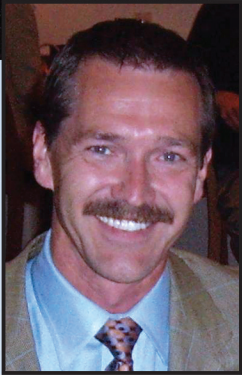


YOUR HEALTH : Are Electronic Cigarettes Safe?



James Heires

Electronic cigarettes are everywhere these days. From the Wall Street Journal, to local TV news, to your corner drugstore, talk of e-cigarettes is heard almost every day. The question on everyone's mind is: **Are they safe?**

What is an electronic cigarette?

According to Wikipedia, "An electronic cigarette or 'e-cigarette' is a battery-powered device that provides inhaled doses of nicotine by delivering a vaporized liquid nicotine solution. It is an alternative to smoked tobacco products, such as cigarettes, cigars, or pipes."

Smokers know the health risks of tobacco – cancer, emphysema, cardiovascular disease, COPD, hypertension, infertility, erectile dysfunction, low birth rate (for babies of smoking mothers), asthma, bronchitis and many others. In fact, there are more than 43 proven deadly substances in tobacco cigarettes, among them arsenic, DDT, cyanide, tar and carbon monoxide. Electronic cigarettes, on the other hand, have few of the health risks of tobacco cigarettes.

What ingredients are in electronic cigarettes? In its simplest form the liquid in electronic cigarettes contains only three ingredients: propylene glycol, nicotine and flavoring. 90% of the liquid is comprised of propylene glycol – a sweet, colorless, organic compound that produces a smoke-like steam when heated. According to the Agency for Toxic Substances and Disease Registry (part of the Centers for Disease Control in Atlanta), "propylene glycol is a 'generally recognized as safe' (GRAS) additive for foods and medications. Propylene glycol rarely causes toxic effects, and then only under very unusual circumstances." Propylene glycol is often found in cake mixes, salad dressings, soft drinks, popcorn, food colorings, fat-free ice cream and sour cream.

Nicotine comprises approximately 5% of the liquid, which provides a sensation at the back of the throat, familiar to tobacco smokers. According to Wiktionary (www.wiktionary.org/wiki/nicotine), nicotine is "an alkaloid (C₁₀H₁₄N₂), commonly occurring in the tobacco plant. In small doses it is a habit-forming stimulant, in larger doses it is toxic." Nicotine can also cause feelings of stimulation, relaxation, calmness or alertness. Although nicotine is highly addictive, it is generally considered harmless to your health. Nicotine is naturally found in tomato, potato, eggplant, and green pepper. It should be noted that e-cigarettes can be purchased with various amounts of nicotine. High, medium, low and

zero nicotine cartridges are all available.

Finally, flavoring makes up about 5% of the e-cigarette's liquid. This gives the e-cigarette a tobacco taste, although a variety of other flavors (menthol, cherry, apple, peach, coffee and Turkish delight) are also available. Note: The FDA has recently announced a ban on most flavored tobacco products. Electronic cigarettes are currently exempt from this ban.

So, it's clear that the ingredients of an e-cigarette are relatively safe.

Compared to tobacco, electronic cigarettes are infinitely healthier. The FDA recently conducted a scientific study of electronic cigarettes. "The FDA's laboratory findings actually indicate that electronic cigarettes are much, much safer than conventional cigarettes," says Dr. Michael Siegel, professor at the Boston University School of Public Health, and an active blogger (<http://tobaccoanalysis.blogspot.com/>). "In fact, if you look at the actual levels of the carcinogens in electronic cigarettes, they're about 1,400 times lower than in Marlboros," he says.

Dr. Adrian Payne, Managing Director of Tobacco Horizons (<http://www.tobaccoharmreduction.org/interviews.htm>) says "Based on the safety profiling data on e-cigarettes that has been published so far, I think it's reasonable to say that they are probably at least two, if not three, orders of magnitude less harmful than regular cigarettes."

Can electronic cigarettes help me quit? Although e-cigarettes are not classified as smoking cessation products, many former smokers credit e-cigarettes for helping them to stop smoking. "My dad's tried everything to quit," says Robin Durand, an e-cigarette user from Tennessee. "I gave him his kit and he went from smoking 2 packs a day to using 9 cigarettes (per day) in 2 days." There are a variety of nicotine replacement products on the market, but these systems in no way replicate the smoking experience. The e-cigarette is different in that it aims to both deliver nicotine and also simulate the experience of smoking a traditional cigarette.

What are your thoughts on electronic cigarettes?

Contact me at jtheires@netins.net and let me know.

James Heires is an author, engineer, inventor and business owner from Cedar Rapids. The electronic cigarettes described here are available at all Eastern Iowa area Cigarette Outlet stores.

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