Contents

Lymphatic system

Nervous system

Sense organs

Endocrine system

Respiratory system

The digestive system

Urinary system

The skin

Musculoskeletal system

The reproductive system

The relationship between the pulmonary and systemic circulations

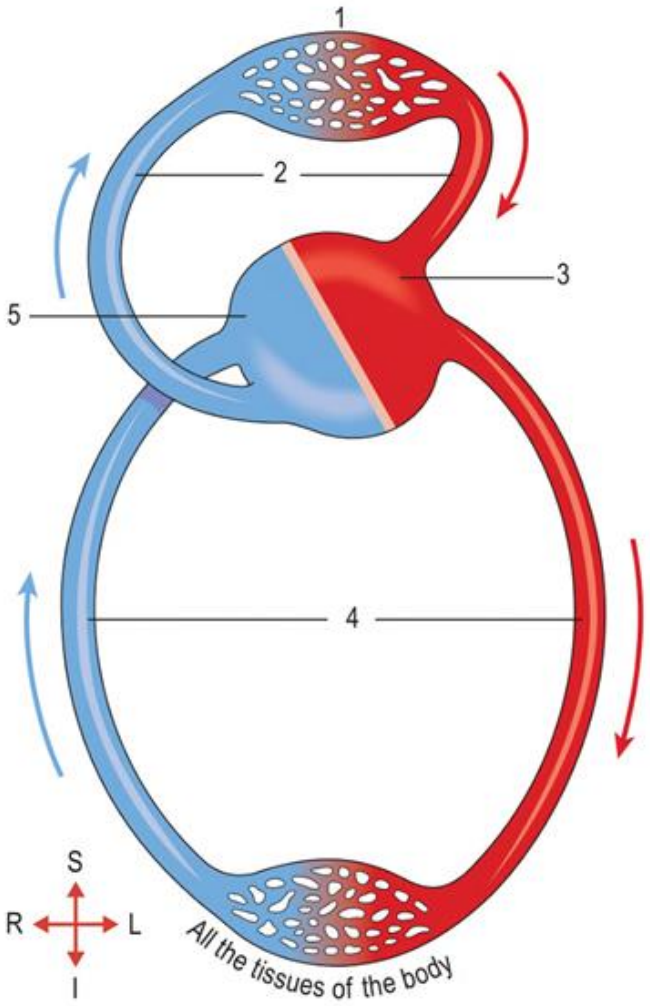

Fig 1

1. Lungs
2. Pulmonary system
3. Left side of the heart
4. Systemic circulation
5. Right side of the heart

Comments

Anatomical: There are two anatomically separate vascular systems. The pulmonary circulation—or the lesser circulation—carries blood from the right heart to the lungs and includes the pulmonary arteries and veins. The systemic circulation—or the greater circulation—carries blood from the left heart to the rest of the body and includes the aorta and its branches, as well as the venae cavae and their tributaries.

Physiological: The blood is the mode of transport of oxygen and carbon dioxide between the lungs and the cells of the body. In the lungs, where gas exchange occurs in the alveolar sacs, the blood extracts oxygen and releases carbon dioxide. The blood flowing to the organs of the body is rich in oxygen and nutrients, which are picked up by the cells of the body as they release their waste products into the blood for excretion.

Clinical: The arterial systolic pressure is higher in the systemic circulation. The colour of the skin and of the nails, whether pink or blue, reflects the functional state of the vascular and respiratory systems.

The inner aspect of a vein

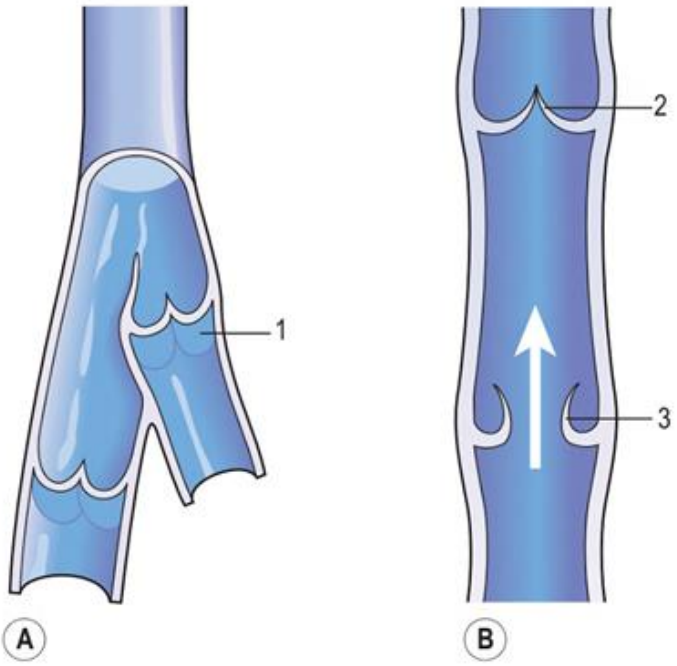

Fig 2 **(A)** The valves and the cusps. **(B)** The direction of blood flow through the valves.