

The TRUTH™ About E-Cigarettes

A relatively new nicotine delivery product on the market is the electronic cigarette, commonly referred to as an e-cigarette. Although not a tobacco product, they are designed to look and feel in every way like a conventional cigarette. Since they don't produce smoke, they are marketed as an alternative to smoking for people to use in places where smoking is not permitted. However, they have not been properly scientifically evaluated, nor has the U.S. Food and Drug Administration (FDA) approved them as smoking cessation aids; as is the case with nicotine gum and patch products. E-cigarettes are NOT a safe alternative to smoking or tobacco use. The best health advice for tobacco users is to quit.

How do E-cigarettes work?

A typical e-cigarette consists of a battery, a heating element and a cartridge containing nicotine, propylene glycol and water. The levels of nicotine in the cartridges vary and some also contain flavorings. They operate by electronically vaporizing the nicotine solution, creating a mist that is inhaled into the lungs. There is no side-stream tobacco smoke but some nicotine vapor is released into the air as the smoker exhales. Nicotine delivered to the lungs gets to the brain very quickly. In essence, they are an electronic nicotine delivery system.

Health Effects of Nicotine

- Nicotine is a highly addictive drug, research suggests even more so than cocaine or heroin.^{1,2}
- Nicotine raises blood pressure and cholesterol, increasing the likelihood of a heart attack or stroke.^{3,4}
- Exposure to high doses of nicotine can be fatal for adults; the lethal dose for children is just 10mg.⁵
- Nicotine promotes insulin resistance, also called prediabetes, which is a risk factor for cardiovascular disease.⁶

Safety Concerns

- Because e-cigarettes have not been submitted to the FDA for evaluation or approval for use as nicotine delivery devices, at this time the agency has no way of knowing, except for the limited testing it has performed, the levels of nicotine or the amounts or kinds of other chemicals that these products deliver to the user.⁷
- The FDA announced that preliminary testing of e-cigarette samples indicate that they contain carcinogens and toxic chemicals such as diethylene glycol, an ingredient used in anti-freeze.⁷
- The nicotine solutions for e-cigarettes are offered in different strengths and vary by company, each with their own concentration methods. Solutions are very concentrated and can contain 500 to over 1,000 mg of nicotine in one 30 ml (about 1 oz) bottle. This creates a risk of overdosing or poisoning, as the lethal dose of nicotine for adults is 30-60mg if swallowed, and for children is just 10mg. Solutions come in a small bottle, are often fruit-flavored and without a child safety cap.⁵
- There are no studies available that disclose what inhaling water vapor, propylene glycol, pure nicotine (and any other undisclosed substance contained in the vapor) will do to human lungs, heart or cardiovascular system.⁸

Public Health Concerns

- The use of e-cigarettes risks deterring current smokers from quitting.
- E-cigarettes model smoking behavior to youth.
- Misleading advertisements, many times comprised of anecdotal testimonials rather than scientific facts, misrepresent e-cigarettes as harmless and a healthy way to quit. In truth, these devices have not been adequately evaluated for safety or approved as a cessation aid.
- A wide array of flavored nicotine cartridges are available, many of which are candy/fruit flavors, including vanilla, chocolate, strawberry, grape, bubble gum, cherry, mint, peach cobbler, etc. This increases the appeal of e-cigarettes to youth and can become a "gateway" to tobacco product use.⁸
- Studies have shown that when smokers use vaporized nicotine as a smoking alternative or to quit, the vaporized nicotine produces similarly addictive and psychological effects as cigarettes.⁸
- In Utah it is illegal to provide or sell e-cigarettes to anyone under the age of 19 or for anyone under the age of 19 to purchase or possess them. § 76-10-105 (Effective May 11, 2010)

How to Quit Tobacco Use

- There is no legitimate scientific evidence that e-cigarettes will help smokers quit or reduce their use of any tobacco product.
- Effective treatments exist for nicotine dependence that include the use of medicinal nicotine *approved* by the FDA. Medications such as the nicotine patch and gum are evidence-based and have proven success rates.⁹
- Tobacco users are advised to ask a healthcare provider or a pharmacist for help in identifying an FDA-approved nicotine replacement therapy.
- As some tobacco users may not want or be able to use pharmacological aids to quit, there are excellent “how to quit” resources available to help them use social and psychological methods to quit.

The TRUTH™

The simple truth is: cessation is healthy; maintaining addiction is harmful. Eliminating tobacco use prevents disease, unnecessary and expensive health costs and loss of productivity. Substituting one disease-causing agent for another is not a healthy choice and hinders public health efforts aimed at reducing the toll of death and disease caused by tobacco. For evidence-based cessation assistance, tobacco users should be directed to see their health care provider and to call 1-888-567-TRUTH to learn how to quit.

For More Information:



**Utah Tobacco Prevention
And Control Program**
1-877-220-3466
www.tobaccofreeutah.org

Helping Tobacco Users Quit

Free, statewide services to help tobacco users quit include:

Utah Tobacco Quit Line

The Utah Tobacco Quit Line is a free, telephone-based service designed to help people quit tobacco. Be connected with a specially trained coach who will help you develop a personalized quit plan, and guide you through the quitting process.

English: 1.888.567.TRUTH (8788)

Spanish: 1.877.629.1585

TTY Hearing, Speech Impaired: 1.877.777.6534

For more information about the Utah Tobacco Quit Line, visit

www.tobaccofreeutah.org/quitline.htm

Utah QuitNet

Utah QuitNet is a free, internet-based service designed to help individual tobacco users through the quitting process. As a member you'll have access to the world's largest online community of smokers and ex-smokers helping each other to quit and stay quit. For more information visit www.utahquitnet.com.

¹ London, William M. (2000, July 1) *How addictive is cigarette smoking?* Retrieved from http://www.acsh.org/healthissues/newsID.644/healthissue_detail.asp

² *Nicotine Addiction*. (2007, June 19) Retrieved from University of Minnesota, Division of Periodontology web site: <http://www1.umn.edu/periodontology/tobacco/nicaddct.html>

³ Meeker-O'Connell. *How Nicotine Works*. (n.d.) Retrieved 7/14/2009 from <http://health.howstuffworks.com/nicotine.htm>

⁴ *Smoking Health Article*. (n.d.) Retrieved 7/14/2009 from <http://healthline.com/galecontent/smoking>

⁵ Indiana Tobacco Prevention and Cessation (2009, May 27). *E-Cigarettes*. Retrieved from <http://www.in.gov/itpc/files/ECigarettes.pdf>

⁶ (2009, June 10) Nicotine Induces Prediabetes, Likely Contributes to High Prevalence of Heart Disease in Smokers. Newswise. Retrieved 7/15/09 from <http://www.newswise.com/articles/nicotine-induces-prediabetes-likely-contributes-to-high-prevalence-of-heart-disease-in-smokers>

⁷ *FDA Warns of Health Risks Posed by E-cigarettes*. U.S. Food and Drug Administration. (2009, July) Retrieved 2/16/2010 from <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm173401.htm>

⁸ West Virginia Division of Tobacco Prevention & Control. News 2 Use. (Summer 2009) *E-Cigarettes Remain Controversial And Lack The Proof of Any Health Benefits*.

⁹ Fiore MC, Jaen CR, Baker TB, et al. *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guidelines*. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008.