

# Tobacco

## Profile

Tobacco products, including cigarettes, cigars, chewing tobacco, snuff, and loose pipe tobacco, contain the dried, processed leaves of the tobacco plant *Nicotiana rustica* or *Nicotiana tabacum*. All forms of tobacco contain nicotine, an extremely addictive drug that can act as both a central nervous system stimulant and depressant.<sup>1</sup> In addition to nicotine, tobacco contains thousands of other chemicals and additives to enhance the effects and flavor of the tobacco. Many of these chemicals are known to cause cancer and various other ailments. Tobacco use remains the leading preventable cause of death in the United States today, causing more than 430,000 deaths per year.

## Extent of Use

According to the 2001 National Household Survey on Drug Abuse (NHSDA), about 66.5 million Americans reported use of a tobacco product in the past month, or 29.5 percent of the population aged 12 and over. Specifically, 24.9 percent of that population smoked cigarettes, while 5.4 percent used cigars, 1.0 percent smoked pipes, and 3.2 percent used smokeless tobacco.<sup>2</sup>

## History

Tobacco is a plant that was originally native to the Americas, and many Native Americans thought of the plant as a gift from the “Great Spirit” and used it in religious ceremonies. Rodrigo de Jerez, a Spanish explorer, brought tobacco back to Spain in the early 1500’s, where the habit of smoking became popular very quickly. As it became more popular, its value skyrocketed, and tobacco was used as money in the early American Colonies.<sup>3</sup>

Snuff use was very popular in 18<sup>th</sup> century Europe, but by the 19<sup>th</sup> century cigars had become the primary tobacco product. In the mid-1800’s, Philip Morris, J.E. Liggett, and R.J. Reynolds began their tobacco companies. Then came the invention of matches and cigarette rolling machines, and cigarette use began to skyrocket. During World War I, soldiers were provided with free cigarettes. Between 1910 and 1920, per capita consumption of cigarettes increased from 94 to 419 per year.<sup>4</sup> The link between cigarette smoking and cancer was already evident; in 1930, the lung cancer rate for white men in the U.S. was 4.9 per 100,000. By 1948, the rate had increased to 27.1 per 100,000.<sup>5</sup>

In 1965, the rapid increase in smoking and its health consequences led Congress to mandate that a Surgeon General’s warning appear on every pack of cigarettes. In the 1970’s, airlines began offering nonsmoking sections on flights, and smoking was prohibited in many public spaces. In the 1980’s, research revealed that secondhand smoke, as well as smokeless tobacco, have serious health consequences, including cancer. The 1990’s saw a great deal of legal action taken against the major tobacco companies as well as numerous campaigns to inform the public about the dangers of

smoking. In 1999, the Philip Morris Tobacco Company recognized that “there is an overwhelming medical and scientific consensus that cigarette smoking causes lung cancer, heart disease, emphysema and other serious diseases in smokers... there is no safe cigarette... cigarette smoking is addictive.”<sup>6</sup> Around this time, major tobacco companies began to confess to the fact that they had been focusing their advertising campaigns toward young people.

## **Methods of Use**

Tobacco is most often smoked, usually in the form of cigarettes, cigars, or in pipes. Another method of smoking, usually found in India and the Middle East, is through a large waterpipe, usually called a hookah, nargile (nar-gee-leh), or shisha. These types of pipes are commonly used to smoke flavored tobacco that includes pieces of fruit and is held together with sticky molasses. Other forms of smoking tobacco include “bidis” (bee-dees) – tobacco wrapped in a leaf and tied with a string – and “clove” cigarettes, which are basically normal cigarettes but include cloves for flavoring, or just cloves alone. Chewing tobacco or “dip” is a form of smokeless tobacco, in which the user holds the tobacco in his/her mouth, absorbing nicotine thorough the gums and tongue. “Snuff” is tobacco that has been dried and processed into a powder. This powder is snorted into the nose, where it is absorbed through the nasal passages.

## **Effects on the Brain**

Tobacco has a potent effect on the brain, regardless of the route of administration. When a smoker inhales tobacco smoke, over 4,000 chemicals are released, including nicotine and hundreds of other carcinogens. Nicotine, when smoked, reaches the brain in a matter of seconds.<sup>7</sup> Nicotine from chewing tobacco takes a little longer to reach the brain, as it must first be absorbed into the bloodstream through the gums. At any rate, when nicotine reaches the brain, it acts as a stimulant, causing the brain to release excess neurotransmitters, including dopamine – a neurotransmitter associated with pleasure and motivation. A person can become addicted to nicotine even after just a few uses because the brain adjusts itself and develops a level of nicotine tolerance that the addict must reach in order to maintain the feeling of comfort. Once this comfort level has been established, a lack of nicotine in the brain will cause uncomfortable withdrawal symptoms in the user. These withdrawal symptoms can make the user edgy and irritable, and using tobacco while in this state will have a sedative effect on the user.<sup>8</sup> It is important to note that smoking, whether it is called “social smoking” or simply trying a cigarette, can easily lead to an addiction.

## **Short-Term Effects**

### *Short-Term Effects of Smoking*

- Addiction to nicotine
- Damage to the respiratory system
- Decreased lung capacity
- Chronic cough

- Bronchitis, asthma
- Bad breath; bad taste in mouth
- Smelly hair and clothes
- Yellow or brown stains on teeth
- Increased likelihood of drug use and risky behavior<sup>9</sup>
- Death from fire – the #1 cause of death from fire is smoking.<sup>10</sup>

#### *Short-Term Effects of Chewing Tobacco*<sup>11</sup>

- Addiction to nicotine
- Receding gums; permanent gum loss
- Sensitive teeth
- Tooth decay
- Sores, patches, and lumps in mouth
- Bad breath; bad taste in mouth
- Excess saliva production; drooling
- Stained teeth

#### **Long-Term Effects of Smoking or Chewing Tobacco**<sup>12</sup>

As stated before, smoking is the leading preventable cause of death in the United States. Long-term tobacco use brings very serious health risks to the user. About 181,000 people die each year in the United States from smoking-related heart disease and stroke, 158,000 die from smoking-related cancer, and about 123,000 die from other lung diseases.

##### *Heart Problems:*

Tobacco use has many adverse effects on the heart, including hypertension (high blood pressure), blocked blood vessels, heart attacks, weakened pumping of the heart, narrow arteries leading to heart attack and death. In addition, weakened bloodflow to the brain can cause strokes.

##### *Cancers:*

Several types of cancers commonly afflict the tobacco user. Lung, upper respiratory tract, and cervical cancers are primarily found in smokers, while stomach cancer is mainly found in spit tobacco users. Other cancers that can attack users of both forms of tobacco include cancers of the larynx, mouth, throat, pancreas, kidney, and bladder.

##### *Lung Disease:*

Smoking causes chronic bronchitis, changing the size and shape of the airways of the lungs, enlarging the mucous glands, and causing coughing and production of excess phlegm. It is also the leading cause of emphysema, a lung condition marked by an abnormal increase in the size of the air spaces, resulting in labored breathing and an increased susceptibility to infection.

##### *Other Health Problems:*

Tobacco use can cause reproductive damage, including abnormal sperm cells and impotence in men, and menstrual disorders, early menopause, and difficulty maintaining

pregnancy in women. Smoking during pregnancy can lead to miscarriage or stillbirth, low birth weight, premature birth, or Sudden Infant Death Syndrome (SIDS). Children born to women who smoked during pregnancy can develop upper respiratory problems, ear complications, asthma, and learning and behavior problems. Other damages that long-term tobacco use can cause include prematurely wrinkled skin, gum and tooth loss, lost or weakened sense of taste and smell, weakened immune system, stomach ulcers, and unwanted weight fluctuation.

The Guardian Newspaper's website has a very cool interactive guide to smoking and health. Roll over the corpse to see the different effects smoking has on the human body.

## **Quitting Smoking**

Nicotine is one of the most addictive substances known to humankind. In the face of grossly negative consequences, many people are still unable to quit the habit. A 1992 Gallup survey found that if they had to do it over again, 70% of smokers aged 12 to 17 would not have started smoking, and 66% reported that they want to quit. About half of these teen smokers had made a serious effort to stop smoking, but failed.<sup>13</sup>

Today there are many treatments available for someone trying to kick the habit. Nicotine replacement treatments, such as nicotine gum and patches, can help relieve cravings, and recently nicotine nasal sprays, inhalers, and mints have been introduced. Also, the antidepressant bupropion (Zyban®) has been shown to be an effective treatment for limiting tobacco cravings.<sup>14</sup>

There are also behavioral treatments that can help train a person to avoid smoking. In general, behavioral methods are used to identify high-risk relapse situations, create an aversion to smoking, develop self-monitoring of smoking behavior, and establish coping responses. Behavioral and nicotine-replacement therapies can both be successful, and even more so when used together. However, the harsh reality is that over 90 percent of the people who try to quit smoking either relapse or return to smoking within one year, with the large majority relapsing within a week.<sup>8</sup>

## **Links**

- [NIDA Cigarette/Nicotine InfoFacts](#)
- [NIDA Research Report: Nicotine Addiction](#)
- [Campaign for Tobacco-Free Kids](#)
- [The Truth Anti-Smoking Campaign](#)
- [In The Know Zone: Tobacco](#)
- [The Guardian: Smoking - What It Does](#)

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<sup>1</sup> NIDA InfoFacts. Cigarettes and Other Tobacco Products. Retrieved November 8, 2006, from <http://www.drugabuse.gov/Infacts/Tobacco.html>.

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<sup>2</sup> Office of National Drug Control Policy. SAMHSA Factsheet: National Household Survey on Drug Abuse, 2001. Retrieved November 8, 2006, from <http://www.whitehousedrugpolicy.gov/drugfact/nhsda01.html>.

<sup>3</sup> In The Know Zone. Tobacco History. Retrieved November 8, 2006, from <http://www.intheknowzone.com/tobacco/history.htm>.

<sup>4</sup> In The Know Zone. Tobacco History. Retrieved November 8, 2006, from <http://www.intheknowzone.com/tobacco/history.htm>.

<sup>5</sup> In The Know Zone. Tobacco History. Retrieved November 8, 2006, from <http://www.intheknowzone.com/tobacco/history.htm>.

<sup>6</sup> In The Know Zone. Tobacco History. Retrieved November 8, 2006, from <http://www.intheknowzone.com/tobacco/history.htm>.

<sup>7</sup> In The Know Zone. Tobacco in the Brain. Retrieved November 8, 2006, from <http://www.intheknowzone.com/tobacco/inthebrain.htm>.

<sup>8</sup> NIDA. Research Report Series: Tobacco Addiction. Retrieved November 8, 2006, from <http://www.drugabuse.gov/researchreports/nicotine/nicotine.html>.

<sup>9</sup> Alcohol, Tobacco, and Other Drug Prevention Resource Center. Tobacco Use. Retrieved November 8, 2006, from <http://www.umes.edu/atod/abuse/tobacco.htm>.

<sup>10</sup> National Fire Prevention Association. (2004, May/June). "Canada Mandates Fire-Safe Cigarettes." Retrieved November 8, 2006, from <http://www.nfpa.org/publicColumn.asp?categoryID=&itemID=19630&src=NFPAJournal>.

<sup>11</sup> Alcohol, Tobacco, and Other Drug Prevention Resource Center. Tobacco Use. Retrieved November 8, 2006, from <http://www.umes.edu/atod/abuse/tobacco.htm>.

<sup>12</sup> In The Know Zone. Tobacco Long-Term Effects. Retrieved November 8, 2006, from <http://www.intheknowzone.com/tobacco/lterm.htm>.

<sup>13</sup> Tobacco.Org. Tobacco Timeline. Retrieved November 8, 2006, from [http://www.tobacco.org/resources/history/Tobacco\\_History20-2.html](http://www.tobacco.org/resources/history/Tobacco_History20-2.html).

<sup>14</sup> NIDA Research Report Series. Tobacco Addiction.