Teach, *continued*

READING TOOLBOX

Recognizing Main Ideas Three major controllable risk factors for cardiovascular diseases are physical inactivity, high blood cholesterol, and recreational drug use.

Teaching Key Ideas

Aerobic Exercise This type of exercise conditions the heart and lungs. During aerobic exercise, such as walking, tennis, and soccer, the cardiovascular system responds by increasing oxygen supply to the muscles. The heart works more efficiently because the amount of blood pumped with each heartbeat is increased by increasing the heart rate and/or the strength of the heartbeat.

Close

Formative Assessment

A risk factor for a heart attack that is not preventable is _____.

A. cigarette smoking (Incorrect. People can stop smoking.)
B. heredity (Correct! We cannot change our genes.)
C. high blood pressure (Incorrect. Diet and exercise can reduce it.)
D. high cholesterol (Incorrect. Diet and exercise can reduce it.)

Answers to Caption Questions

Figure 11: Exercise strengthens the heart and helps to decrease the amount of fatty materials in the blood vessels.



Figure 11 Regular exercise is a great way to prevent cardiovascular disease. **Why do you think exercise can make your cardiovascular system healthier?**

READING TOOLBOX

Recognizing Main Ideas Read the paragraph titled "Controllable Risk Factors." Write down the main idea of this paragraph.

Preventing Cardiovascular Disease

A number of risk factors for cardiovascular disease have been found. Some of these risk factors, such as age, gender, race, and genetics, cannot be changed. But reducing controllable risk factors can lower a person's chances of developing one of these conditions.

Controllable Risk Factors Three major controllable risk factors for cardiovascular diseases are physical inactivity, high blood cholesterol levels, and recreational drug use. Regular exercise helps prevent or control diabetes, obesity, and high blood pressure. All of these conditions can lead to cardiovascular disease. Regular exercise also helps lower blood cholesterol levels. A high blood cholesterol level often leads to arteriosclerosis. High cholesterol has no symptoms, so it is important to have your cholesterol level checked to find out if you need to take measures to control it. Cholesterol levels can be reduced by eating a diet low in saturated fats, maintaining a healthy weight, and exercising regularly, as shown in **Figure 11.**

Many drugs, including alcohol and tobacco, can cause cardiovascular disease. For example, drinking alcohol raises blood pressure and increases the risk of having a stroke. Intravenous drug abuse is linked with an increased risk of stroke and heart infections. And chemicals in tobacco smoke lower the amount of oxygen in the blood, promote the development of arteriosclerosis, start clot formation, and reduce beneficial cholesterol levels.

Healthy Lifestyle **The most important ways to prevent cardiovascular disease are to maintain a healthy diet, exercise regularly, and avoid tobacco and alcohol use.** These are all practices necessary for a healthy lifestyle. Having regular medical checkups, which include screening for high blood pressure, high blood cholesterol, and diabetes, are also important ways to identify and control your risks and help you live a long and healthy life.

Reading Check ***Make a list of three changes that you can make to your lifestyle to prevent cardiovascular disease.***

Section 2 Review

KEY IDEAS

1. **Explain** how high blood pressure and arteriosclerosis can lead to other cardiovascular diseases.
2. **Describe** how a heart attack can happen.
3. **State** the risk factors for cardiovascular disease that can be reduced by regular physical activity.

CRITICAL THINKING

4. **Inferring Relationships** Most medical professionals measure a patient's blood pressure in an artery in the upper arm. Explain why this is the best location to measure a person's blood pressure.
5. **Inferring Conclusions** Why is it important to have regular checkups by your doctor even if you feel healthy?

WRITING FOR SCIENCE

6. **Writing a List** Suppose that you have a friend who is overweight, eats a lot of junk food, and rarely exercises. Prepare a list of five things that your friend should know about his or her risk of developing cardiovascular disease. Prepare another list of five things that your friend could do to reduce his or her risk of developing one of these diseases.

Answers to Section Review

1. Arteriosclerosis creates plaques that can block arteries. High blood pressure increases the chances that a plaque will break loose and block the blood flow to the heart (heart attack) or to the brain (stroke).
2. Answers may vary. Sample answer: An artery in the heart's wall becomes blocked with a blood clot, the cells fed by that artery begin to suffocate, and a heart attack occurs.
3. high blood cholesterol, diabetes, obesity, high blood pressure
4. The artery there is close to the heart, which generates the pressure in the artery.
5. Some risk factors and some cardiovascular diseases may produce no symptoms for many years, even though they are causing damage. Identification of a risk factor can lead a person to modify his or her behaviors that are likely contributing to the condition.
6. Answers will vary but should demonstrate an understanding of the material presented in this section.