

THE HEART

Separated by a wall of muscle called the **septum**.

Each side has 2 more chambers.

- The top chamber is called an **atrium**

THE HEART

THE FOUR CHAMBERS OF THE HEART

THE HEART

The heart acts as if it were 2 separate pumps:

- The **right ventricle** pumps the blood into the **lungs**
- The **left ventricle** pumps blood all around the **rest of the body**

As the lungs are close to the heart, the **right ventricle** doesn't pump blood very far.

The **left ventricle** must pump blood much further. It has a **thicker muscle** than the muscle of the right ventricle.

THE HEART

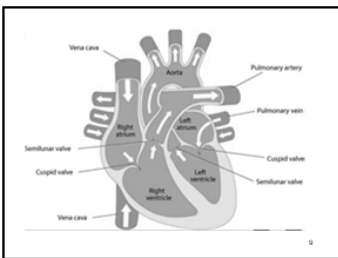
- The **vena cava** carries deoxygenated blood (low oxygen) from, all over the body, to the right atrium.
- The **pulmonary artery** carries the deoxygenated blood from the right ventricle to the lungs.

THE HEART

- The **pulmonary veins** carry oxygenated blood from the lungs back to the heart.

THE HEART

- The left ventricle pumps blood through the **aorta**.
- The **aorta** is a major artery of the body.
- The heart carries blood all over the body.



BLOOD VESSELS

They are tubes that carry blood.

There are 3 types:

- arteries
- veins
- capillaries

BLOOD VESSELS

Veins carry blood **towards** the heart

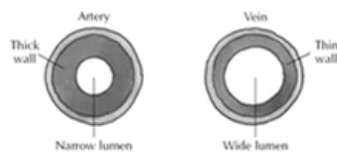
- Vena cava (right)
- Pulmonary vein (left)

Arteries carry blood **away from** the heart

- Pulmonary artery (right)
- Aorta (left)

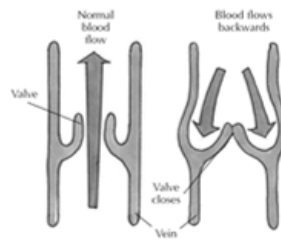
Capillaries connect arteries to veins

Arteries and veins



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Valves in veins



Valves stop the blood flowing backwards. 14

	Arteries	Veins	Capillaries
Structure	<ul style="list-style-type: none"> Thick walls Narrow lumen No valves Aorta is major artery 	<ul style="list-style-type: none"> Thinner walls Wide lumen Valves present Venae Cavae are major veins 	<ul style="list-style-type: none"> Very thin walls Tiny lumen No valves
Function	Carry blood away from heart	Carry blood to heart	Link arteries and veins
Blood Flow	<ul style="list-style-type: none"> Rapid under pressure from the heart Blood flows in pulses 	<ul style="list-style-type: none"> Sluggish under low pressure Blood flow smoothly 	Low pressure

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HEART DISEASE

• This is a big problem in Ireland.

• It is Irelands No. 1 killer

• 10,000 die each year (more than cancer).

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TREATMENT HEART FAILURE

- **Lifestyle changes**- quit smoking, better diet, low sodium, limit caffeine, limit alcohol, less stress, lower blood pressure
- **Medical treatment**- stints, bypass, deliberator

Much research in this area as causes most fatalities in Ireland and worldwide due to obesity, and sedentary lifestyles

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Pulse rates

- Our heart beats (on average) 70 times a minute!
- See if you can find your pulse on your neck or wrist.....what happens?
- Every time our heart beats we can feel our pulse.

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Exercise is good for you!

- Makes our heart beat faster and our pulse rate increases.
- It increases our strength.
- Helps reduce weight .

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Pulse

- Exercise increases heart rate – cells need more O₂ & food to produce a lot of energy & need more CO₂ removed.
- Rest decreases heart rate – cells needs less O₂ & food as they are not using as much energy & there is less CO₂ being produced.

Level of activity	Beats per minute.			Average
	Trail 1	Trail 2	Trail 3	
Resting:				
Jogging:				
Resting:				