

A Review on an important topic from OBTPS information provided in collaboration with the Mahwah Municipal Alliance

E-Cigs: Vaping and the effects it has on your health

Do you know what's in your teen's Vape

One of the greatest public health successes in decades has been the reduction of widespread cigarette use in our country. For the most coveted demographic by major tobacco companies - teenagers - daily cigarette use is one third of what it once was in the 1970s. This was accomplished by informing the youth and parents about the short and long term dangers of cigarette smoking.

Now we are facing another health crisis for our youth that takes the form of vaping or e-cigarettes and a similar type of call is needed, E-cigarettes are suddenly the new, popular trend with candy flavors, low prices and the trendy nicknames.

A new strategy is necessary to inform people of the e-cigarettes and vaping and dispel the rumors that it is safer than cigarettes. The business model of marketing e-cigarettes is a multi-million-dollar business that ignores the serious health hazards that are inherent with this habit.

As the saying goes, if you can't pronounce it-then don't eat it. We could add if you can't pronounce it then don't inhale it. Some of the ingredients that are a by-product of vaping that you don't see in the glitzy advertising are trimethylpyrazine, ethylpyrazine, propylene, and glycol. These are ingredients of a cleaning solution but which have also been found in e-juice vaporized in an e-cigarette. E-juice producers market their products by using catchy phrases like "Smurf Cake", "Muffin Man", and "Sin-A-Bun".

Our goal in offering the newsletter to parents is not to use scare tactics, but rather accurate and factual information about issues relating to e-cigarettes and vaping. The school district, Old Bridge Police Department, and Municipal Alliance take the health and wellbeing of our young leaders of tomorrow, very seriously and e-cigarettes are becoming a concern on many different levels for us. We hope you find this newsletter Informative with valuable information that will start the conversation about the dangers and health issues related to e-cigarettes and vaping.



The Juul

A Vaping device that IWO like a USB drive. Trending among youth on high school and college campuses.



What is Vaping?

Vaping is the act of inhaling and exhaling the aerosol, often referred to as vapor, which is produced by an e-cigarette or similar device.

1 in 5 middle school students who reported ever using e-cigs say they have never tried traditional cigarettes.

Source: Centers for Disease Control, National Youth Tobacco Survey, 2013

1 in 4 high school teens who have used e-cigarettes have also tried a potentially dangerous new vaping method called "dripping".

Source: USA Today

How are Vaping Devices Used?



A vaping device typically consists of a mouthpiece, a battery, a cartridge for containing the e-liquid or e-juice, and a heating component for the device that is powered by a battery. When the device is used, the battery heats up the heating component, which turns the contents of the e-liquid into an aerosol that is inhaled into the lungs and then exhaled.

The e-liquid in vaporizer products usually contains a propylene glycol or vegetable glycerin-based liquid with nicotine, flavoring and other chemicals and metals, but not tobacco. Some people use these devices to vape THC, the chemical responsible for most of marijuana's mind-altering effects, or even synthetic drugs like flakka, instead of nicotine. *National Center on Addiction and Substance abuse.*

What is Dripping?

Differs from normal e-cigarette use that slowly releases the liquid from a wick onto a hot atomizer. May expose users to higher levels of nicotine and two harmful non-nicotine toxins, such as formaldehyde and acetaldehyde - known carcinogens.

64%, of the surveyed teens said they dripped for the thicker smoke, 39% for the better flavor and 28% for the stronger throat hit or sensation. Source: USA Today

Juices and Nicotine E-liquids

The liquid that is used in electronic cigarettes is known as juice or eliquid. Juices are usually made up of propylene glycol (PG - used in medicinal preparations among other applications), vegetable glycerine (VG) and food grade flavors.

E-cig juice flavors

There are a huge range of flavors available - some mimic tobacco, others include coffee, caramel and menthol. Some juices may be sold as concentrates - i.e. you add them to a nicotine liquid/PG/VG base or a PG/VG base. Others will be sold as juices "ready to vape" either with or without nicotine. Be sure you know what you are buying.

Nicotine liquids

Varying strengths of nicotine and toxic.



What is a Juul?

(pronounced *jewel*)

A vaping device that's been trending on high school and college campuses doesn't look like a vaping device. The Juul vaporizer (stylized as "JUUL") looks like a USB flash drive.



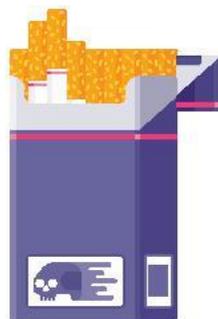
Juul Device



Juul Pods

Students plug the Juuls into their laptops to charge them. Juul-issued flavor pods can deliver more than double the nicotine — and nicotine buzz — of other vaping products.

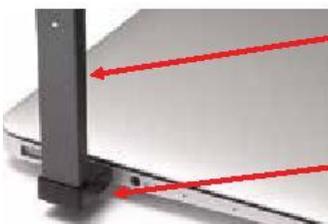
One Juul pod contains as much nicotine as a pack of cigarettes.



Cap can be removed and the pod is inserted into the end of the Juul device.



This is the charger device. It can be charged using a computer or any universal USB wall charger.



The Juul is shown here plugged into the charger device that is plugged into a computer.

Interview of several teenagers:

What is the most common "e-cig" being smoked by teens?

Juul and phix. Juuls are the most popular. Teens are moving away from the vape and prefer to use the Juul. They started with vaping a couple of years ago but that has now changed to Juuling.

Why is the Juul preferred?

Easy to hide from parents and school. It's small and looks like a flash drive. Easy to charge: Plug into a laptop or wall outlet.

How often do you use the Juul?

It varies, boys seem to use it more than the girls. Some boys start first thing in the morning. A significant amount of girls are also using it. They don't believe there is any danger in smoking it. They feel it's less nicotine than smoking cigarettes and healthier than smoking cigarettes.

What is the typical cost?

A starter kit is about \$60.

What is the most common way to purchase?

Commonly purchased at vape shops, 7-11 and the Internet. They also purchase it from older kids.

How does it work?

Using a small pod which equals a pack of cigarettes. Pods are then replaced.

What do you like about smoking the Juul?

Social aspect, everyone is doing it. It started with vaping and doing tricks when blowing smoke. Now they are Juuling. Like the head rush.

Different flavored pods: Tobacco, mints, melon, mango, cool cucumber, crème brulee. The original vapes they didn't have a lot of nicotine but with the Juul, nicotine is part of it.

Types of Vaping Devices

There are currently three main types of devices for vaping marijuana products: table top vaporizers, vape pens and dab rigs. There have been also some reports of utilization of e-cigarettes for hash oil vaporization.



Traditional Desk Top Vaporizers — Less of the THC is burned off than when smoked, vaporization may have a stronger psychoactive effect, but offers rapid onset of effects allowing the consumer to easily titrate dose to the desired effect.



Dab Rigs — Dabbing is a method to inhale cannabis vapor from concentrates, oils or extracts through a dab rig. The typical "dab" set-up involves a hand held torch and a type of bong or water pipe with a heating element that allows fast vaporization of cannabis concentrates. Vaporization through dabbing delivers a very high dose of THC in a short period of time.



Vape Pens — A newer method for vaporizing marijuana and are not well-studied. The first generation of vape pens are similar to e-cigarettes, designed to slowly heat oil cartridge contents to the point of vaporization. While they are marketed as convenient, safe and affordable, they are unregulated. Some of these vape pens come with a cannabis oil cartridge attached to it — once the oil is used up, the whole device is discarded. These vape pens are also called "e-joints" and have the appeal of being small, convenient to carry, and release almost no cannabis smell when used.

Nicknames & Distinguishing Characteristics:

First Generation

Product Nicknames:

- Electronic cigarette
- Cig-a-likes
- Minis

Distinguishing Characteristics:

- Physically similar to cigarettes
- Come in disposable or rechargeable forms
- May emit a light when the user puffs
- Shorter battery life than later generations
- Generally less expensive

Second Generation

Product Nicknames:

- Vape pens
- Mid-sized e-hookah

Distinguishing Characteristics:

- Short for "vaporizer pen"
- Come in various sizes
- Not shaped like a cigarette
- Slim like a pen
- Can come in disposable or rechargeable forms
- Refillable with e-juice/e-liquid



Third Generation

Product Nicknames:

- Mechanical Modified Nicotine Delivery Systems (MODs)
- Vape MODs/personal vaporizer
- Electronic hookah

Distinguishing Characteristics:

- Larger in shape and size
- Include modification options
- Have larger battery capacity and replaceable batteries
- Typically, rechargeable
- Typically deliver more nicotine than earlier generations
- Electronic versions of hookah head and hookah bowl



There is little consistency across different products.

Until recently, there was limited federal oversight for e-cigarettes and other vaping devices, making it difficult to assess the dangers of any specific product. Across products, there was considerable variation in the nature and concentration of the ingredients, including nicotine and other known toxins.

There is no evidence that the aerosol from these products is safe.

There is limited research into the long-term health effects of aerosolizing nicotine and other chemicals in e-cigarettes and other vaping devices. It is clear, however, that the additives, heavy metals, ultrafine particles, and other ingredients they contain include toxins and carcinogens.

Further, effective November 1, 2017, NJ Code 2A:170-51.4 & NJ Code 2C:33-13.1 prohibits the sale of tobacco and/or any type of smoking device to someone under the age of 21.

Trends & Popularity Among Youth

Vaping has grown in popularity with the rise of e-cigarettes, which were introduced to the mass market in the U.S. in 2007. Vaping devices include not just e-cigarettes, but also vape pens and advanced personal vaporizers (also known as 'MODS'). E-cigarettes, which resemble smoked cigarettes, and vape pens, which resemble large fountain pens, are typically simpler in design and less expensive than devices that have been customized by the user.

Around 6 to 7% of students across all grades reported vaping marijuana

Dr. Richard Miech, Institute for Social Research University of Michigan published in the journal Tobacco Control.

Use of e-cigarettes tripled between 2013-2014 among middle and high school students.

According to a report published by the Centers for Disease Control and Prevention (CDC).

Using e-cigarettes and other vaping devices is not a proven method for quitting smoking.

E-cigarettes and other vaping devices would be a preferred alternative to traditional cigarettes, when used exclusively as a replacement and only among smokers who have been unable to quit smoking using proven, medically approved methods. However, there is little evidence that they reliably reduce cigarette smoking or lead to smoking cessation.

E-cigarettes and other vaping devices are not used exclusively by people trying to quit smoking. They are increasingly popular with young people, including those who had never smoked cigarettes previously and never intended to. Research shows that some young people begin to smoke cigarettes only after using e-cigarettes.

E-cigarettes and other vaping devices are frequently used in addition to smoked cigarettes, rather than in place of them. Many smokers use these products alongside traditional cigarettes, often at times and in places where smoking is not allowed or is not convenient.

MANY e-cigs are being hacked to be used with THC (marijuana) oil or wax. They are becoming drug dispensing devices.

The spread of e-cigarettes and other vaping devices may be re-normalizing smoking behavior. The increase in nicotine devices and products and their widespread availability is reversing some of the progress made over decades of intense global, national, and local efforts to reduce cigarette smoking, especially among young people.

Health Risks & Consequences

E-cigarettes and ether Vaping Devices are NOT Risk-Free. There is no evidence that E-cigarettes are Risk-Free.

They may lead to negative health consequences, including:

- Damage to the broil, heart and lungs
- Cancerous tumor development
- Preterm deliveries and stillbirths in pregnant women
- Harmful effects on brain and lung development, when use occurs during fetal development or adolescence
- They contain nicotine, a highly addictive drug with known health risks.

Same Side Effects:

- Dry skin and dry mouth
- Rash/burning sensation on face
- Itchiness
- Puffy dry eyes
- Caffeine sensitivity
- Minor nose bleeds
- Nausea

Other various studies indicate:

- Vaping lowers the body's ability to fight infections
- Chemicals in vape smoke causes "popcorn lung"
- Lithium ion-powered vapes can blow up
- The levels of nicotine are loosely monitored
- Accidental Ingestion of vape liquid Is poisonous
- Metal particles are found in vape smoke
- Vapes also contain formaldehyde, or embalming fluid
- Pneumonia is a risk for vape users
- E-cigarette usage is linked to depression

Old Bridge Public Schools

Student Assistance Program

The purpose of the Student Assistance Program is to provide assessment, intervention and referral services to students and their families who are experiencing difficulties due to the following: Substance abuse, Depression, Stress and anxiety, Family issues, Self-injury Bullying/harassment, Gambling, Gender identity Grief, Anger, and other issues

The programs goal is to empower students to increase coping and decision making skills, build a stronger support system and enhance self-esteem.

Your Student Assistance Counselors are:

Rose Bornstein-Bedoya: LCADC, LPC, SAC
Jonas Salk Middle School-732-360-3036

Lauren Piserchia: LCADC, LCSW, SAC Carl
Sandburg Middle School-732-360-1313

Rhonda Vanderhoff: LCADC, LPC, SAC
Old Bridge HS A-L 732-290-3900 ext 3990

Robert Waitt: LPC, SAC
Old Bridge HS M-Z 732-290-3900 ext 3850

Renee Freel - SAC
Old Bridge HS GNC 732-290-3900 ext 3893



Using nicotine Increases the risk of addiction. Nicotine addiction IS difficult to reverse, and addiction to e-cigarettes can lead to using other nicotine products, including smoked cigarettes, as well as alcohol and other drugs.



Nicotine can affect brain development and functioning in young people. Young people are particularly vulnerable to using e-cigarettes and vaping devices and to their effects. The younger a person is when he or she tries nicotine, the greater the risk of addiction. The developing brain is more vulnerable to the effects of addictive substances than a fully developed adult brain- Additionally, nicotine can disrupt brain development, interfere with long-term cognitive functioning, and increase the risk of various mental and physical health problems later in life. The brain is not fully developed until see 21.



E-cigarettes and other vaping devices are not FDA approved. These products are not approved by the U.S. Food and Drug Administration (FDA) as a smoking cessation aid. Until very recently, manufacturers and distributors of e-cigarettes and other vaping devices were not bound by standards of safety set by the FDA for smoked tobacco products. Despite the new regulations, e-cigarette manufacturers are free to project a risk-free image in their marketing, and offer enticing, candy-like flavors that appeal to children, adolescents and young adults.

Signs of Substance Abuse:

Mood Changes
Change in friends
Stealing
Lying
Decline in grades
Cutting class
Increase in absenteeism
Not following rules

Signs of Opiate Abuse:

Drowsiness/nodding off
Constricted pupils
Confusion
Constipation
Loss of Consciousness
Doctor shopping

Depression:

Loss of interest
Changes in sleep patterns
Changes in appetite
Difficulty making decisions
Hopelessness
Suicidal ideation

Anxiety:

Irritability
Restlessness
Anxiety/panic attacks

Resources:

NJ Addiction Services Hotline 1 844 276-2777

[NJ Department of Human Services, Division of Mental Health and Addiction Services website](#)

Division of Addiction Services Middlesex County Director: Lori Dillon 732 745-4518

[Wellspring Center for Prevention](#) 732 254 3344

[NJConnectforrecovery.org](#)

[Nar-anon.org](#)

[Al-anon.org](#)

[DrugFreeNJ.org](#)

[KnowAddiction.nj.gov](#)

[NJ211.org](#)

[Smartrecovery.org](#)

[CityofAngelsNJ.org](#)

[2nd Floor Youth Helpline](#) (Talk or Text) 1 888 222-2228