



opening extract from body

an amazing tour of human anatomy

written by
robert winston

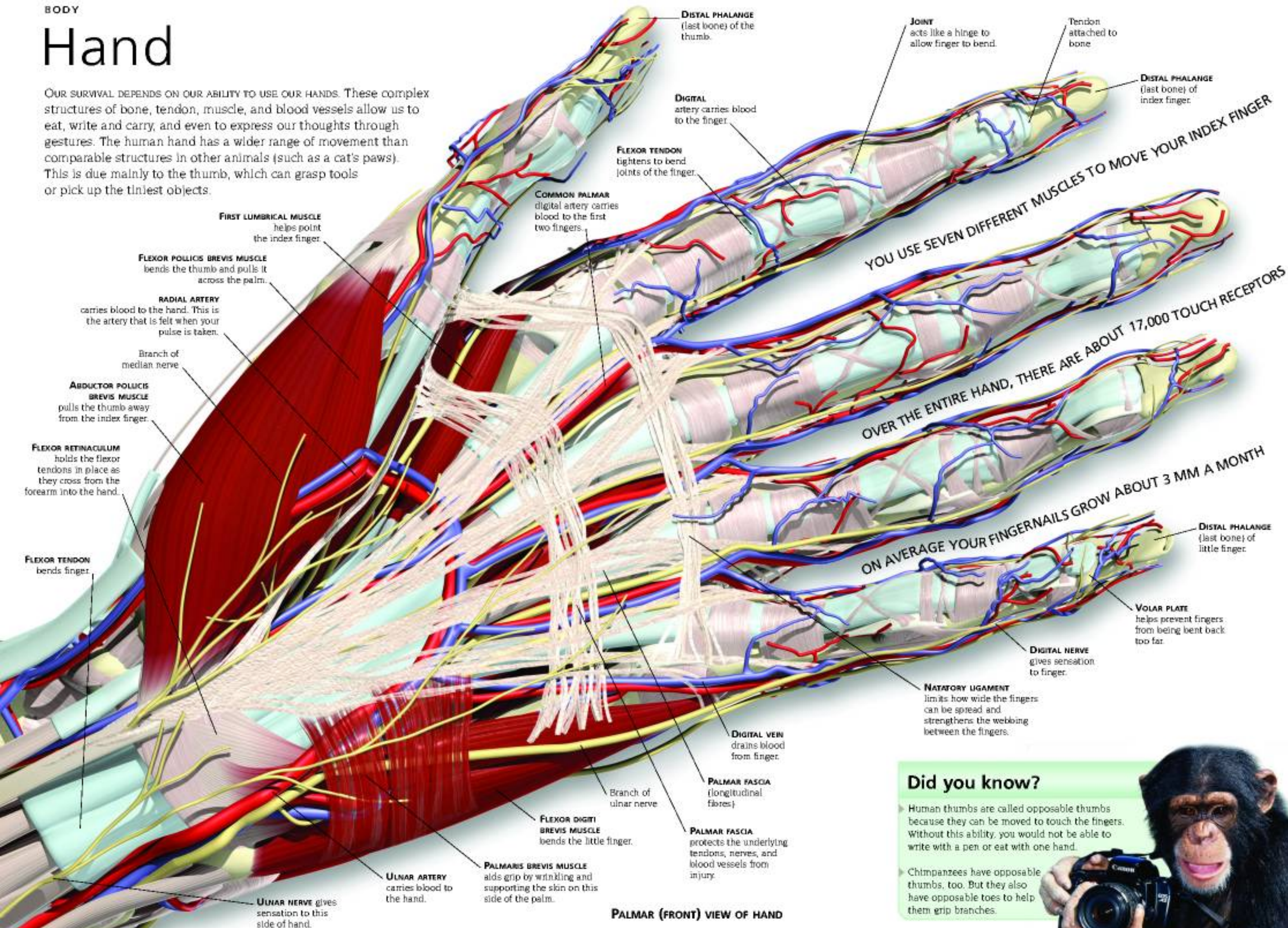
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Hand

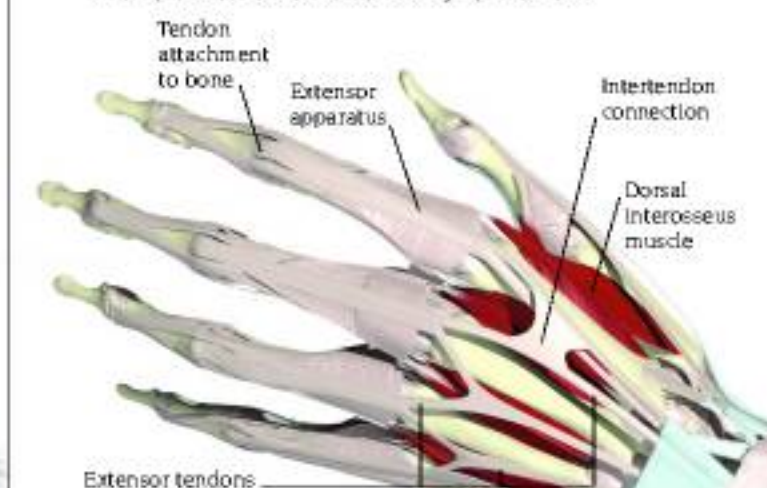
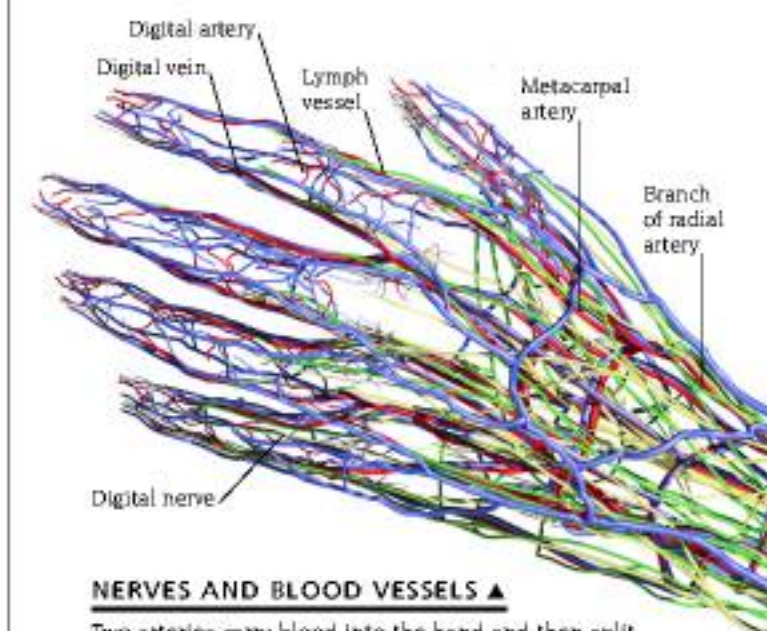
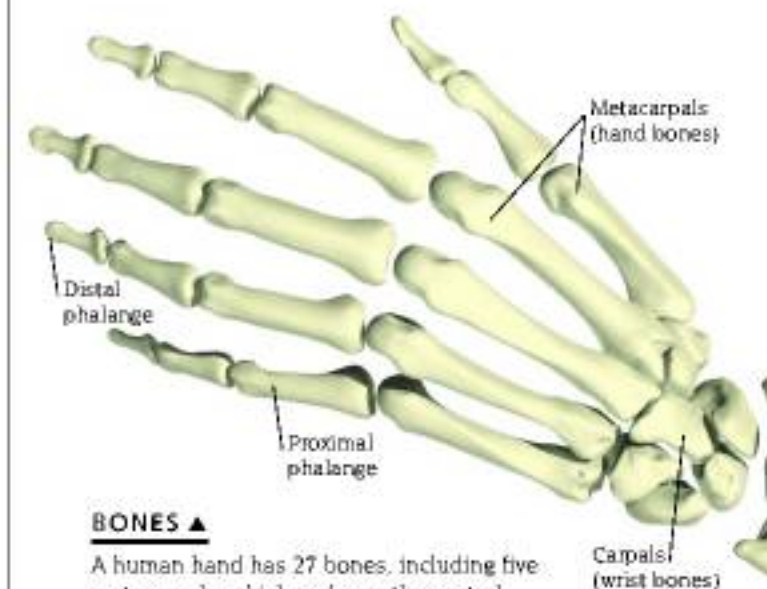
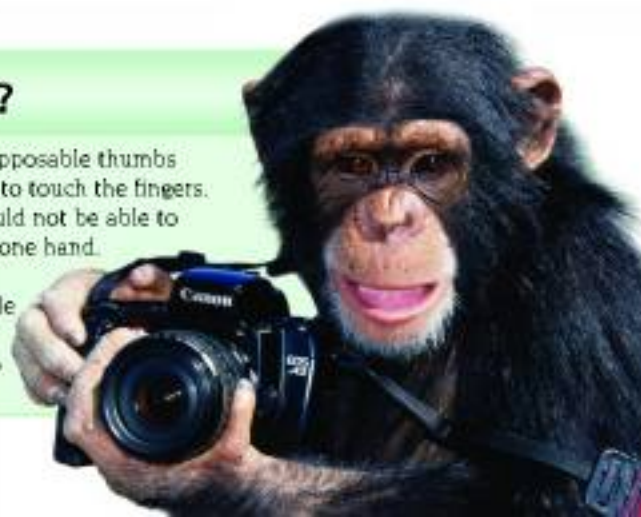
OUR SURVIVAL DEPENDS ON OUR ABILITY TO USE OUR HANDS. These complex structures of bone, tendon, muscle, and blood vessels allow us to eat, write and carry, and even to express our thoughts through gestures. The human hand has a wider range of movement than comparable structures in other animals (such as a cat's paws). This is due mainly to the thumb, which can grasp tools or pick up the tiniest objects.

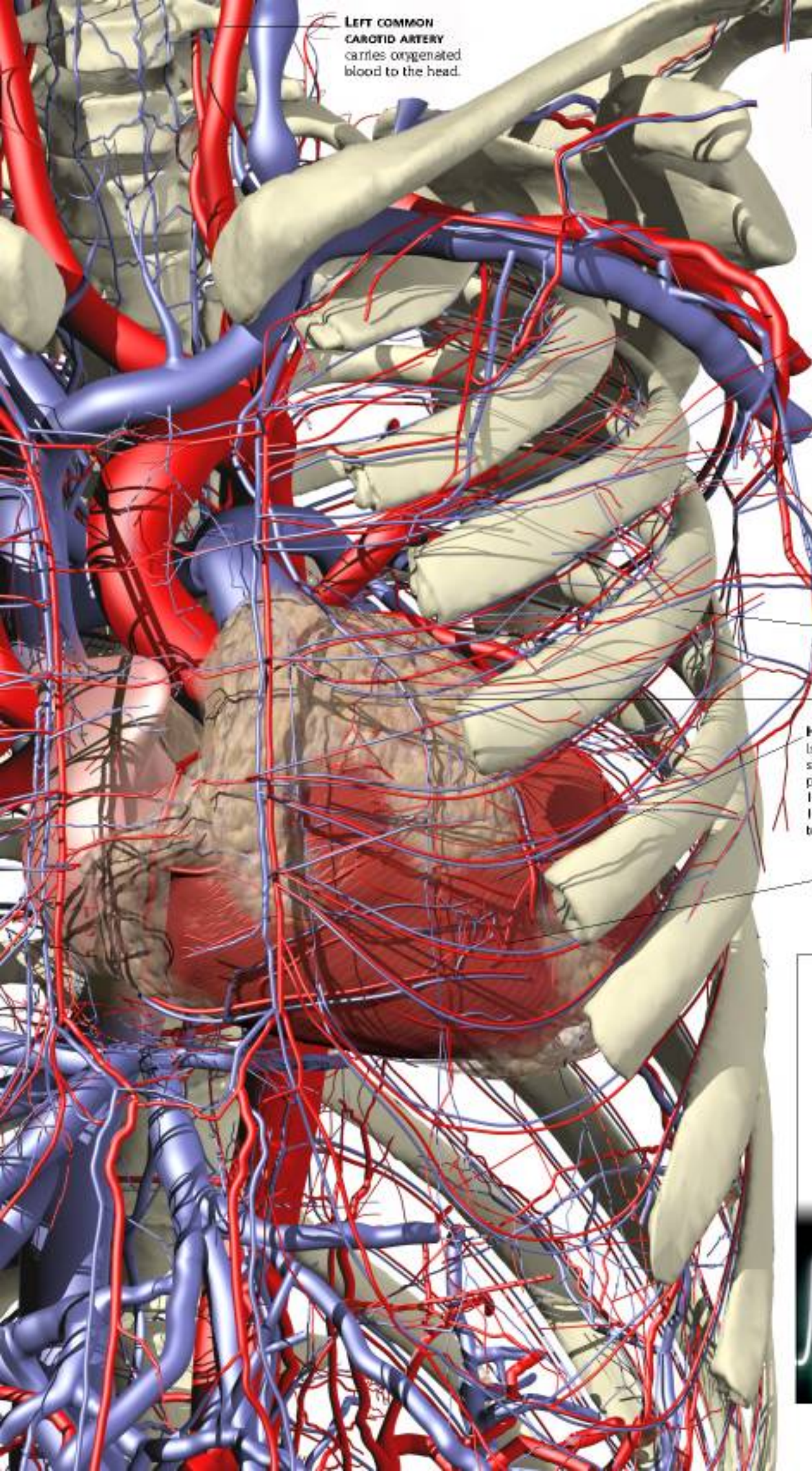


Did you know?

Human thumbs are called opposable thumbs because they can be moved to touch the fingers. Without this ability, you would not be able to write with a pen or eat with one hand.

Chimpanzees have opposable thumbs, too. But they also have opposable toes to help them grip branches.





LEFT COMMON CAROTID ARTERY
carries oxygenated blood to the head.

Heart

DURING YOUR LIFETIME, YOUR HEART WILL MOVE around 220 million litres of blood – the equivalent of hundreds of Olympic-sized swimming pools – around your body as a result of its strong pumping action. Your heart is about the size of an adult's fist and is composed mainly of a special type of muscle. To pump blood, this muscle contracts in a rhythmical fashion about 70 times a minute when you are at rest, faster when you exercise. The heart lies in the upper part of your chest, nestling between the two lungs. Numerous large blood vessels sprout from it. Some, called veins, carry blood into the heart. Others, called arteries, carry blood away from it.

RIBCAGE
provides solid protection to the heart on all sides.

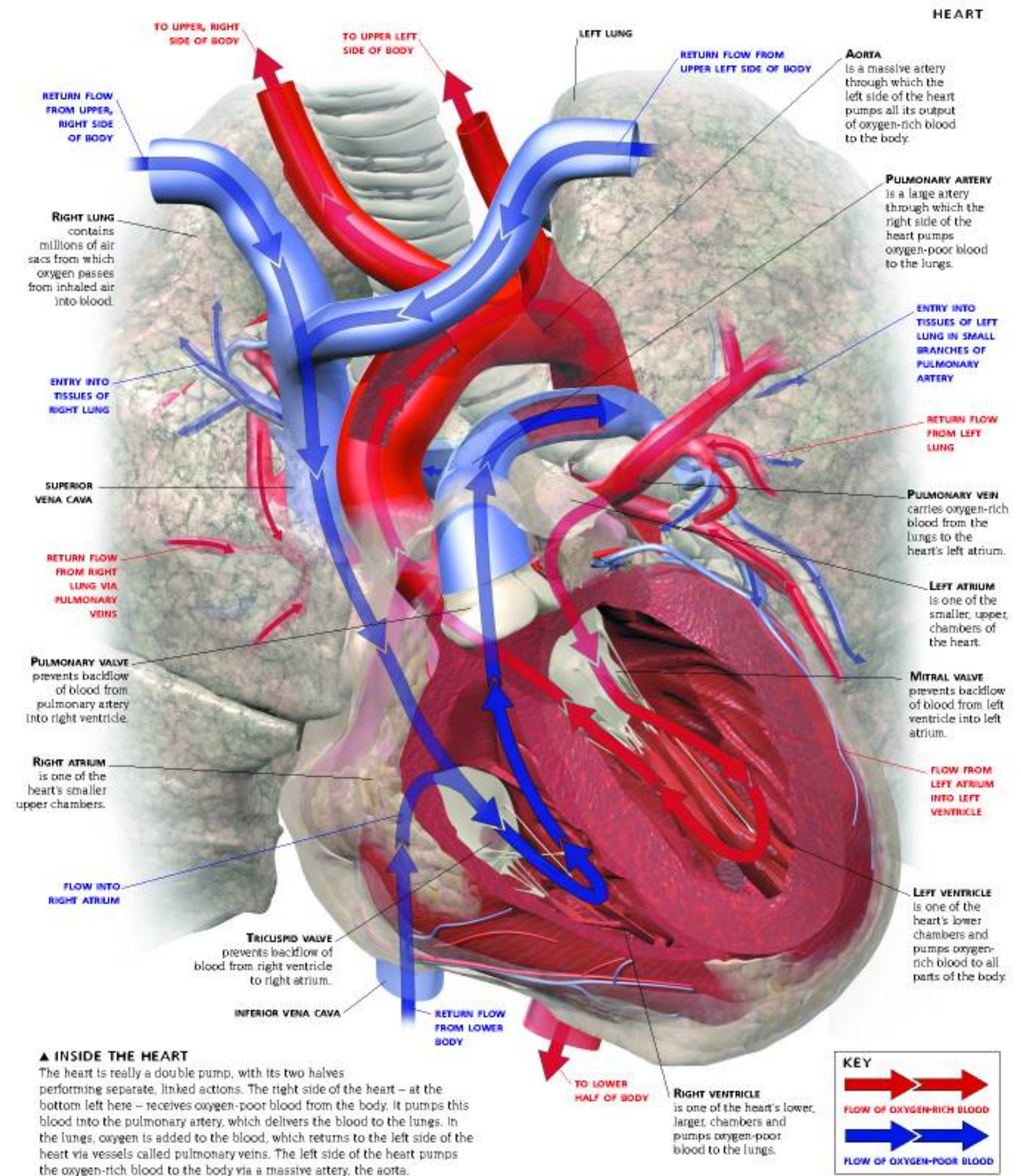
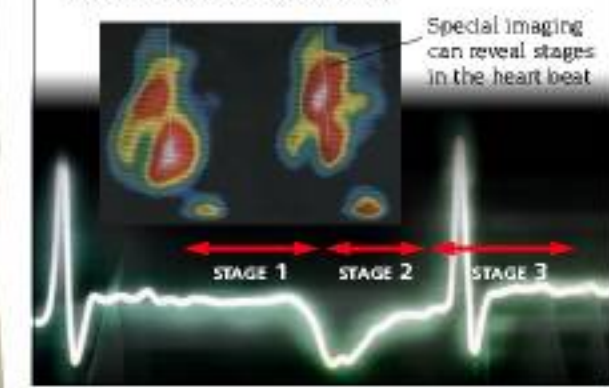
HEART
is tilted towards the left side of the chest in 9,998 people out of every 10,000; in the other 2 in 10,000 it is tilted towards the right.

PERICARDIUM
is a thick, fibrous layer of tissue that covers the heart's outer surface.

CORONARY ARTERY NETWORK
is a system of arteries that spread over the surface of the heart muscle, providing it with a constant supply of oxygen and nutrients.

BEATING HEART

Your heart beat is controlled by a tiny area of tissue in the upper part of the heart. This produces regular electrical signals that spread through the heart muscle, causing it to contract. The varying strength of the signal can be measured and recorded as a repeating graph called an ECG trace. Different stages (1-3 below) in the signal's progress through the heart tie in with different parts of the trace.



▲ INSIDE THE HEART

The heart is really a double pump, with its two halves performing separate, linked actions. The right side of the heart – at the bottom left here – receives oxygen-poor blood from the body. It pumps this blood into the pulmonary artery, which delivers the blood to the lungs. In the lungs, oxygen is added to the blood, which returns to the left side of the heart via vessels called pulmonary veins. The left side of the heart pumps the oxygen-rich blood to the body via a massive artery, the aorta.