

# Exposing the Facts about Vaping

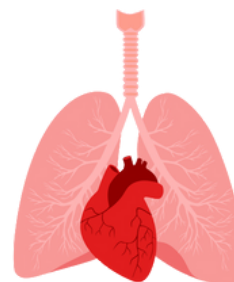


Many people have questions about vaping, nicotine and e-cigarettes. Among young people, myths and misinformation are creating confusion and interference. This list of facts sets the record straight with a summary of scientific evidence.

Know the facts so that you stay informed, can engage in accurate discussions and are equipped to make healthy choices.

## VAPING CAUSES HARM

- Vaping can cause harms to the heart and lungs, by damaging blood vessels and causing breathing problems like asthma. Inhaling particles, chemicals and heavy metals can cause cancer.
- More than 60 chemicals have been found in vape liquid. Heating this liquid causes chemical reactions that creates new chemicals, increasing this number.
- The chemicals used to make flavours in e-juice/pods can damage heart and blood vessels.
- Propylene glycol creates the white cloud when vape aerosol is exhaled. This chemical is considered safe to ingest in small amounts, but when inhaled it has unknown long-term health effects.
- Vaping can also affect those around you, including small children who are attracted to the sleek devices and fruity or candy-like flavours. There has been an increase in reports of nicotine poisoning and many cases of injuries from device explosions and burns.
- Just like second-hand smoke, second-hand vape aerosol is dangerous for those around you. It contains toxic chemicals, nicotine, and cancer-causing substances.



# Exposing the Facts about Vaping

## EVIDENCE RELATED TO HARMS FROM VAPING

- Puffing on a vape (breathing in vape aerosol) irritates airways and can damage blood vessels (this means it impacts the blood flow throughout your body.) [1, 2]
- Puffing on a vape coats the user's lungs with harmful chemicals like ultrafine particles, heavy metals like copper, lead, and nickel, [3] and other cancer-causing chemicals. [4]
- Exposure to vape aerosol may be a trigger for both kids and adults with breathing problems, such as asthma, increasing their risk of severe asthma attacks. [5]
- Nicotine is a stimulating drug. Vaping nicotine raises your blood pressure and spikes your adrenaline, which increases your heart rate and increases the risk of stroke, heart attack, and diseased arteries. [6]
- The number of chemical ingredients used in e-liquid/pods varies. Additional chemicals can also form when vapour products are heated or are in contact with parts of the vaping device (e.g., coil). [7]
- In addition to nicotine, vaping liquids typically contain glycerol (vegetable glycerin) and propylene glycol (PG), and chemicals used for flavouring. While these ingredients are considered safe for use in cosmetics and foods, the long-term risks of inhaling these substances are unknown and continue to be researched. [8]
- Chemicals used to create sweet, fruity and candy flavors in vaping liquid can damage your heart and blood vessels, increase your risk of heart disease, and damage lung tissue. [8]
- Propylene glycol (PG) is a main component of vape liquid because it produces vapour when heated. PG is approved for use in many of the foods we eat like cake mix and ice cream, but it's NOT approved for inhaling. [8]
- Heating PG in a vape device creates toxic, cancer-causing chemicals, that when inhaled can damage your airways and cause other harmful effects to your lungs. [9]
- A number of cases of injury or poisoning have been associated with e- cigarette substances and vaping in Canada. Dangers included poisoning through ingestion, inhalation, and burns. [10]
- If you are with someone who is vaping, you are being exposed to toxic chemicals, nicotine, and cancer-causing agents from the exhaled vape aerosol. [11]

# Exposing the Facts about Vaping

## VAPING HARMS YOUR MENTAL HEALTH

- Vaping nicotine affects the young developing brain which puts youth at risk for addiction to other substances.
- Youth can become more easily addicted to nicotine at much lower concentrations than adults.
- Some teens think vaping nicotine will help to get rid of stress, anxiety, and depression, but it doesn't. Vaping nicotine can actually make feelings of stress and anxiety worse.
- Withdrawal from nicotine can be hard for anyone as it affects mood, concentration, sleep, and overall feelings of wellbeing.



## EVIDENCE RELATED TO HARMS TO MENTAL HEALTH

- Vaping is not a way to cope with stress, anxiety, or depression. In fact, it can make symptoms worse. [12, 13]
- Vaping affects your mood. When the effects of the nicotine wear off (in just a few short hours), teens can feel irritated, jumpy, and have a hard time concentrating, and sleeping. [14, 15]
- Vaping nicotine is strongly associated with worsening anxiety and depression. [16]
- Youth are more susceptible to addiction at much lower concentrations of nicotine than adults. [17]
- Addiction to nicotine during adolescence increases a young person's risk of addiction to other drugs, like cannabis. [18, 19]
- If you vape, quitting has been shown to improve stress, anxiety, and symptoms of depression. [20]

# Exposing the Facts about Vaping

## VAPING HARMS TEENS BRAINS

(because it's still developing until age 25)



- Vaping delivers large amounts of nicotine to the brain, which is a problem for anyone, but especially young people because the brain is developing until the age of 25.
- Nicotine can impact learning, memory, attention and mood. Nicotine use from vaping can result in poor learning and academic performance, increased aggressive and impulsive behavior, poor sleep quality, and attention deficits.
- Teens can become addicted to nicotine easily and may experience withdrawal symptoms as nicotine levels drop in their brain. Someone may be addicted if they feel the need to vape (have cravings), and experience symptoms of irritability, restlessness, anxiety, trouble sleeping, difficulty concentrating, and fatigue when they do not use nicotine.

## EVIDENCE RELATED TO HARMS TEENS BRAINS

- A lot of e-juice and disposable vapes contain high doses of nicotine. [21] One disposable vape can contain 1-2 packs of cigarettes worth of nicotine.
- Puffing a vape sends a huge hit of nicotine right to your brain in 10 seconds. [22]
- Using nicotine impacts learning, memory, and attention, and it can change adolescent brain chemistry (again, because the teen brain is still developing). Vaping nicotine increases your risk of smoking and using other substances. [23]
- Teens who vape describe strong cravings and other signs that they are addicted to nicotine, such as reaching for their vape without thinking about it, habitual and automatic use throughout the day, feeling like they really need to use it, and feeling immediate gratification and comfort after vaping. [24]

# Exposing the Facts about Vaping

## VAPING HARMS OUR ENVIRONMENT

- Not only is vaping dangerous for you and those around you, but our environment is also at risk.
- E-cigarettes left on the street eventually break down into microplastics and chemicals that flow into storm drains eventually polluting waterways, soil and wildlife.
- Vaping creates garbage and hazardous waste. Hazardous waste includes batteries, the electronic parts inside the vaping devices, and nicotine residue. They can also leak toxic metals into the ground.



## EVIDENCE RELATED TO HARMS TO OUR ENVIRONMENT

- Vape waste is especially bad for the environment because it's three forms of waste in one: plastic waste, hazardous waste, and e-waste:
  - Plastics that contain hormone-disrupting chemicals;
  - Sharp and acidic elements that can puncture, explode, or burn;
  - Highly concentrated nicotine, sometimes in significant amounts;
  - Electronic circuit boards;
  - Lithium ion batteries;
  - All are hazardous to the environment. [25]
- Used vape cartridges and nicotine pods contain plastics, electronic circuitry, and nicotine residue, which are hazardous waste. Microplastics, heavy metals such as mercury and lead, as well as battery acid from used devices leach into the ground. [26]
- Unlike other electronics, e-cigarette manufacturers do not provide users with clear instructions on how to properly handle e-cigarette waste once the e-cigarette or its accessories reaches the "end of life." Users are left to figure out how to safely dispose of e-cigarettes on their own. [26]
- Currently, there is no standardized way to recycle e-cigarettes in Canada.

# Exposing the Facts about Vaping

## YOUTH USE OF VAPOUR PRODUCTS

- Great news! The majority of youth in NL do not vape.
- Unfortunately, those who do start using nicotine when they are young have a harder time quitting.
- Youth often identify peer pressure and curiosity as the main reasons for trying a vape and often, the first time they vaped was shared with them by someone they know.
- Vaping puts youth at risk of using other substances, including cannabis, and puts them at risk of engaging in other risk-taking behaviours.
- Many youth who start vaping are unaware of whether they are vaping nicotine or not.



## EVIDENCE RELATED TO YOUTH USE OF VAPOUR PRODUCTS

- Vapes are the most used nicotine product among youth, and the younger you are when you start using nicotine products, the harder it is to quit. [27]
- Youth initiation to vaping is often related to being curious and social influences from friends. First-time vaping was usually a result of an invitation to vape by someone well-known to them and a perception that vaping has a low risk of harm. [28]
- Vaping has been associated with an increased likelihood of future cannabis use and may be an indicator for other risk-taking behaviours. [29]

### Here are some youth vaping statistics for Newfoundland and Labrador:

The Canadian Student Tobacco, Alcohol and Drugs Survey in 2021 [30] found that:

- **40%** of NL students in grades 7 - 12 have tried vaping.
- **27%** of NL students in grades 7 - 12 have vaped in the last 30 days..
- **61%** of NL students report vaping fruit or candy flavoured products.
- **2.5 %** of youth in grades 7 - 12 are smoking combustible cigarettes. This is lowest it has ever been!



# Exposing the Facts about Vaping

## THE COMMERCIAL TOBACCO\* INDUSTRY & E-CIGARETTE COMPANIES

- Commercial tobacco industries have a history of targeting youth through candy and fruit- flavoured tobacco products and are now using the same tactics to encourage youth to vape.
- Youth are being targeted by marketing in non-traditional ways using social media platforms, social media influencers, and cool looking devices.
- When vaping marketing is widespread and rampant, vaping among youth increases
- Companies are promoting vaping as safer than traditional tobacco, **but this has yet to be proven.**
- These tactics are renormalizing using nicotine vaping devices in places where tobacco products are banned (ex. schools, parks, cars, and anywhere indoors).
- Companies are also trying to appeal to youth by keeping prices low and affordable to teens.



## EVIDENCE RELATED TO THE COMMERCIAL TOBACCO\* INDUSTRY & E-CIGARETTE COMPANIES

- The commercial tobacco industry has historically targeted youth with candy and fruit- flavored tobacco products and continues to do so with vapour products – promoting candy, fruit flavors, colorful packaging, and devices that often mirror the hottest tech gadget. [31]
- Vapour product companies use social media platforms, sleek device designs, renormalizing vaping in previously tobacco banned areas (indoors, parks, etc.), and emphasizing their products are safer than traditional tobacco products which has not actually been proven.
- Promotion of vapour products through various channels has led to increased positive perceptions of vaping, intentions to use vaping products and increased youth uptake of vaping. [32]
- Vaping marketing is strongly associated with increased vaping at the individual level, but provinces with stronger marketing regulations and restrictions have lower overall vaping prevalence. [33]

\*The term “commercial tobacco” refers to products manufactured by companies for recreational and habitual use in cigarettes, e-cigarettes/vapes, smokeless tobacco, pipe tobacco, cigars, hookahs, and other products. Commercial tobacco is mass-produced and sold for profit. Commercial tobacco does not include or refer to sacred tobacco used by many Indigenous Peoples in spiritual or cultural ceremonies.

# Exposing the Facts about Vaping

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