



# Teens and a Rising Vaping Culture

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Maricopa County Sheriff's Office

A decorative graphic on the left side of the slide. It features a dark grey arrow pointing to the right, positioned at the top. Below the arrow, several thin, curved lines in shades of blue and grey sweep downwards and to the right, creating a sense of movement and depth.

# Prevalent Drugs of Abuse:

- **Alcohol**
- **Tobacco**
- **Marijuana**
- **Prescription Drugs/ Opioids**
- **Vapor Products**



# Vaping and E-cigarettes

- ▶ The latest trend in smoking has been E-cigarettes. They have been promoted as a much safer alternative to smoking regular cigarettes.
- ▶ Originally intended to help smokers kick the habit
- ▶ But of course, there's the old saying that starts out, if it's too good to be true...**IT's Probably Not.**

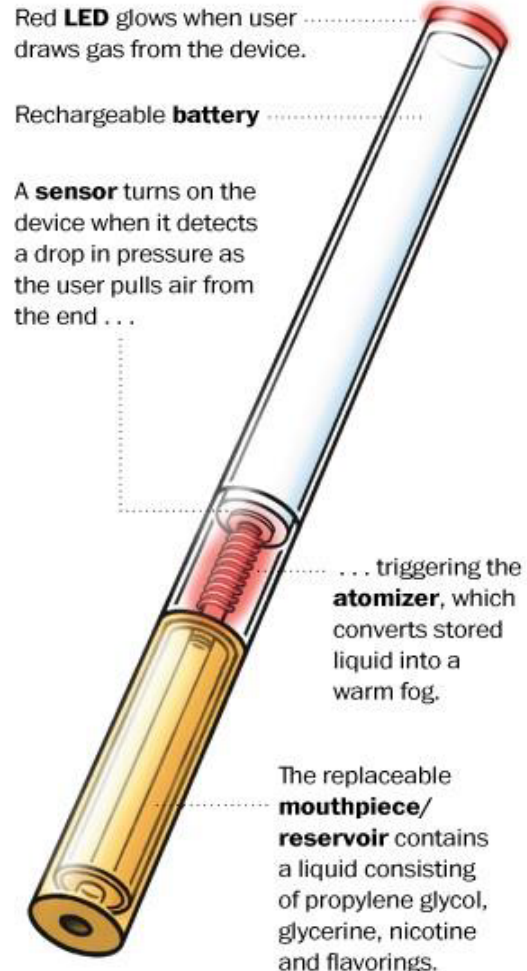
## The electronic cigarette

It may look like a cigarette and deliver a dose of nicotine, but that's where the similarity ends.

Red **LED** glows when user draws gas from the device.

Rechargeable **battery**

A **sensor** turns on the device when it detects a drop in pressure as the user pulls air from the end ...



... triggering the **atomizer**, which converts stored liquid into a warm fog.

The replaceable **mouthpiece/reservoir** contains a liquid consisting of propylene glycol, glycerine, nicotine and flavorings.

An FDA study found that e-cigarettes release carcinogens and toxic chemicals. However, they might be safer than regular cigarettes because they don't release tar, carbon monoxide, hydrogen cyanide and other poisons found in cigarette smoke.

Sources: Tobacco Control, FDA

PATTERSON CLARK/THE WASHINGTON POST

# What is it?

- According to the FDA, electronic cigarettes (E-cigs) are battery operated devices that turn nicotine or other chemicals into a vapor, which is inhaled into the users lungs and blown out creating a large billowing cloud of vapor/ smoke.
- Liquid nicotine = potential hazard



# Teen use on the rise



- High school students are using e-cigarettes at a greater rate than adults.
- E-cigarette use among middle and high school students grew 900 percent between 2011 and 2015, creating a “*vaping culture*” among today’s youth.
- More than 3 million middle and high school students used e-cigarettes in 2015, up from 2.46 million in 2014.

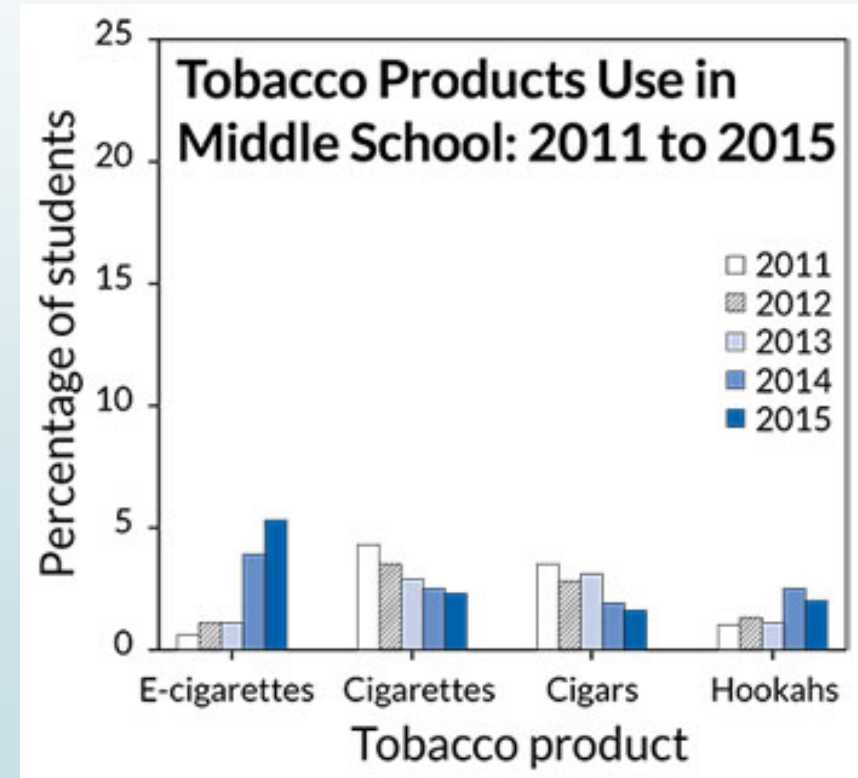
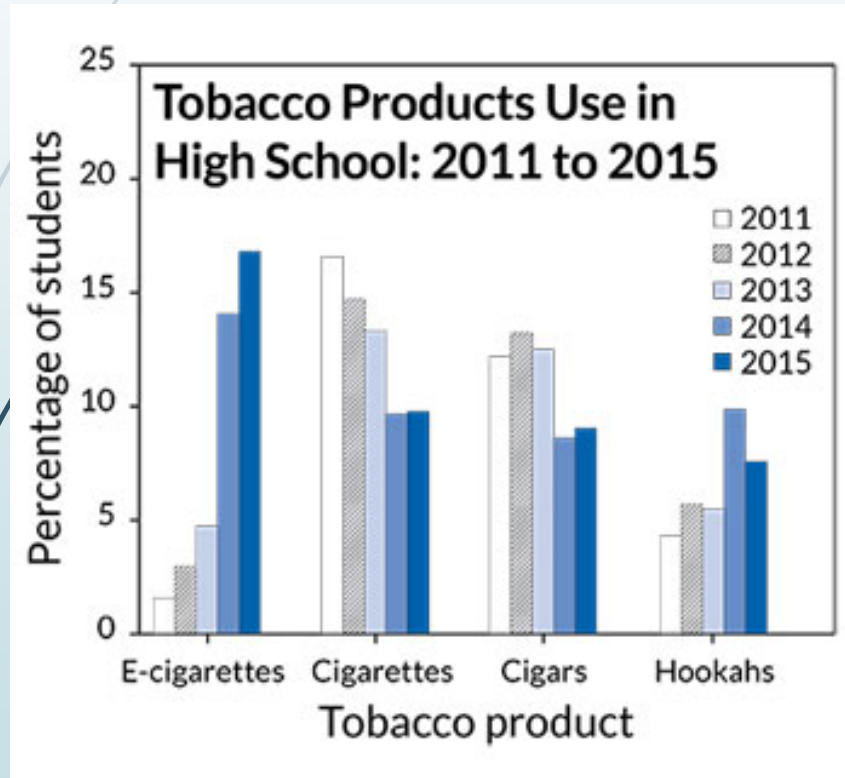




## More teen use...

- ▶ In 2014, **81% of current youth e-cig users** cited the availability of appealing flavors as primary reason for use
- ▶ **2015, 1 in 4 High School students** used some form of tobacco product, compared to **1 in 14 middle school students**.
- ▶ How do they obtain?
  - ▶ Family
  - ▶ Friends
  - ▶ Online
    - ▶ Visa Card ➡ Amazon Account = Purchase

Since 2011, teens are smoking fewer cigarettes, cigars and pipes.



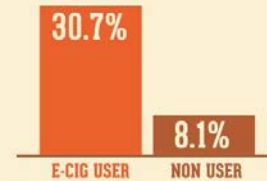


# Teens who vape, may smoke too.

- ▶ A study released in 2016 found that nonsmoking teens who start vaping are three times more likely as nonvapers to start smoking cigarettes.
- ▶ It also found, vaping seemed to encourage smoking.

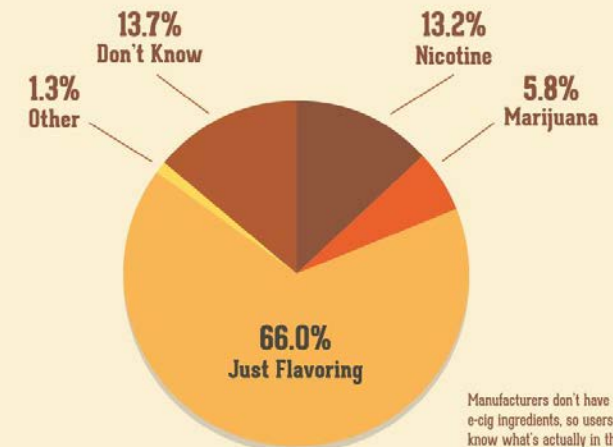
## TEEN E-CIG USERS ARE MORE LIKELY TO START SMOKING.\*<sup>2</sup>

Start Smoking Within 6 Months



\*Includes combustible tobacco products (cigarettes, cigars, and hookahs)

## WHAT DO TEENS SAY IS IN THEIR E-CIG?<sup>3</sup>



Manufacturers don't have to report e-cig ingredients, so users don't know what's actually in them.



# Despite the laws, vapor products continue to be marketed with teens in mind



- ▶ Customers report receiving their vapor products in the mail with such bonus material as toy frogs, stickers, bracelets, little green army men and balloons.
- ▶ Or candy such as Mike and Ike, Sweat Tarts or Laffy Taffy.



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# Vaping Products and Terminology

## *Products:*

- E-cigarette
- JUUL
- Vape pen
- V8 Stick
- Mods (Modify)
- Suorin
- BO/ BO caps
- E-Juice

## *Terms:*

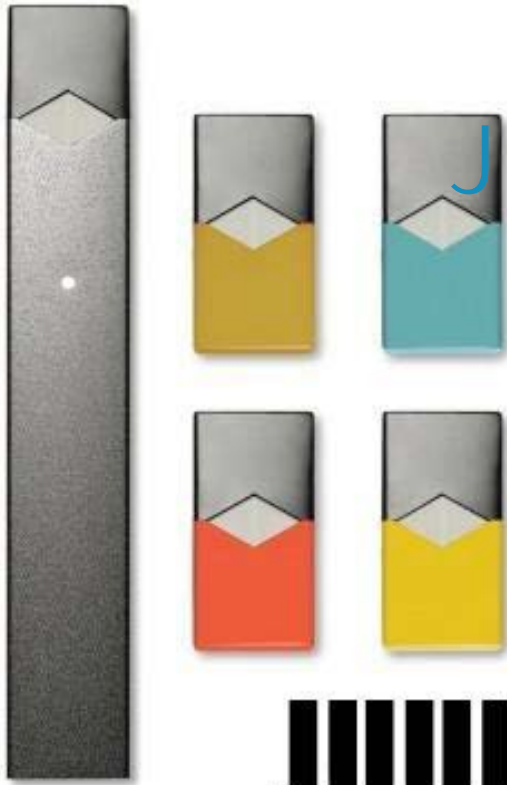
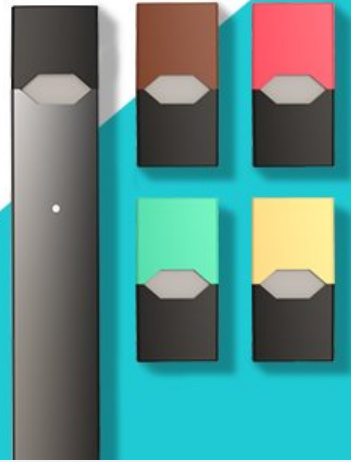
- Rip
- Hit
- Drip or Dripping
- Ghosting

VAPING CHEAP .COM

JUUL



JUUL  
SMOKING EVOLVED



# JUUL Starter Kit **\$37.49**



The Juul is barely 9cm long and 1.5cm in width. It's basically the size of a long USB stick and weighs about the same!





# Mods “Modding”

- They have more features than regular e-cigarettes, customizable options, long battery life, and most importantly, they produce more vapor
- “Modifying” them to accommodate larger batteries and higher resistance atomizers, and better cartridges and tanks



# Suorin Air/ Air Drop



## ► Suorin Air

- From the manufactures of the iPhone.
- Compact, all in one devise with a modern style.
- No buttons
- Automatically activated when the user inhales.

## ► Suorin Air Drop

- Heavier than the Suorin Air
- Users report a smoother hit
- Features a dual chamber system in the drop pods.



# Other devices...



Black



Silver



7-COLOR



# Juice





# “Some” health concerns...



- ▶ Some users complained of bleeding to the mouth and throat. These bloody sores seemed slow to heal.
- ▶ Many atomizers have been found to make vapor hotter and riskier to health.
- ▶ Researchers found those vapors to inflame mouth cells in ways that could potentially cause gum disease. Gum damage can destroy the tissues that hold teeth in place...eventually resulting in teeth loss.
- ▶ Smokers cough becomes vapors cough.
- ▶ Inhaling pollution can irritate the lungs. When foreign particles are breathed in regularly, the lungs respond by triggering a cough that won't go away.
- ▶ Inhaling these particles may lead to bronchitis





# The spread of bacteria



- Common colds and illnesses like influenza, respiratory virus and whooping cough are spread by: coughing and sneezing
- If a person is sick, the droplets in a single cough or a sneeze may contain as many as two hundred million individual virus particles.
- Rainstorm cleansing the environment.
- Don't drink the rainwater.
- Scientists believe the inhalation of secondhand vape could potentially increase the risk of disease at an exponential rate.
- Researchers found some bacteria to hang around for up to 45 minutes after being sneezed or coughed.

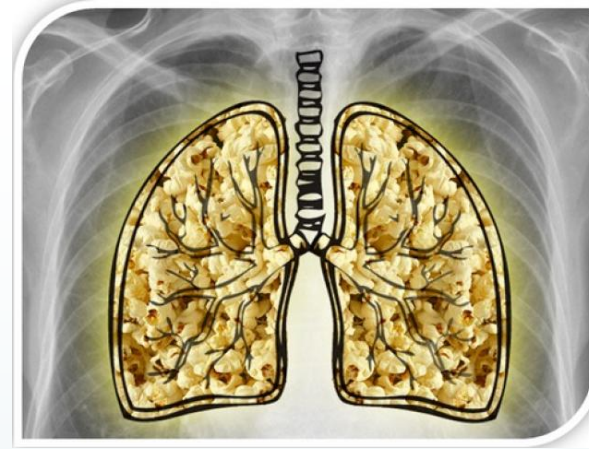


# E-liquid/ Juice

- Main ingredient: **propylene glycol** (PG ) and/or **vegetable glycerin** (VG) usually with water-soluble food flavorings. With or without nicotine, THC.
- Allergies to PG are rare, but it can irritate the lungs and eyes and may be more harmful to people with chronic lung diseases like asthma.
- The FDA generally views both PG and VG as safe in food, drugs and cosmetics BUT there is increased concern over inhaling these chemicals on a short or long term basis.



# POPCORN LUNG?



**Diacetyl** is a flavoring chemical found in most of the e-cigarettes and e-liquids tested. Linked to severe respiratory disease, most notably the condition called “Popcorn Lung”

This condition was first noticed in workers in microwave popcorn processing facilities who inhaled the artificial butter flavoring.

It's a respiratory disease which causes scarring in tiny air sacs in the lungs. This leads to shortness of breath and excessive coughing.

*Diacetyl is added to food to produce a buttery taste and is perfectly harmless when ingested this way. The issue is that when heated up and then inhaled.*

Roughly 92 percent of the e-cigarettes flavors (of 51 tested) were found to contain traces of Diacetyl.



# Where do teens Vape?

- ▶ During school
- ▶ In the classroom
- ▶ Sporting Events
- ▶ On the bus
- ▶ Release time
- ▶ Home
- ▶ Parks
- ▶ Shopping malls
- ▶ In the car
- ▶ Anywhere and Everywhere





# Electronic Cigarettes and Liquid Nicotine Exposures - AAPCC

Year Number of Cases

- 2011 - 271
- 2012 - 460
- 2013 - 1,543
- 2014 - 4,024
- 2015 - 3,774
- 2016 - 2,886
- 2017 (thru September) 1,797



**More than half of these reported exposures  
have occurred in young children under the age  
of 6**



American Association of  
Poison Control Centers


# Nicotine

- E-cigarettes can increase nicotine addiction among young people and may lead kids to try other tobacco products, including conventional cigarettes
- Teens don't always know how much nicotine they are inhaling
- Studies show nicotine is more addictive than heroin and cocaine. There is growing evidence that nicotine can harm the developing adolescent brain

## eLiquid Nicotine Strength Guide







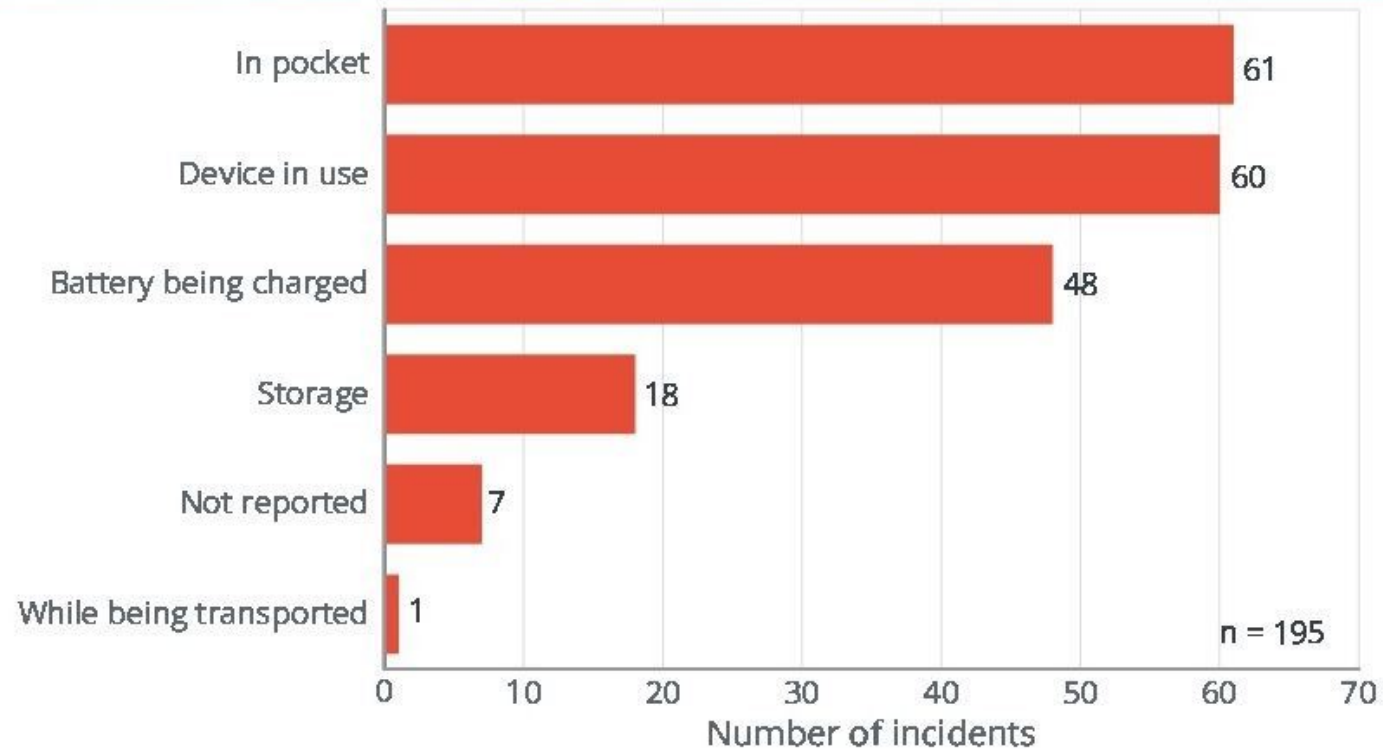
# Dripping:

a potentially dangerous method of vaping in which the user manually applies a few drops of liquid directly to the exposed heating coil of the e-cig.

- ▶ 1 in 4 teens who vape say they've used this method.
- ▶ Dripping produces thicker clouds of vapor, gives a stronger sensation in the throat and makes flavors taste better. (Journal of Pediatrics)
- ▶ Dripping generates higher heating coil temperatures than conventional use of e-cigarettes, which lead to more harmful chemicals and higher nicotine exposure.
- ▶ Some chemicals released are associated with cancer, chronic obstructive pulmonary disease (formaldehyde and acetaldehyde)
- ▶ Handling liquid exposes teens to direct skin contact with nicotine which is absorbed rapidly through human skin.
- ▶ **Nicotine poisoning** can potentially be deadly, though serious or fatal overdoses are rare.

**EXPLOSIONS:** More than 120 lawsuits were filed across the United States in 2017 by plaintiffs claiming they were hurt in explosions and fires caused by e-cigarette batteries.

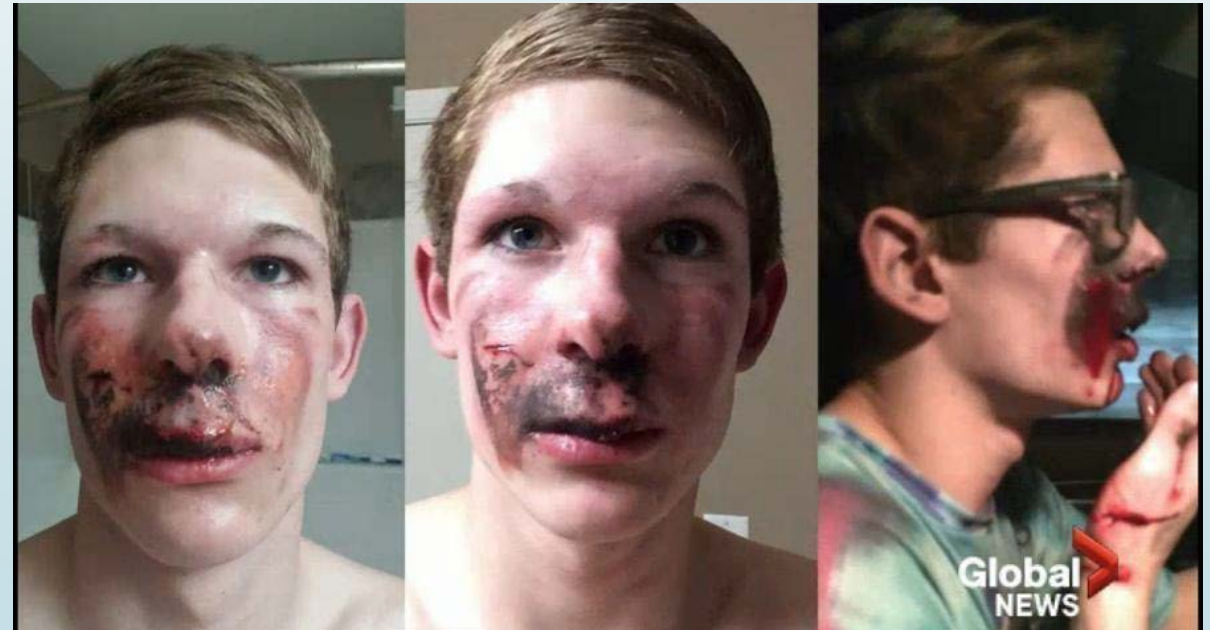
**Figure 3. Status of e-cigarette when the incident occurred**



# E-cig Explosions

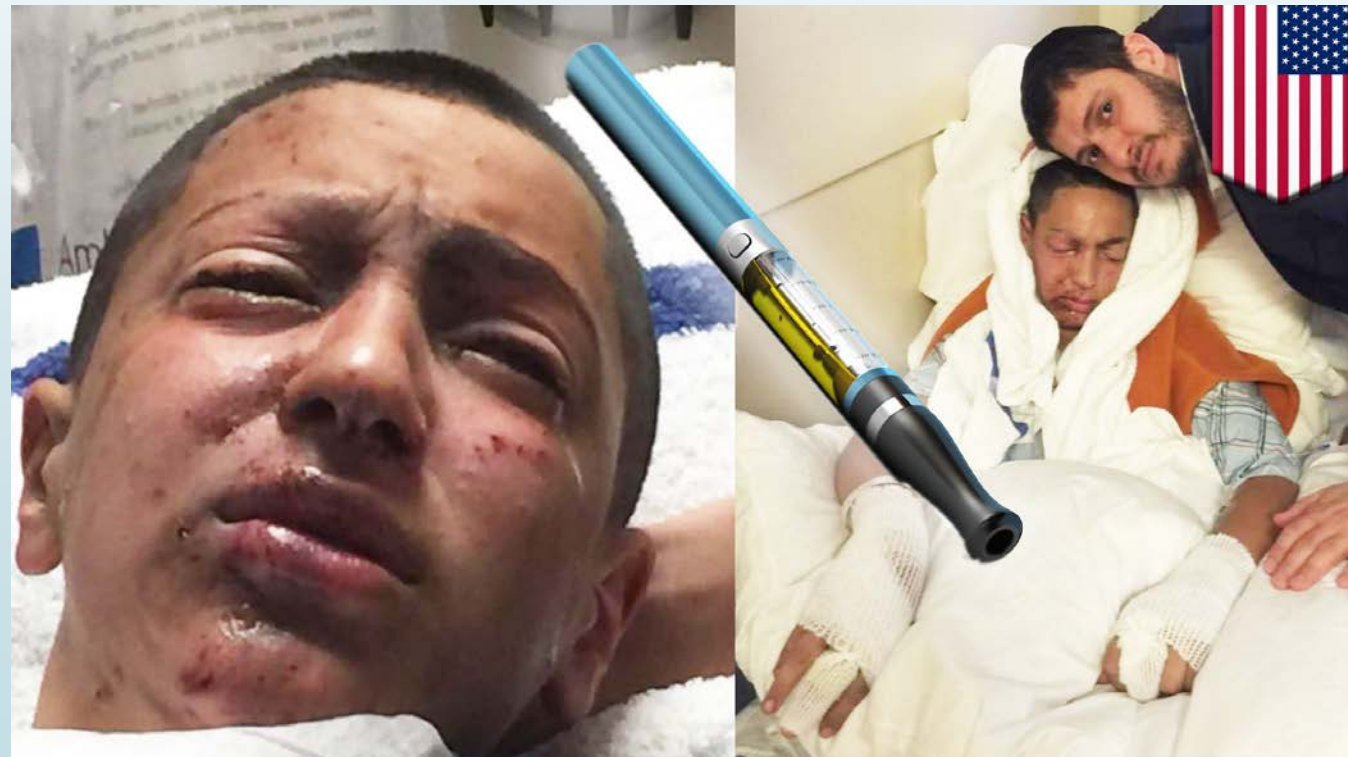


- ▶ 16 year old teen suffers 2nd degree burns to face





# Teens and vape explosions







- ▶ Man loses 7 teeth after vaping explosion
- ▶ Man loses part of tongue after vaping explosion

# THC: tetrahydrocannabinol and Marijuana



- ▶ Vaping devices are not just being used for nicotine.
- ▶ Used to vaporize **THC**, the chemical responsible for most of marijuana's mind-altering effects.
- ▶ Applied to the device the same way flavored nicotine is.
- ▶ Types of Marijuana
  - ▶ Dry herbal marijuana (flowers), marijuana oil or wax and synthetic forms of marijuana
- ▶ Hash Oil-
  - ▶ Extracted oil from cannabis
  - ▶ Higher concentration of THC
  - ▶ Higher risk of psychosis
- ▶ When people vape rather than smoke marijuana, they tend to consume even higher concentrations of THC, which means greater exposure to the drug's mind altering and addictive ingredient.

# Signs to look for

It can be hard for parents to tell if their child/teen is vaping, since there's no smoke or telltale smell.



- *"Pens" that aren't pens*
- *New scents: the vapor can be flavored (fruit punch, bubble gum)*
- *Typical signs of marijuana use: red eyes, lethargic, increase cravings for snacks, confusion, anxiety, lack of focus/coordination, unusually talkative, dropping studies or usual activities, change of friends, and/or secretiveness*
- *Increase of water intake. Propylene glycol attracts and holds water molecules from its environment. This can lead e-cig users to have a constant state of dry mouth.*
- *Nose bleeds. The water-holding effect of e-cig vapor can also dry out the nasal passages*
- *Containers of butane*



# Arizona Vaping Laws

## ➤ Illegal for Minors

- A.R.S. 13-3622
- A. A person who knowingly sells, gives or furnishes a tobacco product, a vapor product or any instrument or paraphernalia that is solely designed for the smoking or ingestion of tobacco or shisha, including a hookah or waterpipe, to a minor is guilty of a petty offense.
- B. A minor who buys, or has in his possession or knowingly accepts or receives from any person, a tobacco product, a vapor product or any instrument or paraphernalia that is solely designed for the smoking or ingestion of tobacco or shisha, including a hookah or water-pipe, is guilty of a petty offense, and if the offense involves any instrument or paraphernalia that is solely designed for the smoking or ingestion of tobacco or shisha, shall pay a fine of not less than one hundred dollars or perform not less than thirty hours of community restitution.

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# Marijuana Laws...

- A.R.S. 13-3405
- A person shall not knowingly:
  - Possess or use marijuana (class 6 felony or 6 months in jail).
  - Possess marijuana for sale.
  - Produce marijuana.
  - Transport for sale.

# Don't Be A Lab Rat!





# Sources

- ▶ [43 Vape Pen Dangers](#)
- ▶ [Arizona Law on Tobacco Product, Vapor Product or Tobacco or Shisha Instruments or Paraphernalia](#)
- ▶ [Center on Addiction](#)
- ▶ [Eating Well](#)
- ▶ [Street Script and Synthetics- Stephanie Siete](#)
- ▶ [WebMD.com](#)
- ▶ [Science News for Students](#)
- ▶ Arizona Revised Statute