

# VAPING PRODUCTS

# INFORMATION FOR TEACHERS



Vaping among youth is becoming widespread and an issue in schools. This surging popularity is due to availability, a variety of appealing flavoured products, and the enhanced design and technology of newer vape devices. Increased experimentation and regular use of vaping products among youth is a concern among educators and public health officials.

Teachers are in a unique position to provide unbiased information about the adverse health effects of vaping to students and their families. This resource provides evidence-based information to help you inform students of the known and unknown risks of vaping products.

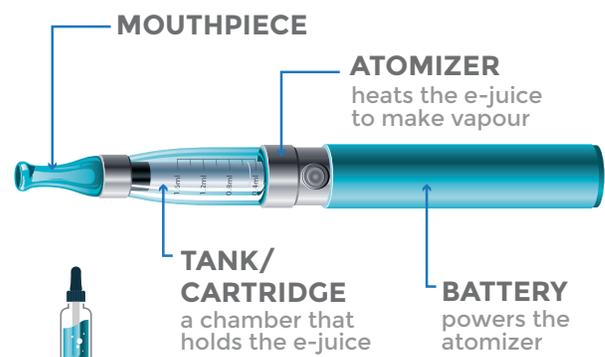
## VAPING PRODUCTS AND HOW THEY WORK

Vaping products, such as e-cigarettes and vape pens battery, are battery-powered devices that heat a liquid solution to create an aerosol (vapour/cloud). The e-juice (vaping liquid or e-liquid) inside a chamber typically

contains a solution of propylene glycol (PG)\* and/or vegetable glycerin (VG)\*, flavourings, and varying amounts of nicotine. The act of inhaling and exhaling an aerosol produced by a vaping product is commonly referred to as "vaping". When vaping popular brands (JUUL or Breeze), the terms "Breezing" or "Juuling" may be used.

\*PG and VG are industry acronyms

## VAPING PRODUCTS COMPONENTS



**E-JUICE**  
usually contains nicotine and other chemicals

- Atomizer is also known as cartomizer or clearomizer
- E-juice is also known as vaping liquid or e-liquid

## MONITORING YOUTH VAPING TRENDS

The Canadian Tobacco, Alcohol, and Drugs Survey (**CTADS**), Canadian Student Tobacco, Alcohol, and Drugs Survey (**CSTADS**) and the BC Adolescent Health Survey (**BC AHS**) collect data on e-cigarette use among youth. CTADS and CSTADS capture both the percent of youth who have 'ever-tried' e-cigarettes and the percent of youth who used e-cigarettes in the past 30 days. The 2018 BC AHS asked students about past 30 day use of e-cigarettes. Past 30 day use implies regular use as opposed to simply experimenting for the first time.

Data sets for both CTADS and CSTADS show an increasing trend of e-cigarettes use among youth in Canada. The 2018 McCreary Center Society BC AHS shows that 21% of all BC students (grades 7-12) used a vaping product with nicotine and 19% used a vaping product without nicotine.

## YOUTH VAPING TRENDS IN THE UNITED STATES

In the United States (US) from 2017 to 2018, e-cigarette use in the past 30 days has increased 78% among high school students (11.7% to 20.8%), and 48% among middle school students (3.3% to 4.9%). The Food and Drug Administration has declared an epidemic with regards to youth e-cigarette use. Health Canada recognizes the US trend and is carefully monitoring the Canadian market for the increased use of vaping products by youth.

## REASONS WHY YOUTHS VAPE

Focus groups and literature have identified the reasons youth are vaping:

- appealing flavours (e.g. fruit, candy, mint)
- trendy devices
- their friends are vaping; it helps them fit in
- curiosity and/or boredom
- they consider vaping harmless compared to smoking
- they like the "hit" they get from nicotine; it activates feelings of pleasure
- it makes them feel rebellious
- to quit or cut down on smoking



## HEALTH RISKS

Vaping impacts health. The toxicants in the aerosols, some of which are carcinogenic, can lead to short-term and long-term health effects. In the **short-term**, vaping can increase coughing and wheezing, heart rate, and cause inflammation of the lungs, and increased heart rate.

The **long-term** health effects of inhaling vaping aerosol are currently unknown. Studies suggest that vaping could lead to similar diseases as smoking, though not at a reduced rate. The health impact continues to be studied.

**Lithium-ion batteries** in vaping products can explode causing injury and fires. Proper use, storage, handling, and charging of the batteries can reduce risk.



## ABOUT NICOTINE

Nicotine is a chemical found naturally in tobacco leaves and is present in most e-juices.

Nicotine causes addiction and physical dependence. When the aerosol is inhaled, nicotine reaches the brain rapidly. It binds to brain receptors that stimulate the release of neurotransmitters – activating the brain's reward centre and triggering feelings of pleasure. Over time, a tolerance is developed and higher amounts of nicotine are needed to achieve the same feelings.

The brain continues to develop until the mid-twenties. Nicotine use during this period can impair the parts of the brain responsible for memory, mood, concentration, and impulse control.

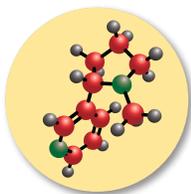
Nicotine also causes increased heart rate, blood pressure, constriction of blood vessels, altered brain waves and muscle relaxation.

## FLAVOURINGS

Canada banned flavoured tobacco products in an attempt to reduce the appeal to youth. However, flavouring are permitted in vaping products. There are currently over 7000 flavours on the market. Flavourings are added to improve the taste of the vapour and make vaping more appealing.

## VAPING VS. SMOKING CIGARETTES

For people who smoke, vaping may be a less harmful alternative to traditional cigarettes. The vapour contains fewer toxic chemicals compared to smoking tobacco because it is



not burned. Despite this, the inhaled vapour is not harmless. Youth often view smoking as unhealthy, smelly or 'nasty', but do not think of vaping in the same way. To consider vaping as a healthier alternative distracts from the issue of increased vaping by youth and its potential harm during this stage of life. Vaping is not a healthy choice for anyone who does not smoke. In addition, vaping products have the potential to make smoking normal and acceptable again.



## VAPING FOR SMOKING CESSATION

In 2018, Health Canada legalized nicotine-containing vaping products to allow access by adults. Though vaping may be less harmful alternative to smoking, studies looking at the role of vaping products in helping people quit smoking are a few in number. No firm conclusions can be drawn from the available evidence.

Health care providers recommend nicotine replacement therapy (NRT) or prescription medication, along with behavioural support/counselling for tobacco cessation. Nicotine replacement therapy (patch, gum, lozenge, inhaler and mouth spray) is available free of charge at pharmacies and has been proven to be effective.

Many people also try vaping products for cessation. They should be cautioned against "dual use" of both vaping and tobacco products. This is a frequently reported practice and may keep them smoking longer than they intended.



## VAPING CANNABIS

Cannabis can be vaped as dried flower or in concentrate forms such as wax and hash oil. Most devices are not compatible for use with various substances. The vaping devices that can be used for cannabis do not produce the distinct smell that comes from smoking cannabis.



## VAPING AS A LEAD TO CIGARETTE SMOKING

The research in this area is emerging and indicates youth who vape may be at an increased risk of using tobacco compared to those who do not vape. Further research is needed to identify whether youth tobacco use is a direct result of vaping, given other common factors that may account for initiation.

## LEGISLATION TO PROTECT YOUTH

Canadian and international public health organizations recommend legislation to restrict marketing to youth as well as uphold or enhance existing smoking regulations.

### Federal Legislation

Health Canada's Tobacco and Vaping Products Act (TVPA) was enacted on May 2018, to regulate the manufacture, sale, labelling, and promotion of tobacco and vaping products. This federal act:

- Prohibits the sale of vaping products to those under 18 years of age.
- Prohibits the promotion of vaping products that are appealing to youth, such as candy and dessert flavours.

### Provincial Legislation

The BC Tobacco Control Act and Regulations was updated (2016) to include vaping products. It is now called the BC Tobacco and Vapour Products Control Act (TVPCA). The provincial act:

- Prohibits the sale of vaping products to those under 19 years of age.
- Regulates store displays to be the same as tobacco
- Bans the use of vaping products in all public places where tobacco smoking is banned. This includes school property.



### Municipal Legislation

Some municipalities have amended their smoking bylaws to include vaping products in areas where smoking is banned.

