

# Electronic Cigarettes

Electronic cigarettes (e-cigarettes or electronic nicotine delivery systems (ENDS)) are devices that claim to contain no tobacco or stem material, but are designed to look like conventional cigarettes. They are intended to be inhaled, often referred to as “vaping”, similar to how a smoker uses conventional cigarettes. They produce a mist or vapor upon each inhalation by the user that resembles and tastes like the smoke produced by conventional tobacco products.

These products are designed with a rechargeable battery-operated heating element that volatilizes the chemical constituents contained within replaceable cartridges. These cartridges may or may not include nicotine.

They come in a variety of flavors, many that may be appealing to children and young adults. Most e-cigarettes claim to deliver nicotine; however some do not. The amount of nicotine varies widely based on cartridge brand and strength, but is generally 6-18mg nicotine per cartridge, equivalent to about ½ of a pack to 1 ½ packs of cigarettes. Zero nicotine cartridges are also offered.

New electronic nicotine delivery systems (ENDS) are now on the market, including electronic cigars (e-cigars) and electronic hookahs (e-hookahs).

## **The concerns about e-cigarettes**

- While e-cigarettes are viewed by some as a potentially less dangerous alternative to cigarettes or a potential smoking cessation aid, at this time there is no publicly available independent research on their safety or efficacy.
- E- cigarettes have not been approved as safe by the U.S. Food and Drug Administration (FDA) and are currently under investigation. The FDA has warned the public that e-cigs contain various toxic, mutagenic, carcinogenic (cancer causing) chemicals.
- Another concern is that some smokers are buying empty liquid cartridges and filling them themselves with solutions purchased online. Various companies sell flavored nicotine solutions for this purpose. A wide array of flavors are available, many of which are candy/fruit flavors, including vanilla, banana, almond, vanilla ice cream, cherry, mint, peach cobbler, and mint chocolate, which may appeal to youth.
- The solutions are very concentrated. Therefore a 30ml (about 1 oz) bottle of e-cigarette solution can easily contain 500+ mg of nicotine. Some may even be over 1,000 mg per bottle. This creates a risk of overdosing or poisoning, because the lethal dose of nicotine for adults is 30-60mg if swallowed, and for children is just 10mg. Solutions come in a small bottle, often fruit-flavored and without a child safety cap.
- Cartridges contain nicotine and other toxic chemicals, many of which are not subject to manufacturing controls required for FDA-approved cessation aids [like nicotine gum, patches, inhalers, sprays, etc.].
- A laboratory analysis of electronic cigarette samples conducted by the U.S. Food and Drug Administration has found that they contain carcinogens and toxic chemicals such as diethylene glycol, an ingredient used in antifreeze.

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## **Concerns (continued)**

- E-cigarettes emit a vapor through a process similar to passive smoking (exposure to secondhand smoke) called *passive vaping*. The health effects of exposure to *passive vaping* are currently unknown.
- Additionally, e-cigarettes have been known to explode. A Florida man lost his front teeth and part of his tongue when an e-cigarette exploded in his face.

## **Marketing Tactics:**

- E-cigarettes are being marketed as better smelling, cheaper, and flavorful alternatives to smoking.
- These products are also being advertised in misleading ways. The picture (right) of a mall kiosk advertises the e-cigarette as a “safe alternative to smoking.”
- They are also marketed as a way to circumvent smoke-free air ordinances. They are designed to look like conventional cigarettes to be used in areas where smoking is prohibited.
- These products are available at mall kiosks where children and youth are present and are promoted heavily online.
- E-cigarettes have also received celebrity endorsement and have appeared in at least one movie. Actress Katherine Heigl can be seen on the television screen in the above picture promoting e-cigarettes. In the movie *The Tourist*, Jonny Depp’s character smokes an e-cigarette.



## **What can be done?**

- There is no data establishing that these products are safe and effective for treating nicotine dependence according to scientific experts.
- States, local communities, businesses, schools, and other policymaking bodies have the authority to regulate e-cigarette use by including them in smoke-free air policies in addition to conventional cigarettes and other lighted combustible tobacco products.

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## **What is safe?**

- There are numerous methods for treating tobacco use addiction that have been thoroughly researched and are endorsed by health care professionals. Specifically, the U.S. Public Health Service issued the 2008 Guideline on Treating Tobacco Use Addiction.
- There are seven first line medications that FDA has approved for treating tobacco use addiction, and e-cigarettes are not one of them.
- Consumers need to know that e-cigarettes are not an approved device to quit smoking. Promotion of these products as a cessation aid without approval of the FDA is prohibited.

In April, 2011 the FDA issued a letter to its stakeholders announcing that they are developing a strategy to regulate this emerging class of products as tobacco products under the Family Smoking Prevention and Tobacco Control Act.

[Click here](#) for up-to-date information on the FDA's enforcement action.

**Electronic cigarettes are not an evidence-based, safe or effective method for treating nicotine addiction.**

**Smokers wanting to quit should contact a health care provider for assistance and call 1-800-QUIT-NOW for evidence-based cessation support, advice, and resources.**

## **Additional resources**

American Legacy Foundation – [www.legacyforhealth.org/factsheets](http://www.legacyforhealth.org/factsheets)

Tobacco Prevention and Cessation Commission – [www.isdh.in.gov/tpc](http://www.isdh.in.gov/tpc)

FDA Center for Tobacco Products -- <http://www.fda.gov/newsevents/publichealthfocus/ucm172906.htm>



**1-800-QUIT NOW**  
Indiana's Tobacco Quitline

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