

# Smoking and Smokeless Tobacco

## Questions about Smoking

SURGEON GENERAL'S WARNING:  
Cigarette Smoke  
Contains Carbon Monoxide

SURGEON GENERAL'S WARNING  
Smoking Causes Lung Cancer, Heart Disease,  
Emphysema, And May Complicate Pregnancy.

Does it seem pretty confusing to you that in spite of the warnings, many people still choose to smoke? Or that almost a million teenagers take up smoking every year?

Have you ever thought about smoking? Do you know what's in tobacco smoke and how it can affect your body and your good health? Do you know why other people choose to smoke? Are you aware of the many influences on you to start smoking? Do you know what our government is doing to help curb the growing use of tobacco?

If you already smoke and have thought about quitting, do you know what kinds of programs are available to help you quit? Are you aware of how difficult it is for most people to stop smoking? Let's find some answers to these and other questions about the use of tobacco.

### ***What's in Tobacco Smoke?***

The tobacco that people smoke today comes from the tobacco plant **nicotiana tabacum**. The tobacco leaves are picked when they mature, then dried and cured by heating. When tobacco is burned, the smoke from it contains more than a thousand different substances, many of which are harmful. Some are outright poisons. Three of the most harmful substances found in the smoke of burning tobacco are **tar**, **nicotine**, and **carbon monoxide**.

The **tar** that is found in tobacco smoke is a mixture of several substances. Alone, each substance may or may not be harmful, but when burned, they form a brown, sticky mass that coats the lining of a person's lungs. A person who smokes a pack of cigarettes a day inhales about 8 ounces of tar a year. This tar has been shown to be harmful to the lung tissues and to the tissues of the mouth and throat. In tests with animals, tar has been known to cause cancer.

The **nicotine** in a cigarette makes a person's blood vessels become narrow. It cuts down the flow of blood and oxygen throughout the body, causing the heart to pump harder. Nicotine is also a drug (a stimulant). It is highly addictive, and it doesn't take long for smokers to become dependent on it. It is this nicotine that makes it so hard for people to give up smoking once it becomes a habit.

**Carbon monoxide** is a poisonous gas that is colorless, odorless and tasteless. When a person inhales tobacco smoke, the carbon monoxide from the smoke takes the place of oxygen in the red blood cells. In other words, the body does not get as much oxygen as it needs. Carbon monoxide stays in the bloodstream, robbing the body of oxygen for as long as six hours after a person stops smoking. The more tobacco a person smokes, and the longer he or she smokes, the more the oxygen supply in the blood decreases. Because the organs and tissues of the body don't get a sufficient amount of oxygen, smoking tobacco can result in damage to the heart, blood vessels and other organs in the body.

### ***What Happens When People Smoke?***

Over and over again research has shown that smoking tobacco can increase the risks of serious health problems. Here are some facts to consider:

Waters, M., Harmon, E. O., Hooker, A. G., & Gryczka, M. E. (1994). *Life management skills*. Dubuque, IA: Kendall/Hunt.

## *The Effects of Nicotine*

A simple experiment to see how nicotine affects the body is to ask a cigarette smoker not to smoke for at least one hour. Then, take his or her pulse for one minute. Next, ask him to smoke one cigarette. Check the

pulse rate again and note the difference. The average smoker will show an increase of about 20 beats per minute. The effects of one cigarette lasts for approximately 30 minutes.

- Cigarette smokers have total cancer death rates two times greater than do nonsmokers. People who smoke are:
  - twice as likely to die from lung cancer than non-smokers.
  - four times more likely to die from esophageal (food pipe) cancer than nonsmokers.
  - 20 to 30 times more likely to die of laryngeal (voice box) cancer than nonsmokers.

It doesn't always take years for smoking tobacco to affect the body, however. Just a few puffs can hurt. In fact, just one cigarette will:

- speed up the heartbeat;
- increase blood pressure;
- upset the flow of blood and air in the lungs; and
- cause a drop in the skin temperature of fingers and toes.

These changes in the body make the heart work harder than it should. As a result, smoking increases a person's chances of developing *heart disease*. Research has shown that the single greatest risk associated with tobacco use is heart disease. The heart attack rate of heavy cigarette smokers is twice as high as that of nonsmokers. The risks of dying of a stroke also increase by 2 to 2.5 times.

Smoking can also be very damaging to the **respiratory system**. The bronchial tubes are the air tubes in the lungs that are lined with tiny hairs called cilia. These tiny hairlike bodies normally work like brooms to sweep out germs, mucus and dirt from the lungs. Just one puff on a cigarette can make them sluggish. Smoking over a long period of time can paralyze them completely. They don't work at all! Then the body is exposed to all kinds of infections. This is one reason why smokers are sick more often than nonsmokers. However, when people stop smoking for a certain period of time, the cilia begin working again.

Another respiratory disease that is often related to smoking is an inflammation of the bronchial tubes called **chronic bronchitis**. Smoking causes an irritation of the bronchial tubes that makes them produce mucus. The result is a constant, nagging cough that is often called "**smoker's cough**."

Heavy smokers may also develop **emphysema**, a disease of the lungs where people cannot get enough oxygen into their bloodstreams. Sometimes the disease becomes so severe that an emphysema sufferer has difficulty just walking or getting dressed.

\*When a person has a stroke, part of the brain dies suddenly. This may result in the permanent loss of use of an arm or leg or total loss of speech.

## Smoking damages your respiratory system.

The **digestive system** has also been known to be affected by tobacco smoking. The tar and nicotine in cigarette smoke are absorbed by the saliva and swallowed, causing an irritation in the lining of the stomach. As a result, the stomach makes hydrochloric acid which can cause a person to get ulcers.

### ***Additional Risks of Smoking***

Health risks associated with the use of tobacco go beyond those risks to the heart and the respiratory and digestive systems. The use of tobacco has been linked to the development of cancer of the mouth, throat, bladder, pancreas and kidneys. In addition, pregnant women who smoke have a higher-than-average number of miscarriages, still-births, premature births and babies who weigh far below the average birth rate.

While there is no truth to the theory that smoking tobacco will stunt a person's physical growth, current research studies do show that it can shorten the life span of a smoker. People who begin to smoke early in life and heavy smokers are more likely to die earlier than nonsmokers.

While most adults are aware of the health risks of smoking tobacco, many are unable or unwilling to stop. Instead, they are looking for a less harmful tobacco product. The cigarette industry has responded by making **low-tar** and **low-nicotine** cigarettes. Unfortunately, cigarettes of this type do not reduce the health risks associated with tobacco.

Smokers who switch to low-tar and low-nicotine cigarettes are dependent on nicotine in the amounts found in regular cigarettes. In order to get the nicotine their body needs, they must smoke more cigarettes and inhale more deeply to get the same effect. Studies show that the death rate for smokers of low-tar and low-nicotine cigarettes still remains far higher than that of nonsmokers.

There are some people who believe that smoking tobacco in a **pipe** or **cigar** will lower the health risks of using tobacco. Since pipe and cigar smokers usually do not inhale the tobacco smoke, the risks of heart and lung disease are usually lower than for smokers of cigarettes. They do, however, increase their chances of getting cancer of the mouth, larynx, and esophagus. This increase is due to the more irritating smoke produced by pipe and cigar tobacco. Pipe smokers also run the added risk of getting lip cancer from the long-term use with the hot pipestem.

SURGEON GENERAL'S WARNING  
| Smoking By Pregnant Women May Result  
In Fetal Injury, Premature Birth, And Low  
Birth Weight.

## ***Smokeless Tobacco: Chewing and Dipping***

Advertising campaigns today are attempting to convince some people that **smokeless** tobacco is less of a health risk than the tobacco that is smoked. And in recent years, smokeless tobacco has become more popular, particularly among young men and teenagers.

Smokeless tobacco can be **chewed** or **dipped**. Tobacco is chewed by placing a golf-ball size wad or “quid”\* between the cheek and teeth and sucking on it. Snuff, or powdered tobacco, is dipped by placing a pinch of it between the lower lip and teeth. There it mixes with saliva and is absorbed.

Those who chew or dip have an increased amount of saliva in their mouth and must either swallow the tobacco juices or spit it out frequently. They also develop bad breath and their teeth become discolored. It is for these reasons that most people find chewing and dipping undesirable.

Smokeless forms of tobacco can cause many of the same health risks as tobacco that is smoked. A look inside a dipper’s or chewer’s mouth will often reveal soft tissues on the inside of the cheek that appear peculiarly wrinkled, thickened, and white (very much like the hide of an elephant). These leathery-appearing areas, called “leukoplakia”, are an area of irritation caused from direct contact with tobacco juice. Many cancer-producing substances have been found in tobacco juices. About 6% of patients with leukoplakia develop oral cancer.

Smokeless tobacco causes other problems as well. Tobacco chewers and snuff dippers tend to have greater tooth wear than non-users. The gums also tend to recede from the teeth in areas near where tobacco is held, causing the teeth to loosen and eventually fall out. The bare roots of the teeth are more likely to become sensitive to heat, cold, air and certain foods. Sweetened tobacco may also increase tooth decay.

The nicotine found in tobacco smoke is found in tobacco juice as well. It is absorbed through the lining of the mouth of the chewer or dipper and directly effects the nervous system. Nicotine first causes the user to be stimulated or excited, and then causes him to be depressed or let down. The nicotine in smokeless tobacco has the same effect on the heart as the nicotine found in tobacco smoke, thereby increasing the risks of heart attacks and strokes. So remember, whether tobacco is smoked or chewed, addictive nicotine and other harmful substances are still going into the body.

## ***Passive Smoke***

Not everyone inhales tobacco smoke by choice. Suppose you aren’t a smoker, but you find yourself in a room filled with people who are smoking. The air around you becomes filled with the smoke they breathe out. This is called **passive smoke**. When you breathe in passive smoke, it can effect you in many of the same ways as if you were smoking tobacco.

Every time anyone lights a cigarette or cigar or pipe, tobacco smoke enters the atmosphere from two sources. There is **sidestream** smoke, which goes directly into the air from the burning end. Then, there is

\*A quid is a portion of something, especially tobacco, for chewing.

## Sidestream smoke can be very irritating— and dangerous too!

**mainstream smoke**, which the smoker pulls through when he or she inhales. A cigarette smoker inhales—and exhales—mainstream smoke eight or nine times with each cigarette for a total of about 24 seconds. But the cigarette burns for 12 minutes and pollutes the air continuously with sidestream smoke. Smokers can keep cigars and pipes burning for a much longer time, and the pollution lingers long after.

If you do not smoke, sidestream smoke—the smoke from the burning end—can be more harmful to your health than mainstream smoke inhaled or exhaled by the smoker. Some studies show that there is more tar, nicotine and carbon dioxide in sidestream smoke than there is in tobacco smoke. In addition, there is three times as much “3-4 benzopyrene”, a chemical suspected to be a cancer-causing agent, and 50 times as much ammonia. New studies indicate that the level of nicotine in the blood of nonsmokers is much higher than was first expected, when these people were near smokers. The EPA has declared second-hand smoke as a major carcinogenic substance. (Winter, 1993)

One study has shown that after only thirty minutes in a smoke-filled room, the carbon monoxide level in a nonsmoker’s blood increases. So does his or her blood pressure and heart beat. Another major study discovered that in their first year, babies of parents who smoke tobacco at home have a much higher incidence of lung disease, like bronchitis and pneumonia, than babies with nonsmoking parents.

In addition, parents who smoke at home can aggravate symptoms in some children who have asthma and even trigger an asthma attack. Even among nonasthmatic children, a team of researchers found that respiratory illness happened twice as often to young children whose parents smoked at home compared to those with nonsmoking parents.

Passive smoking was determined by the Center for Disease Control in 1991 to be the third leading cause of death in the U.S. Over 35,000 people in our country die each year as a result of inhaling the smoke from other people’s cigarettes. The American Cancer Society estimates over 350,000 die each year from lung cancer directly related to tobacco use. It’s as if two jumbo jets crash every day killing all on board, warns the former Surgeon General C. Everett Koop. Can you imagine the outcry from the public to the U.S. Department of Transportation if this occurred?

So even if you don’t smoke, the smoking of others can be harmful to your good health. Always remember, *as a nonsmoker, you have the right*

*to breathe clean air.* This right comes before the right of a smoker if ever the two are in conflict. You also have the right to express—firmly but politely—your objections to tobacco smoke and to ask people not to light up when they are with you. Your good health depends on it, and it's your life that's at stake!

### ***The Health Hazards of Tobacco Use Are Recognized***

A Surgeon General's report which concludes that tobacco is "the single most important preventable cause of death, responsible for 1 out of every 6 deaths in the U.S." asserts that smoking is exacting a heavier toll in death and disease than had previously been thought. Among the findings:

- Tobacco claims almost 400,000 lives a year, 2/3's of which result from cardiovascular disease, lung cancer and chronic respiratory ailments like emphysema.
- Smoking is a major cause of stroke, the third leading cause of death in the U.S. Smoking is also associated with cancer of the uterine cervix.
- Because women took up smoking in large numbers about 3 decades ago, the incidence of lung cancer has been rising among women and now surpasses breast cancer as the leading cause of death among women.

The results from this report and additional research on the hazards of tobacco use since that time have caused many people to take notice. Legislators and businesses alike have taken action to make sure that people are aware of the health hazards associated with the use of tobacco to smokers and nonsmokers. They have also taken steps to protect the rights of nonsmokers.

Over the years, individual states have taken action to protect the rights of nonsmokers by prohibiting smoking in many public places. The National Interagency Council on Smoking and Health proposed a Nonsmoker's Bill of Rights. It states that a person has the right to breathe air unpolluted by tobacco smoke. In addition, businesses have taken it upon themselves to establish rules on smoking at work. Large national corporations have written policies to allow smoking only in specially designated area within the companies, while smaller businesses have banned smoking completely. And most restaurants around the country now offer customers a choice of "smoking" and "non-smoking" sections.

There is no question that the use of tobacco can be hazardous to one's health and well-being. The trend to educate smokers and nonsmokers of these potential dangers has had a definite affect on the attitudes of people about smoking. In fact, this change in smoking behaviors has resulted in one of the biggest and most rapid cultural changes of our time. Has it had any affect on your attitude about smoking?

### ***Why Do People Smoke?***

*Have you ever wondered why millions of people in the United States spend billions of dollars every year on a habit that is known to cause health problems and why young people start smoking and get into a habit they might not be able to break for the rest of their lives?*



Laws have been enacted to protect the rights of non-smokers.

Most people know about the problems and dangers of smoking. Most people know that the nicotine in tobacco is a drug. They also know that they can become dependent on tobacco. Yet many people begin smoking and continue to smoke anyway. The feelings they get from smoking must be very important to them. Everyone has his or her own reasons for starting to smoke, and everyone has his or her own reasons for continuing to smoke as well.

Since many smokers start to smoke when they are teenagers or young adults, the smoking behavior of parents and other family members seems to be one of the primary influences on their decision to smoke. For example, studies show that if an older brother or sister smokes as well as both parents, the chances that a teenager will smoke are four times higher than if there are no smokers in the family.

Another primary reason why others start to smoke is because their friends are smoking and they want to do what their friends are doing. Or they may try smoking because they are curious and want to see what it's like. Advertising in print also plays a major role in influencing people to smoke. In many of the cigarette ads, young-looking models represent what many people want to be. The message appears to be clear: If you smoke, you'll live free, be alive with pleasure and be beautiful besides. Still others believe that since a cigarette has fewer calories than food, smoking will help to keep them slim!

But with research studies clearly showing that tobacco damages one's health, why do so many people continue to smoke? As a matter of fact, thousands of smokers have tried to stop, especially when they begin to feel the effects of the tobacco on their bodies. But while many have succeeded, many have failed, too.

The problem with smoking is that once someone starts to smoke regularly, it is very hard to stop. You have probably heard people say, "Oh, I can quit anytime if I want to," or "I've quit before, and I can do it again." But they don't quit. Or if they do, it's only for a short period of time. Many times, as soon as they find themselves in a stressful situation, they are smoking again—and sometimes even more than before they stopped.

Why? Because for most smokers, smoking is addictive. Remember, the nicotine in tobacco is a physically addicting drug. This means that a smoker may develop a craving or need for nicotine itself. In addition, smoking becomes a habit because it is done automatically in the same way each time. Anyone who smokes day after day, taking puff after puff in the same old way, has a smoking habit. To "kick the habit" of smoking requires a strong will and desire to do so.

**That is why it is so much easier never to start smoking and develop what might potentially be an addictive habit.**

### ***Handling the Pressures***

The average smoker can give many reasons for smoking. But for every excuse he or she may give, there are an equal number of excuses not to smoke. Here are some examples:

### Why I Smoke

1. I like it.
2. It makes me feel relaxed.
3. My friends smoke.
4. When my friends and I are smoking, everyone seems more friendly.
5. I want to be just like the people who are in the ads.

### Why I Don't Smoke

1. I don't have any desire to smoke.
2. I don't need to smoke to relax. I can relax by listening to music, playing ball, etc.
3. My friends smoke, but they don't mind if I don't smoke. Our friendship isn't based upon what we do; it's who we are.
4. When my friends and I get together, we talk and do the things we enjoy. We have a good time and know our friendship is a good one.
5. I've seen the ads, but I like who I am. I don't want to be like someone else.

You are probably smart enough to come up with many good reasons for *not* smoking than others can for smoking. Have you ever thought about what you would say if you were asked to state why you don't smoke?

*Prepare your strategy!* If you were to find yourself in a situation where you might be pressured to smoke, what would you say? Here are some examples of what others have said:

#### Situation

1. You and your friends are at the bus stop and they offer you a cigarette. A boy/girl you would like to date is hanging around. What would you say?

#### Strategy

- You could say:
- I've tried smoking and it made me sick. I really don't like it.
  - The last boy/girl I liked smoked cigarettes but always smelled like them. That's why I stopped dating him/her.

2. While visiting your cousin over summer vacation, you go to a nearby park and your cousin lights up a cigarette. He says his parents don't care if he smokes.

- You could say:
- I want to stay healthy, and cigarettes may effect that. Maybe we can do something else that's fun and good for us.

You may have already found yourself in a situation where you had to make a choice—to smoke or not to smoke. You may have been pleased with your decision, or made a choice you regret now. Always remember: *Everyone has the right to choose not to smoke.*



Prepare your strategy for saying "No" to smoking.

<b><i>Survey of Teen Preferences in Dating Smokers and Nonsmokers</i></b>			
Would you prefer to date a smoker or a nonsmoker?			
	<b>Prefer to Date Nonsmoker</b>	<b>Prefer to Date Smoker</b>	<b>Makes No Difference</b>
ALL TEENS*	73%	1%	25%
Boys	78%	1%	21%
Girls	69%	1%	30%
Age 12-15	78%	2%	20%
Age 16-17	67%	0%	33%
Nonsmokers (54% of sample)	86%	1%	13%
Former Smokers (35% of sample)	75%	1%	24%
Current Smokers (11% of sample)	10%	3%	87%
White	73%	1%	26%
Black and All Other Races	76%	0	24%
*Less than 1/2 of 1% gave no response Source: American Lung Association-The Christmas Seal People* Survey by Opinion Research Corporation Survey funded by Quality Inns International			

## ***Kicking the Habit***

Surveys show that about 85 percent of cigarette smokers today want to break the smoking habit and 65 percent of all smokers have tried to stop smoking at one time or another. Since smokers develop a dependence on tobacco quickly, however, the habit is hard to break.

Making a decision *never* to start smoking is the best way to reduce the number of smoking-related diseases that can interfere with your good health. Once you have started to smoke, however, you should know that it takes a good reason and lots of will power to quit. *But you can quit smoking if you want to.* The key to quitting the smoking habit is to *want* to, for there are several ways you can do it.

One way to quit smoking is called “**cold turkey.**” In other words, you simply stop smoking all at once. This way is often difficult, however, because of your physical dependence for nicotine and the habit you have developed to reach for a cigarette.

If you feel you can't give up smoking entirely on your own, you can join a **group**. Many groups are constantly being formed by the American Lung Association, the American Cancer Society or other public health agencies, religious groups and private businesses. These groups provide support and suggest healthy things to do in place of smoking.

Some organizations have developed programs to help people quit smoking. Most programs demonstrate how to cope with situations that cause people to reach for a cigarette, how to choose rewards that will encourage them to quit, and how to resist social pressures to smoke.

The real key to success, researchers have discovered, lies in the amount of face-to-face encouragement smokers get from relatives, friends and physicians. If you smoke, try to stop smoking with the method you are most comfortable with. If you don't kick the habit on your first try, don't give up. Try again. Try another method. When you first started smoking, you probably didn't smoke as much as you do now. It took a while to build up to it. It may take just as long to give it up. Even if it takes repeated attempts, the ultimate benefits of quitting far outweigh the health risks that accompany it.

No matter how much tobacco you've been smoking, dipping or chewing, it is worth it if you stop. Beginning with the day you stop, you cut down your chances of getting lung cancer. You are also less likely to have trouble with the other diseases that have been mentioned in this chapter. In addition, you will save money, feel and look healthy, live longer, your clothes and breath won't smell like cigarette smoke, and the food you eat will taste better.

## ***A Decision NOT to Use Tobacco Is a Good Decision***

Whether you smoke, dip, or chew, or you don't use any tobacco products, a decision **NOT** to use tobacco is a good decision. The health risks associated with tobacco use have been proven to be substantial. You can even be subjected to increased health risks as a nonsmoker from sidestream and mainstream smoke that release poisonous substances in the air.

Support your legislators who are trying to make you aware of the health hazards of tobacco products and the laws that have been passed to protect your rights as a nonsmoker.

Most important of all, remember that a decision not to smoke is essential for your good health.

*A key: Best tip  
yet—don't start  
smoking.*



SURGEON GENERAL'S WARNING  
Quitting Smoking Now Greatly Reduces  
Serious Risks to Your Health

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## Summary

Three of the most harmful substances from tobacco smoke are tar, nicotine, and carbon monoxide. By smoking tobacco, you increase the chances of getting heart disease and cancer. Smoking has also been shown to be very damaging to the respiratory and digestive systems.

Smoking low-tar and low-nicotine cigarettes, or a pipe or cigars, has not been shown to decrease the health risks of using tobacco. Nor does dipping and chewing smokeless tobacco lessen the health risks.

Smoking can also cause health risks to the nonsmoker. Sidestream and mainstream smoke can release some of the same poisonous substances to nonsmokers. As a nonsmoker, you have a right to breathe clean air.

Legislators and businesses are working to make people aware of the health hazards associated with the use of tobacco to smokers as well as nonsmokers. Rules and laws have been set up to protect the rights of the nonsmoker.

Everyone has his or her own reasons for smoking today. Once a person starts to smoke on a regular basis, however, it is very hard to stop because smoking is addictive. That is why it is so much easier never to start smoking in the first place.

There are many good ways to handle the pressures to start smoking. Prepare your own personal strategy. If you have already decided to smoke, there is help available so you can quit.

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### Review These Words

Carbon monoxide	Nicotine
Chewing	Sidestream smoke
Dipping	Tar
Mainstream smoke	

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### Using What You Have Learned

1. Name three of the most harmful substances found in tobacco.
2. What are some of the serious health problems associated with smoking tobacco? What can smoking just one cigarette do to the body?
3. What are some of the health risks associated with dipping and chewing?
4. What are the two types of passive smoke? Why is sidestream smoke so dangerous?
5. Describe three forms of legislation that have been passed to protect the rights of the non-smoker.
6. List several reasons why people choose to smoke. Why is it so difficult to stop smoking?
7. Give five good reasons for not smoking.
8. Name two organizations that provide information and/or assistance for individuals who want to “kick the habit” of using tobacco.