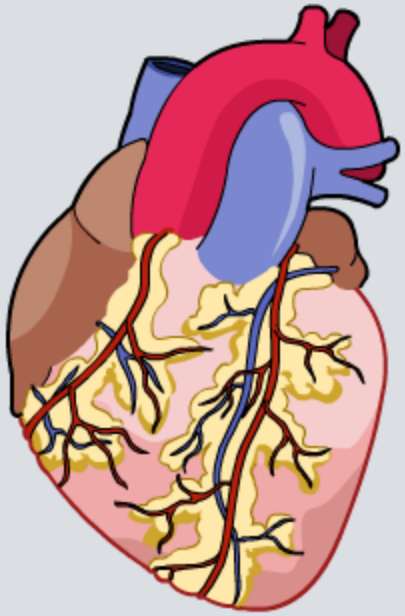
Respiration and the Circulatory System

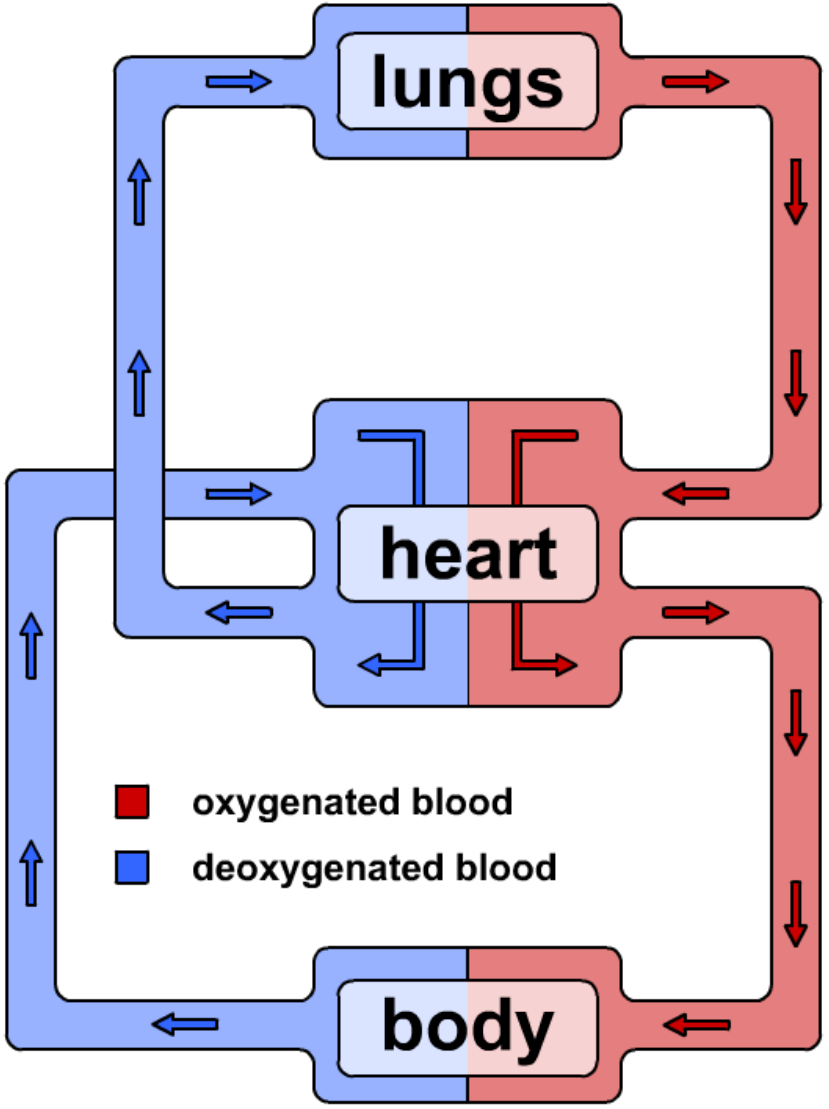


Circulation

The dissolved food and oxygen needed for respiration are carried around the body by the circulatory system.

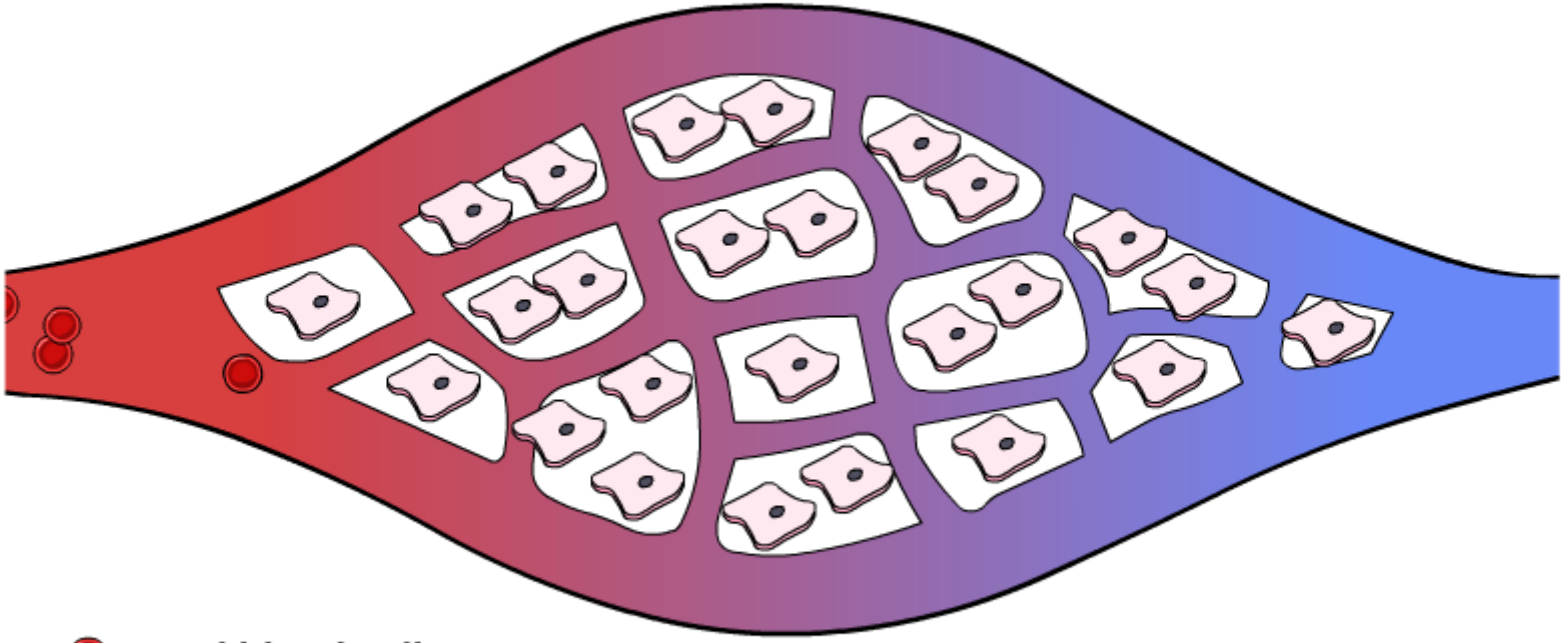
The circulatory system includes the blood, blood vessels, the heart and the lungs.

Which part of the circulatory system actually carries dissolved food and oxygen to the body's cells?



Blood

How does oxygen reach the tissues of the body?



red blood cell

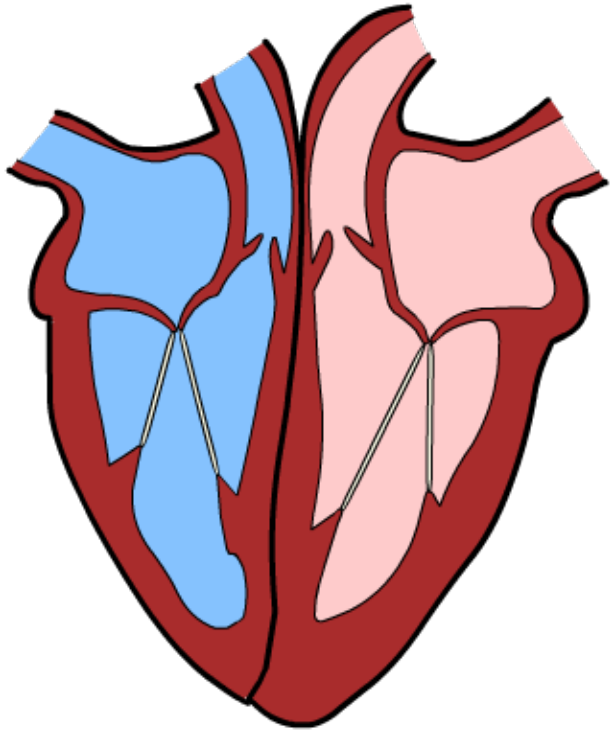
body cell

show labels

zoom in

Your beating heart

The heart is made of very special muscle called cardiac muscle.



This is because it has to keep beating for the whole of a person's life!

If you tried to do the same action repeatedly (like the heart does), your muscles would get tired and, after a while, stop working.

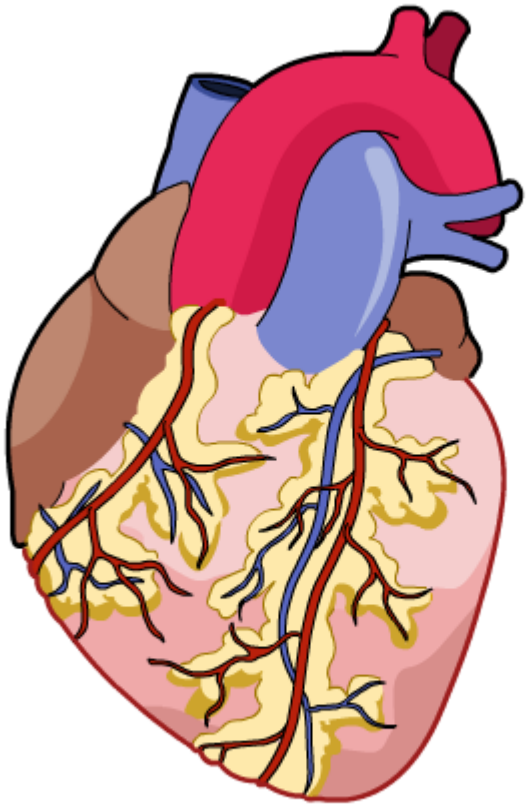
For example, if you keep clenching and unclenching your hand, it will get tired and may even get a cramp.

Why is it important for respiration that the heart keeps beating?

The development of knowledge about the heart

Over time scientists have developed knowledge about how the heart and circulatory system function.

Click "**start**" to explore the development of knowledge about the heart and how this knowledge was communicated.



start

Measuring pulse

The heart pumps blood around the body in the blood vessels. Each time it pumps it causes the blood vessels to throb. This is called a **pulse**.

To take your pulse:

1. Hold out one hand with the palm facing up.
2. Put the index and middle fingers of your other hand together.
3. Press these fingers lightly on the underside of the other wrist, just under the thumb bone.

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Different types of activity

What happens to the pulse while someone is running?

During exercise, the pulse rises. This causes blood to be pumped around the body more quickly, which increases the amount of oxygen and glucose that can reach muscle cells.

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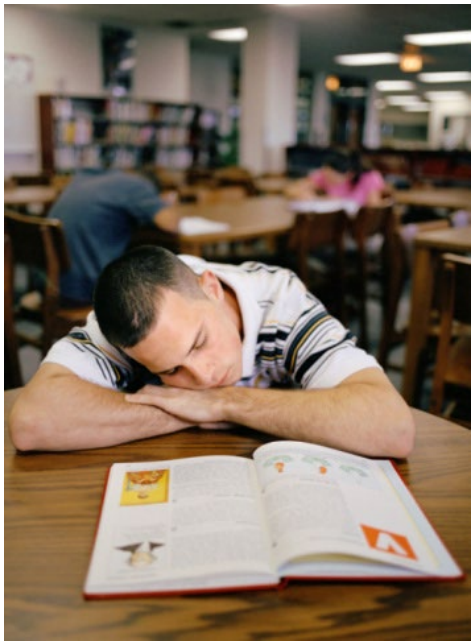

What happens to the pulse while someone is sleeping?

During sleep, the pulse falls. This causes blood to be pumped around the body more slowly. This means that oxygen and glucose take longer to reach muscle cells.