

Vaping

Billy Jordan

EMT / Disaster Coordinator

Cuero Regional Hospital



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About

I've worked in Advanced Pre-Hospital Emergency Medicine for over ten years. I have also worked in level two and three trauma hospitals as an Emergency Department Tech in Austin, TX. I currently work with Cuero EMS and work as the Disaster Coordinator with Cuero Regional Hospital.

I'm involved in hospital preparedness and family clinic preparedness for disasters. I'm a lead instructor in Cardiopulmonary Resuscitation (CPR), Stop the Bleed program and Hospital Emergency Response Team (HERT) Program.

I'm an active member in various emergency management committees and healthcare committees within the Golden Crescent Region. I enjoy being part of teams and helping in anyway that I can be of service.

What is Vaping?

What is vaping?

- The act of Vaping



QUESTIONS FOR THE STUDENTS

WAPPING:

THE HIT YOUR
BRAIN TAKES

CDC FACTS ABOUT VAPING

CDC: Why is vaping unsafe for young adults

- Most e-cigarettes (vapes) contain nicotine—the addictive drug in regular cigarettes, cigars, and other tobacco products.
- Some vape product labels do not disclose that they contain nicotine, and some vape liquids marketed as containing 0% nicotine have been found to contain nicotine.
- Using nicotine in adolescence can harm the parts of the brain that control attention, learning, mood, and impulse control.
- Each time a new memory is created or a new skill is learned, stronger connections – or synapses – are built between brain cells. Young people’s brains build synapses faster than adult brains. Nicotine changes the way these synapses are formed.

CDC: Why is vaping unsafe for young adults

- Scientists are still learning about the long-term health effects of e-cigarettes.
- Some of the ingredients in e-cigarette aerosol could also be harmful to the lungs in the long-term. For example, some e-cigarette flavorings may be safe to eat but not to inhale because the gut can process more substances than the lungs.
- Defective e-cigarette batteries have caused some fires and explosions, a few of which have resulted in serious injuries.
- Children and adults have been poisoned by swallowing, breathing, or absorbing e-cigarette liquid through their skin or eyes. Nationally, approximately 50% of calls to poison control centers for e-cigarettes are for kids 5 years of age or younger.

The nicotine “arms race”

1 pack of Cigarettes
≈ 20 mg of inhaled nicotine



= **20**
Cigarettes

1 JUUL pod
≈ 41.3 mg of nicotine



= **44**
Cigarettes

1 PHIX pod
≈ 75 mg of nicotine



= **75**
Cigarettes

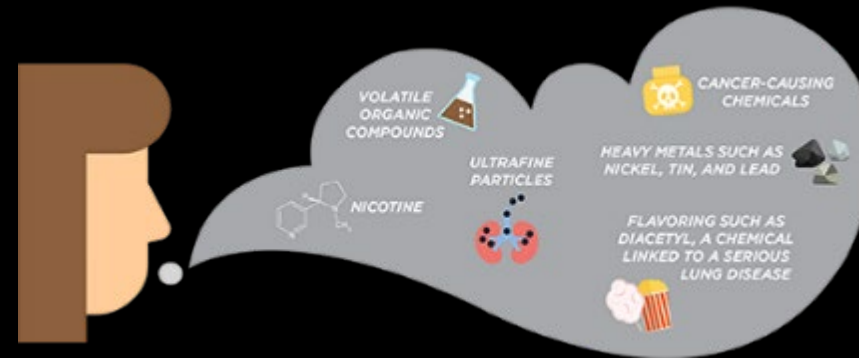
1 Suorin pod
≈ 90 mg of nicotine



= **90**
Cigarettes

Harmful chemicals: cigarettes vs. vaping

Cigarette smoke contains over 7,000 chemicals, including known cancer-causing (carcinogenic) compounds and hundreds of other toxins



The aerosol created when vaping contains harmful ingredients:

- Nicotine
- Ultrafine particles
- Flavorings
- Volatile organic compounds (e.g., benzene, found in car exhaust)
- Heavy metals (e.g., nickel, tin, lead)

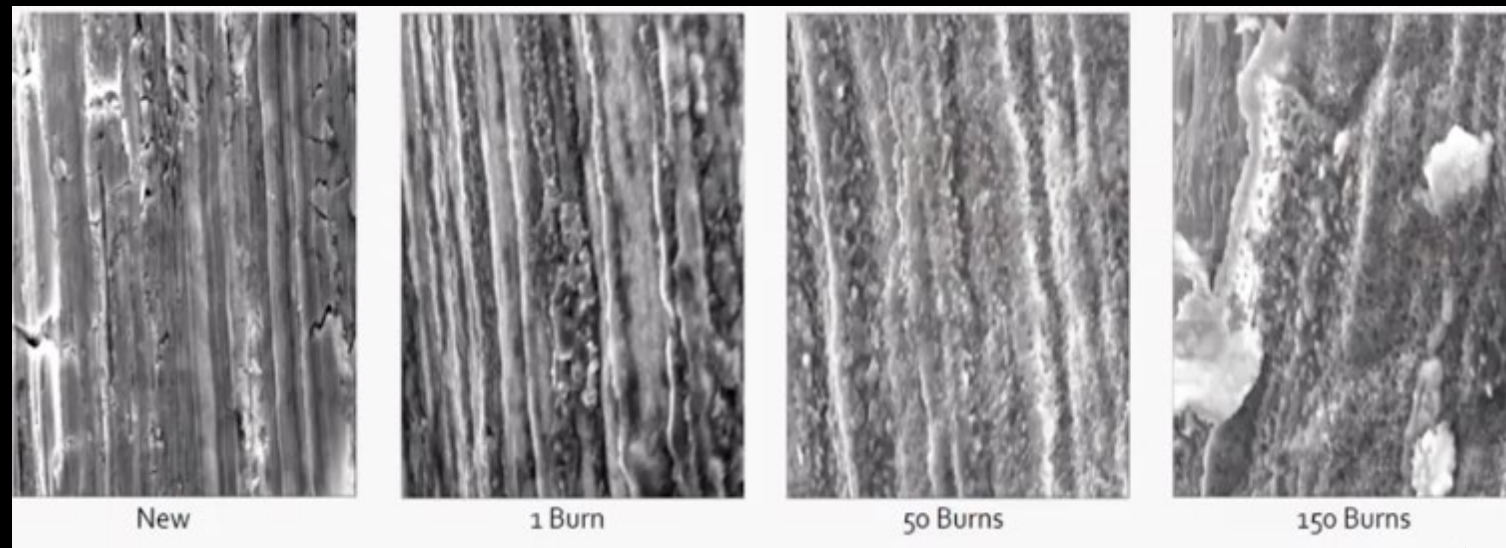
Nicotine's impact on teens

- Teen brain reacts differently to nicotine
- Chronic nicotine exposure can, among other things, reduce attention span and increase reckless behavior
- Effects are less intense and long-lasting in adults

Adolescent		Adult
Enhances locomotor activity	Acute Nicotine	Decreases locomotor activity
More sensitive to rewarding effects	Sensitivity	More sensitive to aversive effects
Display blunted withdrawal symptoms	Nicotine Withdrawal	Display more severe withdrawal symptoms
Well tolerated; lowers aversion to high doses later in life	High Dose of Nicotine	Aversive
Enhances acquisition of cocaine, meth and alcohol	Nicotine Pretreatment	No effects on psychostimulant or alcohol self-administration

Hard metal lung disease

- When the metal coils of e-cigarettes heat up to turn e-liquids into aerosols, toxic metals like nickel, aluminum, manganese, lead, cobalt and chromium can leach into the liquid



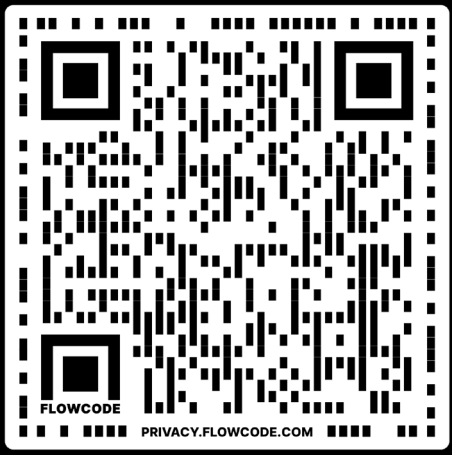
Coil under 2,000x magnification using an electron microscope
At 150 burns, it shows pitting and flaking

GMA



Get the help that's out there!

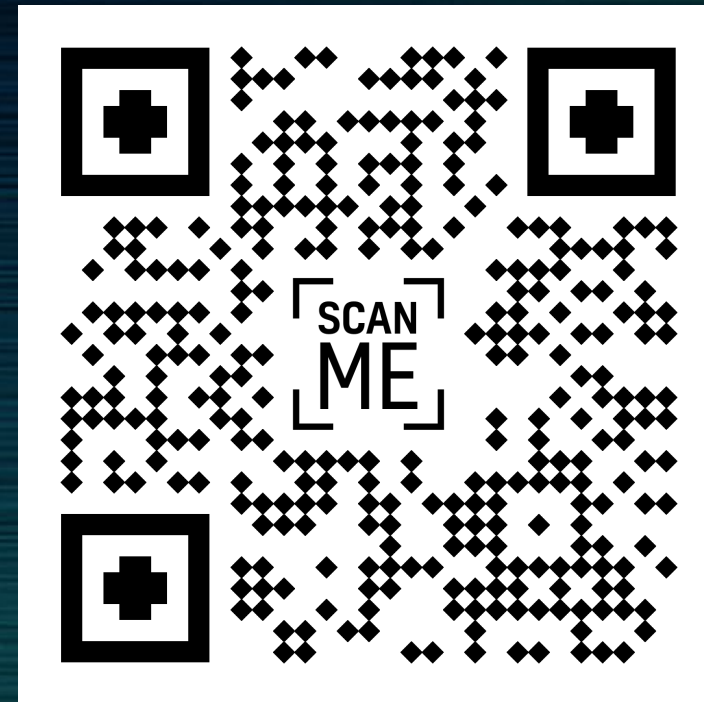
- Focus on health and safety, not punishment
- Addiction is serious
 - Yet 95% of youth with nicotine addiction get no help
- Get professional help if needed
 - Nicotine therapies, Chantix and Wellbutrin may be prescribed by a medical professional (14 years old+)
- Consider counseling
- Support for families and teens
 - Text messaging (Truth Initiative)
 - Help & Hope by Text at [drugfree.org](https://www.drugfree.org)



Truth Initiative



Partnership to
End Addiction



Smokefree.Gov

References

- Centers for Disease Control and Prevention

- https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html

Electronic Cigarettes and Vaping

- https://www.youtube.com/watch?v=9dZSRniako&t=3s&ab_channel=DavidGeffenSchoolofMedicineatUCLA

Vaping: The Hit Your Brain Takes

- https://www.youtube.com/watch?v=aasKIDz9ZX4&t=2s&ab_channel=AddictionPolicyForum

Partnership to End Addiction

- <https://drugfree.org>