THE TRUTH ABOUT: VAPING

Presented by:
Traci Wojciechowski
Regional Director of Education
twojciechowski@caron.org
508-341-7848
October 3, 2018
Caron Quick Facts

• National leader in behavioral healthcare & addiction treatment
• Over 60 year history
• Student Assistance Program – 28 year history
• Full spectrum of treatment programs to meet the needs of everyone
Objectives

• Vaping 101
• Current National Stats
• Marijuana and Nicotine Overview
• Teen Brain Development
• What Can You Do?
What’s the Difference?
Drugs Serve Many Functions

- Relaxation & pleasure
- Socialization
- Avoidance of emotional pain
- A way to forget about problems
- Satisfy curiosity
- Avoid alienation

- Find excitement
- Achieve an advantage
- Feel like part of the crowd
- Go to sleep, or wake up
- Cope with failure
- Relieve boredom
- Rebel
Why???

THEY WORK!

Energy

Oh Wow!

Soothed
**Risk vs. Protective Factors**

**Risk**
- Early age of onset
- Perception of parental approval
- Friends use
- Family unhealthy role models
- Low perception of harm
- Easy access from adults
- Poor school connection

**Protective**
- Delayed onset
- Understanding parental disapproval
- Friends don’t use
- Family role models healthy use
- Realistic understanding of harm
- Little or no access
- Strong connection to school
## Monitoring the Future
(2017 National Study)
Past Year Usage

<table>
<thead>
<tr>
<th>Substance</th>
<th>8th %</th>
<th>10th %</th>
<th>12th %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>18.2</td>
<td>37.7</td>
<td>55.7</td>
</tr>
<tr>
<td>Been Drunk</td>
<td>6.4</td>
<td>20.4</td>
<td>35.6</td>
</tr>
<tr>
<td>Marijuana</td>
<td>10.1</td>
<td>25.5</td>
<td>37.1</td>
</tr>
<tr>
<td>Cigarettes (past 30 days)</td>
<td>1.9</td>
<td>5</td>
<td>9.7</td>
</tr>
<tr>
<td>Smokeless Tobacco (past 30 days)</td>
<td>1.7</td>
<td>3.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Vaping</td>
<td>13.3</td>
<td>23.9</td>
<td>27.8</td>
</tr>
<tr>
<td>Inhalants</td>
<td>4.7</td>
<td>2.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>1.1</td>
<td>2.8</td>
<td>4.4</td>
</tr>
<tr>
<td>MDMA</td>
<td>0.9</td>
<td>1.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Cocaine</td>
<td>0.8</td>
<td>1.4</td>
<td>2.7</td>
</tr>
<tr>
<td>Heroin</td>
<td>0.3</td>
<td>0.2</td>
<td>0.4</td>
</tr>
</tbody>
</table>
More than 2 million MS and HS students were current users of e-cigarettes in 2017.

<table>
<thead>
<tr>
<th>Past Month Use</th>
<th>8&lt;sup&gt;th&lt;/sup&gt; Graders</th>
<th>10&lt;sup&gt;th&lt;/sup&gt; Graders</th>
<th>12&lt;sup&gt;th&lt;/sup&gt; Graders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any vaping</td>
<td>6.6%</td>
<td>13.1%</td>
<td>16.6%</td>
</tr>
<tr>
<td>Vaping Nicotine</td>
<td>3.5%</td>
<td>8.2%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Vaping Marijuana</td>
<td>1.6%</td>
<td>4.3%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Vaping “Just Faving”</td>
<td>5.3%</td>
<td>9.2%</td>
<td>9.7%</td>
</tr>
</tbody>
</table>
Slang Terms

Dripping
Throat Hit
Vapor
PV
Ciga-like
Tank Systems
Atomizer
Drip Tips
Cloud
JUULing
Cloud Chasers
Draw

E-Juice
APV
E-Cig
Analog
Cartridge
Smoke Juice
Dry Puff
E-Hookah
Hookah Pens
Hookah Sticks
Mods
ENDS
The New Look of Nicotine Addiction

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

- Cartridge or reservoir to hold e-liquid/e-juice
- Heating element (atomizer)
- Power source (battery)
- Mouthpiece to inhale
Types of Products

Rechargeable E-cigarettes (JUUL, myblu, Bo, Kandypen)

Disposable E-cigarettes
Types of Products

Tank Systems

Vape Pens
Types of Products

E-liquids and E-Juices

Pods
New and Emerging Products
Most Popular Brands Among Youth

- JUUL
  - cool mint
  - fruit medley
  - creme brulee
  - virginia tobacco

- Suorin

- Aspire/Breeze

- Phix
Other Items

• $34.99 - $89.99
• Discreet and easy-access
• Drawstring vapor delivery system is integrated directly into your “Vaprwear” for easy vapor delivery anytime, anywhere
JUUL

- Popular with youth
- JUUL -$49 plus $15.99/pod
- **Pod flavors:** mango, mint, fruit medley, crème brulee, Virginia tobacco etc.
- Contain 5% nicotine = 1 pack of cigarettes or 200 puffs
- Look like USB device, discreet
Anatomy of a JUUL

- Power Indicator
- Multizone
- Juulpod Cartridge
- Device with Rechargeable Battery
- Juulpod Cover
- Outer Shell - contains e-juice / liquid
- Gold-Plated Base
- Wick and 5-Looped Coil (Behind Gold)
- Chimney

4-pack of JUULpods cheaper than 4 packs of cigarettes

tobaccopreventiontoolkit.stanford.edu
800-678-2332 | www.caronsap.org
PHIX

- Similar to the JUUL
- Kit = $34.95 and refills = $19.99 (4)
- 50mg nicotine = 200 puffs (website states it’s the equivalent of 2 packs of cigarettes or 400 puffs)
Suorin Vape

- Starter kit is between $17-40
- Around the size of a credit card
- 2mL refillable pods
- Charged with a micro-USB charger
Other Popular Devices
What is being vaporized?

• Flavored liquids including chemicals like glycerin and polyethylene glycol (aka: e-juice; e-liquid)
• Flavored liquids with varying levels of nicotine
• Leaf marijuana
• THC oil/marijuana concentrates
• Open systems require the user to add the e-juice, which can be a substance other than nicotine
• Closed systems (those that use pre-filled pods) can also be altered to vape substances other than nicotine
Vaping Other Drugs

**THC**: The psychoactive ingredient in marijuana, can be converted to an oil. The THC concentrate is much stronger.

**Synthetic Marijuana**: K2, Spice: 100 times more psychoactive than THC. Can cause dangerous spike in BP, seizures, kidney failure, and chest pain.

**Flakka**: Synthetic drug that is cheap and deadly. Paranoid psychosis, elevated body temp., insensitivity to pain, and fatigue.

**DMT**: Dimethyltryptamine is one of the strongest hallucinogens in the world, more powerful than LSD.
There are literally thousands of e-juice flavor options, a marketing tactic to lure new customers that is especially appealing to young people.
What are they vaping?

MARIJUANA
Vaping Dry Marijuana and Oils
Disposable Marijuana Vape Pens and Oils
Butane Hash Oil (BHO)

Wax, Dabs, Oil, Errl, Earwax, Budder, or Shatter

- High THC content
- Can be vaped
What’s in TODAY’S Marijuana?

• Contains about **500** components, most of which we know little about

• Most prominent component, THC, is what produces the “high” users experience

• In today’s street marijuana, which is usually smoked, producers have increased THC levels by more than **4 TIMES**!
Harmful Effects of Marijuana

- Problems with memory & learning
- Distorted perception
- Trouble thinking & problem-solving
- Loss of motor control
- Increased heart rate
- Apathy
- Mental Illness
## What are they vaping?

### NICOTINE

<table>
<thead>
<tr>
<th>Cigarettes Smoked</th>
<th>E Liquid Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 per day</td>
<td>None</td>
</tr>
<tr>
<td>5-10 per day</td>
<td>X.Low</td>
</tr>
<tr>
<td>10-15 per day</td>
<td>Low</td>
</tr>
<tr>
<td>15-20 per day</td>
<td>Medium</td>
</tr>
<tr>
<td>20-25 per day</td>
<td>High</td>
</tr>
<tr>
<td>25+ per day</td>
<td>X.High</td>
</tr>
</tbody>
</table>
Adolescent Nicotine Users

• More likely to:
  – become addicted, use for more years and use more heavily
  – have depression, anxiety and other mood disorders
  – have difficulty paying attention/concentrating
  – have reduced impulse control
  – use other substances
How Do They Get Them?

• **Social Source**, meaning a friend or relative
• Legal purchase age varies from state to state, and in some cases by city
• Many online vendors also sell vape devices and e-juice. Underage youth may use Visa Gift Cards or PayPal accounts
• Look for boxes delivered to home. Can also be sent to Amazon lockers
Reasons Teens Like Them

• Produces a fraction of the odor
• Portable and easily hidden – press a button and inhale
• Cartridges allow for customization of flavors, nicotine levels and cannabis compounds
• Vaping tricks

More than 60% of teens believe occasional use causes little or no harm.
Vaping Tricks
Marketing - Look Familiar?

You've come a long way, baby.

VIRGINIA SLIMS Lights

SMOKE IN STYLE
With blu Electronic Cigarettes

Freedom never goes out of fashion. Control when and where you want to smoke with blu electronic cigarettes. blu produces no smoke and so ash, only vapor, making it the ultimate accessory and the smarter alternative to regular cigarettes. Step out in style with blu.

SCAN FOR A CHANCE TO WIN A STARTER KIT

Available at these fine retailers:
H-E-B • Ralphs • Safeway • Fred Meyer • Shaw’s • Associated

blucigs.com

18+ only.

Introducing the World's First Smart Park (vapie.org)

Introducing the World's First Smart Park (vapie.org)

California Proposition 65 Warning: This product contains nicotine, a chemical known to the state of California to cause birth defects or other reproductive harm.
What are the dangers of vaping?

- No medical studies have been conducted on the long-term effects of inhaling glycerin, propylene glycol, or any kind of flavoring.
- The aerosol that users breathe from the devices and exhale can contain harmful and potentially harmful substances:
  - Volatile organic compounds
  - Heavy metals (nickel, tin and lead)
  - Ultra fine particles
  - Carcinogenic chemicals
  - Nicotine
Which Chemicals Are Found in E-Cig/Vape Pen Aerosol?

<table>
<thead>
<tr>
<th>Compounds in yellow (Harmful and Potentially Harmful Substances)</th>
<th>Compounds in yellow (Harmful and Potentially Harmful Substances)</th>
<th>Compounds in yellow (Harmful and Potentially Harmful Substances)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>Chlorobenzene</td>
<td>Benzo(ghi)perylene</td>
</tr>
<tr>
<td>Glycerin</td>
<td>Crotonaldehyde</td>
<td>Acetone</td>
</tr>
<tr>
<td>Flavorings (many)</td>
<td>Propionaldehyde</td>
<td>Acrolein</td>
</tr>
<tr>
<td>Nicotine</td>
<td>Benzaldehyde</td>
<td>Silver</td>
</tr>
<tr>
<td>NNN</td>
<td>Valeric acid</td>
<td>Nickel</td>
</tr>
<tr>
<td>NNK</td>
<td>Hexanal</td>
<td>Tin</td>
</tr>
<tr>
<td>NAB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formaldehyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naphthalene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Styrene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acenaphthene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluoranthene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benz(a)anthracene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chrysene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrosamines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polycyclic aromatic hydrocarbons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silicon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titanium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zirconium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrosamines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polycyclic aromatic hydrocarbons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All of these have been found in e-cigarette/vape pen aerosol

Compounds in yellow are from FDA 2012, Harmful and Potentially Harmful Substances – Established List
Popcorn Lung

Diacetyl

Alveoli & Bronchioles
Experience scarring

tobaccopreventiontoolkit.stanford.edu
More Vaping Harms

• Ear, eye and throat Irritation
• Gum disease
• Vaper’s cough
• Defective e-cigarette batteries have caused fires and explosions, some of which have resulted in serious injuries
• Third-hand vapor
• Nicotine is highly addictive
What are the dangers of vaping?

- Formaldehyde found in vapor produced by several types of e-cigarette liquid
- **Second-hand vapor:** Some report respiratory irritation, nausea
- Acute nicotine exposure can be toxic
- Correlated to polysubstance use and adult addiction
- Impact on developing brain
CAUTION!
Teen Brain Under Construction
The adolescent brain is different from the adult brain, making it more vulnerable...

Blue represents maturing of brain areas.

Front View

Side View

Prefrontal Cortex
Adolescents who vaped were 4 times more likely to report cigarette smoking.
Signs of Vaping

• Unexplained sweet scent
• Pens or flash drives that aren’t pens or flash drives
• Dry mouth – drinking lots of liquids
• Nose bleeds
• Less caffeine use
• Glassy eyes
WHAT IS BEING DONE?
Schools and Vaping

- Revising school policies to preclude vaping products
- Removing bathroom doors
- No flash drives
- Prevention education and intervention programs
Federally

- In 2016, the FDA finalized a rule (ENDS) that meet the definition of a tobacco product – allow for regulation of the manufacture, import, packaging, labeling, advertising, promotion, sale, and distribution of ENDS, including components and parts but excluding accessories.
- Beginning in 2018, all "covered" tobacco products must bear the required nicotine addictiveness warning statement on product packages and advertisements.
- Head of FDA called teen use an “epidemic” and ordered the five biggest manufacturers to say within 60 days how they will address it or face removal of their products from the market.
- September 2018 - FDA confiscates thousands of documents from JUUL headquarters.
FDA, FTC warn companies to stop misleading kids
WHAT can we do?
What Can You Do?

1. Talk Early and Often
2. Send Clear Messages
3. Ask For Help If You’re Concerned
You are the #1 Influence on your Child’s Relationship with Drugs and Alcohol
Utilize Teachable Moments
Good Times to Talk

• Prepping for dinner
• While walking the dog
• Right before bed time
• In the car
Tips on Talking About Vaping Use

• State your clear messages of disapproval
• Allow opportunities for them to feel that they’ve been heard
• Express your understanding of the risks, but also why a person might want to vape
• Share why you don’t want him/her vaping
• Refusal skills
• Avoid scare tactics
• Have your loved one talk to other trusted adults who can reinforce your message
• Model healthy behaviors
What Can I Do If I Suspect My Child is Using?

- Intervene immediately
- Establish clear rules & consequences for having vape paraphernalia or for using nicotine
- Discuss the consequences that may happen outside of your home (school, sport’s teams etc.)
- Get support from primary care physician, therapists, school counselors etc. and ask for local resources
Resilience is key in substance use prevention

- Resilience is why some children overcome obstacles to reach successful adulthood, while others become victims of their early experiences and environments.

- The concept of resilience is defined as a process of parenting essential to prepare children for success in all areas of their future lives.

- Asset-building
Egg vs. Bouncy Ball

EGG PEOPLE

BOUNCY BALL PEOPLE
Developmental Assets

- Support
- Empowerment
- Boundaries and Expectations
- Constructive Use of Time
- Commitment to Learning
- Positive Values
- Social Competencies
- Positive Identity
For More Information on How You Can Build Resiliency in Your Child
Parent Websites

- Parent Further
  www.parentfurther.com

- The Partnership for a Drug-Free Kids
  http://www.drugfree.org

- National Institute on Drug Abuse
  http://www.drugabuse.gov/parents-teachers

- Surgeon General
  https://e-cigarettes.surgeongeneral.gov

- Smokefree
  https://smokefree.gov
Thank You

Follow us on social media!

@CaronTreatment
Facebook.com/Caron
YouTube.com/Caron