

What Tobacco Does to the Body

Every day in the United States at least 1,000 people die from diseases caused from using tobacco. Cigarette smoking is responsible for respiratory and circulatory diseases, and this impacts a person's level of fitness, performance, and overall health.

HEALTH TERMS

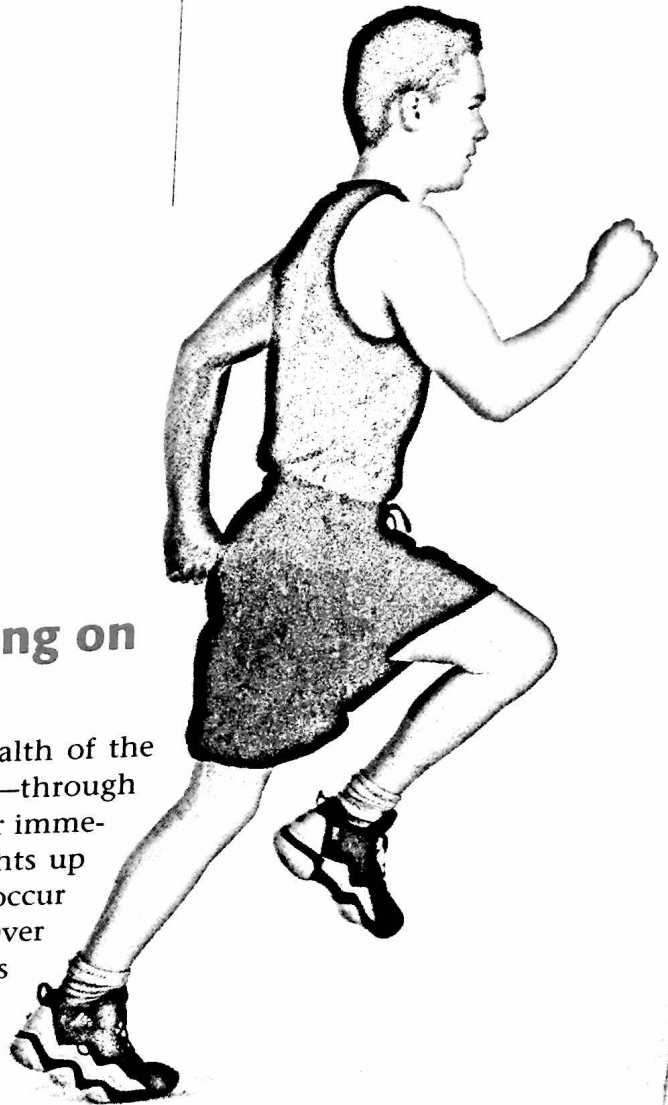
leukoplakia
passive smoke
mainstream smoke
sidestream smoke

HEALTH CONCEPTS

- Smoking causes diseases of the respiratory and circulatory systems.
- Tobacco smoke can harm a fetus and lead to low birth weight and other health complications.
- Being in the presence of cigarette smoke puts a person's health in jeopardy.

Effects of Smoking on the Smoker

Cigarettes impair the health of the smoker in two ways—through short-term effects that occur immediately after the smoker lights up and long-term effects that occur as the smoking continues. Over time, the tar and pollutants in tobacco smoke take their toll on several body systems. Some of the deadliest problems are those affecting the respiratory and circulatory systems.



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chronic bronchitis For more information on chronic bronchitis and other health measures that can help prevent you from developing this disease, see Chapter 17, page 403.

emphysema For more information on emphysema and its symptoms, see Chapter 17, page 405.

lung cancer For more on lung cancer and habits that can decrease your risks, see Chapter 31, page 686.

Diseases of the Respiratory System

Cigarette smoking is associated with the two principal diseases that make up chronic obstructive pulmonary disease, or COPD. These are chronic bronchitis and emphysema, which are ten times more likely to occur among smokers than among people who do not smoke.

Chronic bronchitis is a condition in which the bronchi are irritated. As cilia become useless, tar from cigarette smoke builds up, which results in chronic coughing and excessive mucus secretion.

Emphysema is a condition that involves the destruction of the tiny air sacs in the lungs through which oxygen is absorbed into the body. As the walls between the sacs are destroyed, they lose their elasticity and provide less total surface from which oxygen can be absorbed. More breaths are required, and instead of using 5 percent of one's energy in breathing, a person with advanced emphysema uses up to 80 percent of his or her energy just to breathe.

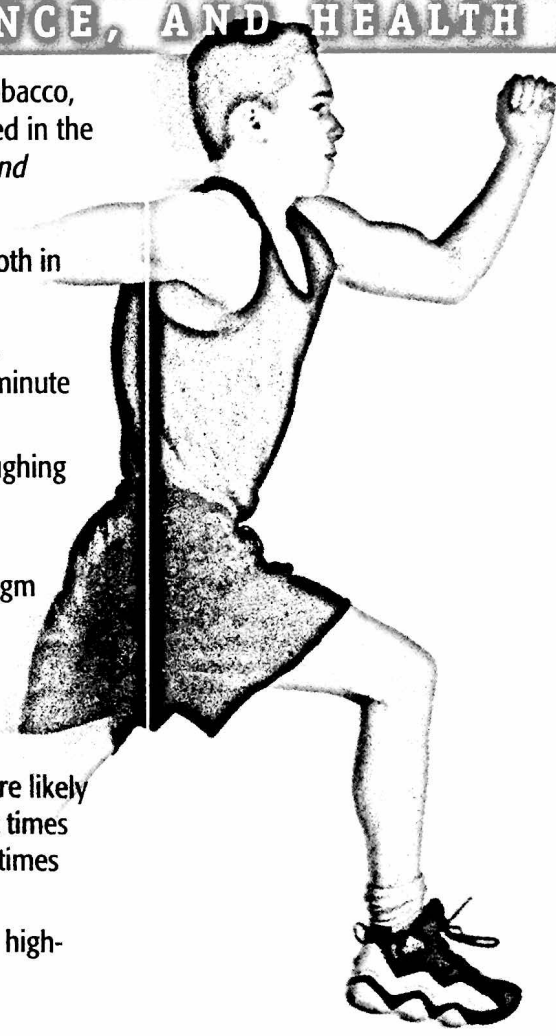
Lung cancer, directly linked to cigarette smoking, is the leading cause of cancer deaths among males. With the increase in female smokers, lung cancer is becoming a more significant cause of cancer

TEENS, TOBACCO, PERFORMANCE, AND HEALTH



The next time you are tempted to use tobacco, consider these hazardous effects reported in the CDC's *Facts of Youth Smoking, Health and Performance*:

- Smoking hurts your physical fitness both in endurance and performance.
- The resting heart rates of young adult smokers beat two to three beats per minute faster than the hearts of nonsmokers.
- Regular smoking in teens leads to coughing and respiratory illnesses.
- Smoking teens are twice as likely as nonsmoking teens to cough with phlegm or blood.
- They are three times more likely to report shortness of breath when exercising than nonsmoking teens.
- Teens who smoke are three times more likely as nonsmokers to drink alcohol, eight times more likely to use marijuana, and 22 times more likely to use cocaine.
- Smoking is also associated with other high-risk behaviors such as fighting.



death among females, too. Lung cancer begins as the bronchi are irritated by cigarette smoke. Cilia are destroyed and extra mucus cannot be expelled. The smoker develops a cough. Cancerous cells can grow in these conditions, block the bronchi, and move to the lungs. In advanced stages, cancerous cells can travel to other organs through the lymphatic system. Unless caught early, lung cancer causes death.

Diseases of the Circulatory System

Nicotine makes the heart work harder and speeds up the pulse. Smoking constricts the blood vessels, which cuts down on the circulation, or blood flow, to the limbs. This can result in a tingling feeling in a smoker's hands and feet. Nicotine contributes to plaque buildup in the blood vessels. The formation of these fatty deposits in the arteries increases the chance of arteriosclerosis, or hardening of the arteries, and gradually clogs the blood vessels to the heart. This condition increases the risk of heart attack. In fact, the risk of sudden death from heart disease is three times greater for smokers than for nonsmokers. This risk increases for those who smoke more than a pack a day.

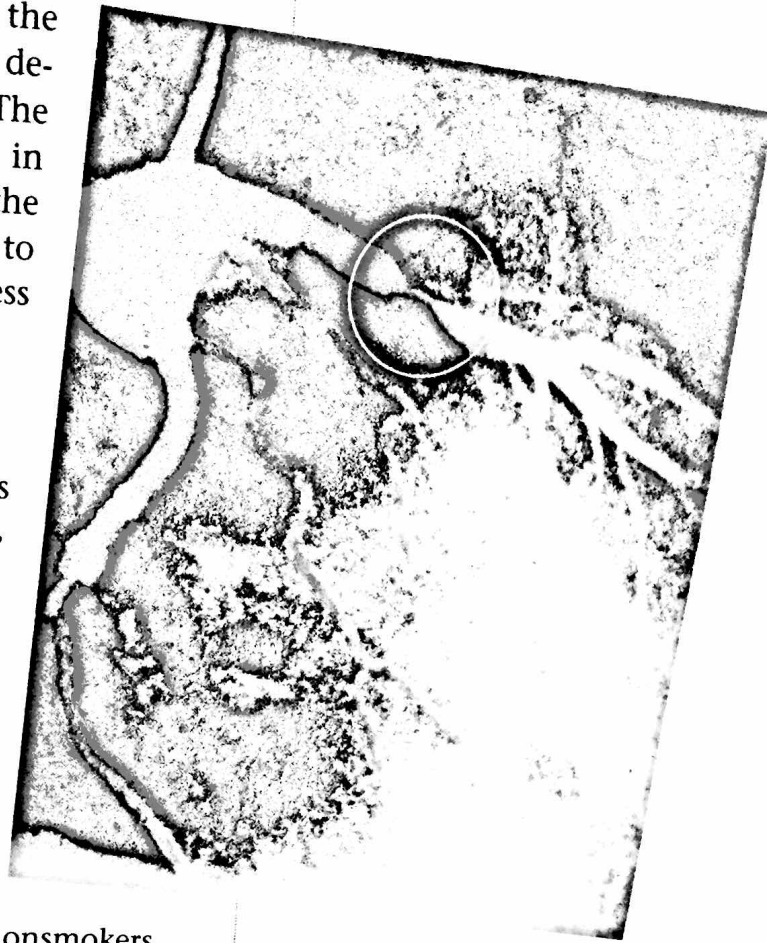
Smoking raises blood pressure and leads to increased risk of stroke. If a smoker has high blood pressure and high cholesterol, the risks of coronary heart disease are even greater. Experts estimate that if all Americans stopped smoking, deaths from heart disease could be cut by almost a third, saving more than 30,000 lives a year.

The Dangers of Smokeless Tobacco

Although smoke does not get into the lungs when using smokeless tobacco, other health problems exist, some of which can be serious and even life-threatening. The nicotine in smokeless tobacco is as addictive as that in cigarettes. Once a person starts chewing and dipping, it can become very difficult to stop.

People who use smokeless tobacco secrete more saliva. Although the chewers usually spit this excess out, some of it is unconsciously swallowed, introducing tar and other harmful chemicals into the digestive and urinary systems. Tobacco juices also contain chemicals that may delay healing of wounds.

Tobacco and its by-products are extremely irritating to the sensitive tissues in the mouth. Irritation from direct contact with tobacco juices is responsible for **leukoplakia**, *thickened, white, leathery-appearing spots on the inside of a smokeless tobacco user's mouth that can develop into cancer of the mouth*. Oral cancer strikes about 30,000 Americans annually. Because this form of cancer is often discovered late, only 50 percent of its victims survive longer than five years.



▲ *The blockage of this artery has stopped the flow of blood to surrounding tissue.*

Should All Tobacco Advertising Be Banned?

Up to \$6 billion is spent annually on advertising by tobacco firms, much of it on targeting teen markets. As awareness about the dangers of smoking among teens grows, so does the commitment on the part of government and health officials to try to stop teens from smoking. One solution that has met with a mixed reaction is to ban all advertising of tobacco products.

ANALYZING DIFFERENT VIEWPOINTS

Viewpoint One

Though cigarette ads have been banned from TV since 1971, print and billboard advertising remain. Those opposed to allowing tobacco ads to exist in any form point out that teens are three times as likely to be influenced by these ads as adults.

Viewpoint Two

Other critics of tobacco-product advertising complain about tobacco companies' sponsorship of sporting events, payment to retailers for shelf space, even logos on T-shirts that attract teens to tobacco products.

Viewpoint Three

Representatives of the tobacco industry counter that their ads do not target teens specifically and that the right to buy or not buy a product is the right and responsibility of each consumer. Others in this industry add that tobacco manufacturers are doing their part by investing large sums of money in anti-smoking advertising for teens.

EXPLORING YOUR VIEWS

1. Do you think tobacco-product advertising should be banned at all? Explain your views.
2. Do you think tobacco companies should be able to advertise indirectly but in large-scale ways by sponsoring sporting and cultural events aimed at teen audiences? Why or why not?

Smokeless tobacco users also tend to show greater tooth wear than nonusers. Their gums tend to be pushed away from their teeth where the tobacco is held. The roots of the teeth become exposed and more susceptible to decay, causing early loss of teeth. Users of smokeless tobacco also develop bad breath and discolored teeth. Tobacco products decrease the user's ability to smell and taste, especially salty and sweet foods.

Effects of Smoke on the Nonsmoker

People who breathe passive smoke receive the same unhealthy effects as smokers. **Passive smoke** is cigarette, cigar, or pipe smoke inhaled by nonsmokers as well as smoke that remains in a closed environment after the smoker is through smoking. Passive smoke includes **mainstream smoke**, the smoke that a smoker blows off, as well as **sidestream smoke**, the smoke that comes from burning tobacco. Passive smoke

HEALTH *Online*



Did you know that one-third of cancer deaths are caused by cigarette smoking? At health.glencoe.com find healthful guidelines from the American Cancer Society.

causes eye irritation, headaches, and coughing. It causes more frequent ear infections, asthma attacks and other respiratory problems and aggravates existing heart and lung diseases. It can also cause lung cancer. At least 3,000 people die annually from lung cancer because of exposure to others' smoke. Lengthy exposure to side-stream smoke can, in fact, result in the same kinds of life-threatening health problems that the smoker may experience.

A smoke-filled room may contain levels of carbon monoxide and other pollutants as high as those that occur during an air pollution emergency. A non-smoker could inhale enough nicotine and carbon monoxide in an hour to have the same effect as having smoked a whole cigarette.

Smoking During and After Pregnancy

A 1997 study in *the Archives of Pediatrics and Adolescent Medicine* maintained that parents who smoke contribute to the deaths of at least 6,200 children in this country every year. According to the study, at least 2,800 deaths of low birth weight babies are caused by mothers who smoked while pregnant, with another 1,100 resulting from respiratory infections.

As noted in Chapter 20, cigarette smoking during pregnancy is also associated with small fetal growth, an increased chance of spontaneous abortion and prenatal death, and increased stillbirths, as well as growth and developmental problems during early childhood. Babies born to mothers who smoked during pregnancy may be adversely affected in intellectual development and behavioral characteristics.

Nicotine passes through the placenta, constricting the blood vessels of the fetus in the mother's uterus. Carbon monoxide reduces the oxygen levels in the mother's and fetus's blood. Smoking is especially harmful during the second half of pregnancy. After the baby is born, nicotine can be transferred during breast-feeding.

Most people would not give an infant or small child a cigarette, but people who smoke around children are doing the same damage to these youngsters that they would if they were helping them to light up. Children of cigarette smokers are nearly twice as likely to be in poor or fair health as those of nonsmokers. Such children are more likely to suffer from respiratory problems, including poorer lung function and more wheezing. Their risk of developing lung cancer, moreover, is double that of children of nonsmokers.

Rights of the Nonsmoker

Despite the growing awareness of the dangers of passive smoke, nearly half of all smokers light up without asking those around them



▲ **When pregnant women smoke, their unborn babies are affected, too.**

ACTIVITY Name three negative effects on the unborn when mothers-to-be smoke.

if they mind. According to one medical report, even though at least 80 percent of nonsmokers report that they are bothered by passive smoke, only about 4 percent actually ask smokers to stop. Because of the dangers of passive smoke, that fact has to change. You can help to change it.

You have a right to express your preference that people not smoke around you. By doing so, you protect the air you breathe and the air of those around you. If you are allergic to smoke or if the smell of it makes you sick, you may be more inclined to speak up. Everyone has a right to ask that the air they breathe remain smoke-free.

If you are in a restaurant or public place that has a nonsmoking section, ask to be seated there. Choosing places that are altogether smoke-free may be the answer. Increasingly, smoke-free establishments are easier to find. Also, be sure to ask that no one smoke in your home or at public meetings or events that you attend.

It is considerate of smokers to ask others in an enclosed area if they mind their smoking. For the sake of your health, you should always say yes. Smokers should

take responsibility to smoke where there are no nonsmokers around. When they do not, nonsmokers also should take responsibility for their own health by asking smokers to extinguish their cigarettes or by moving to a smoke-free space.



▲ ***A smoke-free environment benefits your health and the health of others.***