

Juuling: Cigarettes for the Next Generation

 theroar.marincatholic.org/1955/opinion/juuling-cigarettes-for-the-next-generation/



Kate Livermore '17, Writer

March 14, 2017

Filed under Opinion

Juuls: the latest e-cigarettes. The growth in popularity of this handheld electronic device throughout Marin County has been deemed as a cool trend. However, before you decide to purchase or smoke one, you should understand what exactly you are putting into your body.

Let's start at the beginning — what exactly is a Juul? Pax Labs, the device's creator based out of San Francisco, describes it as an "intensely satisfying closed-system vapor experience." The Juul can be physically broken down into two pieces: the shell and the pod. The shell is made of aluminum encasing a Lithium ion battery, a circuit board, and a pressure sensor. The other piece is the replaceable pod, which comes in many flavors, made of food-grade plastics, and contains a stainless steel vapor path. This stainless steel vapor path, combined with the battery, powers and heats the vapor, delivering a "smooth and consistent delivery" and "high quality vaping experience."

At this point, juuling seems harmless — how can a handheld, flavored vaping pen actually affect you? A tell-tale sign should be that the directions listed under the pod contents is a "Warning from Pax Labs" that "no tobacco or e-liquid product should ever be considered 'safe'." The official ingredients of the pods are listed as follows: glycerol, propylene glycol, natural oils, extracts and flavor, nicotine and benzoic acid. Let's break down the contents of the pods.

Glycerol: Generally safe for most adults as it is a natural occurring colorless, odorless liquid chemical. It's also non-toxic and sweet-tasting, which contributes to the various flavors of the pods.

Propylene Glycol: Also an odorless, colorless, synthetic liquid that helps absorb water. The FDA has classified this chemical as an additive that is "generally classified as safe." According to the Agency for Toxic Substances and Disease Registry, when this vapor enters the environment, it can be found in several of the 1,416 hazardous waste sites around the country. The environmental degradation within these National Priority Sites has long term effects on our country.

Natural Oils: Nothing is provided on the content of these natural oils.

Extracts and Flavor: Again, nothing is provided on the specific ingredients for this additive.

Benzoic Acid: Commonly added to food and beverages as a preservative. It is "considered to be safe" (note that the FDA hasn't labeled it as officially a safe substance to consume, but it's merely considered), and is used in manufactured products because it inhibits the growth of both bacteria and fungi.

Lastly, Juuls contain Nicotine. In each pod, there is 59 mg/mL of Nicotine, which is the equivalent of a pack of cigarettes per pod. In the FAQ section of the Juul website, they highlight that "Nicotine is not appropriate for use by minors. Nicotine is addictive." So what is nicotine? Nicotine is a chemical found in the leaves of the tobacco plant and constitutes to anywhere between 0.6% -3.0% of the dry weight of tobacco. Nicotine and tobacco are not only highly addictive, but even the smallest of doses can impair your health.

Here's a breakdown of how exactly one puff of a juul streams nicotine into your body and what its effects are. In the brain, one puff of nicotine disrupts normal activity, causing chemical changes throughout the brain that rapidly lead to addiction. One of the most common effects of the juul, and why it is so attractive, is because it makes you feel light-headed and gives you a "head rush". This head rush is actually just releasing adrenaline and increasing the oxygen flow to your brain (achievable through alternate methods). When nicotine enters your body, blood and oxygen are prevented from reaching their target cells easily and efficiently, stimulating a head rush. Your body becomes increasingly stressed trying to transfer the blood and oxygen to where it needs to go. This increased stress increases the risk of heart attack and stroke drastically. Even a little bit of nicotine in the blood stream redirects the path of the blood and oxygen, rapidly increasing your risk of suffering from nicotine's negative side effects. But is this ten-second headrush actually worth the short and long term consequences of nicotine entering your body?

The National Institute of Health recently discovered that tobacco and nicotine are the leading causes of preventable cancer. Nicotine forms metabolites which increases cell division, causing tumor growth and cancer development. Nicotine is one of the most addictive substances in existence. It has been scientifically proven that when your body ingests nicotine once or twice after inhaling it, you become unable to say "no" and actually associate the importance of nicotine in your body to eating food. In fact, it's similar to heroin and cocaine in that respect. When nicotine enters the bloodstream, it stimulates the "reward center" in the brain and causes a mood elevation by desensitizing the neurons which inhibit the dopamine release.

Nicotine also affects your eyesight by contributing to visual deterioration. The stimulant reduces your ability to see at night by impairing the production of pigments in your eyes that are specifically designed for low light vision. Nicotine accelerates the destruction of your eyesight, as well as increasing the risk of future cataracts.

The presence of nicotine in your body also affects your reproductive system by increasing the risk of infertility and miscarriages. Not only does nicotine affect the system before a child is conceived or born, but babies born after being exposed to nicotine, if they make it to birth, tend to have low weights or are born prematurely. What's important to remember is that because nicotine is so addictive, starting now through e-cigarettes translates to a life-long addiction, possibly leading to something stronger, such as traditional cigarettes.

There is an advantage to juuling: it is better than a cigarette because it doesn't give off any smoke. Instead, the Juul releases vapor which dissolves and can't pollute the environment. This is why electronic cigarettes were created by scientists. They are a less toxic approach to smoking cigarettes for smokers because they don't give off the same pollution. (Key word: **for smokers**.) The pods, however, are still not recyclable, meaning they can be discarded the same way cigarette butts are — thrown on the ground and as "trash." E-cigarettes are compelling devices for those who are already addicted to cigarettes. They provide a healthier alternative to cigarettes, and reduce the user's consumption of nicotine and tobacco. Nonetheless, they were created for habitual smokers, not underage teenagers seeking a headrush, unknowingly getting themselves hooked on the sensation that nicotine provides.

One of the most frightening aspects of the Juul, or any electronic cigarette, is that any Juuler of this generation doesn't quite understand that they are a guinea pig in a test on what the Juul's effects are on human health. The current generation of e-cig smokers isn't old enough for scientists to properly analyze the effects of the drug. The industry's relative youth means that the long term effects of the e-cigarette on your body are unknown.

I know that many of my peers believe that "if you do it in moderation, it's not bad." Let's say that moderation is considered to be one pod a week, or the equivalence of a pack of cigarettes. You already know all of the long term consequences that nicotine causes. Smoking a juul in moderation undoubtedly leads to addiction because of the chemical makeup of nicotine and how it triggers the parts of your brain. For perspective, the radiation that you get from smoking 1 ½ cigarette packs is equivalent to 300 chest x-ray films per year.

Lastly, I've personally seen the negative effects of nicotine products on my own family members. Witnessing the toll it took on some of my relatives truly scared me away from putting any form of a cigarette to my lips throughout high school. My purpose in writing this article is not to shame others with random facts or to act condescending towards those who maintain that juuling is harmless. I simply aim to educate my peers with scientific evidence so that they can be informed consumers if they choose to juul. And the scientific evidence is clear: a 10-second head rush isn't worth it a lifetime of health problems. Once you take the first hit, your brain automatically associates the sweet flavor as "good", triggering your pleasure center to automatically equate juuling as good, fostering a lifetime addiction to tobacco and nicotine. So if you're eighteen or older and feel like trying out a juul, please know exactly what you're getting yourself into before you risk your health.