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## **Health Risks of E-cigarettes, Smokeless Tobacco, and Waterpipes [1]**

**This section has been reviewed and approved by the [Cancer.Net Editorial Board \[2\]](#), 05/2016**

Although cigarette smoking has been steadily—but slowly—declining in the United States, many different alternative tobacco and nicotine delivery products have been gaining popularity. This is partly because many alternative tobacco products—which come in various sizes, flavors, and forms—are marketed and often perceived as being relatively safe.

However, alternative tobacco products, such as e-cigarettes, smokeless tobacco, and waterpipes may cause serious potential health problems, including cancer, because of the chemicals and toxins they contain. Because of these potential health risks, the US Food and Drug Administration (FDA) will start regulating these products like other tobacco products, such as cigarettes, on August 8, 2016.

If you smoke or use these products talk with your doctor about ways to quit.

### **E-cigarettes**

Electronic cigarettes, also known as e-cigarettes or vapor cigarettes, are battery-operated devices that resemble traditional cigarettes. However, instead of burning tobacco, they generally contain cartridges filled with nicotine and other chemicals. When the e-cigarette is used, the liquid chemicals in the cartridge are turned into a vapor or steam that is inhaled by the smoker.

E-cigarettes may contain harmful substances. However, the types or concentrations of

chemicals, including nicotine, vary based on the brand. Because e-cigarettes have only been readily available in the United States since 2006, there is limited research on their health risks.

The FDA will start regulating e-cigarettes starting August 8, 2016 and has not approved e-cigarettes as a way to quit smoking. People with cancer who want to quit smoking should use evidence-based methods for quitting smoking. Learn more about the [options available to quit smoking](#) [3].

## Smokeless tobacco

Smokeless tobacco products contain tobacco or tobacco blends that are either chewed, sucked, or sniffed. Most smokeless tobacco products are placed between the cheek or lips and gums for a few minutes to hours. They have many names, such as spit tobacco, chew, pinch, or dip, and fall into several categories.

**Chewing tobacco.** This is tobacco in the form of loose leaves, leaves pressed together that is commonly known as “plug”, or leaves twisted together to resemble a rope that is commonly known as “twist.” Chewing tobacco is held between the cheek and gum. Usually the tobacco juices are spit out, but long-time users tend to swallow some of the juices.

**Snuff.** This is finely ground tobacco that comes in dry or moist forms and is sometimes packaged in ready-to-use pouches. Dry snuff is usually sniffed or swallowed, whereas moist snuff—similar to snus (see below)—is placed between the gum and the lip or cheek and slowly absorbed.

**Snus.** This is a tobacco product that originated in Sweden before being introduced to the United States. The moist tobacco powder is usually packaged in a pouch and placed in the mouth, inside the cheek, for absorption. It does not require the user to spit out tobacco juice; however, the pouch must be thrown away after use, not swallowed. Tobacco companies often market snus as a product that cigarette smokers can use in places where smoking is banned. Public health advocates worry that laws banning smoking in certain public places will not effectively encourage people to quit using tobacco products as long as snus is available.

**Dissolvable tobacco.** This is powdered tobacco that is compressed to resemble a small, hard candy that dissolves in the mouth. It does not produce any tobacco juice that needs to be spit out or leave behind any substance that the user must throw away.

Prolonged use of smokeless tobacco products can lead to serious health issues, such as cancer and heart disease. Some smokeless tobacco contains greater amounts of nicotine—three to four times more—than cigarettes. These products also contain numerous substances that increase the risk of [cancer](#) [4] of the mouth and throat. Chewing tobacco also may lead to white patches, called leukoplakia, on the gums, tongue, or lining of the mouth. Although most of these are noncancerous, some show early signs of cancer, and oral cancer often occurs near patches of leukoplakia. Chewing tobacco and other forms of smokeless tobacco can also cause gum disease and increase tooth decay.

Many people may claim that using these products is less harmful than smoking and can be effective in helping people to stop smoking, but this is not an evidence-based method to quit smoking and is not supported by the FDA as an appropriate method to quit smoking.

## **Waterpipes**

Another popular alternative tobacco product in the United States is the waterpipe. Waterpipes, also called hookahs, among other names, have been smoked in regions such as the Middle East, Asia, and Africa for more than four centuries.

Modern-day waterpipes, which are relatively inexpensive, are composed of four main parts:

- A small bowl on top of the waterpipe, which holds a special mixture of shredded tobacco and sweetener
- A broad base to hold water
- A pipe connecting the bowl to the base
- A rubber hose attached to a mouthpiece through which smoke is pulled

Small packets of the tobacco mixture burned in waterpipes are sold in a variety of flavors, such as apple, mint, and cappuccino. People can smoke waterpipes alone, but waterpipes are often used in social settings, with multiple people sharing the same mouthpiece.

Beyond their low cost and appeal as a traditional and communal activity, unfounded assumptions about their relative safety are driving the waterpipe trend, especially among college students and young people. According to one historical account of the waterpipe's origin, an Indian physician created the device, believing that by having the smoke first pass through a small amount of water, it would be a less harmful method of inhaling tobacco. Even though there is no proof that water can "filter" tobacco smoke and make it less harmful, this misperception still persists today.

Because of the potential health risks of waterpipes, the FDA will start regulating these like other tobacco products on August 8, 2016. Many of the effects of waterpipe use are the same as cigarette smoking. These effects include the following:

**Exposure to the same toxins as cigarettes but in higher quantities.** The smoke produced by a waterpipe contains high levels of many of the same toxic compounds found in cigarettes, including carbon monoxide, heavy metals, and chemicals linked to cancer. These toxins and chemicals are associated with lung, stomach, bladder, and esophageal cancers and have been

known to clog arteries and cause heart disease and respiratory diseases, such a lung disease called emphysema that causes difficulty breathing.

In most cases, waterpipe smoking sessions, which typically last up to one hour, expose smokers to much higher levels of these toxins than cigarettes. For example, a smoker may inhale 100% to 200% more smoke during a waterpipe session, compared with a single cigarette.

**Potential to spread infectious disease.** Sharing a waterpipe with other people can increase the risk of contracting or transmitting diseases, such as tuberculosis, and viruses, such as herpes and hepatitis, especially if the mouthpieces are not cleaned properly.

**Nicotine addiction.** The tobacco used in waterpipes contains about the same amount of nicotine as cigarettes, which often leads to addiction.

## More Information

[Tobacco](#) [5]

[Stopping Tobacco Use After a Cancer Diagnosis](#) [5]

## Additional Resources

[Centers for Disease Control and Prevention: Smokeless Tobacco Facts](#) [6]

[FDA: Tobacco Products](#) [7]

[World Health Organization: Waterpipe Tobacco Smoking](#) [8]

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## Links

- [1] <http://www.cancer.net/navigating-cancer-care/prevention-and-healthy-living/stopping-tobacco-use-after-cancer-diagnosis/health-risks-e-cigarettes-smokeless-tobacco-and-waterpipes>
- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/28461>
- [4] <http://www.cancer.net/node/19453>
- [5] <http://www.cancer.net/node/28476>
- [6] [http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/smokeless/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/smokeless/)
- [7] <http://www.fda.gov/TobaccoProducts/default.htm>
- [8] [http://www.who.int/tobacco/global\\_interaction/tobreg/waterpipe/en/](http://www.who.int/tobacco/global_interaction/tobreg/waterpipe/en/)