What is tobacco?

Tobacco is a plant — *nicotiana tabacum* — that is grown and harvested, then dried, cured and processed to produce a variety of tobacco products. In their manufactured form, the tobacco leaves and stems are transformed into products that deliver an extremely powerful central nervous system stimulant or “upper” called nicotine.

For centuries, tobacco has been smoked through devices commonly called cigarettes, cigars or pipes. It is also chewed, dipped or sniffed in the form of chewing or spit tobacco and snuff. Other words used to describe tobacco products include smokeless tobacco, little cigars, cigarillos, cheroots, stogies, plug, snuff flour, cavendish and blunts.

How is tobacco ingested?

Tobacco can be smoked, chewed, dipped or sniffed. Smoking is the most common form of tobacco use, while the use of moist snuff and “sniffing” through the use of nasal snuff occur less often.

Is tobacco addictive?

Yes. Addiction is characterized by compulsive and habitual drug use, even in the face of negative health consequences. Tobacco contains a powerfully addictive and toxic drug called nicotine, which is known to be just as addictive as heroin or cocaine. In fact, the first description of tobacco addiction dates back to the 1500s when Spanish soldiers reported they could not quit smoking after being introduced to tobacco by the Indians.

According to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR), published by the American Psychiatric Association, “nicotine dependence” meets five of the primary criteria for substance dependence or addiction. These include: (1) tolerance — as defined by a need for markedly increased amounts of the substance to achieve the desired effect; (2) withdrawal — as manifested by undesirable and unpleasant physiological or psychological effects when use of the drug is discontinued; (3) desire to stop — a persistent desire or unsuccessful efforts to cut down or control use of the drug; (4) compulsion or loss of control — spending a great deal of time obtaining and using the drug or recovering from its effects; and (5) impairment — continuing to use the drug despite adverse health problems caused by the drug and preoccupation with the drug over everything else.

What makes tobacco so harmful?

Tobacco contains thousands of chemicals and byproducts that make it harmful. The three most dangerous byproducts of tobacco are nicotine, tar and carbon monoxide.

*Nicotine* is the pharmacologically active agent in tobacco that acts on the brain primarily as a stimulant, but which also has sedative effects. It is a naturally occurring, colorless liquid that turns brown when ignited and acquires the odor of tobacco when exposed to air. Nicotine is largely concentrated at the base of the tobacco leaf stem. In this form, it is a deadly poison, one that has been used for centuries as a lethal pesticide.

The nicotine “kick” that most smokers get causes a rush of adrenaline that stimulates increased blood pressure, respiration and heart rate. It indirectly causes a release of a brain chemical called dopamine in the region of the brain that controls pleasure and motivation. Nicotine’s effect on the brain’s “pleasure centers” is what creates a craving and reaction similar to that seen with other drugs of abuse, such as cocaine and heroin. In contrast to its stimulant effect, nicotine’s sedative effect varies depending on the dose of nicotine taken and the level of arousal in the smoker’s nervous system.

*Tar* is the dark gummy substance that is left behind when tobacco is smoked or chewed. It is the primary carcinogenic (cancer-causing) agent in tobacco. Filter tips on the ends of cigarettes may catch some of the
brownish, sticky residue, but most of the tar goes directly into the body when the smoke is drawn through the cigarette. Over time, tar builds up inside the cells of the lungs and causes severe damage.

*Carbon monoxide*, a deadly, poisonous gas, is readily released with each puff of smoke. The most common of the toxic agents found in tobacco smoke, carbon monoxide lowers or displaces the level of oxygen in the bloodstream, thereby increasing heart rate, blood pressure and respiration.

While nicotine, tar and carbon monoxide are clearly the three most dangerous byproducts of tobacco, approximately 4,000 other known chemicals are released as byproducts of both cigarette smoke and smokeless tobacco. Forty-three of these chemicals increase the risk of cancer, while hundreds more are toxic and lethal. Some of the more common chemicals found in tobacco smoke include: *acetone* (solvent thinner); *ammonia* (household cleanser); *formaldehyde* (embalming fluid and preservative); *hydrogen cyanide* (poison); *methane* (flammable gas and fuel); *naphthalene* (dry cleaning fluid); *nickel* and *cadmium* (metals); and *vinyl chloride* (plastic). The average pack-a-day smoker inhales about 150,000 doses of these chemicals in one year, with up to 90 percent remaining trapped in the lungs.

How dangerous are cigars, pipes and smokeless tobacco?

Cigar, pipe and smokeless tobacco — like the tobacco contained in cigarettes — comes from dried tobacco leaves to which ingredients have been added to enhance the flavor and support other tobacco properties.

Cigars and pipe tobacco contain the same elements as found in cigarette smoke, and even though the smoke is rarely inhaled, these products should be considered at

How does tobacco affect one’s health?

Since 1964, when the U.S. Surgeon General published the first report on smoking and health, thousands of studies have linked smoking and other tobacco use with negative health consequences. Of the major causes of death and disability in this country, cigarette smoking alone is blamed for 87 percent of lung cancers; a majority of cases of coronary heart disease, chronic lung disease, stroke, emphysema, chronic bronchitis and gastric ulcers; and a majority of cases of cancers of the mouth, throat, esophagus, pancreas, uterus, cervix, kidney and bladder. All of these diseases add up to an astounding 430,000 — or one in every five — deaths in the United States each year. The earlier the onset of tobacco use, the greater the chance that a young person will develop health complications leading to disability and eventual premature death.

Scientists have known since the beginning of the 20th century that nicotine is a potent drug that affects the body’s nervous system and stimulates heart rate and muscular activity. The habitual use of tobacco, primarily cigarette smoking, has both short-term and long-term effects on the body. These effects can range anywhere from annoying symptoms to fatal malignancies.

Depending on how tobacco is ingested, nicotine rapidly reaches peak levels in both the bloodstream and brain by absorption through the skin, the mouth and the nose, or by inhalation into the lungs. Since cigar and pipe smokers do not typically inhale the smoke, nicotine is absorbed more slowly through the mucus membrane linings of the mouth. Nicotine also is absorbed through the oral membranes of smokeless tobacco users and through delicate nasal passages of tobacco snuff users.

Cigarette smoke reaches the brain within approximately 10 seconds of inhalation. Immediately after the first puff, one’s heart rate shoots up, oxygen flow is slowed down or displaced in the bloodstream, brain wave patterns change, the hands become unsteady, and skin temperature drops. Tobacco use over time contributes greatly to nicotine addiction, a weakened immune system, poor physical stamina, increased colds and respiratory infections, loss of smell and taste, premature wrinkling, and the increased likelihood of other drug use and high-risk behaviors. Many of these effects — in particular, lung and breathing abnormalities — have been demonstrated in young adult smokers as early as in their mid-20s.
least as harmful as cigarettes. Some of the larger, premium-brand cigars can contain as much as 400 milligrams of nicotine, 40 times the level found in cigarettes. In 1989, the U.S. Surgeon General issued a report that cited cigars as having the same cancer-causing compounds as found in cigarettes and showed that cigars contribute to a cancer death rate that is 34 percent higher in male smokers than nonsmokers and a five to 10 times greater risk of mouth and throat cancers.

Smokeless tobacco was targeted in 1986 with the U.S. Surgeon General’s warning that it “is not a safe substitute for smoking cigarettes. It can cause cancer and a number of noncancerous oral conditions and can lead to nicotine addiction and dependence.” All methods of smokeless tobacco use — chewing, dipping snuff and sniffing — are dangerous and highly addictive. When tobacco is placed between the cheek and gum, nicotine and other damaging carcinogens are absorbed quickly through the moist environment of the mouth. Continued use can lead to damaged gum tissue, reduced ability to taste and smell, and eventual loss of teeth. The risk of oral cancers is much greater among smokeless tobacco users than among non-tobacco users.

By definition, “current cigarette use” means that an individual admits to having smoked at least one cigarette during the past 30 days.

What are the human and economic costs of smoking?

Measuring the costs of smoking in terms of health, social and economic consequences can be staggering. More people die in this country each year from tobacco-related causes than from alcohol, illicit drugs, murder, suicide, drowning, car crashes, fires and AIDS combined. Tobacco use is the single largest preventable cause of death and disease in the United States today.

Nationally, smoking-related diseases cost more than $100 billion each year — about $50 billion each for direct medical and indirect costs. The 430,000 deaths that are attributable to tobacco use each year translate into more than five million years of potential life lost (YPLL) and an untold number of disabling illnesses. Of all persons in the United States who were under the age of 18 in 1995, about five million of these young people will die prematurely from a smoking-related disease.

In South Carolina, smoking is one of the leading causes of death. Since 1991, an average of 6,000 South Carolinians have died each year from smoking-related causes. This figure represents almost 18 percent of all deaths, resulting in more than 89,000 YPLL and a cost of $1.3 billion to taxpayers. Medicaid costs for tobacco-related illnesses in South Carolina totaled more than $142 million in 1993. In 1995, heart disease and lung cancer accounted for almost 60 percent of smoking-attributable YPLL.

Is it safe for pregnant and nursing women to smoke?

No. Women who smoke during pregnancy are at far greater risk of having poor birth outcomes, including babies with low birth weight (weighing less than 5.5 pounds), the single most common cause of death and
disease among infants. Pregnant smokers run the risk of having babies whose physical and intellectual growth is below normal. They risk having a greater number of miscarriages, complications during pregnancy and premature deliveries. About 5 percent of all deaths among newborn infants could be prevented if all women were to quit smoking during pregnancy. Women who nurse also can pass the nicotine and other tobacco byproducts to their babies during breast-feeding.


Does “secondhand” smoke place nonsmokers at risk?

Yes. Secondhand smoke, also known as environmental tobacco smoke (ETS), has been declared by the U.S. Environmental Protection Agency as a “Class A carcinogen”— meaning that it is a major cause of cancer and other serious public health problems. The health of nonsmokers is adversely affected by secondhand smoke as seen in the more than 3,000 cases of lung cancer and 40,000 heart attack deaths of nonsmokers each year who have been exposed regularly to ETS. Babies and young children, however, suffer the greatest risk from exposure to the toxic chemicals in smoke. Between 150,000 and 300,000 children who have been exposed to tobacco smoke in their environment are diagnosed each year with lower respiratory tract infections, such as pneumonia and bronchitis. These same children also suffer from a higher number of middle-ear infections, asthma attacks, and chronic coughing and wheezing. More recent studies have linked Sudden Infant Death Syndrome (SIDS) or “crib death” to infants whose mothers smoked during pregnancy or around them after birth.


Is it really that bad for teens to try tobacco?

Absolutely. If we can prevent our young people from ever starting a tobacco habit, we will see a tremendous reduction in the number of adults who are hooked. The vast majority of current adult smokers began smoking before the age of 20. The decision to smoke or chew tobacco is almost always made during the teen years and more than half of these teens will be addicted as adults.

In 1999, the U.S. Secretary of Health and Human Services issued a statement that every day “nearly 3,000 young people across our country will begin smoking regularly. Of these 3,000 young people, 1,000 will lose that gamble to the diseases caused by smoking. The net effect of this is that among children living in America today, five million will die an early, preventable death because of a decision made as a child.” Compelling new research shows evidence that teenage smokers may face more long-term damage to their health by taking up smoking before the age of 18. Even after they quit, their youthful smoking habit can cause irreparable genetic changes in their lungs, thereby increasing their risk of lung cancer in later years.

In South Carolina, children typically begin experimenting with spit tobacco around the age of 11 and with cigarettes around the age of 12. The first use of tobacco is hard to resist, especially considering the ease of availability, the minimal legal and social consequences of tobacco use, and the slick marketing and advertising campaigns used by tobacco companies. When nicotine’s addictive properties are factored in, tobacco addiction ultimately follows. The startling truth is that the tobacco industry needs an estimated 3,000 to 4,000 new smokers every day to replace the ones who die from smoking-related illnesses. Sadly, these new smokers often are today’s children and adolescents.

Another reason why it’s important to help young people avoid the temptation to smoke is that underage smokers are much more likely than nonsmokers to use alcohol and other drugs. Specifically, across grades six through 12, underage smokers in South Carolina are four times more likely to drink alcohol, 10 times more likely to smoke marijuana, 17 times more likely to use hallucinogens and 25 times more likely to use cocaine. But that’s not all, an estimated 66,000 of today’s teenagers will die prematurely from a tobacco-related disease if they continue to smoke into adulthood.

Remember, the earlier an individual starts smoking, the greater the lifetime risk of smoking-related diseases and death. Prevention is definitely the key.


What can parents do to prevent their children from using tobacco?

Parents can do a lot, but first they need to understand that all young people are at risk of using tobacco products, no matter what their family background or income level. Research consistently shows that parents are the number one influence in the lives of their children. Children model their lives after the people they value the most. Thus, the most important thing parents and other adults can do is set a good example. The best practice is not to smoke at all. At the least, avoid using tobacco products in their presence, and don’t involve them in your smoking by asking them to bring you a cigarette or hand you a lighter or ashtray.

Give your children accurate information about the consequences of tobacco use and smoking. Put it in terms they can relate to — usually in reference to their lifestyle and friendships, such as having bad breath, smelly clothes, stained teeth and the possibility of losing privileges. Remind them about the laws governing tobacco sales to minors and help them be strong so they can withstand peer pressure. Encourage them to take part in youth-oriented prevention programs.

As parents and neighbors, work in your community to change society’s views about tobacco and youth. Get your retailers to adopt a “zero tolerance” position on illegal sales of tobacco to minors and support your local police in their enforcement efforts to uphold the laws that protect your children from having access to tobacco products.

Is it ever too late to stop smoking?

Absolutely not. And there are plenty of reasons to quit smoking — improved health, savings in money, a cleaner environment and an improved personal appearance — regardless of the smoker’s age. Almost 70 percent of smokers say they want to quit, but they don’t want to face the unpleasant withdrawal symptoms that occur, such as headaches, dizziness, anxiety, irritability, coughing, dry throat and hunger. Unfortunately, the addicted body craves nicotine, and it needs a “fix” for the withdrawal symptoms to go away. The good news is that these symptoms are not life threatening, and they will go away!

In 1990, the U.S. Surgeon General reported major conclusions from a large body of scientific data on the consequences and health effects experienced by individuals who quit smoking. These include:

1) Smoking cessation (quitting) has major and immediate health benefits for men and women of all ages.
2) Former smokers live longer than continuing smokers.
3) Smoking cessation decreases the risk of lung cancer, other cancers, heart attack, stroke and chronic lung disease.
4) Women who stop smoking before pregnancy or during the first three to four months of pregnancy

What are the laws and policies regulating tobacco?

The primary tobacco laws in South Carolina regulate youth access to tobacco products and establish taxes and wholesale vending licenses. Although there is currently no law that prohibits minors from purchasing or possessing tobacco products, state criminal and federal civil penalties exist for anyone who sells or otherwise provides tobacco products to a person under the age of 18 in South Carolina. Any person who sells or supplies cigarettes or other tobacco products to a minor is guilty of a misdemeanor, with fines beginning at $25 for a first offense. Retailers who sell to minors risk federal civil penalties ranging from fines of $250 to up to $10,000 or more.

South Carolina’s tax rate on cigarettes is $.07 per pack, the third lowest in the nation. Other state taxes range from $.12 to more than $.80 per pack. South Carolina is one of 19 states that do not require licensing of over-the-counter tobacco outlets. Licensing of cigarette vending machines is required for each machine in South Carolina; however, no restrictions are placed on these machines (such as limiting their placement to areas that are not accessible to youth). There are also no mandates for signs or warnings in tobacco outlets throughout the state.


FDA Rule on Cigarettes and Smokeless Tobacco, 21 C.F.R. 897.14(a) and (b), 1996.
reduce their risk of having a low birthweight baby to that of women who never smoked.

5) The health benefits of smoking cessation far exceed any risks from the average five-pound weight gain or any adverse psychological effects that may follow quitting.

In addition, research has documented the fact that quitting smoking can help you sleep better, improve your circulation, enable you to breathe more easily and allow you to walk farther without getting tired.


How quickly can the body recover after someone quits smoking?

The American Cancer Society and the Centers for Disease Control and Prevention reveal that immediately upon quitting smoking, the body begins a series of changes and improvements that continue for years. All benefits are lost, however, by smoking just one cigarette per day. After smoking that last cigarette, health benefits are gained within:

- **20 minutes** – Blood pressure and heart rate drop to normal. Temperature in hands and feet return to normal.
- **Two days** – The risk of heart attack decreases. The ability to taste and smell improves.
- **Three to nine months** – Lung function improves by up to 30 percent. Coughing, sinus congestion, fatigue and shortness of breath decrease.
- **One year** – The risk of heart disease is half that of a smoker.
- **Five years** – The death rate from lung cancer is cut in half.

- **15 years** – The risk of heart disease is the same as that of a nonsmoker.


How can I quit smoking?

Help is available if you or someone you know wants to quit. Talk to your physician or other healthcare provider about how quitting would benefit you and whether any of the prescribed medical treatments that are currently available would be appropriate for you. You can also contact national and community organizations that offer smoking cessation programs, support groups, information and advice to help smokers quit for good. For information and assistance to help you quit smoking, call the American Cancer Society at 1-800-ACS-2345; the American Heart Association at 1-800-AHA-USA1; and/or the American Lung Association at 1-800-LUNG-USA.

Where can I get more information?

In South Carolina, the Department of Alcohol and Other Drug Abuse Services (DAODAS) operates a statewide, toll-free telephone line that provides information and assistance on a variety of topics related to alcohol, tobacco and other drug abuse. The number is 1-800-942-DIAL (3425). DAODAS also offers an online clearinghouse of alcohol, tobacco and other drug information on the Internet at www.scprevents.org.

County alcohol and other drug abuse authorities, as well as other public and private service providers, offer local information and assistance as well.

To learn more about nicotine/tobacco and other drugs of abuse, you can also contact the National Clearinghouse for Alcohol and Drug Information (NCADI) at 1-800-729-6686.