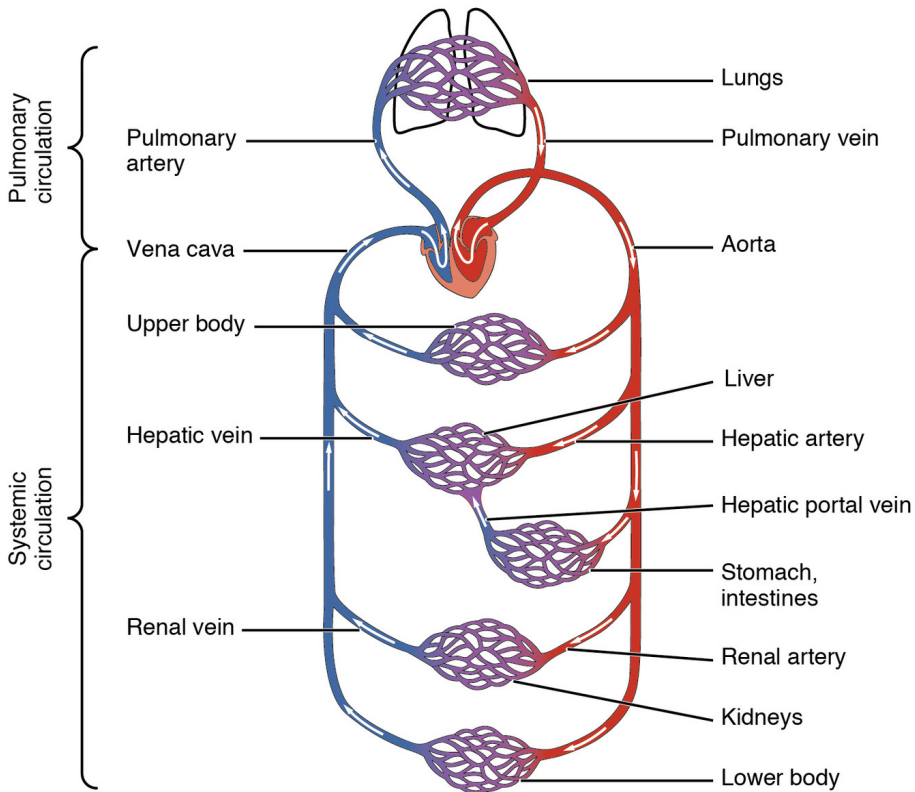
The lungs as a garage

The Circulation



Oxygenated blood leaves the **Left Side** of the heart through the **Aorta**.

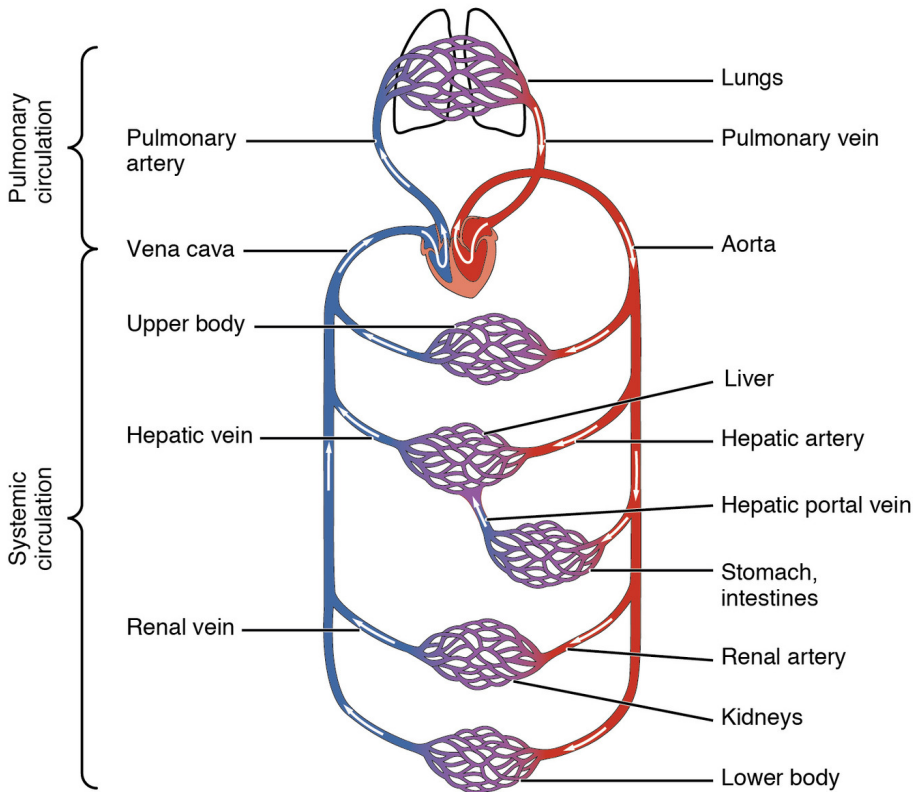
The Circulation



The blood travels around the body,

Delivers oxygen, nutrients etc.

The Circulation



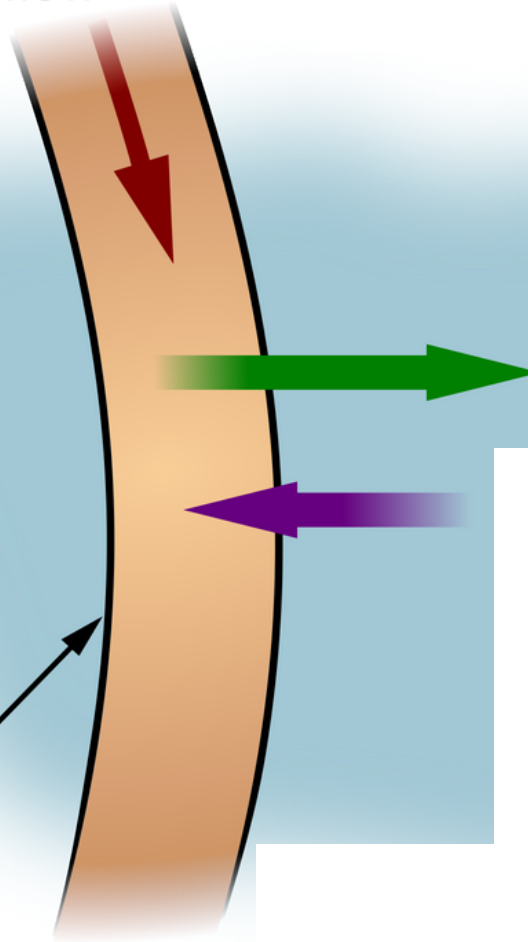
Aorta divides into smaller **arteries**.

Arteries divide into microscopic **arterioles**.

Arterioles divide into **capillaries**.

Delivering Oxygen & Nutrients. Collecting Waste

Blood flow



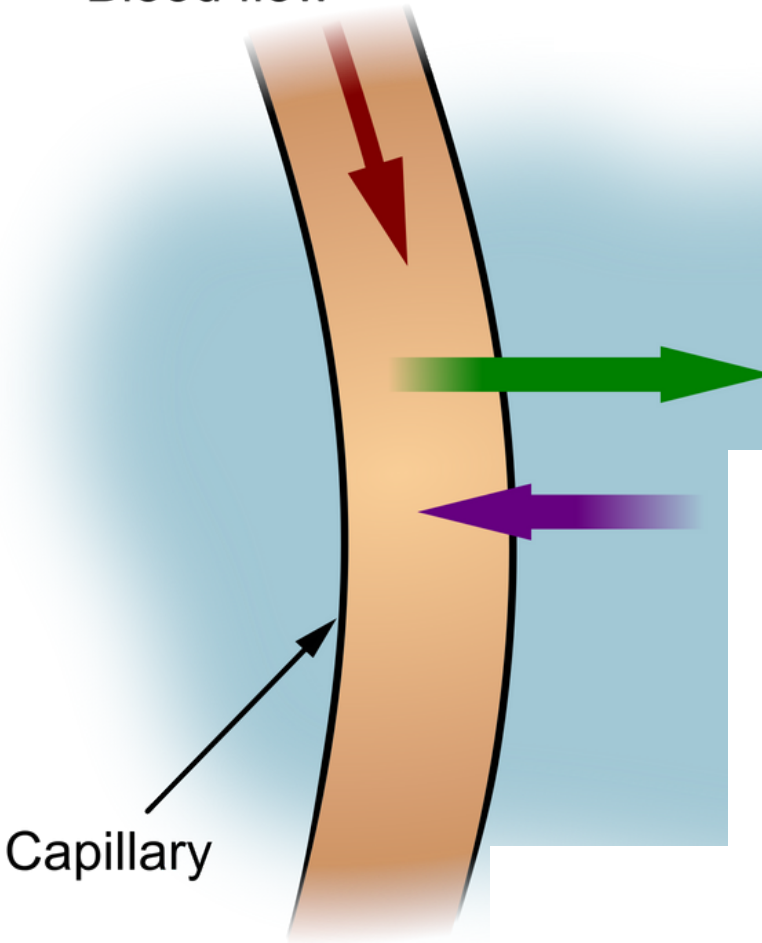
Capillaries are tiny vessels with microscopically thin walls

Blood leaves the capillaries to deliver oxygen etc to the tissues.

Capillary

Delivering Oxygen & Oxygen, Collecting Waste

Blood flow

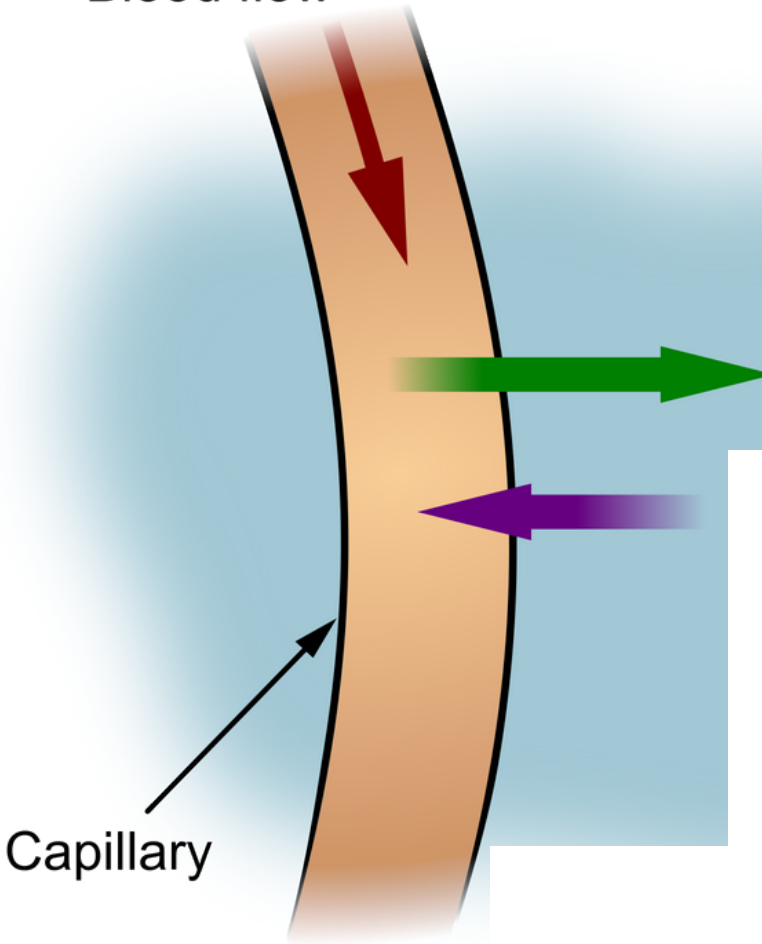


Blood that leaves the capillaries includes plasma and white blood cells,

Red blood cells do not leave the tissues.

Delivering Nutrients & Oxygen, Collecting Waste

Blood flow



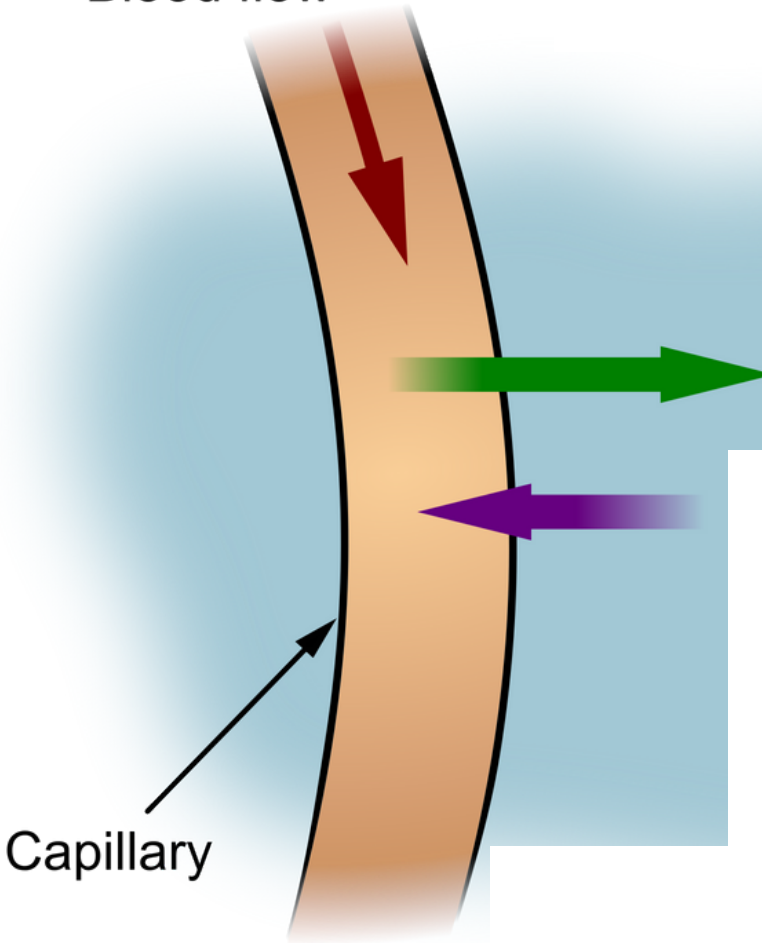
Nutrients, oxygen etc are delivered.

Waste products e.g. carbon dioxide are sucked back into the capillary.

Gasses (oxygen and CO₂) crossing the capillary wall (membrane) is called **Diffusion**

Delivering Nutrients & Oxygen, Collecting Waste

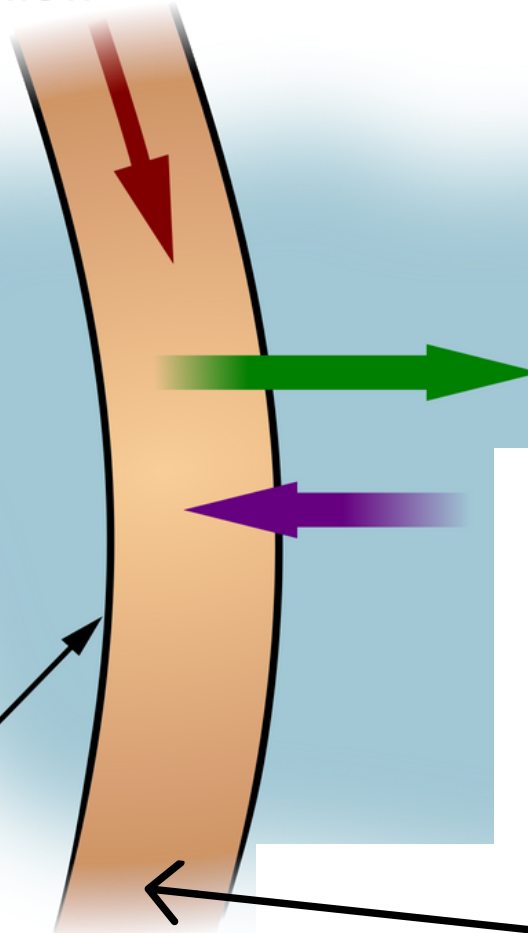
Blood flow



The fluid (blood without red blood cells) when **in the tissues** is called **Interstitial Fluid**

Delivering Oxygen and Nutrients, Collecting Waste

Blood flow

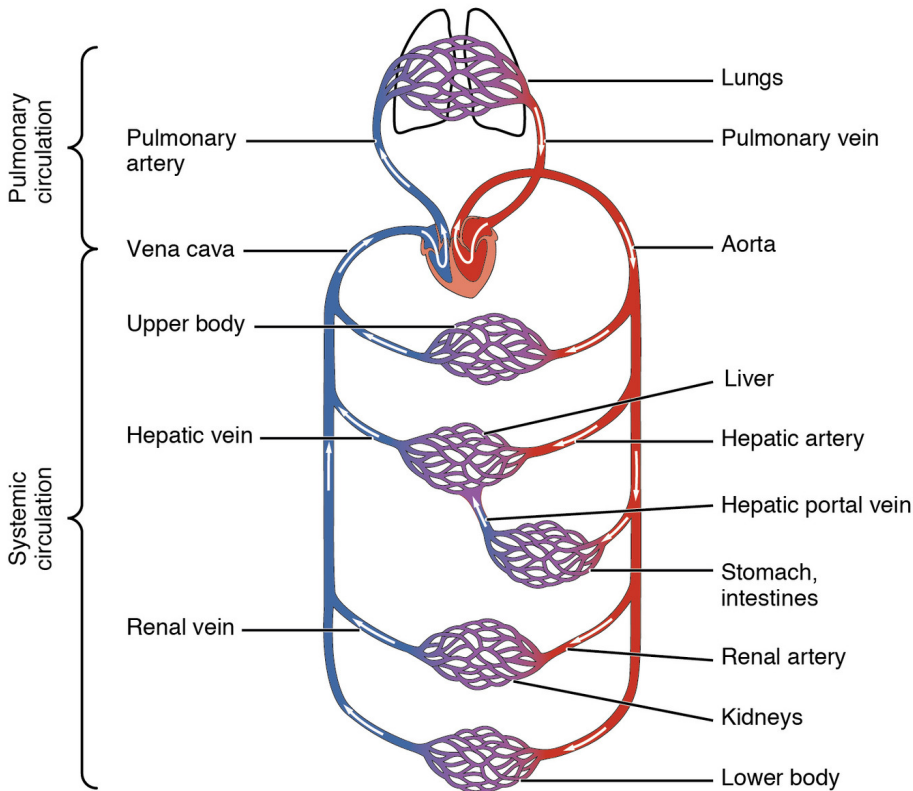


The carbon dioxide and other waste products pass to the venules.

Capillary

Venules

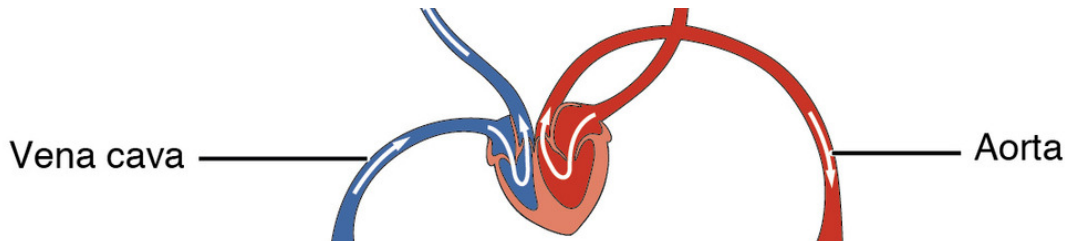
Waste Going Back to the Heart



Venules join to become **veins**.

Veins join to become the **Vena Cava**.

Now What?



The waste rich (venous) blood arrives at the **Right Side** of the heart.

What happens now?

Now What?

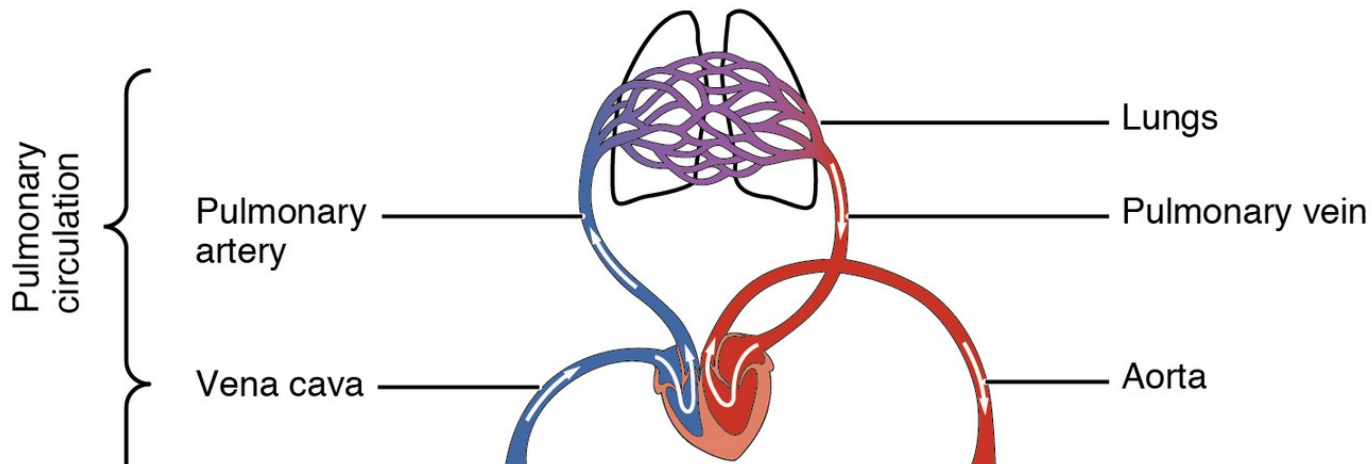
Think about the transport system.

The oxygen has been delivered.

The "tank" is empty.

Where to get a refill??

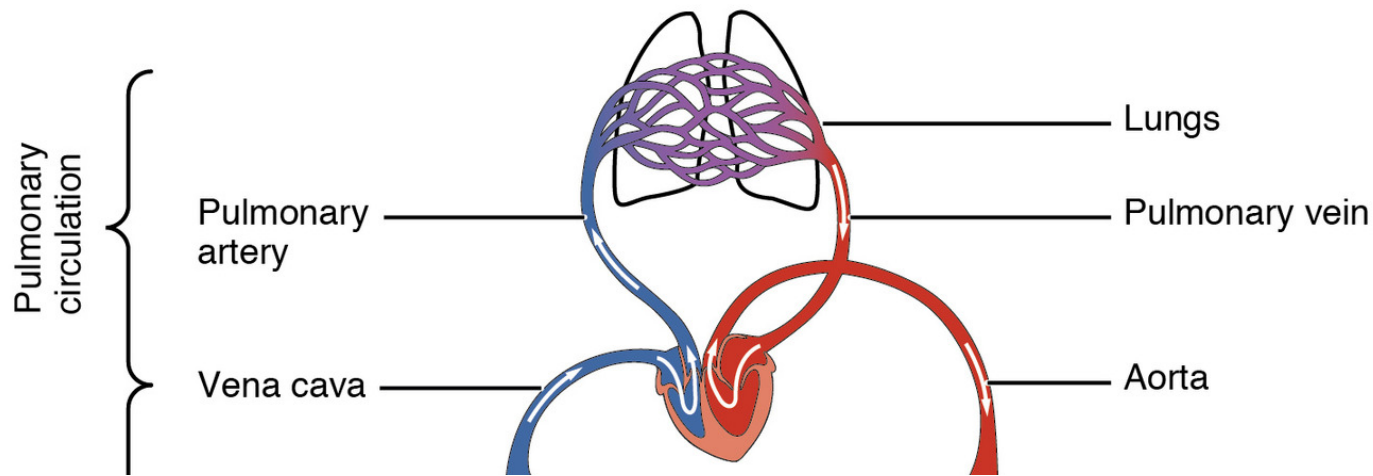
The Lungs.



The venous (deoxygenated) blood goes to the lungs.

Through the **Pulmonary Artery**.

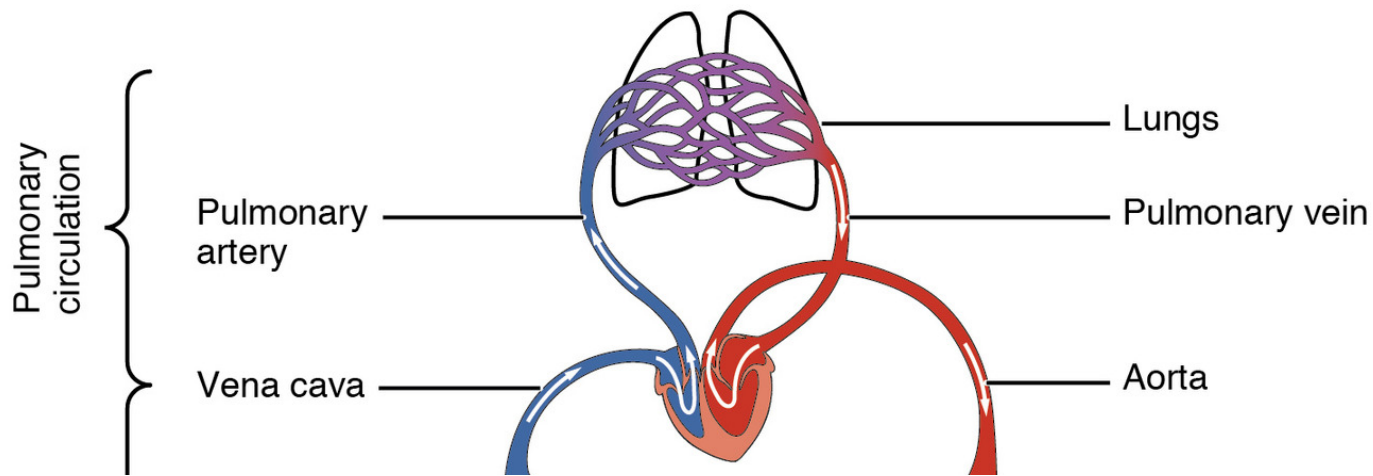
The Lungs.



Carbon dioxide is dropped off and is breathed out.

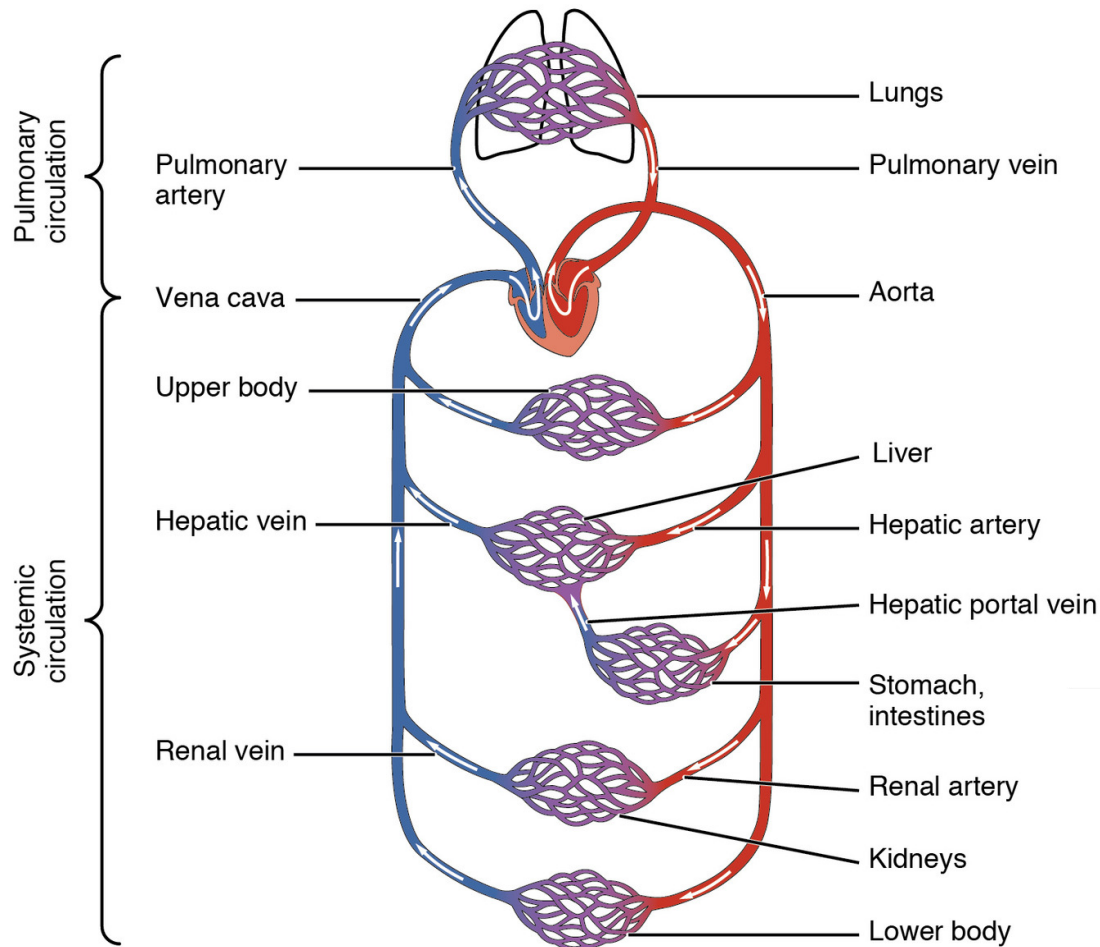
Oxygen is collected

The Lungs.



The oxygen-rich blood passes to the **Left Side** of the heart through the **Pulmonary Vein**.

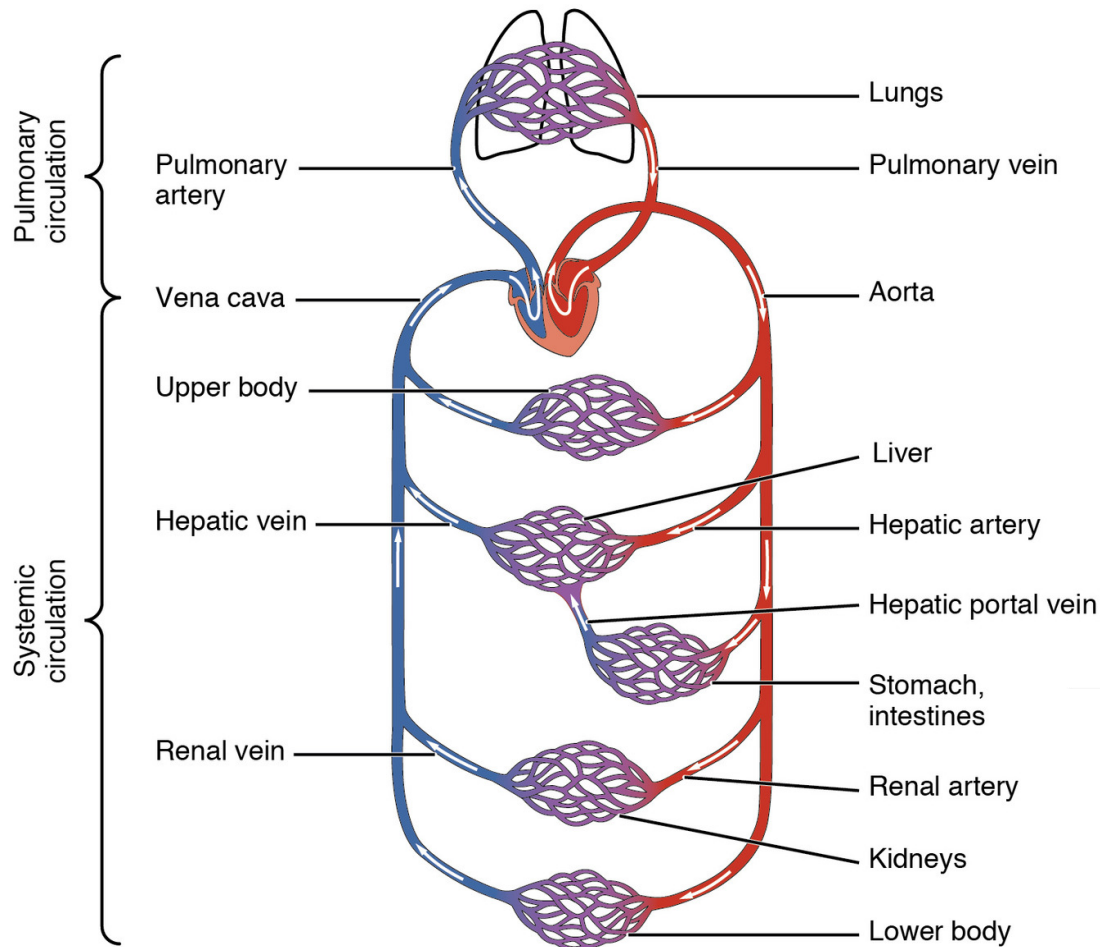
Quick Recap



Oxygen-rich blood leaves the **Left Side** of the Heart through the **Aorta**.

It delivers oxygen and nutrients all over the body.

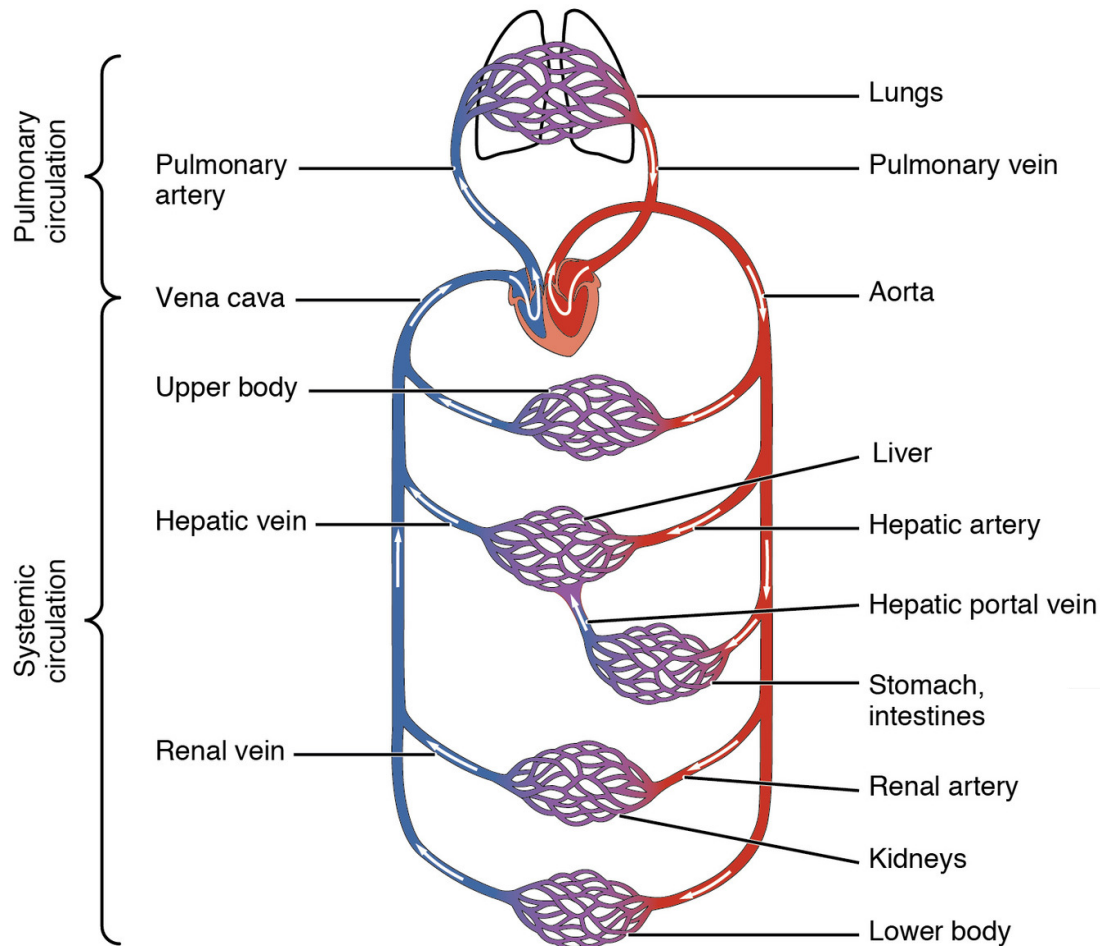
Quick Recap



Vessels divide into
**Arteries,
Arterioles and
Capillaries.**

**In the capillaries,
blood crosses the
walls to deliver
oxygen and
nutrients.**

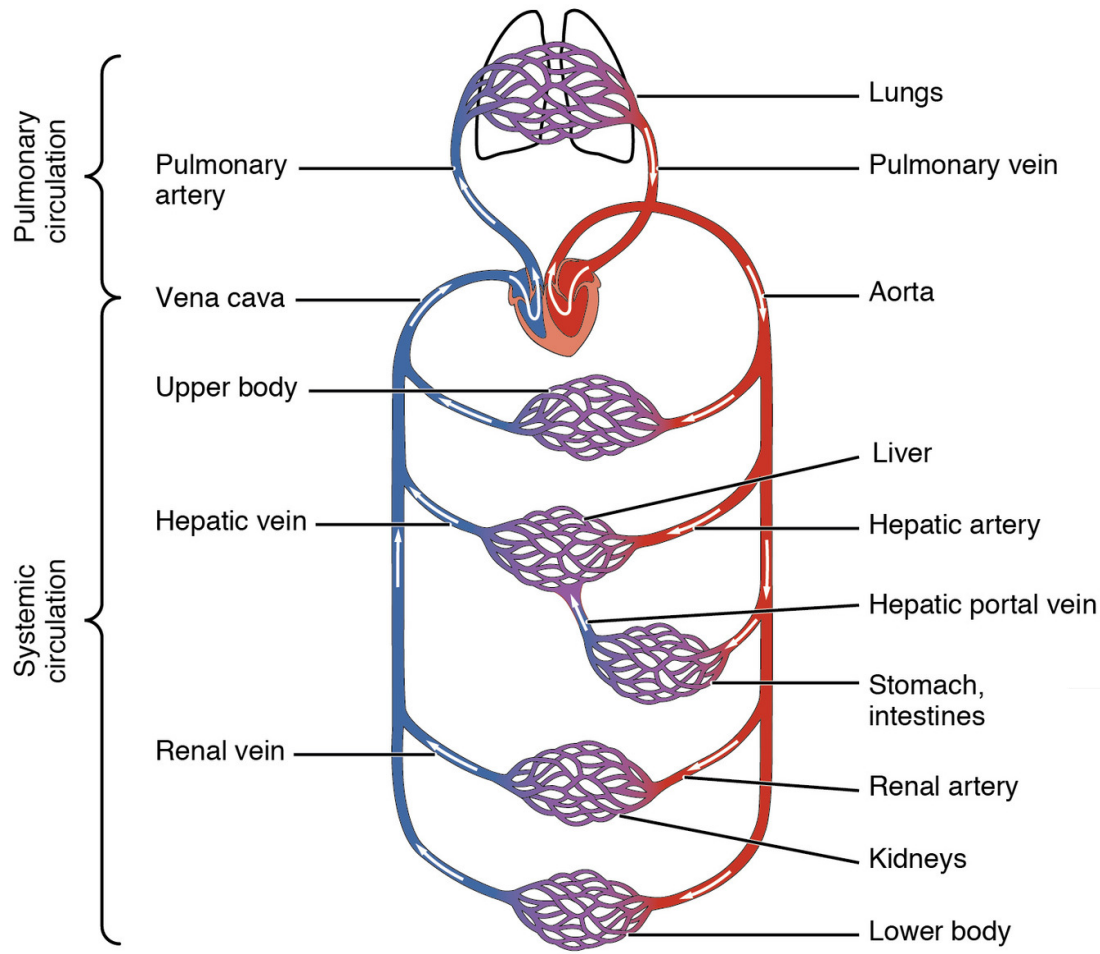
Quick Recap



In the capillaries,
blood crosses the
walls to deliver
oxygen and nutrients.

Carbon dioxide and
other waste are
sucked back into the
capillaries and pass to
the **Venules**.

Quick Recap

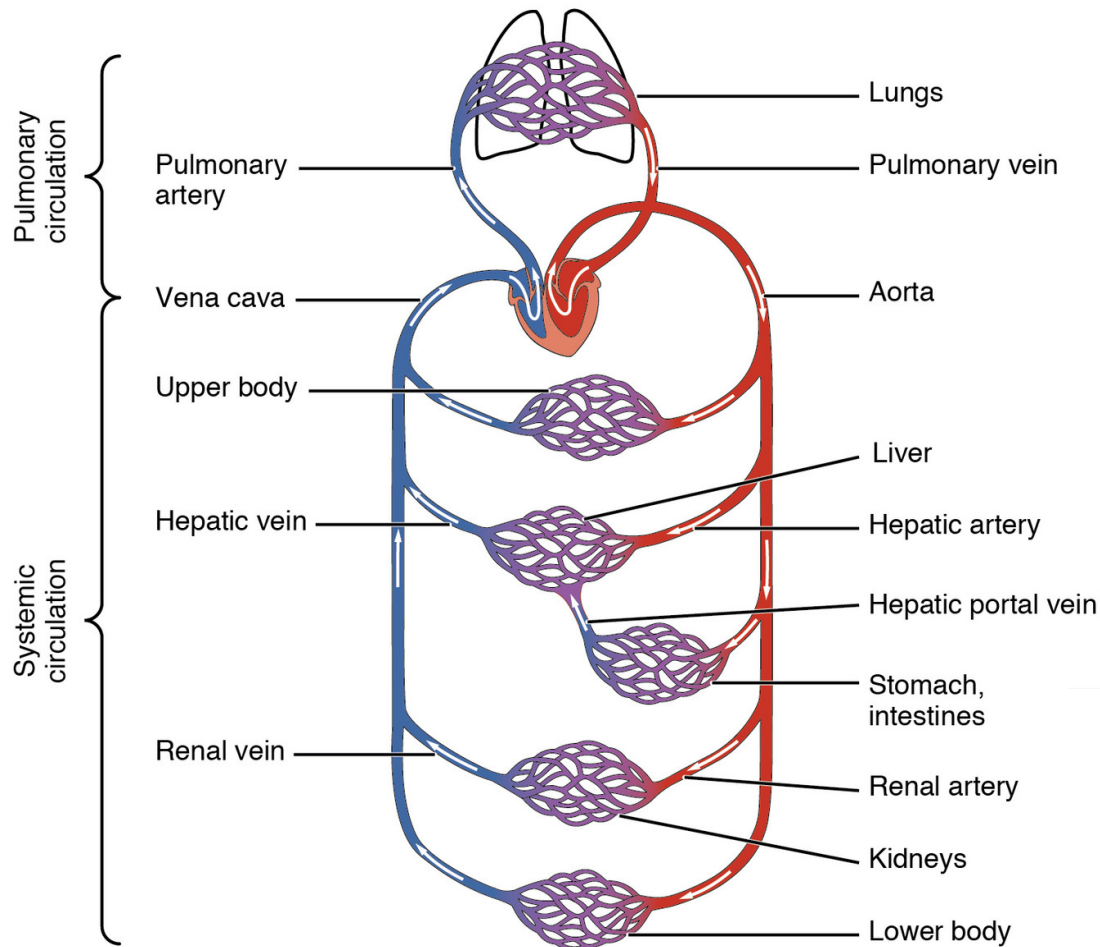


Deoxygenated blood goes to the **Right Side** of the heart.

It passes to the Lungs through the **Pulmonary Artery**.

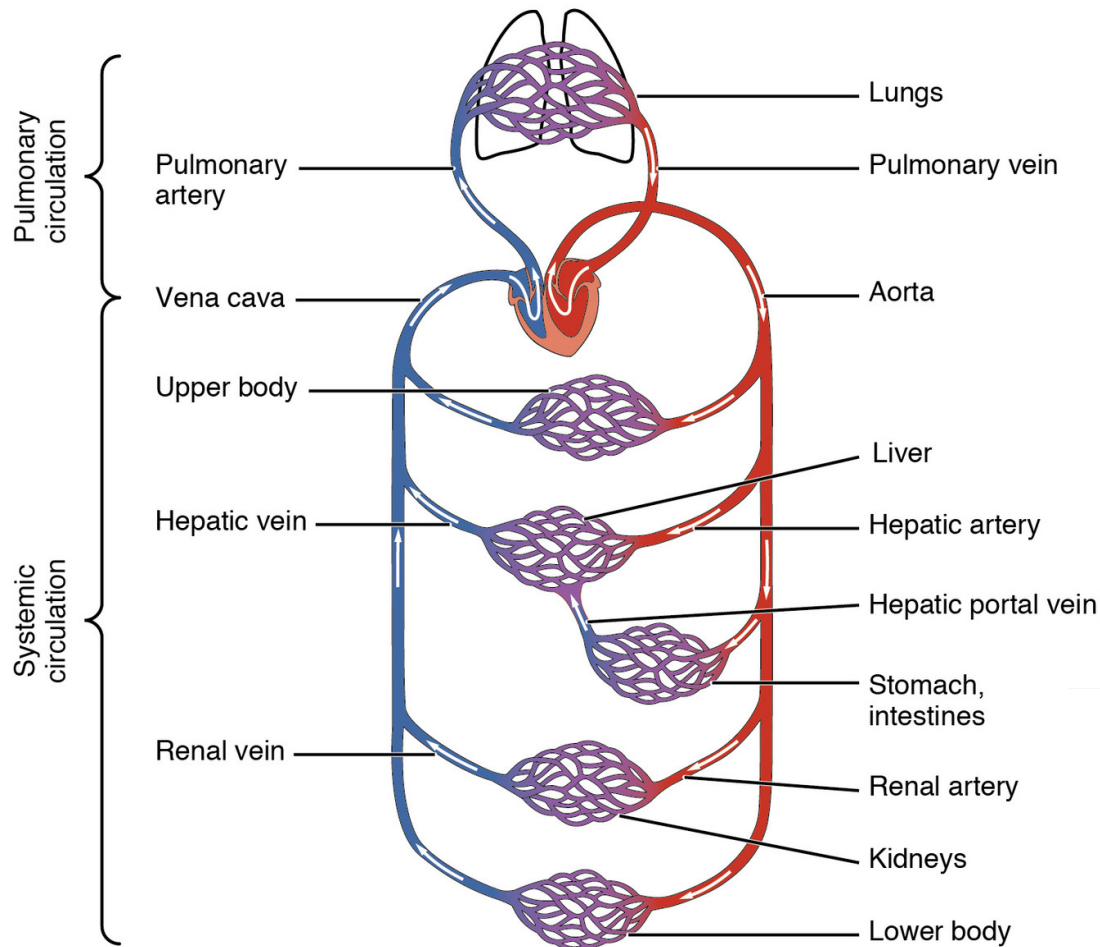
It drops off the carbon dioxide and collects oxygen.

Quick Recap



Oxygenated blood comes back to the heart through the **Pulmonary Vein**

Quick Recap



Next we will look at
the structure of the
heart