

Chap 14 Sec 1

like a highway

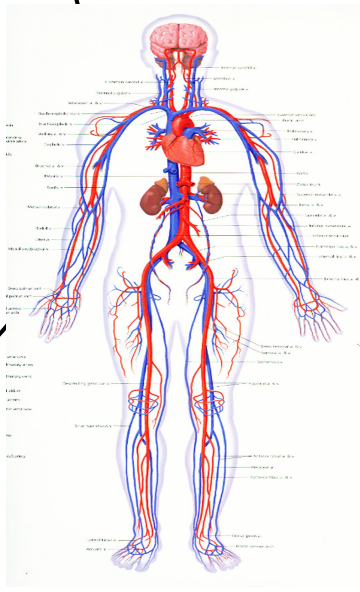
links all parts of body

bring oxygen and nutrients

takes away cellular waste

cardiovascular system

contains cells to fight disease



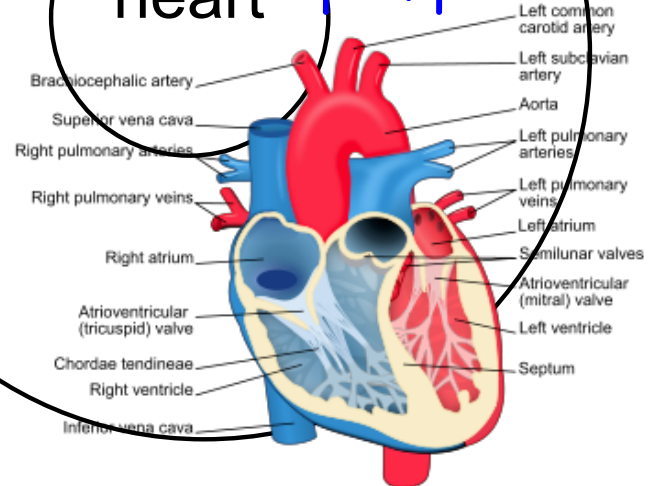
The diagram illustrates the human cardiovascular system. It shows a central heart with four chambers: the right and left atria and ventricles. A network of red arteries carries oxygenated blood from the heart to the rest of the body, while blue veins carry deoxygenated blood back to the heart. The system is shown branching out to reach every part of the body, including the head, torso, and limbs.

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hollow

muscular

heart pumps blood



This anatomical diagram provides a detailed view of the heart's internal structure. The right atrium and ventricle are on the left side of the image, while the left atrium and ventricle are on the right. The diagram shows the tricuspid and mitral (atrioventricular) valves, the semilunar valves, and the chordae tendineae that anchor the valves. Major blood vessels like the superior and inferior vena cava, the aorta, and the pulmonary arteries and veins are also labeled. The heart is shown as a hollow, muscular organ that pumps blood throughout the body.

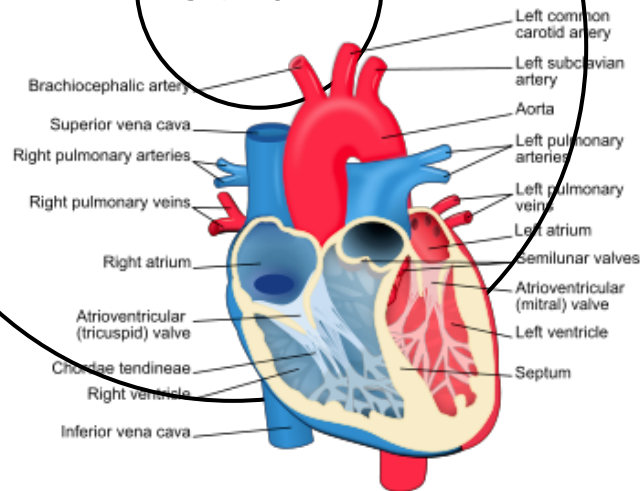
- Brachiocephalic artery
- Superior vena cava
- Right pulmonary arteries
- Right pulmonary veins
- Right atrium
- Atrioventricular (tricuspid) valve
- Chordae tendineae
- Right ventricle
- Inferior vena cava
- Left common carotid artery
- Left subclavian artery
- Aorta
- Left pulmonary arteries
- Left pulmonary veins
- Left atrium
- Semilunar valves
- Atrioventricular (mitral) valve
- Left ventricle
- Septum

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upper chamber of heart

receives blood

atrium



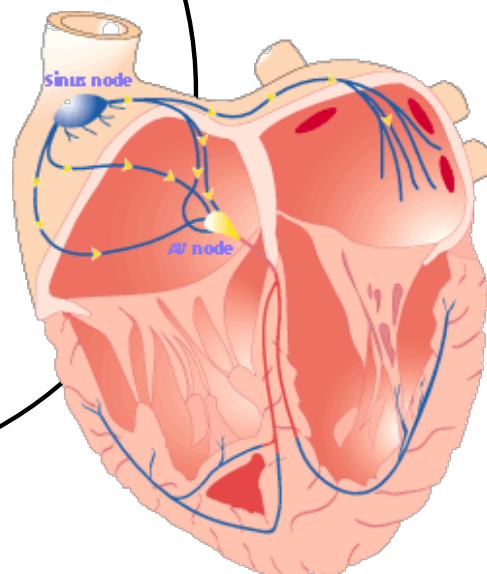
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in the right atrium

a group of heart cells

pacemaker

sends signal that
makes heart
muscles contract

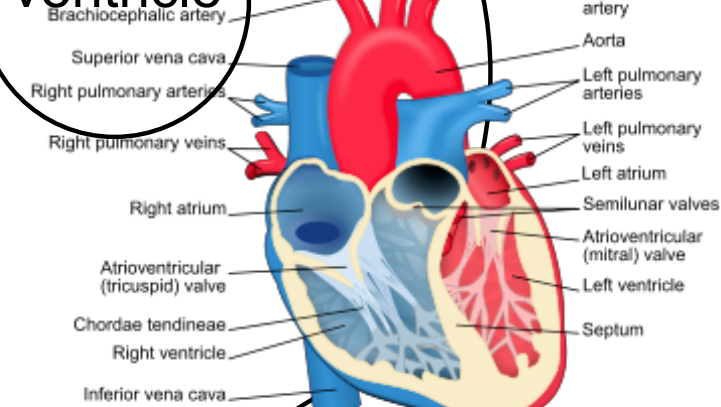


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lower part of
heart

pumps blood out to
body

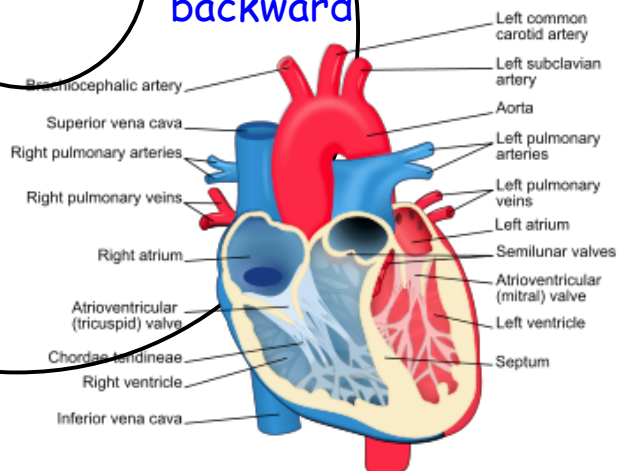
ventricle



separates
atrium and
ventricles

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a flap of tissue
that prevents
blood from
flowing
backward

valve



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one of three kinds of blood vessels

carry blood away from heart

artery

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The diagram illustrates the flow of blood through the circulatory system. It shows the Aorta branching into Arteries, then Arterioles, which lead to a dense network of Capillaries. From the capillaries, blood flows through Venules and Veins, finally merging into the Vena cava. Two graphs are plotted below the vessel types: 'Total cross-sectional area' and 'Velocity of blood flow (mL/s)'. The total cross-sectional area graph shows a sharp increase at the capillary stage, peaking there, and then decreasing as the blood returns to the heart. The velocity graph shows a high velocity in the Aorta, a sharp drop to its lowest point in the capillaries, and then a gradual increase as the blood returns to the heart.

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one of three kinds of blood vessels

walls are one cell thick

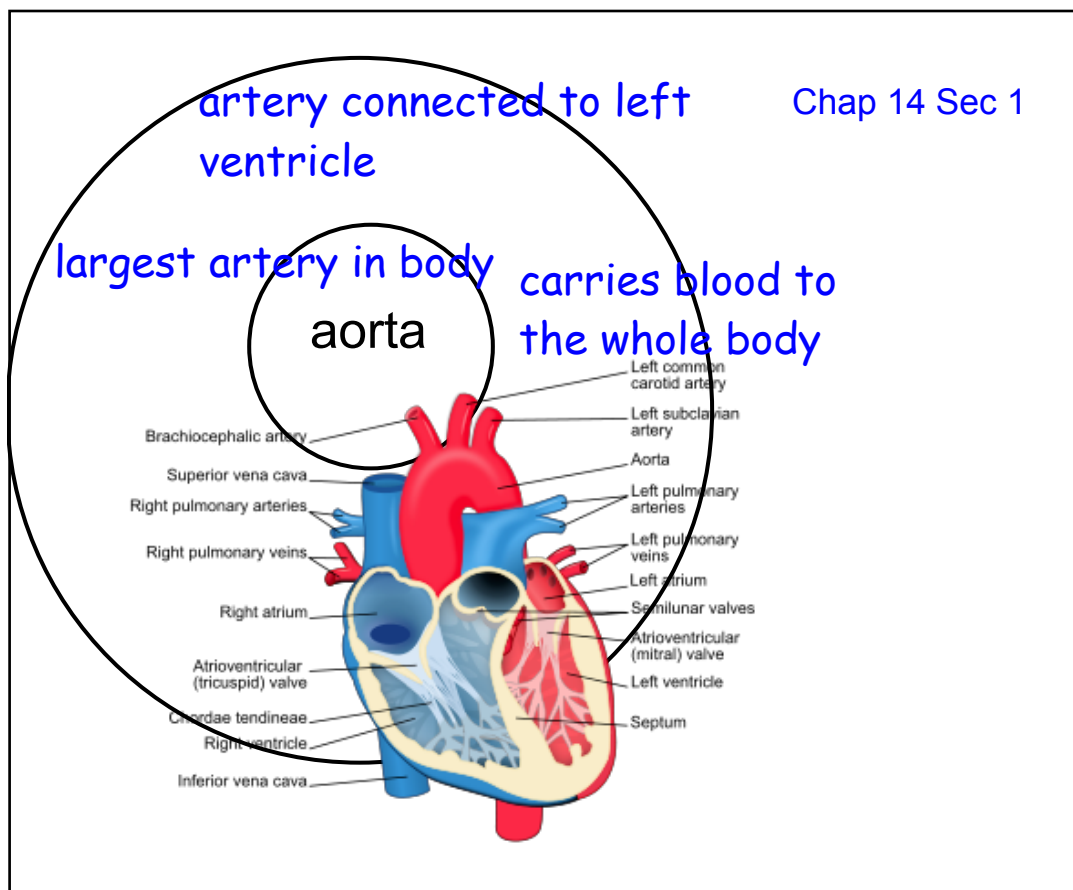
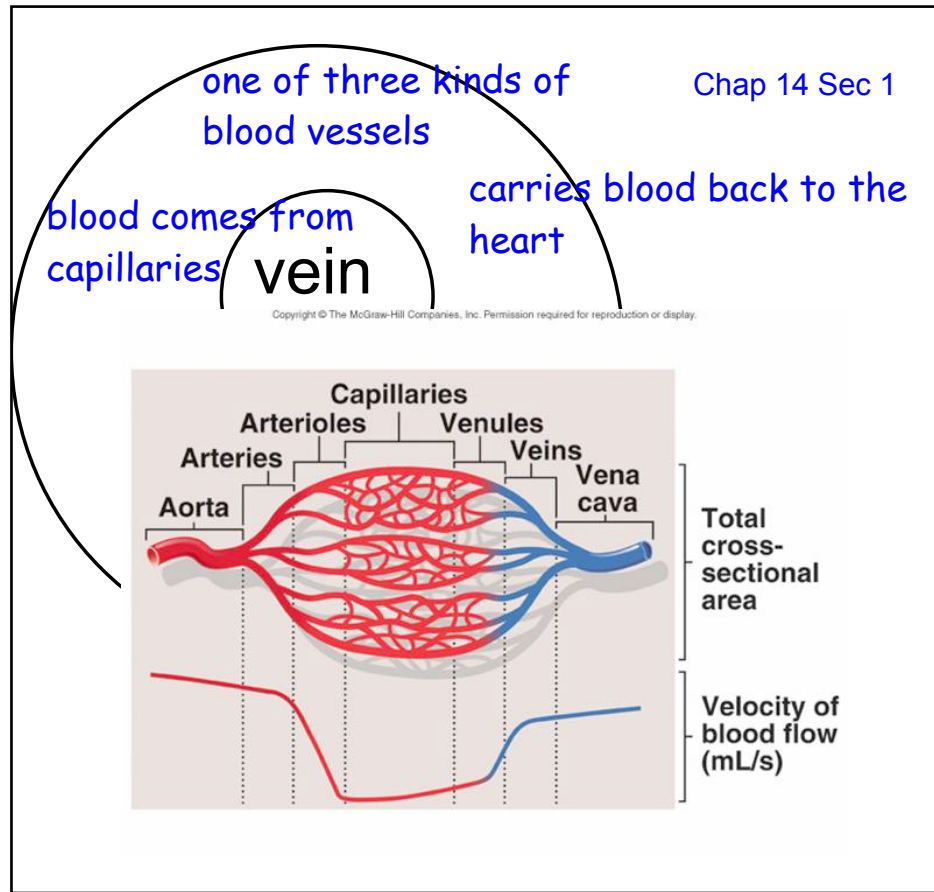
smaller than arteries

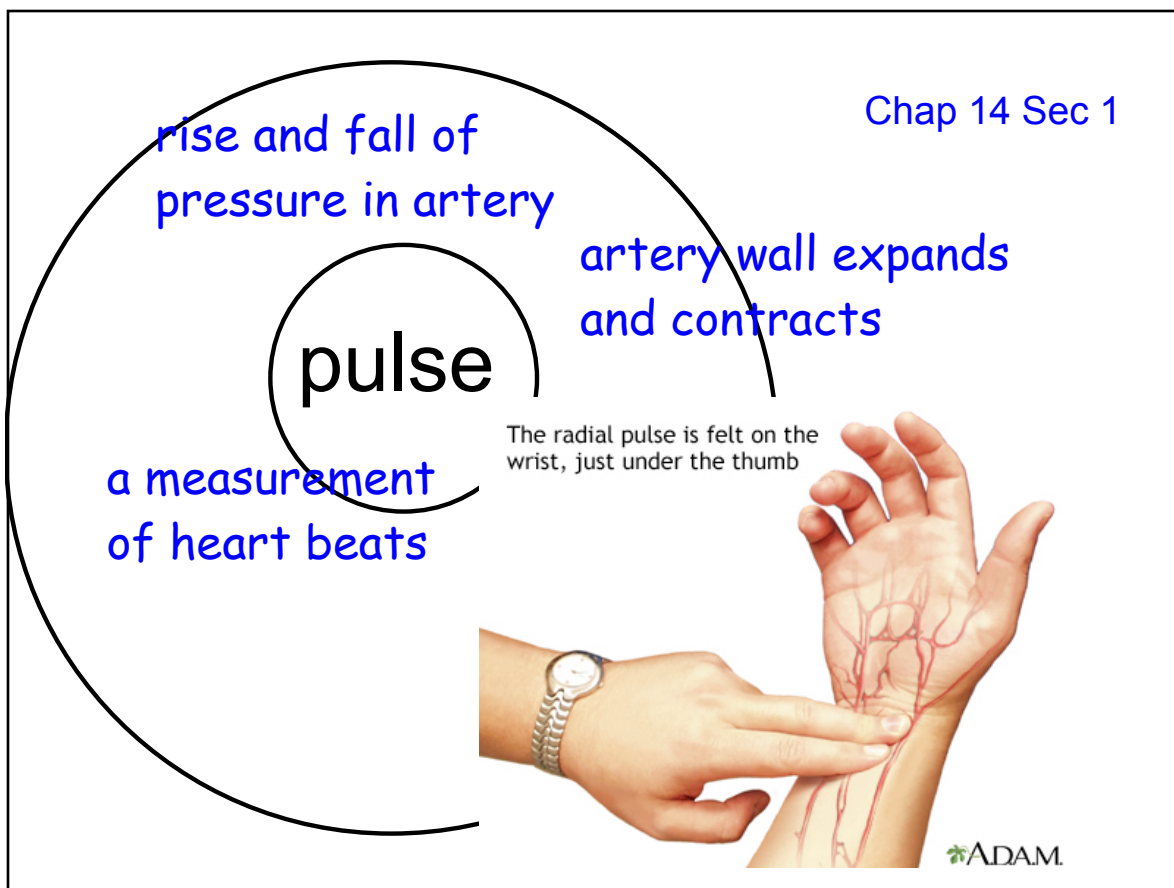
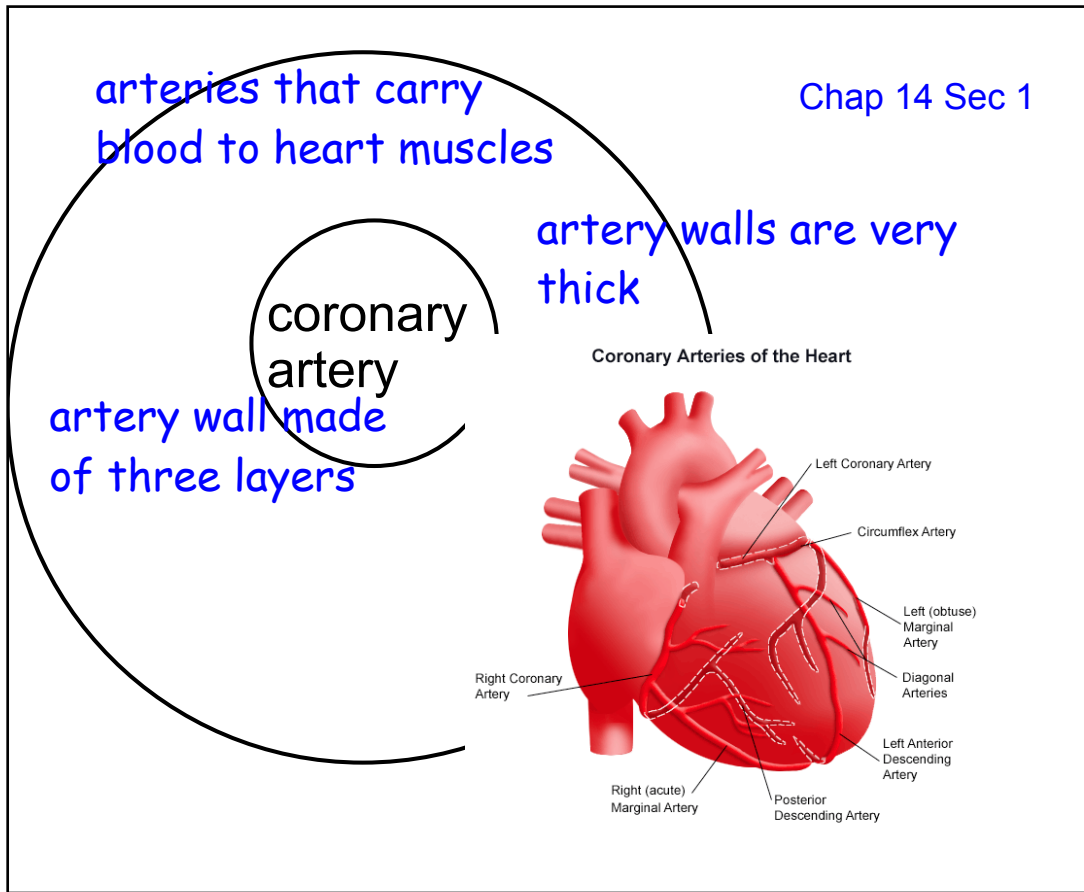
exchanges substances between blood and cells

capillary

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This diagram is identical to the one above, showing the flow of blood from the Aorta through Arteries, Arterioles, Capillaries, Venules, Veins, and Vena cava. It includes the same two graphs: 'Total cross-sectional area' and 'Velocity of blood flow (mL/s)'. The total cross-sectional area peaks at the capillary stage, while the velocity of blood flow is at its lowest point in the capillaries.





material moves from area of higher concentration

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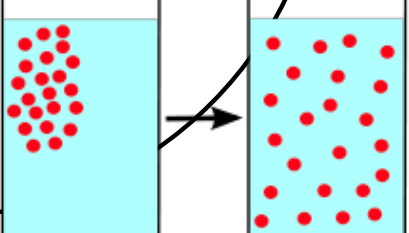
perfume in corner of room

diffusion

material moves to area of lower concentration

how blood, oxygen, nutrients and waste are exchanged

experiment with eggs, syrup, water and salt water



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blood pushes on blood vessel walls

caused by heart beat

blood pressure

measured with sphygmomanometer

