

VAPING PRODUCTS

INFORMATION FOR TEACHERS



Vaping among youth is on the rise and is an issue in schools. This surging popularity is due to availability, a variety of appealing flavoured products, and the novel 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.

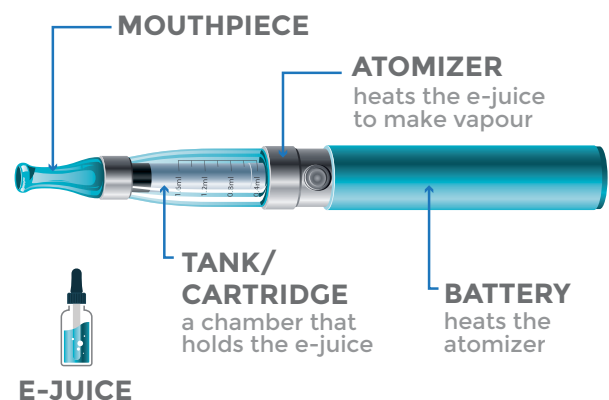
Teachers are in a unique position to provide unbiased information about the adverse health effects of vaping to students and their families. This resource provides evidence-based information to help you inform students of the known and unknown risks of vaping products.

WHAT ARE VAPING PRODUCTS?

Vaping products, such as e-cigarettes, are battery-powered devices that heat a liquid solution to create an aerosol (vapour/cloud). The vaping liquid (e-juice) 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”. The terms “Breezing” or “Juuling” are used when popular brands are used (Breeze and Juul).

VAPING PRODUCTS COMPONENTS



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.

In parallel, the results of the McCreary Centre Society BC Adolescents Health Survey shows that in 2018, 21% of all BC students 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 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.

WHY YOUTH 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. The **long-term** health effects of inhaling vaping aerosol are currently unknown. Some studies suggest that vaping could lead to similar diseases as smoking: lung disease, heart disease and possibly cancer. The health impact continues to be studied.

In the **short-term**, vaping can increase coughing and wheezing, heart rate, and cause inflammation of the lungs.

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



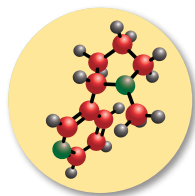
ABOUT NICOTINE

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, flavourings are permitted in vaping products. There are over 7000 flavours on the market that hide any bad tastes.



VAPING VS. SMOKING CIGARETTES

For people who smoke, vaping may be a less harmful alternative to traditional cigarettes. Since there is no combustion (burning) involved when vaping, the vapour contains fewer toxic chemicals compared to smoking

tobacco. Despite this, the inhaled vapour is not harmless. Youth often reject 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 youth nicotine use 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

While the research is still emerging, there is insufficient evidence that vaping is linked to improved rates of smoking cessation. Healthcare providers in Canada recommend nicotine replacement therapy (NRT) or prescription medication along with behavioral support to help people quit smoking. NRT therapies (patch, gum, lozenge, inhaler, and mouth spray) are over-the-counter medications proven to be effective for tobacco cessation. These medications provide a clean dose of nicotine to prevent withdrawal while someone is trying to quit. The delivery of nicotine is much slower through these products than from tobacco and vaping products and rarely results in dependency.

In 2018, Health Canada legalized nicotine-containing vaping products to allow adults, in particular smokers, to legally access vaping products as a less harmful alternative to tobacco. For those who smoke and want to reduce health



risks, vaping products may be less harmful, particularly for those unwilling or unable to:

- quit on their own
- quit using approved NRT or prescription medication
- quit using counselling

A concern with using vaping products for cessation is 'dual use'. This defeats the purpose of cessation as it maintains cigarette use.

CANNABIS VAPING

Cannabis can be vaped as dried flower or in concentrate forms such as wax and hash oil. Some vaping products can be used for both cannabis and nicotine-containing e-juice.

However, most devices are not multi-substance compatible.

Vaping cannabis oil does not produce the distinct smell that comes from smoking cannabis.



DOES VAPING LEAD TO CIGARETTE SMOKING?

The research surrounding youth transition and initiation of smoking cigarettes is contradictory. A growing number of sources promote the 'gate-way theory' or 'catalyst hypothesis', the idea that vaping leads to smoking in youth. However, some studies disagree and present the 'joint susceptibility hypothesis', which states that those who are likely to smoke cigarettes will do so, regardless of vaping, due to common risk factors. The reason for differing results is mainly based on methodology, including sample size, controlling for multiple variables and length of study. Evidence is not adequate to fully support one view point over the other. We will continue to evaluate

the strength of emerging research to ensure information is accurate.

WHAT IS BEING DONE 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

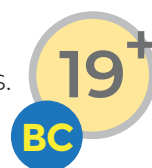
At a federal level, the Tobacco and Vaping Products Act (TVPA) was enacted on May 2018, to regulate the manufacture, sale, labelling, and promotion of tobacco and vaping products.

- Sales of vaping products are not permitted to those under 18 years.
- The Act 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).

- Sales of vaping products are not permitted to those under 19 years.
- Product store displays are now regulated the same as tobacco.



- Use of vaping products is banned in all public spaces where tobacco smoking is banned, this includes school property.
- Some municipalities have amended their smoking bylaws to include vaping products.

