
CANCER FACTS

National Cancer Institute • National Institutes of Health
Department of Health and Human Services

Smokeless Tobacco and Cancer: Questions and Answers

Key Points

- Snuff is a finely ground or shredded tobacco that is either sniffed through the nose or placed between the cheek and gum. Chewing tobacco is used by putting a wad of tobacco inside the cheek (see Question 1).
- Chewing tobacco and snuff contain 28 cancer-causing agents (see Question 2).
- Smokeless tobacco users have an increased risk of developing cancer of the oral cavity (see Question 3).
- Several national organizations offer information about the health risks of smokeless tobacco and how to quit (see Question 8).

1. What is smokeless tobacco?

There are two types of smokeless tobacco—snuff and chewing tobacco. **Snuff**, a finely ground or shredded tobacco, is packaged as dry, moist, or in sachets (tea bag-like pouches). Typically, the user places a pinch or dip between the cheek and gum. **Chewing tobacco** is available in loose leaf, plug (plug-firm and plug-moist), or twist forms, with the user putting a wad of tobacco inside the cheek. Smokeless tobacco is sometimes called “spit” or “spitting” tobacco because people spit out the tobacco juices and saliva that build up in the mouth.

2. What harmful chemicals are found in smokeless tobacco?

- Chewing tobacco and snuff contain 28 carcinogens (cancer-causing agents). The most harmful carcinogens in smokeless tobacco are the tobacco-specific nitrosamines (TSNAs). They are formed during the growing, curing, fermenting, and aging of



tobacco. TSNA's have been detected in some smokeless tobacco products at levels many times higher than levels of other types of nitrosamines that are allowed in foods, such as bacon and beer.

- Other cancer-causing substances in smokeless tobacco include *N*-nitrosamino acids, volatile *N*-nitrosamines, benzo(a)pyrene, volatile aldehydes, formaldehyde, acetaldehyde, crotonaldehyde, hydrazine, arsenic, nickel, cadmium, benzopyrene, and polonium-210.
- All tobacco, including smokeless tobacco, contains nicotine, which is addictive. The amount of nicotine absorbed from smokeless tobacco is 3 to 4 times the amount delivered by a cigarette. Nicotine is absorbed more slowly from smokeless tobacco than from cigarettes, but more nicotine per dose is absorbed from smokeless tobacco than from cigarettes. Also, the nicotine stays in the bloodstream for a longer time.

3. What cancers are caused by or associated with smokeless tobacco use?

- Smokeless tobacco users increase their risk for cancer of the oral cavity. Oral cancer can include cancer of the lip, tongue, cheeks, gums, and the floor and roof of the mouth.
- People who use oral snuff for a long time have a much greater risk for cancer of the cheek and gum than people who do not use smokeless tobacco.
- The possible increased risk for other types of cancer from smokeless tobacco is being studied.

4. What are some of the other ways smokeless tobacco can harm users' health?

Some of the other effects of smokeless tobacco use include addiction to nicotine, oral leukoplakia (white mouth lesions that can become cancerous), gum disease, and gum recession (when the gum pulls away from the teeth). Possible increased risks for heart disease, diabetes, and reproductive problems are being studied.

5. Is smokeless tobacco a good substitute for cigarettes?

In 1986, the Surgeon General concluded that the use of smokeless tobacco "is not a safe substitute for smoking cigarettes. It can cause cancer and a number of noncancerous conditions and can lead to nicotine addiction and dependence." Since 1991,

NCI has officially recommended that the public avoid and discontinue the use of all tobacco products, including smokeless tobacco. NCI also recognizes that nitrosamines, found in tobacco products, are not safe at any level. The accumulated scientific evidence does not support changing this position.

6. What about using smokeless tobacco to quit cigarettes?

Because all tobacco use causes disease and addiction, NCI recommends that tobacco use be avoided and discontinued. Several non-tobacco methods have been shown to be effective for quitting cigarettes. These methods include pharmacotherapies such as nicotine replacement therapy and bupropion SR, individual and group counseling, and telephone quitlines.

7. Who uses smokeless tobacco?

In the United States, the 2000 National Household Survey on Drug Abuse, which was conducted by the Substance Abuse and Mental Health Services Administration, reported the following statistics:

- An estimated 7.6 million Americans age 12 and older (3.4 percent) had used smokeless tobacco in the past month.
- Smokeless tobacco use was most common among young adults ages 18 to 25.
- Men were 10 times more likely than women to report using smokeless tobacco (6.5 percent of men age 12 and older compared with 0.5 percent of women).

People in many other countries and regions, including India, parts of Africa, and some Central Asian countries, have a long history of using smokeless tobacco products.

8. Where can people find help to quit using smokeless tobacco?

Several national organizations provide information about the health risks of smokeless tobacco and how to quit:

The **National Institute of Dental and Craniofacial Research's National Oral Health Information Clearinghouse** offers educational booklets that discuss spit tobacco use in a colorful and graphic format. These booklets are designed specifically for young men who have decided to quit or are thinking about it.

Organization: National Oral Health Information Clearinghouse
National Institute of Dental and Craniofacial Research
Address: One NOHIC Way
Bethesda, MD 20892-3500
Telephone: 301-402-7364
E-mail: nohic@nidcr.nih.gov
Web site: <http://www.nohic.nidcr.nih.gov/>

The **Centers for Disease Control and Prevention's Office on Smoking and Health** distributes a brochure for teens who are trying to quit cigarettes or smokeless tobacco. The Office also maintains a database of smoking and health-related materials.

Organization: The Office on Smoking and Health
Centers for Disease Control and Prevention
Address: Mail Stop K-50
4770 Buford Highway, NE.
Atlanta, GA 30341-3724
Telephone: 1-800-232-1311 (1-800-CDC-1311)
E-mail: tobaccoinfo@cdc.gov
Web site: <http://www.cdc.gov/tobacco/how2quit.htm>

The mission of the **National Spit Tobacco Education Program (NSTEP)** is to prevent people, especially young people, from starting to use tobacco, and to help users to quit. NSTEP offers information and materials on spit tobacco use, prevention, and cessation.

Organization: National Spit Tobacco Education Program
Oral Health America
Address: Suite 352
410 North Michigan Avenue
Chicago, IL 60611
Telephone: 312-836-9900
Web site: <http://www.nstep.org>

The **American Cancer Society** publishes a series of pamphlets with helpful tips and techniques for smokeless tobacco users who want to quit.

Organization: American Cancer Society
Address: 1599 Clifton Road, NE.
Atlanta, GA 30329
Telephone: 1-800-227-2345 (1-800-ACS-2345)
Web site: <http://www.cancer.org>

The **American Academy of Family Physicians** has a fact sheet with information on how to quit using smokeless tobacco. The fact sheet is available at <http://familydoctor.org/handouts/177.html> on the Internet.

Organization: American Academy of Family Physicians
Address: 11400 Tomahawk Creek Parkway
Leawood, KS 66211-2672
E-mail: email@familydoctor.org
Web site: <http://familydoctor.org>

A number of other organizations provide information about where to find help to stop using smokeless tobacco. State and local health agencies often have information about community tobacco cessation programs. The local or county government section in the phone book (blue pages) has phone numbers for health agencies. Information to help smokers who want to quit is also available through community hospitals, the yellow pages (under “drug abuse and addiction”), public libraries, health maintenance organizations, health fairs, and community helplines.

9. What other resources are available?

A person’s dentist or doctor can be a good source of information about the health risks of smokeless tobacco and about quitting. Friends, family members, teachers, and coaches can help a person quit smokeless tobacco use by giving them support and encouragement.

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Sources of National Cancer Institute Information

Cancer Information Service

Toll-free: 1-800-4-CANCER (1-800-422-6237)

TTY (for deaf and hard of hearing callers): 1-800-332-8615

NCI Online

Internet

Use <http://cancer.gov> to reach the NCI’s Web site.

LiveHelp

Cancer Information Specialists offer online assistance through the *LiveHelp* link on the NCI’s Web site.

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