

Tobacco



**NO
SMOKING:
LUNGS AT
WORK**

**S
M
GLAM**

- Lesson 1** The Effects of Tobacco Use
- Lesson 2** Choosing to Live Tobacco Free
- Lesson 3** Promoting a Smoke-Free Environment



Which Antismoking Ads Are Most Effective with Teens?

Antismoking campaigns use satire or recite facts to influence teens not to smoke. These ads may be sponsored by

- ▶ nonprofit organizations.
- ▶ government agencies.
- ▶ tobacco companies.

Visit the Eye on the Media section at health.glencoe.com to learn more about this topic.

SMOKING
IS
NOT
MOROUS

FOLDABLES™ Study Organizer

Before You Read

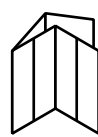
Make this Foldable to help you organize what you learn about the effects of tobacco use. Begin a sheet of plain 8½" x 11" paper or a sheet of notebook paper.

▶ Step 1



Fold a sheet of paper in half along the long axis.

▶ Step 2



Fold into fourths, then again into eighths.

▶ Step 3

Unfold and cut up the fold lines on the front flap to create eight tabs. Label as shown.

Addictive Drug
Nicotine
Stimulant
Carcinogen
Tar
Carbon Monoxide
Smokeless Tobacco
Leukoplakia

As You Read

As you read and discuss the material in the chapter, use your Foldable to define terms and list examples under the appropriate tabs.

SPOTLIGHT ON HEALTH

Using Visuals. Using tobacco can seriously damage a person's health. What strategies can you use to prevent the use of tobacco?

The Effects of Tobacco Use

Guide to Reading

Building Vocabulary

As you read this lesson, write each new highlighted term and its definition in your notebook.

- ▶ addictive drug (p. 540)
- ▶ nicotine (p. 541)
- ▶ stimulant (p. 541)
- ▶ carcinogen (p. 541)
- ▶ tar (p. 541)
- ▶ carbon monoxide (p. 541)
- ▶ smokeless tobacco (p. 542)
- ▶ leukoplakia (p. 542)

Focusing on the Main Ideas

In this lesson, you will learn how to:

- ▶ List harmful substances in tobacco and tobacco smoke.
- ▶ Examine the harmful effects of tobacco use on body systems.
- ▶ Compare the physical, mental, social, and legal consequences of tobacco use.

Reading Strategy

Organize Information

- ▶ As you read, create a list of some of the short-term and long-term effects of using tobacco.



Write a short paragraph describing why you think some people continue to use tobacco despite the health effects.

Tobacco products, which are made from the leaves of tobacco plants, contain nicotine. Experts say that nicotine is more addictive than heroin or cocaine.

Analyze the harmful physical and mental consequences of tobacco.



Trends in tobacco use are changing, and that's good news for public health, according to the American Lung Association. The public is becoming more aware of the health costs of tobacco use, and more individuals are making the choice to be tobacco free.

Tobacco Use—A Serious Health Risk

According to the Surgeon General, tobacco use, particularly smoking, is the number one cause of preventable disease and death in the United States. Because tobacco use has been linked to many health risks, the government requires that all tobacco products carry warning labels. Avoiding *all* forms of tobacco can prevent many serious health problems. Still, every day some teens begin to smoke, chew, or dip tobacco. Many people begin to use tobacco products thinking that they can quit whenever they want to. Tobacco use can be habit-forming, but like other chemical dependencies, it is treatable.

Nicotine

One of the reasons that tobacco users find it difficult to quit is that tobacco contains an **addictive drug**, a substance that causes



physiological or psychological dependence. All tobacco products contain **nicotine**, the addictive drug found in tobacco leaves. Nicotine is classified as a **stimulant**—a drug that increases the action of the central nervous system, the heart, and other organs. Nicotine raises blood pressure, increases heart rate, and contributes to heart disease and stroke. Once addicted, people need more and more tobacco to satisfy the craving for nicotine.

Cigarette Smoke—A Toxic Mixture

Not only is tobacco addictive, but the smoke from burning tobacco is toxic. In 1992 the Environmental Protection Agency classified environmental tobacco smoke, or secondhand smoke, as a Group A carcinogen. This is the most dangerous class of carcinogen. A **carcinogen** is a cancer-causing substance. Other compounds in tobacco smoke are described below.

Tar and Carbon Monoxide

Cigarette smoke contains **tar**, a thick, sticky, dark fluid produced when tobacco burns. As tar penetrates the smoker's respiratory system, it destroys cilia, tiny hairlike structures that line the upper airways and protect against infection. Tar damages the alveoli, or air sacs, which absorb oxygen and rid the body of carbon dioxide. It also destroys lung tissue, making the lungs less able to function. Lungs damaged by smoking are more susceptible to diseases such as bronchitis, pneumonia, emphysema, and cancer.

Carbon monoxide, another compound found in cigarette smoke, is a colorless, odorless, and poisonous gas that is taken up more readily by the blood than oxygen. Carbon monoxide replaces oxygen in the blood, thereby depriving the tissues and cells of oxygen. It also increases the risk of high blood pressure, heart disease, and hardening of the arteries.

Harmful Effects of Pipes and Cigars


Like smoking cigarettes, smoking pipes or cigars presents major health risks. Cigars contain significantly more nicotine and produce more tar and carbon monoxide than cigarettes do. One cigar can contain as much nicotine as a pack of cigarettes. Pipe and cigar smokers have an increased risk of developing cancers of the lip, mouth, and throat.

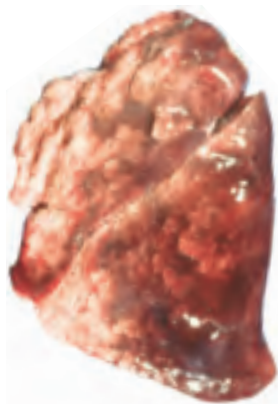
Did You Know?

Specialty cigarettes carry many health risks.

- Testing has shown that imported cigarettes contain two to three times the amount of tar and nicotine found in American cigarettes.
- Smokers of low-nicotine, low-tar cigarettes smoke more and inhale more deeply to maintain their body's accustomed nicotine level.
- Bidis and clove cigarettes can contain up to seven times as much nicotine and twice as much tar as regular cigarettes.



 Cigarettes contain 43 known carcinogens, including cyanide, formaldehyde, and arsenic. They also contain poisonous chemicals used in insecticides, paint, toilet cleaners, antifreeze, and explosives. *How can you use this knowledge to help others stay tobacco free?*



Your decision not to smoke can help keep your lungs healthy. Compare the healthy lung (top) with the one damaged from smoking (bottom). Discuss how tar and other components in tobacco smoke affect the respiratory system and its function.



Identify Name some of the drugs and compounds in tobacco and tobacco smoke.

Harmful Effects of Smokeless Tobacco

Smokeless tobacco is tobacco that is sniffed through the nose, held in the mouth, or chewed. These products are not a safe alternative to smoking. Like tobacco that is smoked, smokeless tobacco contains nicotine in addition to 28 carcinogens, all of which are absorbed into the blood through the mucous membranes and the digestive tract.

Because smokeless tobacco is often held in the mouth for a length of time, it delivers both nicotine and carcinogens to the body at levels that can be two to three times the amount delivered by a single cigarette. As a result, people who chew eight to ten plugs of tobacco each day take in the same amount of nicotine as a two-pack-a-day smoker. Smokeless tobacco is as addictive as smoked tobacco. In addition, it irritates the mouth's sensitive tissues, causing **leukoplakia**, or thickened, white, leathery-looking spots on the inside of the mouth that can develop into oral cancer. Cancers of the throat, larynx, esophagus, stomach, and pancreas are also more common among users of smokeless tobacco.

How Tobacco Affects the Body

For several decades health officials have warned the public about the health risks of tobacco. The chemicals in tobacco products can cause damage to many body systems. **Figure 21.1** on page 543 illustrates some of the effects of tobacco on the body.

Short-Term Effects of Tobacco Use

Some effects of tobacco use can occur immediately after using the product. Here are some of these short-term effects:

- ▶ **Changes in brain chemistry.** The addictive properties of nicotine cause the body to crave more of the drug. The user may experience withdrawal symptoms such as headaches, nervousness, and trembling as soon as 30 minutes after his or her last tobacco use.
- ▶ **Increased respiration and heart rate.** Breathing during physical activity becomes more difficult; and in some cases, nicotine may cause an irregular heart rate.
- ▶ **Dulled taste buds and reduced appetite.** Tobacco users often lose much of their ability to enjoy food.
- ▶ **Bad breath and smelly hair, clothes, and skin.** These unattractive effects may cause people to avoid the tobacco user.

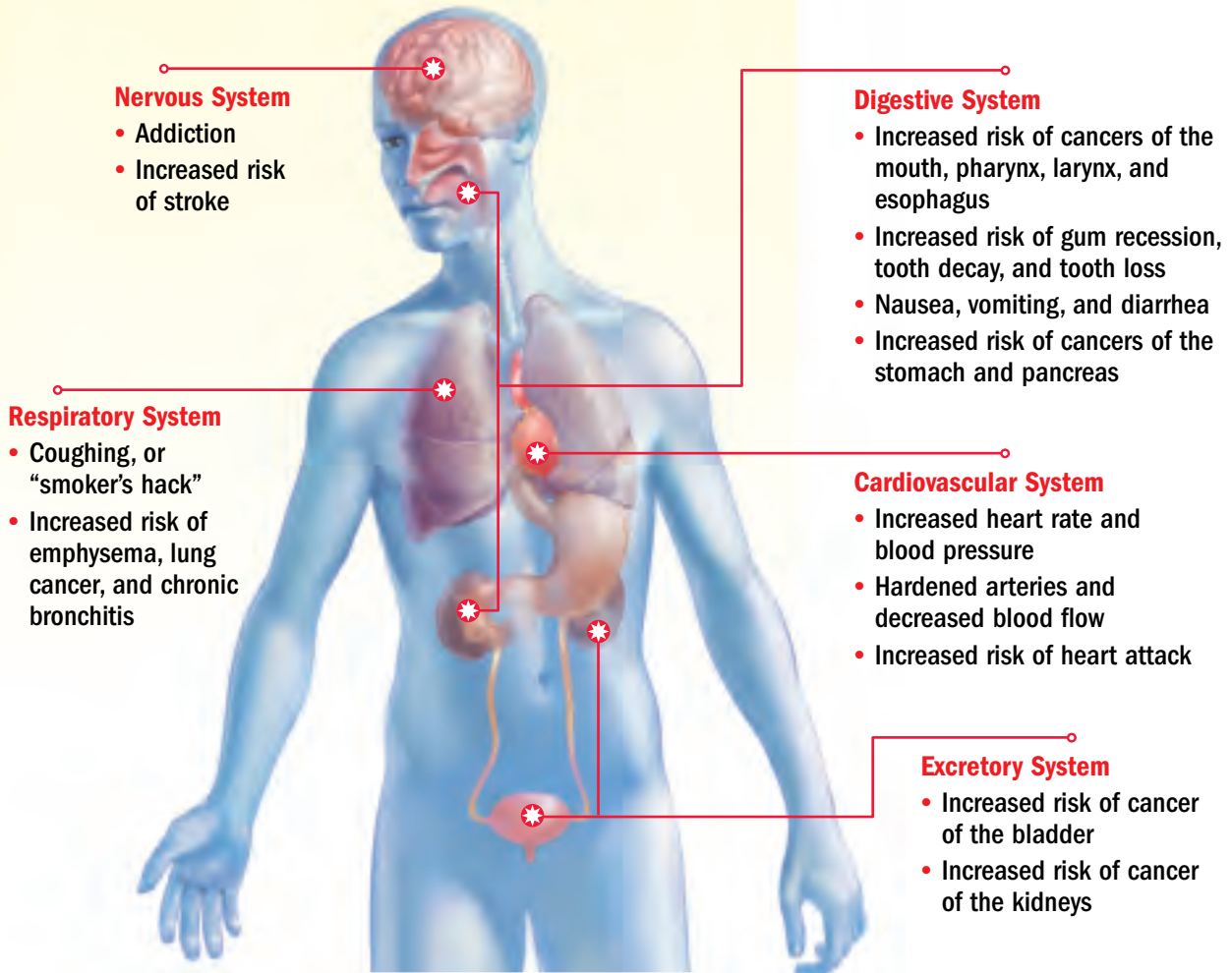
Long-Term Effects of Tobacco Use

Over time, tobacco use takes a serious toll on many body systems, including the respiratory, cardiovascular, and digestive

FIGURE 21.1

HEALTH RISKS OF TOBACCO

Tobacco use damages several important body systems, causing severe health problems that may result in death.



systems. The immune system is weakened, making the body more vulnerable to disease. Long-term tobacco use can lead to health problems such as:

- ▶ **Chronic bronchitis.** Repeated tobacco use can damage the cilia in the **bronchi** until the cilia no longer function. This leads to a buildup of tar in the lungs, causing chronic coughing and excessive mucus secretion.
- ▶ **Emphysema.** This is a disease that destroys the tiny air sacs in the lungs. The air sacs become less elastic, making it more difficult for the lungs to absorb oxygen. A person with advanced emphysema uses up to 80 percent of his or her energy just to breathe.

Reading Check

Cause and Effect What happens to a person's health when tobacco has damaged several body systems?

- ▶ **Lung cancer.** When the cilia in the bronchi are destroyed, extra mucus cannot be expelled. Cancerous cells can grow in these conditions, block the bronchi, and move to the lungs. Unless detected early, lung cancer causes death.
- ▶ **Coronary heart disease and stroke.** Nicotine constricts **blood vessels**, which cuts down on circulation, or blood flow. Nicotine also contributes to plaque buildup in the blood vessels, which can lead to hardened arteries, a condition called arteriosclerosis. Arteries may become clogged, increasing the risk of heart attack and stroke. The risk of sudden death from

Resilient TEENS

In sixth grade, Roni Dixon was hanging out with what she calls an "older crowd." She started smoking cigarettes in an effort to fit in.

Then something happened that changed Roni's perspective. She nearly passed out after a cross-country race at school. "Mom always said I'd have to choose between sports and smoking," says Roni. She was so frightened by her inability to breathe that she vowed never to smoke again.

Roni not only kept her promise never to smoke but began focusing on school and volunteer work in the community. Today, she belongs to 10 different organizations. "I want people to know that low-income people in the not-so-good communities can get good grades, be active in programs, and go to college."

Roni dreams of returning to her hometown and helping kids turn their lives around. "If I could do it, they can too," she says. "It's all about thinking positively and believing in yourself."




"Mom always said I'd have to choose between sports and smoking."

Reading Check

Describe What did you learn about the effects of smoking on athletes from Roni's story?

heart disease is three times greater for smokers than for nonsmokers. A nonsmoker knows how to delay the onset of and reduce the risk for potential health problems during adulthood.

 **Most teens choose healthy alternatives and avoid the harmful effects of tobacco use.**

Other Consequences

Tobacco use brings many other serious consequences, especially for teens.

- ▶ **Legal consequences.** Selling tobacco products to persons under the age of 18 is illegal in all states. Schools prohibit the use of tobacco products on school property, and a student may be suspended or expelled for breaking these rules.
- ▶ **Social consequences.** Many people find secondhand smoke and the smell of tobacco offensive, so tobacco users may be excluded from social gatherings.
- ▶ **Financial consequences.** Use of tobacco products can be very expensive. Someone who smokes a pack of cigarettes a day can spend more than \$2,000 each year just on cigarettes. According to a recent report, the total economic cost of tobacco use to taxpayers in the United States, including medical costs, is about \$97 billion a year.



LESSON

1

REVIEW

Reviewing Facts and Vocabulary

1. What is *nicotine*? Why is it harmful?
2. Explain why cigarette smoke is toxic.
3. List the short-term and long-term effects of tobacco use.

Thinking Critically

4. **Applying.** Examine the effects of tobacco use on the respiratory and cardiovascular systems.
5. **Synthesizing.** Analyze the harmful effects of tobacco, such as physical, mental, social, and legal consequences.

Applying Health Skills

Advocacy. Help others recognize how tobacco use can harm body systems. Write a letter to your parents or other adult members of your family explaining what damage can occur as a result of using tobacco products.

After You Read

Cause and Effect. Create a T chart. On one side, list factors about tobacco use and cigarette smoke. On the other side, list the ways that tobacco affects the body and other consequences of tobacco use.



Choosing to Live Tobacco Free

Guide to Reading

Building Vocabulary

As you read this lesson, write each new highlighted term and its definition in your notebook.

- ▶ nicotine withdrawal (p. 548)
- ▶ nicotine substitute (p. 549)

Focusing on the Main Ideas

In this lesson, you will learn how to:

- ▶ Discuss the benefits of a tobacco-free lifestyle.
- ▶ Develop strategies for preventing tobacco use.
- ▶ List community services that relate to the prevention of tobacco-related diseases.

Reading Strategy

Explain

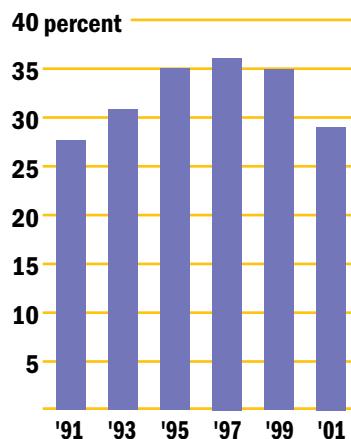
- ▶ Write a brief paragraph summarizing whether you believe tobacco to be addictive. Defend your belief.



Make a list of all the negative effects of tobacco use that you can think of.

T After peaking in 1997, teen smoking has fallen sharply. *What has contributed to the drop in teen smoking in recent years?*

High school students who reported smoking a cigarette in the last 30 days



Source: Centers for Disease Control and Prevention, 2001

Knowing the health risks of tobacco use has helped people make the healthful decision to stay tobacco free.

Reduced Tobacco Use Among Teens

According to the Centers for Disease Control and Prevention (CDC), smoking rates among teens have fallen sharply in recent years. Reports show that nationally 22 percent of high school students smoke. This is down from 36 percent in 1997. Some factors contributing to this ongoing trend include:

- ▶ **Antismoking campaigns.** In 1998 tobacco companies and 46 states reached a legal settlement that restricted tobacco advertising and promotion. Tobacco companies are now required to fund ads that discourage young people from smoking.
- ▶ **Financial cost.** Tobacco use is expensive. Many teens find that they would rather spend their money on healthier alternatives.
- ▶ **Societal pressures.** Legislative acts have limited smoking in public places. More young people are growing up in an environment that is less tolerant of secondhand smoke.
- ▶ **Family influence.** Many teens avoid tobacco use because their parents strongly disapprove of the use of tobacco products.

Benefits of Living Tobacco Free

People who have never used tobacco and people who have quit enjoy the many benefits of a tobacco-free lifestyle. Avoiding tobacco lowers the risk of lung cancer, heart disease, and stroke. It improves cardiovascular endurance and lung function, which increases physical fitness and enhances athletic performance.

Living tobacco free has mental, emotional, and social benefits, too. Tobacco-free people have a sense of freedom because they know that they are not dependent on an addictive substance. They experience less stress because they don't have to worry about health-related problems caused by tobacco use. A tobacco-free lifestyle also helps a person look and feel better. Having higher energy levels, healthier skin, fresher breath, and better-smelling clothes and hair increases confidence in social situations. Health-literate teens recognize that tobacco use can impact personal goals, educational opportunities, and occupational choices.

Strategies for Preventing Use of Tobacco

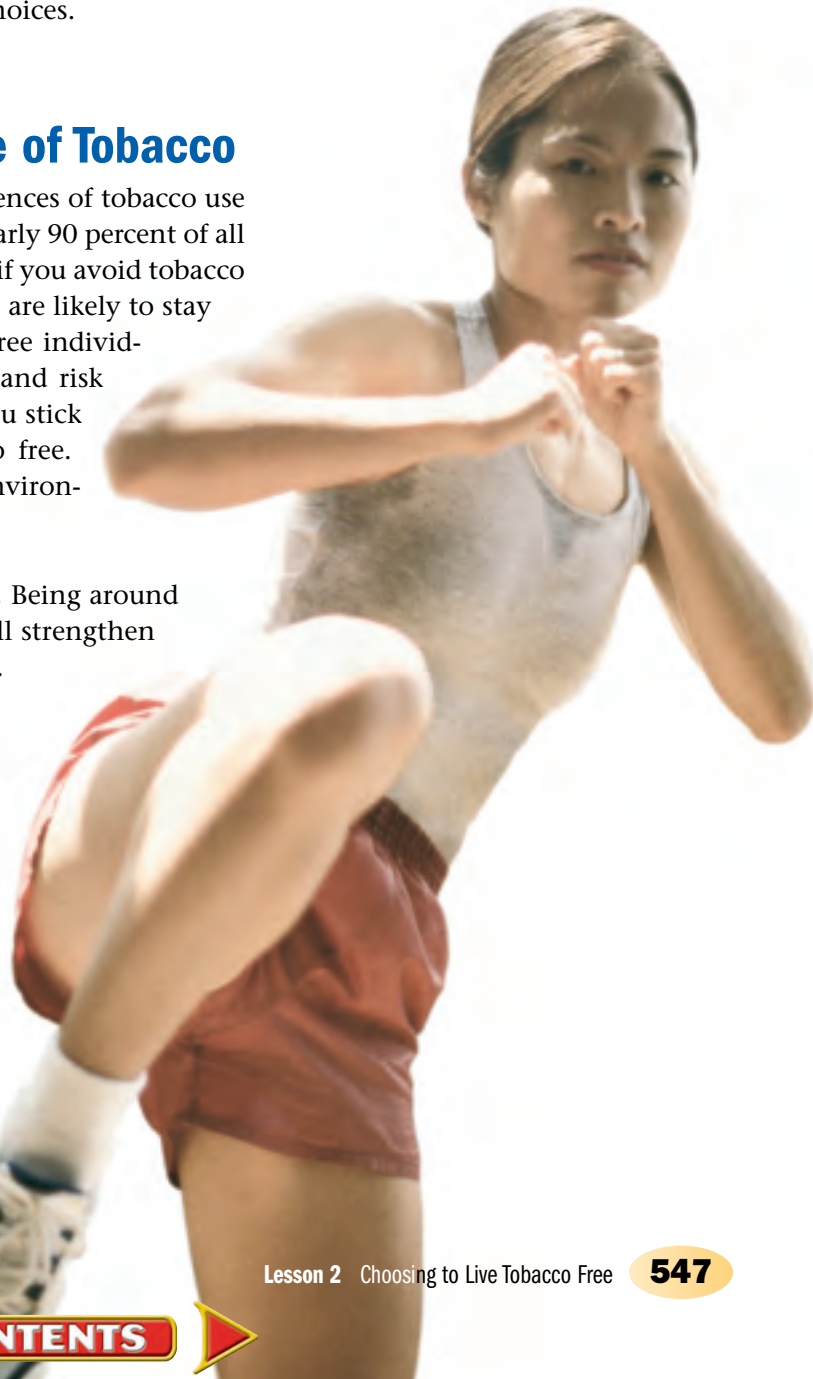
The best way to avoid the negative consequences of tobacco use is never to start using tobacco products. Nearly 90 percent of all adult smokers started when they were teens, so if you avoid tobacco use during middle school and high school, you are likely to stay tobacco free throughout your life. A tobacco-free individual knows strategies for health enhancement and risk reduction. Below are some strategies to help you stick to your decision to become and stay tobacco free. Health-literate teens know how the social environment influences the health of the community.

- ▶ **Choose friends who don't use tobacco.** Being around people who share your values and beliefs will strengthen your commitment to lead a tobacco-free life.
- ▶ **Avoid situations where tobacco products may be used.** By staying away from such situations, you reduce the chance of being pressured to use tobacco.
- ▶ **Practice and use refusal skills.** Prepare in advance what you will say if someone offers you tobacco. Your refusal may be a simple "No thanks," or you may give a reason, such as, "No, I need to stay fit for the track competition." Be assertive, and leave the situation if the pressure continues.



Examine What are some of the benefits of a tobacco-free lifestyle?

- ▶ **A tobacco-free lifestyle improves heart and lung function, which helps your athletic performance.**
List some other benefits of living tobacco free.





What Happens When a Smoker Quits?

Benefits of Quitting:

- ▶ **Within 20 minutes** blood pressure and pulse rates drop. Body temperature in limbs returns to normal.
- ▶ **Within eight hours** oxygen levels return to normal.
- ▶ **In 24 hours** the chance of heart attack begins to decrease.
- ▶ **In 48 hours** nerve endings begin to regrow. Senses of taste and smell improve.
- ▶ **In three days** breathing becomes easier as lung capacity increases.
- ▶ **Within two weeks to three months** lungs function up to 30 percent better.
- ▶ **Within one to nine months** lung cilia regrow, and coughing, sinus congestion, and shortness of breath decrease.
- ▶ **In one year** the risk of coronary heart disease is cut in half.
- ▶ **In five years** the risk of lung cancer and cancers of the mouth, throat, and esophagus is reduced by 50 percent. Stroke risk is also decreased.
- ▶ **In ten years** the risk of cancer of the bladder, kidney, cervix, and pancreas decreases.

Why Some Teens Use Tobacco

In spite of the many benefits of a tobacco-free lifestyle, some teens choose not to resist the pressure to start smoking. Some teens think that smoking will help them control their weight or cope in times of stress and crisis. Other teens believe that smoking will make them seem mature and independent. These beliefs are far from the truth about tobacco use. Because smoking reduces the body's capacity for physical activity, it may actually lead to weight gain. In addition, health problems and nicotine dependency will increase the tobacco user's stress level.

Other reasons for teen tobacco use are peer pressure and media influences. Some teens try their first cigarette with a friend who already smokes. Other teens may try tobacco to imitate, or model, celebrities or other adults who smoke. Some teens are influenced by ads that depict tobacco use as glamorous and sophisticated.

Being aware of these influences and being informed about the harmful effects of tobacco can help teens resist the pressure to use tobacco products. Teens who analyze these influences realize that most people who use tobacco products suffer from health problems and wish they could quit the habit.

Reasons to Give Up Tobacco Use

Many teens who start using tobacco do decide to quit. Here are just a few of the reasons they cite:

- ▶ They begin to have health problems, such as asthma or respiratory infections.
- ▶ They have the desire, will, and commitment to stop.
- ▶ They realize how expensive the habit is.
- ▶ They realize that using tobacco can lead to other risky behaviors, such as the use of alcohol and other drugs.
- ▶ They find it difficult to purchase tobacco products because selling tobacco products to persons under the age of 18 is illegal in all 50 states.
- ▶ They realize the damaging effects of secondhand smoke and don't want to harm their families and friends.

Stopping the Addiction Cycle

Millions of people have succeeded in their effort to quit tobacco use. Overcoming nicotine addiction can be difficult, but it's not impossible. Most people who stop using tobacco will experience symptoms of **nicotine withdrawal**, *the process that occurs in the body when nicotine, an addictive drug, is no longer used*. The cravings

and discomfort caused by these symptoms are temporary, and smokers trying to quit should remember that success will lead to better health.

Withdrawal

Symptoms of nicotine withdrawal include irritability, difficulty concentrating, anxiety, sleep disturbance, and cravings for tobacco. To relieve the symptoms, some people use a **nicotine substitute**, *a product that delivers small amounts of nicotine into the user's system while he or she is trying to give up the tobacco habit*. Many nicotine substitutes are available, including gum, patches, nasal sprays, and inhalers. Nicotine gum products are OTC products; the other nicotine substitutes require a doctor's prescription.



Speculate The nicotine in tobacco is an addictive drug. How difficult do you think it is for people to stop using tobacco?

Real-Life Application

Help a Friend STOP Using Tobacco

Studies have shown that most people who try to quit have a greater success rate if they have support from others. A smoke-free advocate knows positive ways to influence others to make positive choices. Use the **STOP** approach to help someone stop using tobacco.

Show concern. Approach the person in a caring, nonjudgmental manner. Use "I" messages to let the person know that you care about his or her health.

Take time to plan. Putting a plan on paper makes it easier to set objectives. You may need to help the person create a physical activity program. Set a date to quit, locate formal tobacco cessation programs, and devise strategies to cope with tobacco cravings.

Offer support. Put the plan into action. For example, you might bring the person sugarless gum. Ride a bike, shoot hoops, or take a walk together to help him or her get physical activity. Arrange to attend a class together to learn relaxation techniques.

Promote success. Let the person know that you are proud of him or her for quitting. Celebrate each week of abstinence. If the person relapses, continue to encourage him or her. Keep in touch with the person after he or she has quit.

ACTIVITY

Write a plan that addresses each of the **STOP** guidelines. If you have a family member or a friend who uses tobacco, create the plan for that person, or work with a classmate who knows someone who uses tobacco. Make sure that your plan contains messages that promote the health benefits of stopping tobacco use. Consider the person, and tailor the plan to that person's needs and interests.



TOPIC Helping People Quit

Go to health.glencoe.com and click on Web Links for information about the American Lung Association's programs to help people quit smoking.

ACTIVITY Using these links, identify a program you think would be particularly effective in helping people quit smoking. Write a short paragraph explaining your choice.

Getting Help—Tips for Quitting

People who are trying to give up tobacco can try the following strategies:

- ▶ **Prepare for the day.** Set a target date for quitting.
- ▶ **Get support and encouragement.** Support from family, friends, and peers will increase a person's chance of success.
- ▶ **Identify available health-related services in the community.** It may be necessary to seek advice from a doctor, enroll in a tobacco cessation program, or join a support group. Other helpful resources include the American Lung Association and local hospitals.
- ▶ **Replace tobacco use with healthier alternatives.** Sugarless gum, carrots, and cinnamon sticks are substitutes that people can use when they feel an urge to have a cigarette.
- ▶ **Change daily behavior.** Avoiding other tobacco users, preparing one's environment for a tobacco-free life, and changing daily routines can also help smokers avoid their tobacco triggers.
- ▶ **Engage in healthful behaviors.** Physical activity, good nutrition, stress-management techniques, and abstinence from alcohol and other drugs will help people through the withdrawal process.

Reviewing Facts and Vocabulary

1. List three benefits of staying tobacco free.
2. List four strategies for preventing tobacco use.
3. What is *nicotine withdrawal*, and what are *nicotine substitutes*?

Thinking Critically

4. **Evaluating.** Why might tobacco advertisements target teens?
5. **Synthesizing.** Identify available health-related services in the community that relate to the prevention of tobacco-related disease, and explain how helping people quit tobacco use promotes health.

Applying Health Skills

Refusal Skills. Make a two-column chart. In the first column, write five situations in which a teen might be pressured to use tobacco. In the second column, develop effective refusal statements and strategies for preventing the use of tobacco.

After You Read

Problems and Solutions. Many teens are faced with peer pressure to use tobacco. Make a T chart. On one side, list some of the reasons why teens might use tobacco. On the other side, list strategies for preventing and quitting tobacco use.



Promoting a Smoke-Free Environment

Guide to Reading

Building Vocabulary

As you read this lesson, write each new highlighted term and its definition in your notebook.

- ▶ environmental tobacco smoke (ETS) (p. 551)
- ▶ mainstream smoke (p. 551)
- ▶ sidestream smoke (p. 551)

Quick Write

Write a brief paragraph describing the benefits of a smoke-free environment.

Focusing on the Main Ideas

In this lesson, you will learn how to:

- ▶ **Discuss** the harmful effects of tobacco on fetuses, infants, and young children.
- ▶ **Examine** laws, policies, and practices that help prevent tobacco-related disease.
- ▶ **Demonstrate** ways of reducing tobacco-related illnesses and working to meet the nation's health goals.

Reading Strategy

Organize Information

- ▶ Create a two-column table. Label one column Unborn Children and Infants. Label the other column Young Children. As you read, list some of the effects of environmental tobacco smoke on these groups.



- ▶ The dangers of ETS have prompted some states to pass laws that prohibit all tobacco use in public buildings. *What other measures can be taken to protect the health and well-being of nonsmokers?*

As more and more people become aware of the harmful effects of tobacco, efforts to curb tobacco use in public places are gaining ground. By participating in advocacy efforts to curb tobacco use in public places, teens show that they understand how the environmental conditions of the community influence the health of individuals.

Risks for Smokers and Nonsmokers

Both smokers and nonsmokers who breathe air containing tobacco smoke are at risk for health problems. **Environmental tobacco smoke (ETS)**, or secondhand smoke, is *air that has been contaminated by tobacco smoke*. Environmental tobacco smoke is composed of **mainstream smoke**, the smoke exhaled from the lungs of a smoker, and **sidestream smoke**, the smoke from the burning end of a cigarette, pipe, or cigar. Sidestream smoke is more dangerous than mainstream smoke because it has higher concentrations of carcinogens, nicotine, and tar.



Parents protect the health of their children by staying tobacco free. *Analyze the harmful effects of tobacco on the fetus.*

Effects of Smoke on Nonsmokers

Environmental tobacco smoke from cigarettes and cigars contains more than 4,000 different chemical compounds, 43 of which are identified as carcinogens. Inhaling this smoke either by smoking or by breathing in ETS brings these carcinogens into the body. ETS affects people of all ages, causing eye irritation, headaches, ear infections, and coughing. It worsens asthma conditions and other respiratory problems. Every year 3,000 people are diagnosed with lung cancer caused by secondhand smoke.

Effects of Smoke on Unborn Children and Infants

Choosing to live tobacco free is one of the best things a pregnant woman can do to make sure that her baby will be born healthy. Smoking during pregnancy can seriously harm the developing fetus. Nicotine passes through the placenta, constricting the blood vessels of the fetus. Carbon monoxide reduces the oxygen levels in the mother's and the fetus's blood. These negative effects increase the risk of impaired fetal growth, miscarriage, prenatal death, premature delivery, low birth weight, deformities, and stillbirths. The infant may also suffer from growth and developmental problems throughout early childhood.

Babies of smokers are two and a half times more likely to die of sudden infant death syndrome (SIDS). One study found that nearly 60 percent of all SIDS cases could be prevented if babies and pregnant females were protected from tobacco smoke. Infants exposed to ETS have an increased risk of asthma, tonsillitis, and respiratory tract infections.

Effects of Smoke on Young Children

Young children are also particularly sensitive to environmental tobacco smoke. Children of smokers are nearly twice as likely to be in poor health as those of nonsmokers. Consider these facts:

- ▶ Children of smokers tend to have a higher incidence of sore throats, ear infections, and upper respiratory problems than children of nonsmokers.
- ▶ Children who live with smokers have double the risk of developing lung cancer than children of nonsmokers.

Because children learn by example, it's not surprising that children of smokers are nearly three times as likely to smoke as children of nonsmokers. Being a positive role model is another good reason to make the choice to be tobacco free.



Compare and Contrast
What are the differences between mainstream and sidestream smoke?

Reducing Your Risks

What can you do to protect yourself from ETS? If you and your family want your home to be smoke free, politely ask visitors to refrain from smoking inside. If someone in your household smokes, open windows to allow fresh air to circulate, and request that certain rooms remain smoke free. Consider using air cleaners to help remove contaminants from the air. If you are visiting a home in which someone smokes, go outside or to another room. Ask to open the window slightly to provide fresh air. Suggest meeting elsewhere, such as in your home or at a library. In restaurants and other public places, request seating in a nonsmoking area. If no smoke-free area is available, go to another restaurant.

Reading Check

Infer Why is environmental smoke especially harmful to fetuses, infants, and young children?

Health Skills Activity

Communication: Avoiding Environmental Tobacco Smoke

You can protect your health and the health of others by asking smokers not to light up in your presence. Read the scenarios below, and practice communication skills by stating polite requests for a smoke-free environment.

Situation 1

You are at a wedding rehearsal dinner with relatives. Your favorite cousin, whom you haven't seen for a long time, is seated next to you. As you begin catching up on family news, your cousin lights a cigarette.

Situation 2

You and your friends have been waiting for 30 minutes to be seated in a restaurant. A table becomes available in the smoking section, where several people are smoking heavily. Your friends want to take it.



What Would You Do?

Using the communication skills you have learned, write a response to each scenario. Be prepared to role-play your response for the class.

1. Use "I" statements.
2. Keep your tone respectful.
3. Maintain appropriate body language.
4. Give reasons for your request.

Did You Know?



Statewide antismoking campaigns are effective in reducing smoking. For example, the number of smokers in California was reduced by 16 percent in the first four years of that state's campaign. The number of smokers in Massachusetts was reduced by 20 percent.

Toward a Smoke-Free Society

As people realize that smoking causes diseases and harms not only their own health but also the health of others, the drive to become a smoke-free society increases. Today's consumer understands how public health policies and government regulations influence health conditions. Many states have taken steps to prohibit smoking in all public buildings and private workplaces. Many people are promoting laws that would ban smoking and eliminate ETS in public places such as restaurants, civic buildings, business offices, and lobbies. Laws prohibiting the sale of tobacco products to minors are being strictly enforced. Tobacco licenses are being revoked when stores sell tobacco products to people under the age of 18.

Hands-On Health ACTIVITY

Smoking Out Underage Tobacco Sales

Federal law prohibits the sale of tobacco products to all persons under 18. In some states buyers must be 21. The easier it is to buy tobacco products, the more likely it is that teens will experiment with tobacco and become addicted. Promote health in your community by reminding peers that it's illegal for stores to sell tobacco products to minors.

What You'll Need

- information provided by your teacher
- poster board
- masking tape
- markers

What You'll Do

1. In a small group, use the information your teacher has provided on tobacco control in your state to answer these questions:
 - What is the legal age to purchase tobacco products?
 - What is the penalty for minors who use or possess tobacco products?

- What are the penalties for merchants who sell tobacco to minors?
- What is your state doing to curb underage tobacco sales?

2. With your group, discuss your findings. Recall signs you have seen that explain store policies regarding the sale of tobacco products. How do you think these signs affect teens who wish to purchase tobacco products?

Apply and Conclude

With your group, create a poster that is targeted at teens who wish to purchase tobacco products even though it is against the law. Include the responses to at least two of the questions you answered in the activity. Your poster should be attention-getting, persuasive, and accurate. Ask a local merchant to display your poster.


Increasingly, the law is taking into consideration the rights of the nonsmoker. Certain states have successfully sued tobacco companies to recover the cost of treating tobacco-related diseases. The money awarded in these cases is often used to fund statewide antismoking campaigns or to offset the medical costs related to tobacco use.

Working Toward National Health Goals

The Department of Health and Human Services has launched a program called *Healthy People 2010* to promote health and prevent disease nationwide. One of the nation's health goals, according to *Healthy People 2010*, is to reduce the number of people who use tobacco and of deaths associated with tobacco use. Decreasing tobacco use and reducing exposure to secondhand smoke are important steps in increasing the years of healthy life among people in the United States.

Your health as an individual, as well as the health of your family and community, are related to this national health objective. Become involved in activities that promote a healthy lifestyle, and encourage others to practice healthful behaviors, too. You can start a tobacco prevention program at school or join a youth group campaigning for stricter government control of tobacco and its availability.



 These teens are asking the storeowner to remove a tobacco ad because their state prohibits such ads from appearing within 1,000 feet of a school. **What other actions can teens take to promote health in their communities?**

LESSON

3

REVIEW

Reviewing Facts and Vocabulary

1. Define *mainstream smoke* and *sidestream smoke*. Explain what they have in common.
2. Explain how tobacco settlement money helps disease prevention and health promotion.
3. What strategies can you use to limit the amount of ETS you breathe?

Thinking Critically

4. **Evaluating.** Analyze the influence of laws on the health-related issue of teen tobacco use, and explain how this issue is related to disease prevention.
5. **Analyzing.** Analyze the harmful effects of certain substances and environmental hazards, such as environmental tobacco smoke, on fetuses, infants, and young children.

Applying Health Skills

Advocacy. You can help others make the decision to stay tobacco free. Using the goals of *Healthy People 2010*, create a pamphlet that will educate people about the harmful effects of tobacco use and secondhand smoke. Relate the nation's health goals and objectives for reducing tobacco-related illnesses to individuals, family, and community health in your pamphlet.

After You Read

Problems and Solutions. Create a two-column chart. On one side, list risks for smokers and nonsmokers. On the other side, list ways to work toward a smoke-free society.





Clearing the Air

A growing number of teen activists has declared a media war on big tobacco companies.

“Do you want to be deceived?” yells the speaker at the podium, 17-year-old Andy Berndt. “No!” roar the more than 700 teenage antismoking activists who have packed New Jersey’s Liberty Science Center. The shout seems loud enough to be heard all the way across the Hudson River—at Philip Morris’s Manhattan headquarters. That’s where this protest is aimed: at the giant cigarette companies that, the activists believe, target teen smokers.

A Stand Against Smoking

Each of the teens in the auditorium wears a white T-shirt declaring “Not for Sale.” This means that they can’t be bought by the millions of dollars tobacco companies spend every day advertising cigarettes. They’ve come here to declare something else—the creation of a statewide teen antitobacco group called REBEL (Reaching Everyone by Exposing Lies). It’s the newest in a pack of teen-led antismoking organizations starting up nationwide. Their mission: to teach teens not just about the health risks of smoking, but about the tactics tobacco companies use to hook young people on their products.

Recently “Not for Sale” commercials began airing on MTV and Nickelodeon.

Over the last decade, the audience meant to benefit from that message has been growing. Every day, 6,000 teen-agers try smoking for the first time and 1,200 Americans die from tobacco-related disease. Studies show that nearly 80 percent of regular smokers light up their first cigarette by their 18th birthday.

Andy Berndt doesn’t think that lectures about health risks that can occur years down the road will convince teens to stop smoking. “No adult can make kids understand the issues like another kid,” he says. “If we educate other kids about all the ways the tobacco industry is trying to deceive them, we’ll win the war.” ■

TIME
to THINK...

About
Smoking

By yourself or in a small group, create your own antismoking advertisement for a magazine or a newspaper. Pay careful attention to the message you want to send by your choice of words and images. Share your ad with the class.

Health Skills Application



1. Decision Making. What would you do if a close friend wanted to use tobacco to relieve stress? Use the six steps of decision making to form a plan of action. (LESSON 1)



2. Accessing Information. Conduct research to identify, describe, and assess available health services in the community that provide tobacco cessation programs to prevent disease and promote health. Make a list of resources that will provide help for tobacco users who want to quit. (LESSON 2)



3. Communication Skills. What would you say to a pregnant female to encourage her to live tobacco free? (LESSON 3)



4. Advocacy. Write a letter to a state or local official expressing your opinions on what the government should do to promote the health of its citizens. Include in your letter information on the benefits of a smoke-free environment for all people. (LESSON 4)

CAREER Corner

Respiratory Therapist

Do you enjoy interacting with people of all ages? Are you interested in working in the medical field? A respiratory therapist works with patients who need respiratory care. Therapists provide temporary relief to patients suffering from asthma or emphysema and emergency care to patients who are suffering from a heart attack, stroke, drowning, or shock.

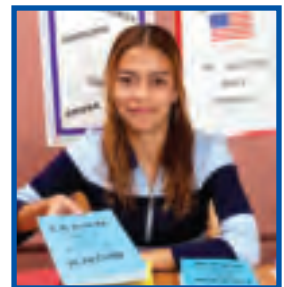


Formal training is required to enter this profession. Training programs vary in length and in the credentials and degrees awarded. Find out more about this and other health careers by clicking on Career Corner at health.glencoe.com.

BEYOND the Classroom

Parent Involvement

Advocacy. With your parents, brainstorm ways your family can help promote a smoke-free environment in your community. What actions can you take to contribute to a healthy environment for all people in your community?



School and Community

Antitobacco Programs. Work with classmates, teachers, and administrators to start a Teens Against Tobacco Use (TATU) program at your school. As a group, design a plan for promoting health in your school and community by reducing tobacco use. Ask members of the community to support your goals.

After You Read

Use the notes you have taken in your Foldable to review what you have learned. Use the vocabulary terms to write an expository paragraph on the effect of tobacco use.



► **EXPLORING HEALTH TERMS** Answer the following questions on a sheet of paper.

Lesson 1 Match each definition with the correct term.

stimulant	carcinogen
addictive drug	smokeless tobacco
carbon monoxide	nicotine
tar	leukoplakia

1. The addictive drug in tobacco.
2. A drug that increases the action of the central nervous system, the heart, and other organs.
3. A cancer-causing substance.
4. A thick, sticky, dark fluid produced when tobacco burns.

Lesson 2 Fill in the blanks with the correct term.

nicotine withdrawal
nicotine substitute

(5) is the process that occurs in the body when nicotine is no longer used. A (6) can be used to ease the side effects associated with this process.

Lesson 3 Replace the underlined words with the correct term.

mainstream smoke
sidestream smoke
environmental tobacco smoke (ETS)

7. Sidestream smoke is another name for secondhand smoke.
8. Environmental tobacco smoke is the smoke exhaled from the lungs of a smoker.
9. Mainstream smoke is tobacco smoke from the burning end of a cigarette, pipe, or cigar.

► **RECALLING THE FACTS** Use complete sentences to answer the following questions.

1. What effect does tar in cigarette smoke have on the respiratory system?
2. What effect does carbon monoxide have on the body?
3. Examine the harmful effects of tobacco use on the digestive and excretory systems.
4. How does smoking lead to lung cancer?
5. How do tobacco companies encourage teen tobacco use?
6. List two refusal skills you can use to say no to tobacco.
7. What are some reasons why teens stop using tobacco?
8. Identify three sources of help for people who want to quit tobacco use.
9. List three health problems associated with environmental tobacco smoke.
10. How does ETS harm infants and young children?
11. How do state laws discourage teen smoking?
12. Describe the goals of *Healthy People 2010* that relate to tobacco use.



▶ WRITING CRITICALLY

- 1. Expository.** Write an antismoking advertisement targeted at teens that persuades them to abstain from smoking and tobacco use. In your ad, explain the harmful effects and health risks of tobacco use.
- 2. Persuasive.** Write a letter to the editor stating your opinion on teen smoking and urging teens not to use tobacco products. Conduct research on tobacco marketing. Is it legal to market tobacco products to teens? Do tobacco companies market directly to teens? Are tobacco products marketed indirectly to teens? Include facts in your letter. Support your statements with evidence that provides logical reasons, examples, and quotes from experts.

Standardized Test Practice



The purpose of persuasive writing is to convince the reader, or in this case, the listener, to accept your opinion and take a specific action. The *Writing Situation* focuses on the effects of smoking on public playgrounds. The *Directions for Writing* suggests that you think about these effects and then write a speech that will convince people to accept your views and change their behavior if necessary.

PROMPT

Writing Situation: You have been asked to give a speech urging people to stop smoking on public playgrounds.

Directions for Writing: Think about effects of smoking on public playgrounds—both on the space and on the children who use the playground.

Now, write to convince people to accept your point of view and change their behavior. Be prepared to present your ideas orally to the class or to a group of adults in the community.