What is Vaping?

Vaping is the act of inhaling and exhaling aerosol or vapor produced by a vape device. Because of the rise in popularity of JUUL, a specific type of vape device, many teens and young adults use the term “JUULING” (pronounced Jeweling), instead of vaping.

How Does Vaping Work?

Vape devices, known as e-cigs, e-hookahs, mods, vape pens, vapes, tank systems and Juuls, contain 4 basic components: a cartridge or a tank to hold e-liquid (or e-juice/vape sauce), a heating element known as an atomizer, a battery and a mouthpiece to inhale.

A sensor detects when a person is trying to inhale. This triggers the battery to supply electricity to the coil of wire or the atomizer. The heat given off by the coil is transferred to the e-liquid, which can only take so much energy before it’s vaporized, and this is what users inhale. While the output of the devices may look like smoke, it is actually vapor.

What Do Vape Devices Look Like?

Some vape devices look like regular cigarettes, cigars or pipes while others resemble USB sticks and other everyday objects like a guitar pick. Larger devices such as tank systems, or “mods,” do not look like other tobacco products. Instead, they look more like a small cellphone. Some devices can be thrown away, while others can be reused by charging the device on the USB port of a computer or elsewhere and replacing the e-liquid, either by filling the chamber or using a self-contained pod.

What Is Being Vaped?

Although many substances can be vaped, three are most common: flavored e-liquids, flavored e-liquids with nicotine, and marijuana. The e-liquids come
in small bottles or in pre-filled pods or cartridges. Pods are the component that contain the e-liquid.

1. Flavored e-liquids come in thousands of flavors, including bubble gum, cotton candy and grape, but also hot dog, banana bread and King Crab legs.

2. Flavored e-liquids may also contain different levels of nicotine, ranging from 2mg/ml to 59mg/ml. One of the more popular vape devices, Juul, contains 59mg/ml of nicotine in each pod. Each Juul pod is equal to one pack of cigarettes.

3. Marijuana can be vaped in both the leaf form or using THC and/or CBD oil. THC is the psychoactive compound in marijuana that creates a sense of being high.

What Is Vaping’s Appeal?

Although vaping was intended to be a less harmful option for adult smokers, teens and young adults have embraced it for several reasons. First and foremost is a sense of curiosity, followed by the many kid-oriented flavors offered.

It’s not uncommon for kids to try out each other’s vapes at parties to check out flavors like German Chocolate Cake or Banana Split and then post vaping videos on social media.

Teens are increasingly becoming interested in “cloud competitions,” in which adults compete to perform the best vaping tricks. In addition to being featured on social media, cloud competitions are becoming a regular feature at local vape shops with some offering thousands of dollars in prize money.

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Vaping tricks are another major attraction of vaping.

Boredom is another reason cited by many teens. It can be habit-forming, much in the same way teens check their phones in free moments. It’s easy to take a quick puff.
Is Vaping Safe?

The short answer is that vaping isn’t considered safe for teens and young adults, especially since their brains are still developing. Vaping is a relatively new phenomenon. As a result, long-term studies that examine its impact on teen and young adult health and behavior have yet to be concluded.

The most comprehensive research to date is a report commissioned by Congress from the National Academies of Sciences, Engineering and Medicine. Released in January 2018, the report looked at exposure to nicotine and other toxic substances, dependence, harm reduction, smoking risks, cancer and more. Below is a summary of their findings, based on “conclusive” or “substantial” evidence.

⚠️ Exposure to Nicotine

Nicotine is a stimulant that activates the nervous system to prepare the body for physical and mental activity. It causes one's breathing to become more rapid and shallow, as well as increases heart rate and blood pressure. The committee reported that nicotine exposure from e-cigarettes varies considerably depending upon the contents of the e-liquid, the type of device that’s used and how it is operated.

Nicotine exposure in teens and young adults is worrisome because nicotine can be highly addictive. Due to the fact that the brain is undergoing massive changes during adolescence through the mid- to late 20’s, nicotine use may rewire the brain, making it easier to get hooked on other substances and contribute to problems with concentration, learning and impulse control.

⚠️ Exposure to Toxic Substances

The report highlights that most e-cigarettes contain and release a number of potentially toxic substances, although exposure to these substances is considerably lower than those found in regular cigarettes.
**VAPEING / Is Vaping Safe?**

⚠️ **Dependence**

Dependence develops when the body adapts to repeated exposure to vaping. When a person stops vaping, he or she can experience withdrawal symptoms, although likely not as intense as those associated with conventional cigarette smoking. The Congressional study reported that e-cigarettes may result in dependence and showed "moderate evidence" that differences in e-cigarette products – including nicotine concentration, flavorings, device type and brand – play a key role in determining the risk and severity of dependence.

⚠️ **Harm Reduction**

Replacing e-cigarettes for conventional cigarettes reduces users' exposure to the many harmful substances in combustible cigarettes. Recently, however, concerns have surfaced that rather than decreasing cigarette use, some smokers are using both. They are vaping when they can't smoke.

⚠️ **Smoking Risks**

There is worry that teens and young adults who use e-cigarettes will increase their risk of smoking. Teens and young adults who vape are almost 4 times as likely as their non-vaping peers to begin smoking traditional cigarettes, according to a review published online in JAMA Pediatrics.

⚠️ **Injuries and Poisonings**

Vape devices, especially those with poor quality batteries, or that have been stored improperly or modified by the user, can explode resulting in burns and other injuries. Exposure to e-liquids from drinking, either on purpose or by accident, eye or skin contact, or injection can result in seizures, brain injury due to lack of oxygen, vomiting, problems related to lactic acid buildup in the body or death.

⚠️ **Cancer and Respiratory Effects**

No data was cited as to whether or not vaping causes cancer or respiratory diseases. Long-term studies are needed as these diseases take years to develop. There is some concern though that vaping can increase coughing and wheezing in teens and may exacerbate asthma.

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Concerns have surfaced that rather than decreasing cigarette use, some smokers are using both—vaping when they can't smoke.
Marijuana and Vaping

Although the committee’s report did not cover marijuana vaping, it is also of concern for adolescents and young adults. Selling equipment to vape marijuana in dab (concentrated wax-like substance) or oil or leaf form is a booming business with many new players.

For example, Pax Labs, formerly Ploom, was founded in 2007 and is a relatively well-known brand for vaping dry leaf marijuana. The company has introduced the Pax 3, which they describe as the “Apple iPhone” of vaporizers as it allows you to vape both dry leaf and wax concentrates. It includes a free Android or iOS app to control temperature, play free games, manage firmware and lock the device.

In California, a company called EAZE sells disposable all-in-one marijuana vape pens and cartridges. Flavors include Blueberry Kush, Lemon OG and Mango Passion Fruit. They market these as wellness products with advertising that reads, “Hello Marijuana, Goodbye Insomnia” or “Hello Marijuana, Goodbye Hangover.”

Juul can also be used to vape marijuana; however, it should be noted that as of now, Juul does not offer marijuana products. The device has to be hacked in order to use it with THC oils. There are also companies making pods that fit a Juul, so a THC oil pod may be in the future.

According to the CDC, marijuana use may have long-lasting or permanent effects on the developing adolescent brain. Negative effects include:

- Difficulty with critical thinking skills like attention, problem-solving and memory
- Impaired reaction time and coordination, especially as it relates to driving
- Decline in school performance
- Increased risk of mental health issues including depression or anxiety, and in some cases, psychosis where there is a family history

Research also shows that about 1 in 6 teens who repeatedly use marijuana can become addicted, as compared to 1 in 9 adults. Further, kids who vape are more likely to use combustible cigarettes and try marijuana than their non-vaping peers.
How Is Vaping Regulated?

Vaping is illegal for anyone under the age of 18, although in some states the age restriction is 21. Up until 2016, there was little if any regulation of the vaping industry. At that time, the Food and Drug Administration (FDA) introduced the “Deeming Rule,” which placed oversight of vaping products with the organization. In addition to the requirement to check ID, merchants are prohibited from giving away free samples, using vending machines (unless in establishments that don’t allow minors) and claiming that products are safer alternatives to other tobacco products. As of 2018, nicotine warning labels must be on vaping products and they must list all ingredients.

What Should Parents Know

What Are the Signs of Vaping?

Although sometimes more subtle, there are clues to look for to see if your child is vaping:

- **Equipment**
  
  You may find devices that look like flash drives, e-juice bottles, pods (that contain e-juice) or product packaging. Aside from leaf marijuana, gel jars that contain dabs, small tools to scoop dabs and cartridges that contain THC oil are signs of vaping marijuana.

- **Online purchases / packages in the mail / store purchases**
  
  Be on the lookout for purchases made online and charged to your credit card or unusual packages that arrive in the mail. Kids also buy them at big box stores, gas stations or from other friends.

- **Scent**
  
  While the smell from vaping is faint, you may catch a whiff of a flavoring where there appears to be no other source. For example, if you smell bubble gum or chocolate cake, take note.

- **Increased thirst / nose bleeds**
  
  Some of the chemicals used in e-juices have the effect of drying out the mouth and nasal passages. As a result, some kids drink more liquids or seem more prone to nose bleeds.

- **Decreased caffeine use**
  
  Some teens and young adults develop a sensitivity to caffeine. If your child drank caffeinated energy drinks and quits, it may be as a result of vaping.

- **Vaping lingo**
  
  You may see vape lingo in text messages such as “atty” for an atomizer, “VG” for vegetable glycerin found in e-juice or “sauce” referring to e-juice. Kids often brag about their vaping exploits on social media. Look for pictures on Instagram or YouTube or check their Twitter accounts.

- **Appearance and behavior changes**
  
  Just like smoking, vaping marijuana can result in bloodshot eyes, dry mouth and thirst, increased appetite and shifts in behavior and mood. Sometimes, there is a noticeable change in friends and a decrease in activities that were once enjoyed.