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To Vape or Not to Vape: The Facts About E-Cigarettes
An unregulated market and youth appeal are concerning

Vaping, or inhaling and exhaling the vapor produced by an electronic cigarette or similar device, has become so popular that the Oxford Dictionary designated “vape” as its 2014 Word of the Year. Vape shops have been opening at a rapid pace throughout the state, touting e-cigarettes as a safe alternative to smoking tobacco.

E-cigarettes, also known as ENDS (electronic nicotine delivery systems) are the battery-powered devices that heat up liquid mixtures of nicotine and other ingredients, known as e-juice. The process produces an aerosol, not just water vapor, which is then inhaled. E-cigarettes were introduced into the US market in 2007, and are now available in more than 450 varieties and e-juice flavors. Most devices look like regular cigarettes, but some resemble cigars, pipes, or everyday items like pens and USB memory sticks.

Although e-cigarette manufacturers claim that these products are effective smoking cessation tools, many questions remain about the safety of their ingredients and use. In addition to nicotine, which is proven to be as addictive as heroin or cocaine, ENDS aerosols can contain formaldehyde, lead and nickel. They also contain propylene glycol or glycerin and flavorings, which may meet US Food and Drug Administration (FDA) approval for use in foods, but are not approved for inhalation. The safety of many of the inhaled flavorings in the e-cigarette liquid is also not known, as heating them can alter their properties, creating new chemicals and byproducts. And, there is very limited data available on the safety of breathing secondhand vapor from e-cigarettes.

Federal, state and local regulators are struggling to keep up with the pace of e-cigarettes. The FDA has proposed regulations to include warning labels and ingredient lists on e-cigarettes, but, realistically, these measures could take years to enact. In April of 2014, the agency proposed extending their authority to regulate e-cigarettes as a tobacco product. Alarmed by a recent surge in nicotine poisonings and the potential for abuse by children, the FDA and US Congress have also begun the process of drawing up policies for nicotine exposure warnings and child-resistant packaging for liquid nicotine.

“As was the case for cigarettes, it will likely take many years for the risks and harms to be understood,” says Dr. Susanne Tanski, a pediatrician and associate professor at the Geisel School of Medicine at Dartmouth and the Norris Cotton Cancer Center. “Since these products are attracting a great deal of attention now, short-term research should be available in the next several years, but long-term health risks will not be known for many years.”

An advocate for smoke-free environments for youth, Dr. Tanski has testified on behalf of the American Academy of Pediatrics for national action to protect children from e-cigarettes.
Teen Cigarette Smoking Down, Vaping Up

The aggressive marketing of these products to young people, luring a new generation into nicotine addiction, raises serious concerns. All of the major tobacco companies now own e-cigarette brands and, in the past three years, the amount of money spent on advertising e-cigarettes has increased 1,200%. Offering e-juice flavors like cotton candy, root beer, and bubble gum, manufacturers are using clever marketing and appealing packaging that are known to attract younger users.

Despite a recent decline in teen cigarette smoking rates, the use of e-cigarettes among this group continues to rise. More than a quarter of a million youth who had never smoked a cigarette used e-cigarettes in 2013, according to a study published in the journal *Nicotine and Tobacco Research*. This number reflects a three-fold increase, from about 79,000 in 2011, to more than 263,000 in 2013. Also reported by the Centers for Disease Control (CDC) was that one in three high school students perceived e-cigarettes to be less harmful than conventional cigarettes, and that those students were more likely to have tried them.

“If experimenting with e-cigarettes leads to smoking tobacco products, the risk of serious health consequences increases for a generation of youth who are not currently smoking,” warns Dr. Tanski. “As importantly, we have no idea what effects vaping has on lungs in the longer term.”

Fortunately, New Hampshire was one of the first states to prohibit the sale of e-cigarettes to minors under 18. Breathe NH was one of the first organizations in the country, and led the effort in New Hampshire, to advocate for this law. With the involvement of our NH Youth Network members, House Bill 1541 was signed into law by Governor John Lynch and went into effect on July 31, 2010.

Safe Alternatives for Quitting

When properly monitored by a physician or healthcare provider, and with the appropriate testing, regulation and approval by the FDA, e-cigarettes may prove to be an effective tool in the future. In the meantime, those who wish to quit smoking should know that the FDA has approved the following products as safe, effective options: nicotine gum, nicotine skin patches, nicotine lozenges, nicotine oral inhaled products, nicotine nasal spray, and the medicines Zyban and Chantix.

For more information about quitting smoking, or for updates on e-cigarette regulation, visit the Breathe NH website at [www.breathenh.org](http://www.breathenh.org) or call 1-800-835-8647.

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