

Vaping: What elementary school educators need to know

This fact sheet provides general information about vaping and outlines important facts, associated risks, and additional resources to support educators in having informed conversations with students.

What is vaping and how does it work?

Vaping is the act of inhaling and exhaling (puffing) vapour from a battery-operated device known as an e-cigarette. E-cigarettes are also known as mods, vapes, vape pens, e-hookahs or tank systems.¹ A vaping liquid or “e-juice” is heated to produce a vapour that can be inhaled through the mouth into the lungs.

What do vaping devices look like?

Vaping devices come in many shapes and sizes. Some are small and look like a pen or a USB drive while others are larger. A typical vaping device includes:¹

- a battery
- heating element
- a tank or a pod for the vaping liquid.

The vaping liquid comes in bottles with a dropper to fill the tank or reservoir of the e-cigarette or in pre-filled containers (also called pods) that are inserted into the vaping device. The vaping liquids contain a combination of chemicals, such as propylene glycol, vegetable glycerin, additives and chemical flavor compounds.¹



The aerosol that users inhale and exhale from e-cigarettes can expose them to potentially harmful substances.¹ Being around someone using e-cigarettes can also expose someone to these substances. Most e-cigarettes also contain nicotine, which is a highly addictive substance found in tobacco. Cannabis can also be vaped.

Many vaping liquids come in different flavours, such as mint, fruit, and chocolate. These flavours make e-cigarettes more appealing to young people.¹



What are the health risks of vaping?

Because vaping is still relatively new, researchers are still learning about its long-term health effects. The short-term effects include:¹

- mouth or throat irritation
- cough
- shortness of breath
- nausea.

Vaping is not without risk and can increase exposure to chemicals that may cause health harms, including lung damage.² This may make students who vape more susceptible to COVID-19.³

E-cigarettes can also increase the spread of disease since they are also often shared between students.⁴ It should be conveyed to students that if they choose to vape, they should avoid sharing their devices (including electronic hookah/shisha pipes and cannabis products) with other students to avoid spreading illness.

Vaping products with nicotine and/or cannabis during adolescence can also:

- affect the brain, which continues to develop until approximately age 25 ¹
- cause addiction and dependence, leading to prolonged use or transition to tobacco cigarettes and associated negative health impacts ^{1,5}
- impact learning, memory, concentration and attention ^{1,2}
- worsen symptoms of depression and anxiety ¹
- reduce impulse control ²
- cause behavioural problems.²

Nicotine toxicity can happen due to swallowing or breathing in the vaping liquid or absorption through the skin or eyes of large amounts of nicotine.^{1,6} This can cause dizziness, headaches, vomiting, nausea, increased heart rate and death.¹ Young children and pets are at a greater risk.

If you think a student has been exposed to toxic amounts of nicotine, call Ontario Poison Centre at 1-800-268-9017 for advice on what symptoms to look out for and whether medical attention is needed.



What are the laws around vaping?

Provincial and federal laws work together to protect children and youth. It is against the law to sell or supply tobacco and vapour products to anyone under the age of 19. The Smoke-Free Ontario Act, 2017 prohibits the use of e-cigarettes (inhaling, exhaling, or holding an activated e-cigarette) to vape any substance in enclosed public places, enclosed workplaces and certain other places, such as the following places, among others:

- public and private schools
- school grounds and all public areas within 20 metres of these grounds
- children’s playgrounds and all public areas within 20 metres of playgrounds
- grounds of community recreational facilities and all public areas within 20 metres of these grounds
- publicly-owned sporting areas (not including golf courses), nearby spectator areas and public areas within 20 metres of these areas.⁷

Additional restrictions on smoking and vaping may exist in municipal bylaws, and the policies of employers and property owners.



Here are some important sources for additional information on laws around vaping:

- **Where you can't smoke or vape in Ontario:** www.ontario.ca/page/where-you-cant-smoke-or-vape-ontario
- **Rules for selling tobacco and vapour products in Ontario:** <https://www.ontario.ca/page/rules-selling-tobacco-and-vapour-products>
- **Federal Tobacco and Vaping Products Act:** <https://www.canada.ca/en/health-canada/services/health-concerns/tobacco/legislation/federal-laws/tobacco-act.html>
- **Federal Vaping Product Regulations:** <https://www.canada.ca/en/health-canada/services/smoking-tobacco/vaping/product-safety-regulation.html>

How can I promote student well-being and prevent harms related to vaping?

Here are some approaches to use when educating students about vaping:



Avoid criticism and encourage open dialogue by approaching the topic of vaping in a knowledgeable, supportive, and non-judgmental way. Help students to really understand that vaping carries health and cognitive risks, particularly for people under age 25 because their brains are still developing.



Provide students with opportunities to learn about vaping. Discuss the risks and costs (physical, psychological and financial) associated with vaping. The topic can be a part of regular instruction (e.g., health and physical education, financial literacy, media literacy in language).



Understand that some young people may vape in response to stress and difficult feelings. Help students explore ways to manage stress and feelings without vaping. Strategies, such as talking to a trusted adult (e.g., a parent/guardian, teacher, school staff member) and accessing community resources that can help students find healthy ways to deal with stress, understand the risks associated with vaping, make informed decisions, and to manage peer pressure.



Support students in exploring the choices they have if others pressure them to use e-cigarettes. Feeling social pressure from friends or others to use e-cigarettes can be challenging, but it is important for students to know that most students do not vape.¹



Have students critically examine the marketing tactics that the vape industry uses to entice youth, such as using trendy packaging, social media influencers, celebrity endorsements and fruity flavours.¹ These learning opportunities help students understand that the vape industry uses advertising strategies to make vaping look appealing, while not necessarily sharing the health risks of vaping.



Collaborate with public health partners to apply the Healthy Schools approach in order to integrate health promotion activities across the whole school and support community messaging to parents and guardians. For more information on Healthy Schools, visit: www.edu.gov.on.ca/eng/healthyschools/foundations.html.

What are some facts about vaping?

Fact 1: Vaping behaviours are different across grade groups.

It is important to recognize grades and groups that may be at higher risk when educating students about vaping. Tailoring information to students' age, while sharing appropriate resources with students who are at a higher risk of vaping, can help these students make informed choices. A 2019 survey found that:⁴

- 23% of Ontario students in Grades 7–12 had used e-cigarettes in the previous year.
- While students in Grades 7 and 8 were less likely to use e-cigarettes than high school students, students in Grade 8 were more than 2.5 times as likely (5%) to have tried an e-cigarette compared to those in Grade 7 (2%).
- Male and female students in grade 7–12 are equally as likely to use e-cigarettes.⁴

The 2019 report does not include data on non-binary students. Research is needed on vaping use for students who are non-binary.

Fact 2: Vaping is NOT harmless.

There are no long-term studies on vaping, so long-term health effects are still unknown.¹ Provide your students with the opportunity to learn about the health effects of vaping to make healthy, informed choices, such as avoiding nicotine and tobacco products entirely to protect their health.

Fact 3: E-cigarettes are NOT a proven effective quit smoking aid for youth.

Although some studies have shown that vaping can be an effective quit smoking tool for adults, this has not been proven for youth. In fact, research shows that there's a greater risk it will lead youth to start smoking tobacco cigarettes.^{1,8}

If a student tells you they are interested in quitting smoking, provide information about resources such as Kids Help Phone, which can provide non-judgmental and confidential support over the phone at 1-800-668-6868. Students can also text CONNECT to 686868 or visit the website at www.kidshelpphone.ca.

You can also direct students to a free Quit Coach for non-judgmental and confidential support over the phone by calling Telehealth Ontario at 1-866-797-0000 or toll-free TTY at 1-866-797-0007. Students may also access digital smoking cessation services from the Canadian Cancer Society's Smokers' Helpline by visiting www.smokershelpline.ca or texting iQuit to 123456.

Fact 4: Vaping is linked to mental health and substance use problems.

Although this is a growing area of research and relatively little is known about the specific associations between e-cigarettes and mental health, current evidence shows a relationship between vaping and mental health and substance use problems.⁹ However, the direction of the relationship (does vaping lead to these issues or do these issues lead to vaping) is not known.

How does vaping connect to the curriculum?

Ontario's 2019 Elementary Health and Physical Education Curriculum provides diverse opportunities for students to learn about vaping to make healthier choices for their overall well-being.

Learning related to vaping occurs in Grade 4 and 6 with additional references starting in Grade 1. In elementary school, students learn to make informed decisions about their health in order to encourage them to lead healthy lives. This includes learning about adopting and maintaining healthy behaviours, as well as learning about the risks of vaping and its health effects. Student also learn about various factors that affect decisions about vaping, and how to apply decision making, assertiveness, and refusal skills to manage social pressures and make healthy informed choices. Below are learning expectations within the elementary Health and Physical Education curriculum that support learning about vaping.

GRADE 1

Substance Use, Addictions, and Related Behaviours (D3.2)

- Students “identify habits and behaviours (e.g., excessive screen time or video game usage, smoking, vaping) that can be detrimental to health, and explain how people can be encouraged to adopt healthier alternatives”

GRADE 4

Substance Use, Addictions, and Related Behaviours (D1.4, D2.3, D3.2)

- Students “identify substances (e.g., nicotine, carbon monoxide, tar) found in tobacco and vaping products, and describe their effects on health”.
- Students “demonstrate the ability to make and support healthy, informed choices about smoking and vaping, using their understanding of factors that affect decisions about smoking and vaping and a variety of social-emotional learning skills (e.g., applying decision-making, assertiveness, and refusal skills; considering alternative coping strategies for stressful situations; thinking in advance about values, cultural beliefs, and personal choices; identifying the pros and cons of both making a change and not making a change; being aware of peer pressure; avoiding situations where people will be smoking or vaping; using conversational strategies, such as saying no strongly and clearly, giving reasons, changing the topic, making a joke, asking a question)”.
- Students “describe the short- and long-term effects of first- and second-hand smoke on smokers and on people around them, and the effects of vaping”.

Mental Health Literacy (D2.5)

- Students “demonstrate an understanding of how choices they make every day can have a positive impact on their mental health”.

GRADE 5

Substance Use, Addictions, and Related Behaviours (D2.3)

- Students “demonstrate the ability to apply decision-making, assertiveness, and refusal skills to deal with pressures pertaining to alcohol use or other behaviours that could later lead to addiction (e.g., smoking, vaping, drug use, gambling, video game use)”.

GRADE 6

Substance Use, Addictions, and Related Behaviours (D2.4)

- Students “use decision-making strategies and skills and an understanding of factors influencing drug use (e.g., personal values, peer pressure, media influence, curiosity, legal restrictions, cultural, religious, and spiritual teachings) to make safe personal choices about the use of drugs such as alcohol, tobacco, and cannabis, and about activities such as vaping, including the choice to abstain”.

GRADE 7

Substance Use, Addictions, and Related Behaviours (D3.2)

- Students “analyse the personal and societal implications of issues related to substance use, addictions, and related behaviours (e.g., ...risks associated with vaping and chewing tobacco; effects of second-hand smoke on non-smokers and children; legal and health implications of underage drinking and cannabis use)”.

Where can I get more information?

About vaping: <https://www.canada.ca/en/health-canada/services/smoking-tobacco/vaping.html>

Youth vaping prevention materials: <https://considertheconsequences.ca/resources/>

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

Public health units: <http://www.health.gov.on.ca/en/common/system/services/phu/locations.aspx>

References

1. US Department of Health and Human Services. (2016). *E-cigarette Use Among Youth and Young Adults: A Report of the Surgeon General*. Available: https://www.cdc.gov/tobacco/data_statistics/sgr/e-cigarettes/pdfs/2016_sgr_entire_report_508.pdf. Accessed April 24, 2020.
2. Health Canada. Risks of vaping. *Government of Canada*. Available: <https://www.canada.ca/en/health-canada/services/smoking-tobacco/vaping/risks.html>. Accessed May 22, 2020.
3. Canadian Paediatric Society. (2020). *COVID, Youth, and Substance Use: Critical Messages for Youth and Families*. Available: <https://www.cps.ca/en/blog-blogue/covid-youth-and-substance-use-critical-messages-for-youth-and-families>. Accessed April 24, 2020.
4. Boak, A., Elton-Marshall, T., Mann, R.E. & Hamilton, H.A. (2020). *Drug Use Among Ontario Students, 1977–2019: Detailed Findings From the Ontario Student Drug Use and Health Survey (OSDUHS)*. Toronto, ON: Centre for Addiction and Mental Health. Available: https://www.camh.ca/-/media/files/pdf/--osduhs/druguserreport_2019osduhs-pdf.pdf?la=en&hash=7F149240451E7421C3991121AEAD630F21B13784. April 24, 2020.
5. Hammond, D., Reid J.L., Cole, A.G. & Leatherdale, S.T. (2017). Electronic cigarette use and smoking initiation among youth: A longitudinal cohort study. *CMAJ*, 189 (43), E1328–36. Available: <https://doi.org/10.1503/cmaj.161002>. Accessed April 24, 2020.
6. Centers for Disease Control and Prevention (CDC). New CDC study finds dramatic increase in e-cigarette-related calls to poison centers. CDC Newsroom. Available: <https://www.cdc.gov/media/releases/2014/p0403-e-cigarette-poison.html>. Accessed April 24, 2020.
7. Government of Ontario. (2017). *Smoke-Free Ontario Act, 2017*. Available: <https://www.ontario.ca/laws/statute/17s26/v1>. Accessed April 24, 2020.
8. Soneji, S., Barrington-Trimis, J.L., Wills, T.A., Leventhal, A.M., Unger, J.B., Gibson, L.A. et al. (2017). Association between initial use of e-cigarettes and subsequent cigarette smoking among adolescents and young adults: A systematic review and meta-analysis. *JAMA Pediatrics*, 171 (8), 788–797. Available: <https://www.ncbi.nlm.nih.gov/pubmed/28654986>. Accessed May 13, 2020.
9. Grant, J.E., Lust, K., Fridberg, D.J., King, A.C. & Chamberlain, S.R. (2019). E-cigarette use (vaping) is associated with illicit drug use, mental health problems, and impulsivity in university students. *Annals of Clinical Psychiatry: Official Journal of the American Academy of Clinical Psychiatrists*, 31 (1), 27–35.