

Blowing Smoke - Big Tobacco's Ten Billion Dollar Vaping Industry and the Health Risks To Our Kids

What Are E-Cigarettes?

Electronic cigarettes are battery-powered smoking devices often designed to look and feel like regular cigarettes. They use cartridges filled with a liquid that contains nicotine, flavorings, and other chemicals. A heating device in the e-cigarette converts the liquid into a vapor, which the person inhales. That's why using e-cigarettes is known as "vaping."

This inhalation method has been around since the 1960s, further developed by a 52 year old Chinese pharmacist named Hon Lik, who designed what would become the first commercially successful electronic cigarette (E-Cig) in 2003. Hon's inspiration for creating this device was his father, who died of lung cancer resulting from years of heavy smoking.

A new type of device, called the Juul, is a slim e-cigarette vaporizer that looks like a flash drive and can be charged in a laptop's USB port. Because it's less recognizable, parents might not even realize their child has a vaping device. Also, it produces less smoke than other devices — and dissipates quickly — so some older kids and teens are using them to vape in school. The Juul delivers nicotine levels similar to a cigarette's.

Why Are They Dangerous?

Because e-cigarettes don't burn tobacco, people don't inhale the same amounts of tar and carbon monoxide as with a regular cigarette. But anyone using an e-cigarette still gets an unhealthy dose of nicotine and other chemicals.

Electronic cigarettes have been marketed to smokers as a way to help them quit, but there's no evidence that they actually help people stop smoking. Instead, they've been found to be a health risk for people who use them, as well as for bystanders who breathe in the secondhand vapor (what comes out of the device and the user's mouth) and third-hand vapor (what's deposited on surfaces such as upholstery, clothing, and floors).

What Are the Health Risks of Vaping?

Nicotine

Anyone who uses ("vapes") an e-cigarette is still putting nicotine — which is absorbed through the lungs — into his or her system. Besides being an addictive drug, nicotine is also toxic in high doses.

Nicotine affects the brain, nervous system, and heart. It raises blood pressure and heart rate. The larger the dose of nicotine, the more a person's blood pressure and heart rate go up. This can cause an abnormal heart rate.

After the initial effects wear off, the body starts to crave nicotine. An e-cigarette user might feel depressed, tired, or crabby (this is nicotine withdrawal), and crave more nicotine to perk up again. Over time, nicotine use can lead to serious medical problems, including heart disease, blood clots, and stomach ulcers.

Vaping Lowers the Body's Ability to Fight Infections

Researchers at the University of North Carolina, Chapel Hill examined scraped cells recovered from the noses of otherwise healthy participants who belonged to one of three groups: cigarette smokers, vape users, and a control group that neither vaped nor smoked. These researchers then measured the activity levels in the cells of 594 genes known to aid in immune system support and fighting off infections.

What they found was astonishing; both vape users and cigarette smokers showed signs of diminished activity in these genes, however the vape group in particular exhibited decreased activity in 300 more genes in comparison to regular smoking! This evidence suggests that compounds found in the liquid used to create the vapor has an immunosuppressive effect on the body.

Lithium Ion-powered Vapes Can Blow Up

Kenneth Barbero of Albany, NY is one of several individuals who has been severely injured by the combustion of a vaporizer. In his interview with CNN, Kenneth explains that the explosion ripped a hole in his tongue, left his hands covered in burns, and took out several teeth in the process. This explosion happened as a result of the overheating of a lithium ion battery used to power the vape, producing a dangerous explosion that could have killed him.

As these larger vape cartridges and lithium ion batteries become more prevalent in the vaping marketplace, we can expect an increase in dangerous situations like these if the means of administering this smoke is not altered or regulated more closely.

Accidental Ingestion of Vape Liquid Is Poisonous

The Center for Disease Control and Prevention (CDC) issued a press release in 2014 indicating that the number of calls into poison centers involving e-cigarette liquids was 215 times greater compared to 2010. The article further explains that this poisoning occurs in three ways: ingestion, inhalation, or absorption through the eyes and skin. An even more alarming finding showed that over half of these emergencies involved young children under the age of 5, one possible explanation being the candy and fruit flavor varieties of these substances that children might be drawn to. These liquids are also found to cause moderate to severe skin irritation when accidental exposure occurs, a legitimate concern for users who use refillable cartridges.

Vapes Also Contain Formaldehyde, or Embalming Fluid

Oh, you know, that stuff that is used to preserve dead bodies over long periods of time? That's right. James F. Pankow, a professor of chemistry and engineering at Portland State University in Oregon, found that vaping 3 milligrams of liquid at a voltage commonly used in commercial vapes produced 14 milligrams of formaldehyde. These researchers estimated that a tobacco smoker would receive .15 milligrams of the same chemical per cigarette, or 3 milligrams per pack. This indicates that many vaporizers contain more formaldehyde than regular cigarettes, a chemical associated with cancer risks when inhaled.

What Are Some Hints That My Child Might Be Vaping?

New and Unusual Aromas:

E-cigarettes don't smell like the smoke from combusting tobacco. Most e-liquids have flavors in them that often smell like candy, mint, vanilla, fruit punch, etc. If you catch a sudden whiff of any of these but none are around, consider this a red flag.

Unfamiliar Handheld Gadgets:

E-cigarettes come in various shapes, from cig-a-likes to box mods. However, the most common ones resemble a pen, and are known as vape pens. If you find a pen that isn't a pen, be aware that it could be a vaporizer. The easiest way to spot an e-cig is to look for holes on each end of the device.

Increased Thirstiness:

Vapor from e-cigs is made of VG (Vegetable Glycerin), PG (Propylene Glycol), and flavors. The chemical characteristics of PG make it attract water molecules from its surroundings. When vapor enters the mouth, PG does its trick and keeps the vaper in a state of dry mouth. So, if your child is suddenly drinking more water, you need to keep a closer eye on them.

Caffeine sensitivity:

Vapers develop caffeine sensitivity, and if your child loved coffee or Red Bulls, but suddenly stops chugging them, vaping could be the cause.

Batteries and Chargers:

Just like you have to charge your smartphone every day, vapers need to charge their vaporizers on a regular basis. While some e-cigs can be charged with just a USB cable, most of the powerful e-cigs like box mods support 18650 batteries. So, if you see unfamiliar batteries on the charger, take a look around - you might find a vaping device.

Metallic Wires and Cotton Wicks:

If you find organic cotton, empty plastic vials, or thin metallic coils lying in your child's room, this is yet another red flag.

Discarded Atomizers:

The atomizers are a vital part of e-cigs as they turn e-juice into vapor. However, they are disposable and after a while usually burn out. If you come across a discarded atomizer in your kid's trash can, it's a clear indication that he/she has been vaping.

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