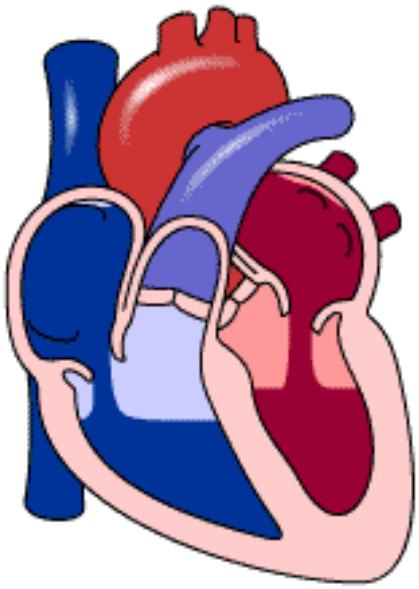
CARDIOVASCULAR SYSTEM

1. **Label the parts of the heart. If you know the English expression, use it, if not, use the Czech/Slovak one.**



2. **Listen to the recording that describes the heart and try to identify the English words for each part.**
   http://www.youtube.com/watch?v=4ZzuqBM8nPU – Inside the heart
   http://www.youtube.com/watch?v=D3ZDJgFDdk0&feature=related – Circulatory system
   http://www.youtube.com/watch?v=H04d3rJCLCE&feature=related – Heart anatomy (+coronary heart disease)
   http://www.britannica.com/EBchecked/topic/95628/cardiovascular-system (Interactives - Cardiovascular system) Accessed March 7, 2010

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Tento projekt je spolufinancován Evropským sociálním fondem a státním rozpočtem České republiky.
INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

3. Study the expressions below. Practise the pronunciation.

Deoxygenated blood passes through these blood vessels, valves and parts of the heart:

vena cava (sg)	/ˈvi nə ˈkeɪ və/
venae cavae (pl)	/ˈvi ni ˈkeɪ vi/
right atrium	/ˈeɪ tri əm/
tricuspid valve	/traɪˈkʌs pɪd/ /vælv/
pulmonary valve	
right ventricle	/ˈvɛn trɪ kəl/
pulmonary artery	/ˈpʌl məˌnɛr i, ˈpʊl-/ /ˈɑr tə ri/
lungs	/lʌŋ/

Oxygenated blood passes through these blood vessels, valves and parts of the heart:

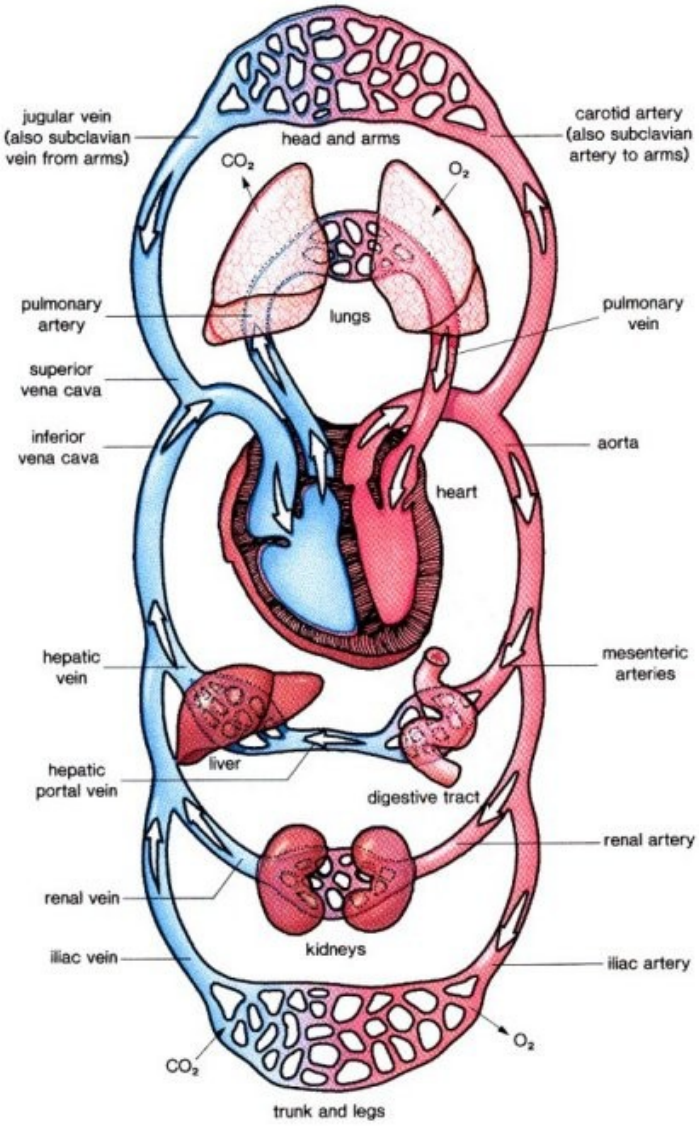
pulmonary vein	/ˈpʌl məˌnɛr i, ˈpʊl-/
left atrium	/ˈeɪ tri əm/
bicuspid valve (mitral valve)	/baɪˈkʌs pɪd/ /ˈmaɪ trəl/
aortic valve	
left ventricle	/ˈvɛn trɪ kəl/
aorta	/eɪˈɔr tə/

4. Watch the video. Then work in pairs and describe the whole blood cycle. Use the vocabulary you have learnt.

In the human cardiovascular system, a muscular heart pumps blood through vessels to and from all parts of the body to provide oxygen, nutrients, and metabolic products and to remove wastes. The right atrium of the heart receives blood from the body via the superior and inferior venae cavae. The blood then passes into the right ventricle and through the pulmonary artery to the lungs, where it picks up oxygen and loses carbon dioxide. Pulmonary veins transmit the blood back to the heart. From the left atrium, the blood travels to the left ventricle and out through the aorta. Arteries conduct the blood throughout the body; they terminate in short narrow vessels called arterioles, which branch into microscopically thin capillaries. The blood distributes nutrients and receives wastes before entering small vessels called venules, which converge to form the veins that carry the blood back to the heart.

Adapted from: http://www.britannica.com/EBchecked/topic/95628/cardiovascular-system
Accessed March 7, 2010

the heart pumps blood through... to	to transmit the blood back to the heart
to provide oxygen, nutrients, metabolic products	the blood travels to the left ...,
to remove wastes	the blood travels out through ...
the heart receives blood from	arteries conduct the blood throughout ...
the blood passes into, through	the blood distributes...
the blood picks up oxygen	the blood receives ...
the blood loses carbon dioxide	the blood enters ...
	veins carry the blood back to the heart



5. Answer the questions

a. What are the three types of blood vessels?
b. In which circuit does blood take up oxygen in the lungs?
c. In which circuit is oxygenated blood distributed to body tissues? ,

6. True or False?

a. Arteries carry blood away from heart at high pressure.
b. Capillaries allow exchange of materials between blood and tissues.
c. Veins return high pressure blood to heart.
d. Red blood cells transport oxygen.
e. White blood cells protect against clotting.
f. Blood platelets help the blood to disease.

Heart Disease: Treat or Prevent?

One of the greatest killers in the Western world is heart disease. The death rate from the disease has been increasing at an alarming speed for the past thirty years. Today in Britain, for example, about four hundred people a day die of heart disease. Medical experts know that people can reduce their chances of getting heart disease by exercising regularly, by not smoking, and by paying attention to their diet, but Western health-care systems are still not paying enough attention to the prevention of the disease. There is an urgent need for more programs to educate the public about the causes and prevention of heart disease. Instead of financing such programs, however, the U.S. health-care system is spending enormous sums of money on the surgical treatment of the disease after it develops.

This emphasis on treatment is clearly associated with the technological advances that have taken place in the past ten to fifteen years. In this time, modern technology has enabled doctors to develop new surgical techniques and procedures. Many operations that were considered impossible or too risky a few years ago are now performed every day in U.S. hospitals. The result has been a massive increase in heart surgery

Although there is no doubt that a large number of people benefit from heart surgery, critics of our health-care systems point out that the emphasis on the surgical treatment of the disease has three clear disadvantages. First, it attracts interest and financial resources away from the question of prevention. Second, it causes the costs of general hospital care to rise. After hospitals buy the expensive equipment that is necessary for modern heart surgery, they must try to recover the money they have spent. To do this, they raise costs for all their patients, not just those patients whose treatment requires the equipment. The third disadvantage is that doctors are encouraged to perform surgery—even on patients for whom an operation is unnecessary—because the equipment and surgical expertise is available. A federal government office recently concluded that major heart surgery was often performed even though its chances of success were low. In one type of heart surgery, for example, only 15 percent of patients benefited from the surgery. However, more than 100,000 of these operations are performed in the United States every year.

Pakenham, J. Making Connections, CUP

1. Identify the key idea.

Choose the sentence that best expresses the main idea of this passage.

a. People can reduce their chances of heart disease by exercising regularly, by not smoking, and by paying attention to good nutrition.

b. Modern technology is allowing doctors to perform new types of surgery on people who are suffering from heart disease.

c. In the West, especially in the United States, we tend to emphasize the surgical treatment of heart disease; this has a number of clear disadvantages.

2. Task

1. Everyone is satisfied with the way Western health-care systems are attacking the problem of heart disease. True / False

2. Western health-care systems are spending too much money to educate people about the causes of heart disease. True / False

3. According to the critics of the U.S. health-care system, where does more emphasis need to be placed?
   a. on preventing heart disease
   b. on treating heart disease
   c on developing new surgical techniques for heart operations d. on buying high-technology equipment for heart surgery

4. What is not true about heart surgery in the United States?
   a. It helps some patients.
   b. It is now being performed more often than in the past.
   c It keeps medical costs down.

5. What effect, or effects, is modern technology having on medicine?
   a. It is a factor in the rising costs of medical treatment.
   b It has clearly helped save the lives of patients.
   c. It makes some operations impossible.

Source: Pakenham, J. Making Connections, CUP

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