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Active Learning

Quick Facts on the Risks of E-cigarettes for Kids, Teens, and Young Adults

- What's the Bottom Line on the **Risks** of E-cigarettes for Kids, Teens, and Young Adults?
  - E-cigarettes are unsafe for kids, teens, and young adults.
  - Most e-cigarettes contain nicotine, a highly addictive substance.
  - Nicotine can harm brain development, which continues into the early-to-mid 20s.
  - E-cigarettes may also contain other harmful substances besides nicotine.
  - Young people who use e-cigarettes are more likely to start smoking cigarettes in the future.
- What Are E-cigarettes?
  - E-cigarettes are devices that heat a liquid to produce an aerosol.
  - They come in various shapes and sizes, with most containing a battery, heating element, and liquid chamber.
  - Some e-cigarettes resemble traditional cigarettes, cigars, or pipes, while others look like USB drives, pens, or other everyday items.
  - Larger devices, like tank systems or "mods," don't resemble typical tobacco products.
  - E-cigarettes have different names, such as "e-cigs," "e-hookahs," "mods," "vape pens," "vapes," "tank systems," and "electronic nicotine delivery systems (ENDS)."
  - Using an e-cigarette is often referred to as "vaping."
- How Do E-cigarettes Work?
  - E-cigarettes create an aerosol by heating a liquid, typically containing nicotine, flavorings, and other chemicals.
  - The liquid, often called "e-juice," "e-liquid," "vape juice," or "vape liquid," usually includes nicotine and flavorings.
  - Users inhale this aerosol into their lungs, and bystanders can also inhale it when exhaled into the air.
  - E-cigarettes can also be used to deliver marijuana and other drugs.

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What Is JUUL?

- JUUL is a popular e-cigarette brand shaped like a USB flash drive.
- JUUL is a battery-powered device that heats a nicotine-containing liquid to produce an aerosol for inhalation.
- Each JUUL pod contains a high nicotine level, equivalent to one pack of **20 cigarettes.**
- JUUL uses nicotine salts, allowing higher nicotine intake with **less** irritation compared to traditional free-base nicotine.
- Reports indicate widespread use of JUUL by students in schools, including classrooms and bathrooms.
- About two-thirds of JUUL users aged 15–24 are unaware that JUUL always contains nicotine.
- Other companies offer USB-shaped e-cigarettes, such as MarkTen Elite (nicotine) and PAX Era (marijuana).

Why Is Nicotine Unsafe for Kids, Teens, and Young Adults?

- Most e-cigarettes (vapes) contain nicotine, the addictive substance in cigarettes and tobacco products.
- A CDC study found that 99% of e-cigarettes sold in the U.S. contain nicotine.
- Some vape product labels don't disclose nicotine content, and even some labeled as "nicotine-free" have been found to contain nicotine.
- Nicotine harms the developing adolescent brain, which continues developing until about age 25.
- Nicotine use in adolescence can impair brain areas responsible for attention, learning, mood, and impulse control.
- During adolescence, brains form connections (synapses) faster than adults, and nicotine disrupts this process.
- Nicotine use in adolescence may also increase the risk of addiction to other drugs in the future.

How Does Nicotine Addiction Affect Youth Mental Health?

- When someone dependent on nicotine stops using it, they experience withdrawal symptoms as their body and brain adjust.
- Nicotine withdrawal symptoms include irritability, restlessness, anxiety, depression, trouble sleeping, difficulty concentrating, and nicotine cravings.

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- People often continue using tobacco to relieve these withdrawal symptoms.
- Some youth turn to vaping to cope with stress or anxiety, which can lead to a cycle of nicotine dependence.
- Nicotine addiction itself can contribute to stress.
- What may start as social experimentation with e-cigarettes can develop into an addiction.
- U.S. middle and high school students commonly try e-cigarettes because "a friend used them."
- The main reason youth continue using e-cigarettes is "feeling anxious, stressed, or depressed."
- Youth e-cigarette and cigarette use has been linked to mental health issues like depression.

➢ Do symptoms of nicotine withdrawal improve after quitting?

Yes. As long as a person **stays quit**, withdrawal symptoms will fade over time as the brain gets used to not having nicotine.

➢ Does quitting vaping improve mental health?

- Research on the mental health effects of quitting vaping is ongoing.
- Quitting cigarette smoking is linked to reduced anxiety, depression, and stress.
- Quitting smoking also leads to improved mood and quality of life.

➢ What Are the Other Risks of E-cigarettes for Kids, Teens, and Young Adults?

- The long-term health effects of e-cigarettes are still being studied.
- Some ingredients in e-cigarette aerosol may harm the lungs over time.
- Certain flavorings in e-cigarettes may be safe to eat but not to inhale, as the lungs cannot process substances as effectively as the gut.
- Defective e-cigarette batteries have caused fires and explosions, leading to serious injuries in some cases.
- Both children and adults have been poisoned by ingesting, inhaling, or absorbing e-cigarette liquid through the skin or eyes.
- About 50% of e-cigarette-related poison control calls are for children aged 5 or younger.

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- What Is in E-cigarette Aerosol?
  - E-cigarette aerosol is not harmless "water vapor."
  - The aerosol users inhale and exhale can contain harmful substances, including:
    - Nicotine
    - Ultrafine particles that reach deep into the lungs
    - Flavorings like diacetyl, linked to serious lung disease
    - Volatile organic compounds
    - Cancer-causing chemicals
    - Heavy metals, including nickel, tin, and lead
  - Both users and bystanders can be exposed to these harmful substances through e-cigarette aerosol.
  - It is difficult for consumers to know what e-cigarette products contain; some products labeled "nicotine-free" have been found to contain nicotine.
- Flavors and Marketing Make E-cigarettes Appealing to Youth
  - E-cigarettes come in flavors like fruit, candy, mint, and menthol.
  - A 2013-2014 study showed that most youth start with flavored e-cigarettes, with flavors as the main reason youth use them.
  - In 2022, 84.9% of youth who used e-cigarettes chose flavored varieties.
  - Among middle and high school users of flavored e-cigarettes in 2022, the most popular flavors were:
    - Fruit (69.1%)
    - Candy, desserts, or sweets (38.3%)
    - Mint (29.4%)
    - Menthol (26.6%)
  - As of January 2, 2020, the FDA prohibits the sale of pre-filled cartridge e-cigarettes in flavors other than tobacco or menthol, unless authorized.
  - The FDA has further restricted unauthorized sales of flavored disposable e-cigarettes and flavored e-liquids that appeal to youth.
  - Several states and communities have limited the sale of flavored tobacco products, including menthol.
  - E-cigarettes are marketed using themes and tactics similar to those used to attract youth to cigarettes.
  - In 2021, 76% of students reported seeing tobacco marketing, and 74% of social media users saw e-cigarette-related content.

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- E-cigarette advertising is widespread, even on media platforms where traditional tobacco ads are banned (e.g., TV).
- The lower cost of some e-cigarettes compared to regular cigarettes has increased youth usage.
- Many youth try e-cigarettes out of curiosity.

➢ Can Using E-cigarettes Lead to Future Cigarette Smoking Among Kids, Teens, and Young Adults?

- Many young people who use e-cigarettes also smoke cigarettes.
- Evidence suggests that e-cigarette use may increase the likelihood of future cigarette smoking.
- A 2018 National Academy of Medicine report found some evidence that e-cigarette use raises the frequency and amount of future cigarette smoking.
- E-cigarettes can also be used to deliver other drugs, including marijuana.
- In 2016, about one-third of U.S. middle and high school students who had ever used an e-cigarette reported using marijuana in the device.
- Even if young people do not progress to smoking cigarettes, e-cigarette use is still unsafe.

➢ Aren't E-cigarettes **Safer** Than Cigarettes?

- E-cigarettes expose users to **fewer** harmful chemicals than burned cigarettes.
- However, burned cigarettes are highly dangerous, killing half of all long-term smokers.
- The use of any tobacco product, including e-cigarettes, is unsafe for young people.

➢ Are E-cigarettes Regulated at the Federal Level?

- Yes, In August 2016, the FDA's regulatory authority was extended to include e-cigarettes through the "deeming rule."
- Through the authority granted by the Family Smoking Prevention and Tobacco Control Act (FSPTCA), the FDA has the authority to develop regulations that address the manufacturing, marketing, and sale of e-cigarettes.
- There are some strategies that the FDA does not have the authority to implement, such as including e-cigarettes in smoke-free policies or increasing the minimum legal sales age for these products unless directed

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to do so by Congress. However, the FSPTCA does not prevent states and communities from including e-cigarettes in smoke-free policies or regulating the sale and distribution of e-cigarettes. These types of strategies can include further raising the minimum legal sales age, licensing retailers, implementing price policies, and restricting or prohibiting the sale of tobacco products

- Are There Any National Public Education Prevention Campaigns Focused on Youth and E-cigarettes?
  - In 2018, the FDA expanded its youth tobacco prevention campaign, "The Real Cost," to target over 10 million youth aged 12–17 who have used or are open to trying e-cigarettes.
  - The campaign educates youth about the potential risks of using e-cigarettes, reaching teens in schools and online.
  - The "Real Cost" campaign places e-cigarette prevention materials in high school bathrooms and on educational digital platforms accessed during the school day.
  - The Truth Initiative® launched the "Safer ≠ Safe" campaign in 2018 to address youth misconceptions and provide accurate information about e-cigarettes.
  - The "Safer ≠ Safe" campaign is promoted on digital and social media, with a website offering videos, articles, and interactive activities for youth.

- What Do We Know About Heated Tobacco Products?
  - Heated tobacco products (HTPs), like IQOS and Eclipse, are marketed as "heat-not-burn" technology and heat tobacco leaf to produce an inhaled aerosol.
  - HTPs differ from e-cigarettes, which heat a liquid containing nicotine derived from tobacco.
  - HTPs are available in at least 40 countries and have been authorized for sale in the U.S. by the FDA.
  - In 2018, only 2.4% of U.S. adults, including 6.7% of current smokers, had ever used HTPs.
  - In 2022, 1% of U.S. middle and high school students reported using HTPs in the past 30 days.

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- What Can I Do to Prevent My Child from Using E-cigarettes or to Help Them Stop?
  - Set a good example by being tobacco-free and ensuring your child is not exposed to secondhand emissions from any tobacco products, including e-cigarettes.
  - If you use tobacco, it's never too late to quit. For free help, visit smokefree.gov or call 1-800-QUIT-NOW.
  - Talk to your child or teen about why e-cigarettes are harmful. It's never too late to start the conversation.
  - Use resources like the "Talk With Your Teen About E-cigarettes" tip sheet for parents to help guide discussions.
  - Start early by explaining to your child why e-cigarettes are harmful and let them know you want them to avoid all tobacco products.
  - Seek help by scheduling an appointment with your child's healthcare provider to hear from a medical professional about the health risks of tobacco products.
  - Speak with your child's teacher and school administrator to ensure the enforcement of tobacco-free policies and tobacco prevention education.
  - Encourage your child to learn the facts and get quitting tips at Teen.smokefree.gov.

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