

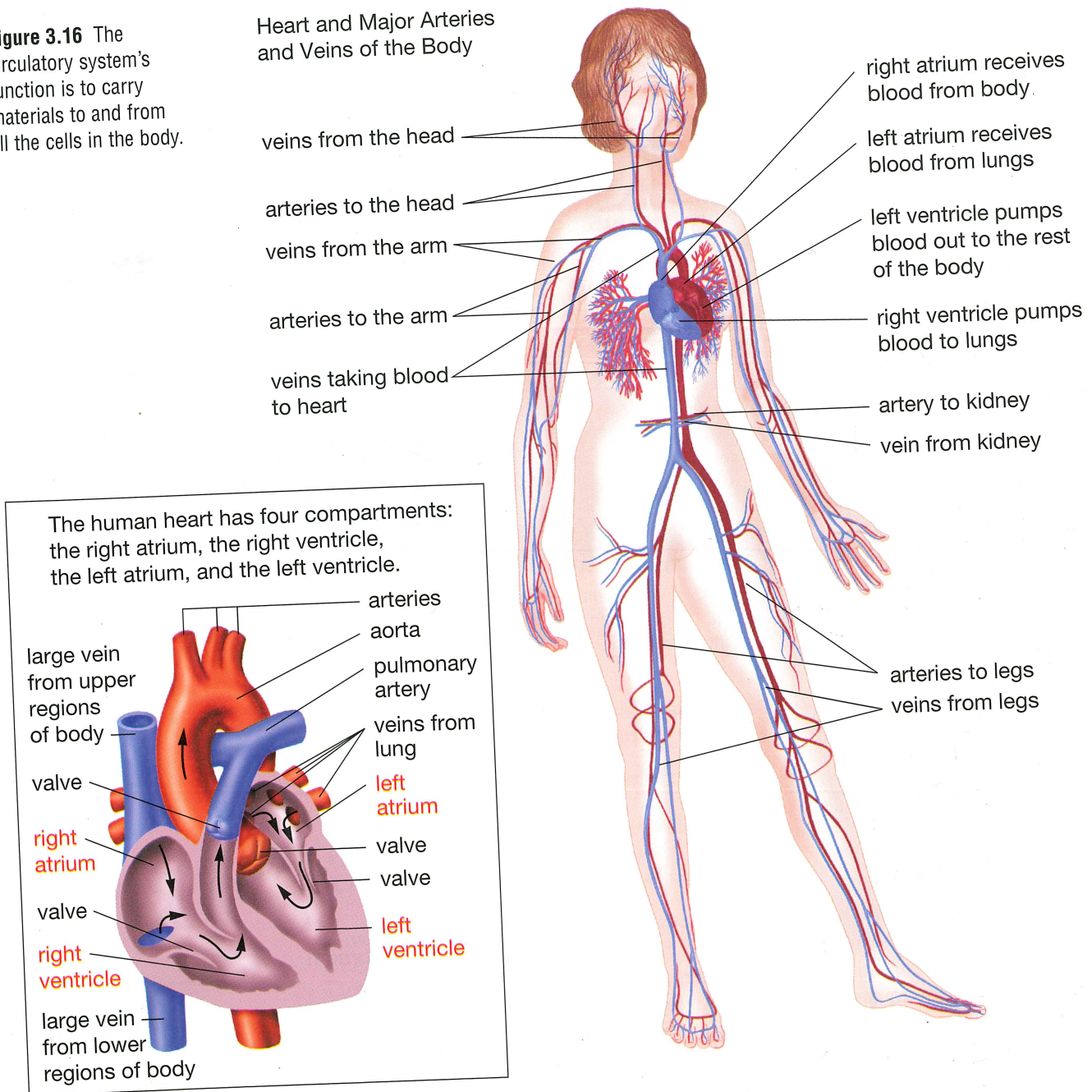
The digestive system puts food into the intestine and the respiratory system puts oxygen into the lungs. How do particles of food and oxygen eventually get from these systems to cells in the toes, the brain, and other parts of the body? A third system transports particles of food and oxygen. The **circulatory system** consists of the heart, blood, and blood vessels (see Figure 3.16). This system circulates blood around the body, delivering food particles, dissolved gases, and other materials to every cell and carrying away cell wastes.

There are about 11 different systems in the human body. Each system has a major function. The systems are co-ordinated into the total living organism, and all the systems depend on one another.

The Circulatory System

Figure 3.16 The circulatory system's function is to carry materials to and from all the cells in the body.

Heart and Major Arteries and Veins of the Body

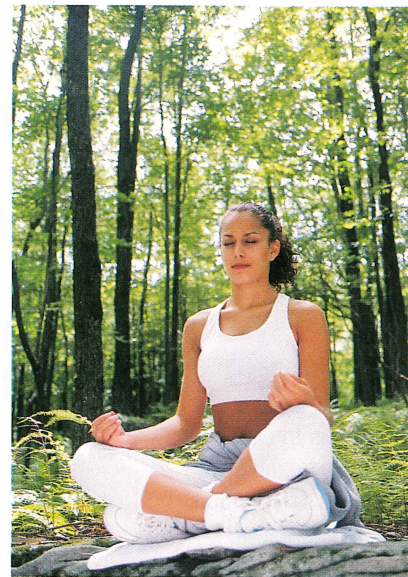


3.3 Organ Systems in Humans

The woman shown in the photograph is practising the Indian philosophy of yoga. Although she appears very relaxed, there is a lot going on inside her body. As you learned in Chapter 2, every cell in the body needs a steady supply of food and oxygen to give it energy. Three different organ systems must work together to make this possible. Do you know what they are?

Food first enters the body through the mouth, then passes to the stomach and the intestine. It is broken down along the way into small, soluble particles that can be used by cells. Unused food is expelled from the body as waste. As you read on page 72, the organs involved in these processes form the digestive system, shown in Figure 3.14.

The woman practising yoga is taking slow, deep breaths. Breathing in (inhalation) fills her lungs with oxygen-containing air. Breathing out (exhalation) rids her body of waste carbon dioxide. The organs involved in this gas exchange form the **respiratory system**, as shown in Figure 3.15.



The Digestive System

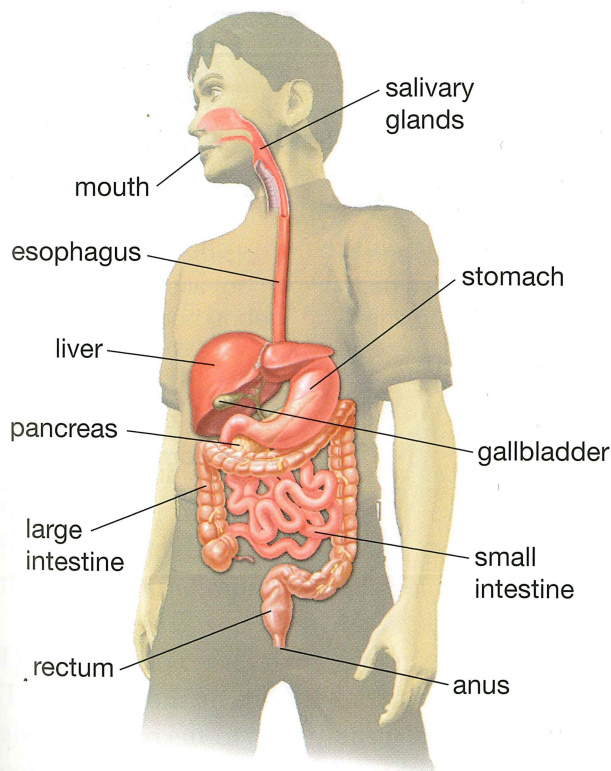


Figure 3.14 This organ system breaks down food by digestion.

The Respiratory System

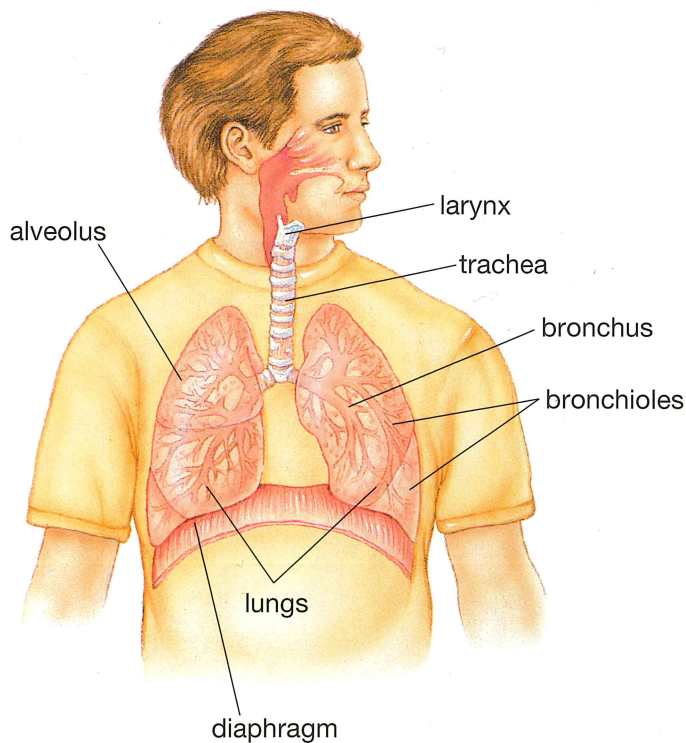


Figure 3.15 This organ system moves air in and out of the body. This in-and-out movement of air supplies oxygen for cells and removes waste carbon dioxide.