

LET'S TALK ABOUT VAPING

A QUICK REFERENCE GUIDE

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CURRENT STATE

"E-cigarette use has become an epidemic among our nation's young people."

U.S. Surgeon General's Report, 2018

New Brunswick has the highest vaping prevalence in Canada among youth ages 15-19.¹

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GENERAL INFORMATION

WHAT IS AN E-CIGARETTE OR VAPING DEVICE?

E-cigarettes are devices that operate by heating a liquid solution to a high enough temperature so that it produces an aerosol that is inhaled.

Solutions, sometimes called e-liquids, almost always include nicotine, flavouring and a humectant, such as propylene glycol, to retain moisture and create the aerosol when heated.

Older generations of e-cigarettes used a form of nicotine called free-base nicotine. Current e-cigarettes on the market, which include pre-filled pod systems, refillable systems, and disposable systems, use nicotine salts in the e-liquids.

The nicotine salt formulas allow for much higher levels and efficient absorption of nicotine compared to earlier generations of e-cigarettes.

NICOTINE SALTS

Current e-cigarette products deliver nicotine as efficiently as a cigarette.²

The use of nicotine salts lowers the pH of e-liquids, allowing much higher concentrations of nicotine to be inhaled with less irritation.

The nicotine content of many e-cigarettes also raises concerns about the potential for addiction.

A study found that among current youth and young adult nicotine pod/mod users, the majority — 63% — did not know the product always contains nicotine.³ Anecdotally, youth are reporting signs of severe dependence, such as inability to concentrate in class, using an e-cigarette upon waking, and using e-cigarettes at night after waking with a craving.

Newer generations of e-cigarettes, which use nicotine salt-based pods, contain nicotine levels equivalent to, or exceeding, one pack of cigarettes.

E-CIGARETTE CONTENT

Most e-cigarettes contain nicotine, flavouring, polycyclic aromatic hydrocarbons, propylene glycol/vegetable glycerin, aldehydes, carcinogenic nitrosamines, particulate matter, heavy metals, diacetyl, and other drugs.

CONTENT CONCERNS

Nicotine is highly addictive.⁴

Polycyclic aromatic hydrocarbons can cause cancer.

Propylene glycol/vegetable glycerin has never been approved for inhalation. It is dangerous when heated, as in e-cigarettes.

Diacetyl is known to cause lung toxicity, including bronchiolitis obliterans.

Heavy metal levels have been found to be higher in e-cigarettes when compared with traditional cigarettes.

GENERAL INFORMATION CONT'D

TOOLS FOR PARENTS AND TEACHERS

Vaping prevention and quit resources: top tips for parents and schools

<https://truthinitiative.org/research-resources/quitting-smoking-vaping/vaping-prevention-and-quit-resources-top-tips-parents>

Health Canada

<https://www.canada.ca/en/services/health/publications/healthy-living/talking-teen-vaping-tip-sheet-parents.html>

Dictionary of Vape Lingo

https://truthinitiative.org/sites/default/files/media/files/2020/06/Truth_Vaping_Lingo_Dictionary_FINAL.pdf

QUASH Facilitator Training

<https://www.quashapp.com/adult-allies>

Vaping is harmful.

Nicotine impacts brain development in youth and young adults.

Most vape pods contain more nicotine than one package of cigarettes.

New Brunswick has the highest vaping prevalence in Canada among youth ages 15-19 years old.

Vaping leads to smoking.

Two thirds of adolescents who reported using both electronic and tobacco cigarettes tried vaping first.⁵

NICOTINE AND THE YOUNG BRAIN

HOW NICOTINE AFFECTS YOUNG BRAINS

Youth are uniquely at risk for long-term, long-lasting effects of exposing their developing brains to nicotine.

These risks include nicotine addiction, mood disorders, and permanent lowering of impulse control.⁶

Nicotine use during adolescence can disrupt the formation of brain circuits that control attention, learning, emotional regulation, and increase susceptibility to other addictions.⁶

Research has shown early age of nicotine use and pleasurable initial experiences are correlated with daily use and lifetime nicotine dependence.

5 mg of nicotine a day is enough to establish a nicotine addiction⁷ – about the amount of nicotine in one-quarter of an e-cigarette pod.

Youth who have never smoked previously and began using e-cigarettes are more likely to smoke cigarettes in the future.

One study found that nicotine naïve youth and young adults who had ever used e-cigarettes had seven times higher odds of becoming smokers one year later compared with those who had never vaped.⁸

NICOTINE AND MENTAL HEALTH

Studies have shown that nicotine can worsen anxiety symptoms⁹ and amplify feelings of depression.¹⁰

Youth with single and dual e-cigarette and marijuana use had increased odds of reporting depressive symptoms and suicidality compared to youth who denied use.¹¹

Current e-cigarette users have double the odds of having a diagnosis of depression compared to those who have never vaped.

Frequent vaping is tied to even higher odds (2.4x) of having a diagnosis of depression compared to never users.¹²

Vaping is significantly associated with higher levels of ADHD symptoms.¹³

Nicotine use — whether through smoking or vaping — can increase stress levels.

Many people believe nicotine containing products can relieve stress or anxiety, giving the illusion of nicotine as a stress reliever. They might be interpreting the ability of the products to curb the symptoms of nicotine withdrawal as a beneficial effect on mental health. The irony is that while you may experience temporary relief from stress on a cognitive level, the body is experiencing **increased** stress. Your blood pressure and heart rate increases, muscles become tense, and less oxygen is available to the body and brain.¹⁴

More than half of vapers use e-cigarettes to cope.¹⁵

50.3% of frequent vapers – those who vaped 20 or more days in the past month – reported that they need to vape to cope with stress or anxiety.

Many e-cigarette brands are now tapping into themes of stress relief and mental well-being.

A popular disposable e-cigarette brand (i.e. Puff Bar), marketed its product during the COVID pandemic, as a way to “stay sane.”

There is emerging evidence of a link between quitting vaping and improvements in mental health symptoms.¹⁶

Survey data shows support for this link between quitting nicotine-containing e-cigarettes and improved mental health outcomes:

- 90% of those who quit said they felt less stressed, anxious, or depressed
- 47% of respondents who quit vaping reported that when they quit vaping they felt more in control
- 78% of respondents who reported ever vaping but had not quit said they would feel better about themselves if they quit vaping

HEALTH IMPACTS OF VAPING

It took several decades before the negative health impacts from smoking cigarettes were fully known. Likewise, it will take several decades to realize the full extent of any potential harm associated with vaping.

Despite the need for more time to fully understand the health impacts of vaping, a recent study of 2,000 youth and young adults revealed half (50.9%) of participants were quitting vaping due to health-related reasons.¹⁷

Overall Health Impact

The current estimated harm associated with modern e-cigarettes is one third of the harm associated with tobacco smoking for respiratory, cardiac, and cancer-related illnesses.¹⁸

Respiratory complications:

Increased risk for respiratory disease independent of cigarette smoking. This includes asthma, bronchitis, emphysema, and chronic obstructive pulmonary disease (COPD).¹⁹

Cancer

There are known carcinogens in e-cigarettes. Carcinogens are cancer causing substances.

Cardiovascular complications:

Daily e-cigarette use is associated with increased odds of a heart attack. Dual use of e-cigarettes and conventional cigarettes—the most common use pattern among e-cigarette users—is more dangerous than using either product alone.²⁰

Mental Health

Refer to Vaping and Mental Health section

Impact on the Brain

Refer Nicotine and the Young Brain section

MARKETING TACTICS TARGETING YOUTH

The Tobacco Industry has a long history of targeting youth, and the trend continues with e-cigarettes.

Big Tobacco is now Big Vape.

All major tobacco companies now own at least one e-cigarette brand.

The tobacco industry spends one million dollars per hour on marketing.

This equates to 8.8 billion dollars per year.

Initially, e-cigarettes were heavily marketed in the U.S., and even though the regulations in Canada are stricter, there is “cross-over” from U.S. marketing.

To bypass the strict marketing regulations in Canada, Big Tobacco has relied on social media marketing, using viral campaigns, testimonials, and influencers to sell their products.²¹

“Nicotine is not addictive”



A word about the tobacco industry

Big tobacco is an industry that has a long history of targeting vulnerable populations, including youth.

This is a picture of the CEOs of the 7 largest tobacco companies in North America testifying, under oath, before a House of Representatives. Each one was asked individually if nicotine is addictive and each one answered “no”, nicotine is not addictive. This occurred in 1994. Addiction is central to their business model.

All major tobacco companies now own e-cigarette brands.

Tobacco companies have seen a decline in profits with the reduction in smoking prevalence, primarily due to a decrease in youth and young adult populations not starting to smoke.

Vaping is a multi-billion-dollar industry. It’s all about profits.

QUITTING VAPING

Currently, there are no evidence-based clinical practice guidelines for how to quit vaping.

However, as a result of the tobacco epidemic, there are known tools and strategies to treat nicotine addiction. Some of these same strategies are used to treat vaping dependence. Clinical guidelines for treating vaping dependence are currently under development.

Vaping should not be used as a smoking cessation tool for youth due to lack of effectiveness and evidence of harm.²²

The Canadian paediatric society recommends behaviour strategies known for treatment in other addictions as first line therapy, and suggests considering nicotine replacement therapy (NRT) for youth with severe nicotine dependence or withdrawal symptoms.²²

NRT, such as patches, gums, lozenges, inhalers, and mouth sprays have been shown to be safe for youth, though evidence of effectiveness for smoking and vaping cessation in youth is limited.²³

Behavioural strategies to help youth quit vaping:

- Try to reduce the amount of nicotine you are vaping.
- Try not to carry your vape with you (e.g., keep it in your locker at school).
- When you are having a craving, try to keep yourself busy. Cravings only last a few minutes.
 - Try to delay vaping for as long as possible each time.
- Consider speaking with your healthcare provider about using nicotine replacement therapy to quit vaping (patch, gum, inhaler, mouth spray or lozenges).

Quit Vaping Resources for Youth in New Brunswick

Resources for youth are limited.

Consult your family physician or nurse practitioner.

Contact the provincial quit line, Smoke-Free NB, at 1-866-366-3667.

Consider trying digital apps, such as Quash or Crush the Crave. *Note: limited data is available as to how effective these apps are in helping youth quit vaping.*

RESOURCES AND REFERENCES

THE TRUTH INITIATIVE

Some of the content contained in this guide comes from the Truth Initiative. They are leaders in the field of youth vaping, and are committed to making tobacco use and nicotine addiction a thing of the past.

The Truth Initiative provides youth, educators, and parents with relevant, up-to-date, evidence-based facts about vaping and smoking. **Although the information from the Truth Initiative in the links below is available to everyone, quit vaping support through their 'This is Quitting' program is only available for youth living in the United States.**

<https://truthinitiative.org/research-resources/emerging-tobacco-products/e-cigarettes-facts-stats-and-regulations#What-is>

[E-cigarettes: Facts, stats and regulations \(truthinitiative.org\)](#)

[Colliding Crises: Youth Mental Health and Nicotine Use \(truthinitiative.org\)](#)

Vaping: Know the Truth

A free, four-part digital learning experience that gives students and teachers core knowledge around the dangers associated with using e-cigarettes:

<https://everfi.com/courses/k-12/vaping-programs-for-high-school-students/>

EXAMPLES OF COMMON BRANDS

*Please note- brand popularity changes very fast in this industry. Chances are these examples will be dated within months however content will only be updated annually.

Caliburn, Nord, Mr. Fog, Puff bar, Smok, Rick and Morty products (e.g. tornadoes), Elfbar

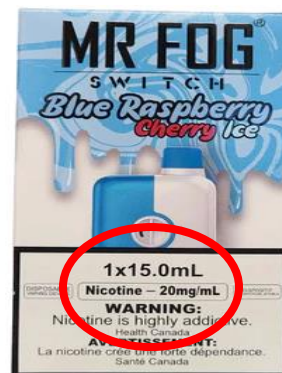
NICOTINE CONTENT CALCULATOR

To determine approximately how much nicotine is contained in a vape device, both **concentration** and **volume** are required.

Number of mls per device multiplied by nicotine concentration provides total nicotine

Example: 15 ml x 20 mg/ml = 300 mg of nicotine

Approximately 1 mg of nicotine is absorbed with 1 cigarette.²⁴



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