



TOBACCO

Introduction – In the 1500s, tobacco was considered a useful herb for the treatment of headaches and abscesses. Today it is used primarily as a recreational drug (nicotine) to both stimulate and relax. The impact of nicotine on the brain and body reinforce the continual use of the drug and make it very difficult to break the habit. The initial effects of tobacco use are not usually serious. But, over time the changes in health can be catastrophic. Cigarette smoking is the major, single, preventable cause of death in America as well as internationally.

Experimenting with Tobacco Is Risky!

Experimenting with tobacco puts you at risk for nicotine dependence. According to the Surgeon General, the probability of becoming addicted to nicotine after one exposure is higher than for other addictive substances such as heroin, cocaine, and alcohol.

Teens have a more difficult time quitting smoking than people who start smoking when they are older. They also are more likely to become heavy smokers and to die of a disease caused by smoking.

Nicotine and Other Chemicals

Tobacco is available in several forms: cigarettes, cigars, snuff, pipe, and chewing tobacco (also called “smokeless tobacco”). All of these contain the chemical stimulant nicotine.

For centuries, people have chewed and smoked tobacco, which comes from the plant nicotiana tobacum. The reason this substance is used by so many people is because it contains a powerful drug known as nicotine.

When tobacco is smoked, nicotine is absorbed by the lungs and quickly moved into the bloodstream, where it is circulated throughout the brain. All of this happens very rapidly. In fact, nicotine reaches the brain within 8 seconds after someone inhales tobacco smoke. Nicotine can also enter the bloodstream through the mucous membranes that line the mouth (if tobacco is chewed) or nose (if snuff is used), and even through the skin.

Nicotine affects the entire body. Nicotine acts directly on the heart to change heart rate and blood pressure. It also acts on the nerves that control respiration to change breathing patterns. In high concentrations, nicotine is deadly, in fact, one drop of purified-nicotine on the tongue will kill a person. It is so lethal that it has been used as a pesticide for centuries.

So why do people smoke? Because nicotine acts in the pleasure center of the brain and stimulate feelings of euphoria and enjoyment. Recently, scientists discovered that nicotine raises the levels of a neurotransmitter called dopamine in the parts of the brain that produce sensations of reward and fulfillment. Dopamine, called the pleasure molecule, is the same neurotransmitter that is involved in addictions to other drugs such as cocaine and heroin.

In fact, this change in dopamine plays a key role in all addictions. That explains why it is so hard to stop smoking.

People who regularly use tobacco develop a tolerance to nicotine. They need more and more to produce the desired effect, at first the desired effect is to feel the stimulation that nicotine causes. Later, it is to lessen the craving for the substance. People develop a physical dependency on nicotine when the body becomes used to its effects. Psychological dependence occurs when people feel the need to smoke or chew tobacco at certain times or for specific reasons.

Nicotine is a powerful central nervous system stimulant that produces a variety of effects. It can produce an aroused, alert mental state. Nicotine also stimulates the adrenal glands, resulting in the increased production of adrenaline. Physical stimulation results in increased respiration, constriction of blood vessels causing the heart to work harder to pump blood through the narrowed vessels. Habitual nicotine use can inflict serious damages on the heart and circulatory system.

Nicotine use decreases the contractions of the stomach that signal hunger and elevate blood sugar levels. These factors, along with decreased sensation in the taste buds, reduce the appetite.

Beginning smokers often feel the effects of nicotine. These symptoms, which are called nicotine poisoning, include dizziness, lightheadedness, rapid erratic pulse, clammy skin, nausea, vomiting, and diarrhea. These effects cease as soon as tolerance to the drugs develops.

Insights to Know

1. Every day, almost 3000 teens in the United States – 1 million a year – become smokers. One-third of these teens will eventually die from smoking.
2. Smokers who die of smoking–related disease would have lived 12 to 15 years longer if they had not smoked.
3. More than 400,000 people die each year – about 1800 a day – from smoking–related diseases.
4. Smoking just two cigarettes a day doubles a person's risk of lung cancer.
5. About 90% of all smokers began smoking before the age of 18.
6. Cigarette smoking kills more people each year than all illegal drugs, alcohol, homicides, suicides, AIDS, car accidents and fires combined.
7. More than one in every six deaths are caused by smoking.

Adolescent Trends

1. The prevalence of smoking among high school seniors declined sharply during the late 1970s when nearly 30 percent were daily cigarette smokers.
2. Since the 1980's, smoking prevalence has declined very little among youth and rates have remained stable for more than a decade.

3. In the past, male adolescents were more likely than female adolescents to smoke cigarettes. The trend is now reversed.
4. Smokeless tobacco use has increased among adolescents.
5. There is a very high smoking rate among those who drop out of school.
6. Research indicates that smoking initiation is more sensitive to intervention than is quitting behavior.

Characteristics of Youth Smokers

1. Smoking among adolescents is strongly correlated with the smoking practices of family and peers.
2. Teenagers who smoke are more likely to have a parent who smokes, to have an older sibling who smokes and to associate with other teenagers who smoke.
3. Teenagers who smoke know more people who use chewing tobacco, snuff, marijuana, crack or cocaine; who drink alcohol and are sexually active.
4. Teenagers who smoke more often dislike school and have low school performance.
5. Teenage smokers miss more school and cut school more often than nonsmokers.

Trends in Smoking

1. Among people aged 20 or older, cigarette smoking continues to decline at a rate of 0.5 percentage points per year since 1987.
2. The prevalence of smoking is higher among males than females. The average smoker smokes 19 cigarettes a day.

Education

The prevalence of cigarette smoking with less than a high school education is greater than with only a high school education. The college graduate is less likely to smoke than the high school grad.

Occupations

Smoking prevalence is consistently higher among blue-collar and service workers than among white-collar professionals. Smoking is much higher among military personnel than among the overall population.

Race

A higher percentage of African-American adults (31.7%) than White Americans (27.8%), than Hispanics (28.4%), and than persons of other races (23.8%) smoke. The gap between African-American and White American smokers is slowly closing. The differential in smoking rates between African and White Americans may disappear in future years.

Gender

The decline in smoking prevalence has been slower among females than for males.

The Chemistry of Smoking

Tobacco smoke contains many harmful chemicals in addition to the drug nicotine. Scientists estimate there are more than 4,000 different chemicals in tobacco smoke that are dangerous to body tissue. These substances include tar and gases such as carbon monoxide, hydrogen cyanide and nitrogen oxide that produce undesirable effects on health. The toxic effect of these gases and compounds with the nicotine is responsible for many cigarette-related deaths each year. Several carcinogens have been found in tobacco smoke. A carcinogen is a chemical that is known to cause cancer. Most of the carcinogens in tobacco smoke are found in tar. Tar is a sticky, thick fluid that is formed when tobacco is burned. It is made up of hundreds of chemicals that together account for most of the known cancer causing agents in cigarettes. Tar irritates respiratory tissues and is a major cause of lung cancer.

Carbon Monoxide

Carbon Monoxide – (CO) is a deadly gas that is a by-product of burning tobacco. It is an odorless, tasteless gas that interferes with the ability of blood to carry oxygen. It is the same deadly gas in the automobile exhaust that pollutes the air. The result is a reduced supply of oxygen to the brain and, in turn, that impairs judgment – reducing the performance of a driver, a student on an exam, or an athlete in competition. This gas may lead to disturbances in rhythmic activity of the heart and promote atherosclerosis. CO is devastating to the unborn fetus of pregnant mothers. The result can be lower birth weight, premature delivering and a greater risk of sudden infant death syndrome.

Smoking Causes Cancer

Smoking causes lung cancer and increases the risk of many other types of cancer. In fact, the risk of developing lung cancer is ten times greater for cigarette smokers than for nonsmokers and lung cancer kills more people than any other cancer. According to the American Cancer Society, more females used to die of breast cancer than any other. Now more females die of lung cancer, than breast cancer. This is due to higher rates of smoking among females. It is rare for someone who has never smoked to develop lung cancer. Other types of cancer caused by cigarette smoking include cancers of the larynx, esophagus, bladder, kidney, pancreas and mouth. The American Cancer Society reports that one-third of all cancer deaths are due to tobacco use, nine out of every ten lung cancer cases are caused by smoking cigarettes.

The Respiratory System

Smoking prevents the lungs from working effectively. When a person smokes, tar lines the lungs and air passages. Tobacco also harms the cilia in the nose, throat and bronchial tubes. The cilia are the hair like projections that help clear the lungs. When these cilia are immobilized, dust and dirt particles can cause lung inflammation and disease, even early in life. This increases the risk of respiratory infection and aggravates asthma.

Smokers have more chronic coughs, phlegm production, wheezing and other respiratory symptoms. Both men and women smokers report more bronchitis (inflammations of the bronchial tubes), sinusitis (inflammation of the sinus) and emphysema. People with allergies, especially asthma, are more sensitive to cigarette smoke than others.

Smoking is a key risk factor for chronic obstructive pulmonary disease (COPD) a disease that interferes with breathing. Emphysema is a condition in which the alveoli lose most of their ability to function. The lungs lose their ability to properly inflate and hold air. As a result, it is difficult for oxygen to be absorbed into the bloodstream. It becomes very difficult for people with emphysema to be active and it cannot be cured.

Cigarette smoking is also associated with the incidence of peptic ulcers and the increased risk of dying from this disease. Smoking also tends to slow down the healing of peptic ulcers.

Smoking Is a Major Cause of Accidents

Cigarette smoking is a leading cause of fires. Many fires start when a smoldering cigarette ignites bedding, mattresses and other household furniture. People of all ages are seriously injured or die from these fires. Explosions are often ignited by a lit cigarette as well. Cigarette smoking also is a factor in many motor vehicle accidents. Accidents are caused by distractions from lighting a cigarette or by dropping a lighted cigarette. Eye irritation caused by tobacco smoke may distract a driver, reduce vision, and contribute to fatigue.

Cigars and Pipes

Although the risk of lung cancer is less with pipe and cigar, there is still a significant threat to all tobacco users. There is less risk with pipe and cigar smoke because the smoke is not inhaled into the lungs. When compared with cigarette smokers, pipe and cigar smokers have cancer of mouth, throat, larynx and esophagus at a higher rate. Since some of the tar is swallowed, there is an increased risk of stomach and urinary bladder cancer.

Tobacco's Impact on the Non-Smokers

The toxins in tobacco and tobacco smoke harm the health not only of people who smoke, but of others as well. Involuntary smoking (passive smoking) takes place when a non-smoker breathes the air that has been partially saturated by sidestream smoke. According to the Surgeon General, as many as five thousand non-smokers die from inhaling secondhand smoke. The most common effect of tobacco smoke exposure is tissue irritation. The eyes, nose, throat, and airway passages are hurt by smoke exposure. The major source for young children is the environmental tobacco smoke (ETS) in their homes. Both passive smoking and being nursed by a mother who smokes contribute to the amount of tobacco constituents absorbed by an infant or child. Smoking near children is a major predictor of early childhood disease caused by smoking.

AMERICA'S LEADING PREVENTABLE KILLER

You may be surprised to learn that tobacco use causes more illnesses and death than all addicting drugs combined. One out of every six deaths in America is caused by smoking.

Smokeless Tobacco

“One in five high school males uses spit tobacco. Continuous intake of spit tobacco leads to various oral cancers and a whole host of other diseases.”

Smokeless tobacco includes both chewing tobacco and snuff. As the term implies, smokeless tobacco is not burned; rather it is placed directly into the mouth. These products contain tobacco leaf and a variety of sweeteners, flavorings and scents. Chewing tobacco is either chewed or held in place in the cheek or between the lower lip and the gum. Snuff, dry and moist, are made from powdered or finely cut tobacco leaves. A small amount of “dip” is usually held in place between the lip or cheek and the gum.

Smokeless tobacco is gaining in popularity, especially among young people. In some schools, the males who use smokeless tobacco out-number the ones who use cigarettes. There is strong evidence that smokeless tobacco causes cancer of the mouth and increases the frequency of localized gum recession and leukoplakia. Leukoplakia is a condition resulting from direct irritation from tobacco and is characterized by white patches on the lining of the mouth. The presence of lead in smokeless tobacco poses a special risk for the developing fetus of a pregnant female.

Smokeless tobacco is not a safe alternative to smoking cigarettes. Manufacturers are required to place these warnings on product package:

1. This product is not a safe alternative to cigarettes.
2. This product may cause gum disease.
3. This product may cause mouth cancer.

Smokeless Tobacco Harms Health

1. Smokeless tobacco has most of the same harmful ingredients as other tobacco products.
2. Smokeless tobacco causes nicotine dependence. Craving and tolerance both are signs of nicotine dependence.
3. Smokeless tobacco contains many chemicals that harm health. Smokeless tobacco contains formaldehyde, lead, nitrosamines, cadmium, and polonium. All forms of smokeless tobacco contain carcinogen.
4. Smokeless tobacco increases the risk of developing cancer. When people use smokeless tobacco, the tobacco and its irritating juices are in contact with the gums, cheeks and lips for long periods of time. Abnormal cells can develop into cancer of the larynx, the pharynx and the esophagus.
5. Smokeless tobacco causes problems with the gums and teeth. Smokeless tobacco permanently stains teeth and causes bad breath. Smokeless tobacco can also cause the gums to pull away from the teeth, exposing the roots. The teeth become more sensitive and are more likely to fall out.
6. Smokeless tobacco dulls the senses of smell and taste, as a result, people who use smokeless tobacco often eat more salty and sweet foods than do other people.

Actions Teens Must Take after Using Smokeless Tobacco

1. Quit using smokeless tobacco immediately. Talk to a physician or dentist about ways to stop.
2. Check your gums and teeth for early signs of oral cancer. Look for a lump or white patch (Leukoplakia) in the mouth, having difficulty chewing and moving the tongue or jaw, and feeling as though something is stuck in the throat.
3. Have an oral examination immediately. You may need a special test to see if you have cancer. If you do have cancer, it must be treated right away.

Laws Prohibiting Tobacco Sales to Youth

The most powerful deterrent to the sale of tobacco to minors is the strict observance of laws prohibiting the purchase prior to a certain age. In most states the age is 18 but in Alabama, Alaska, Utah and New Jersey, it is 19 for the minimum age for purchase of tobacco products. Age verification is so significant for success. When enforcement of the tobacco laws is weak, indications are that teens start smoking at an earlier age. Most states leave enforcement to local law officials. This is a very ineffective method.

Long-Term Effects of Tobacco Use

- Prematurely wrinkled skin
- Permanent gum and tooth loss
- Chronic bronchitis

- Weakened immune system
- Stomach ulcers
- Abnormal sperm cells and impotence
- Miscarriages or premature, undersized, babies
- Menstrual disorders and early menopause
- High blood pressure
- Heart attacks and congestive heart failure
- Blocked blood vessels and strokes
- Cancer of the upper lung, respiratory tract, mouth and throat
- Cancer of the bladder, kidney, pancreas, and cervix
- Emphysema (collapsed lung structures.)
- Chronic obstructive lung disease

Secondhand Smoke

Five actions you can take to avoid second-hand smoke are:

1. Speak up to the person who is smoking, but be polite. Let people know that you are concerned about your health.
2. Ask smokers not to smoke in indoor areas that you share.
3. Encourage your family to have a non-smoking policy for your home.
4. Encourage family members who smoke to quit smoking and to go outside if they must smoke.
5. Request seating in non-smoking section of restaurants or in public areas.

Summary of Insights

1. The percentage of American adults who smoke is continuing to decline.
2. Increasingly, the American tobacco industry is diversifying into non-tobacco product lines.
3. As domestic tobacco sales decline, the tobacco industry is expanding its international sales of cigarettes and other tobacco products.
4. Dependency, including addiction and habituation, is established quickly through tobacco use. Modeling self-reward and self-medication play a key role in the development of tobacco dependency.
5. Most states have laws limiting the sales of tobacco to minors, and laws restricting the sales of cigarettes through vending machines.
6. The tobacco industry is constantly targeting new markets, such as women, minorities and adolescents.
7. Tobacco smoke can be divided into gaseous and particular phases. Each phase has its unique chemical composition.
8. Nicotine, carbon monoxide and phenol have damaging effects on various body tissues.
9. Nicotine has predictable effects on the function of the cardiovascular system when used at relatively low doses. Several hundred carcinogenic agents are found in tobacco smoke.
10. The majority of forms of cancer are worsened by tobacco use. Lung cancer progresses in a predictable fashion.
11. Caffeine consumption and smoking produces predictable changes in nervous system function, but its long term effect on health is uncertain.
12. Smoking alters normal structure and function of the body, as seen in premature wrinkling, diminished ability to smell, and bone loss leading to osteoporosis.
13. Smokeless tobacco carries its own health risks, including oral cancer.
14. Involuntary smoke carries with it a wide variety of threats to the spouse, children, and co-workers of the smoker.
15. Both smokers and non-smokers have certain rights regarding the use of tobacco. Effective communication must be established between smokers and non-smokers.

NON-SMOKER'S BILL OF RIGHTS

Non-smokers help protect the health, comfort, and safety of everyone by insisting on the following rights:

The Right To Breathe Clean Air

Non-smokers have the right to breathe clean air, free from harmful and irritating tobacco smoke. This right supersedes the right to smoke when the two conflict.

The Right To Speak Out

Non-smokers have the right to express – firmly, but politely – their discomfort and adverse reactions to tobacco smoke. They have the right to voice their objection when smokers light up without permission.

The Right To Act

Non-smokers have the right to take action through legislative channels, social pressures, or any other legitimate means – as individuals or in groups – to prevent or discourage smokers from polluting the atmosphere and to seek the restriction of smoking in public places.

Did You Know?

1. Smoking would not likely be an accepted new drug if it was not firmly established in the economic structure and personal lives of Americans.
2. Smoking tobacco is the chief avoidable cause of death in America.
3. A cigarette contains four thousand chemical substances, such as tars, nicotine, carbon monoxide, hydrogen cyanide and nitrogen oxide.
4. Smoking increases the risks of heart disease, cancer, respiratory disease, digestive diseases, and complications in pregnancy.
5. Pipe smoking and cigar smoking also result in significant health risks.
6. Smokeless tobacco increases the incidence of cancers of the mouth, throat and stomach, and it is extremely difficult to quit using smokeless tobacco after becoming addicted.
7. People begin to smoke for numerous reasons, generally before reaching the age of twenty.
8. Those who do not smoke should avoid sidestream smoke because of high amounts of gases and carcinogens in the smoke.
9. Health-care providers, voluntary agencies, and personal approaches to quitting are available to those who want to kick the habit.

Tobacco Use and It's Effects

1. Nicotine, the chemical substance found in tobacco, is absorbed into the bloodstream and passes directly into the brain, where it causes feelings of alertness and relaxation. However, it also releases chemicals that stimulate the cardiovascular system, resulting in a faster heart beat and increased blood pressure. Nicotine also stimulates the release of other chemicals that activate the body's fight-or-flight response.
2. Tobacco and tobacco smoke contain a number of other toxic substances. These include carbon monoxide, which impairs the blood's capacity to carry oxygen; tar, a sticky residue that contains carcinogenic substances; and other carcinogenic substances. Smoking affects the respiratory system by irritating and damaging mucous membranes.
3. Tobacco use has been linked to a number of serious disease, including bronchitis and emphysema, various types of cancer, and cardiovascular disease. The use of tobacco greatly increases the risk of dying from any of these diseases.
4. Tobacco use during pregnancy seriously endangers the health of the unborn child by decreasing birth weight, increasing the number of miscarriages, stillbirths and premature births; and contributing to retarded growth and mental development as the child grows older. People who breathe in the smoke of others are also adversely affected and are at increased risk for the same disease as smokers.
5. Tobacco use can lead to physical dependence as the brain begins to function differently, vacillating between states of hypoarousal and greater stimulation. Tobacco can lead to psychological dependence as users begin to associate it with pleasurable experience and other positive reinforcers.
6. By giving up smoking, people can save money and extend their lives. Substituting healthy habits like exercise can help stay free from tobacco. Limiting tobacco use in the home can encourage friends to do the same.

How to Say NO to Tobacco Use

1. Use assertive behavior. Stand tall! Say "NO" in a firm and assertive voice.
2. Give reasons for saying "**NO**" to tobacco. Explain that tobacco use is harmful, unsafe, and illegal for minors. Using this substance does not show respect for yourself or others. Using tobacco is against the guidelines of your family, school and the law for minors.
3. Use nonverbal behavior to match your verbal response. Do not keep tobacco in your possession for someone else. Do not behave in ways that indicate that you approve of tobacco use. Do not send mixed messages to others.
4. Avoid being in a situation in which there will be pressure to use tobacco. Avoid groups in which there will be tobacco. Think ahead about what to say or do if your peers are using tobacco.
5. Avoid being with people who use tobacco. Choose friends who do not use tobacco. Stay away from secondhand smoke.

6. Resist pressure to engage in illegal behavior. Learn the laws that apply to tobacco use in your community and state. Do not lie about your age to buy tobacco products. Do not purchase tobacco products from vending machines.
7. Influence others to choose responsible behavior. Encourage others to change their behavior. Encourage people who use tobacco to quit. Be a role model for a tobacco-free lifestyle.
8. Avoid being influenced by tobacco ads. Realize that ads are designed to convince people to use a product and make a profit for the company. Pay attention to the warnings on tobacco ads. Do not wear clothing that displays tobacco logos. Do not accept free samples of cigarettes.

How Do I Quit Using Tobacco

List the reasons you want to quit.

Decide when you want to quit.

Consider situations in which you usually have a cigarette or use smokeless tobacco.

Get help from a health care professional.

Join a tobacco cessation program.

Get help from others.

Throw away all tobacco products.

Be prepared for temptation.

Participate in activities that keep your mind off of using tobacco.

Avoid weight gain.

Keep your guard up.

If you slip up and use tobacco, keep trying to quit.