

The heart and circulation

Name the four chambers of the heart.

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What is the function of the septum?

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What do heart valves do?

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Which vessel takes blood from the left ventricle to the body?

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Why is the left ventricle wall thicker than the right?

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Why does heart rate increase during exercise?

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What is the effect of adrenaline on the heart?

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What happens in coronary heart disease?

It separates the two sides of the heart so oxygenated and deoxygenated blood do not mix.

Right atrium, left atrium, right ventricle and left ventricle.

The aorta.

They open to let blood flow forwards and close to prevent backflow.

Muscles respire faster, so more oxygen and glucose are needed and more carbon dioxide must be removed.

It pumps blood around the whole body, which needs higher pressure.

Fatty material builds up in the coronary arteries, narrowing them and reducing blood flow to the heart muscle.

It increases the heart rate, so blood reaches the muscles faster.

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List risk factors for coronary heart disease.

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How is an artery adapted for its function?

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How is a vein adapted for its function?

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How is a capillary adapted for its function?

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What is a double circulatory system?

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Name the blood vessels to and from the liver.

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Name the blood vessels to and from the kidneys.

Thick muscular wall with elastic fibres to withstand high pressure; narrow lumen.

Saturated fat and cholesterol, smoking, lack of exercise, high blood pressure, obesity, stress, genetics and age.

Wall one cell thick for a short diffusion distance; a huge network gives a large surface area.

Wide lumen and valves, to let blood flow at low pressure and stop backflow.

Hepatic artery and hepatic portal vein carry blood in; hepatic vein carries blood out.

Blood passes through the heart twice on each circuit: heart to lungs and back, then heart to body and back.

Renal artery to the kidneys and renal vein from the kidneys.