Section:	HEALTHY COMMUNITIES
Directive Title:	Determine Eligibility for / Dispense NRT
Directive #:	HC-01
Approved by:	Medical Officer of Health
Date:	December 19, 2024

ORDER / DELEGATED PROCEDURE:

Determine eligibility for / dispense over the counter (OTC), combination system Nicotine Replacement Therapy (NRT), off-label, to Recipient Clients who use nicotine through conventional cigarette, cigar and / or alternative delivery systems, e.g. e-cigarettes¹, "heat not burn" products, chew, snus, nicotine pouches, as per

- Appendix A The Centre for Addiction and Mental Health <u>CAMH List of Assessment Tools</u>
 - Hooked on Nicotine Checklist (HONC) and E-cigarette Dependence Scale (EDS)
 E-cigarette Fagerstrom Test of Cigarette Dependence
- [for Penn State E-cigarette Dependence Index -- see CAMH List of Assessment Tools] • Appendix B - Guidelines for Titration of Combination System NRT
- Appendix C Nicotine Vaping Calculations (Note: PPD means packs per day)
- Appendix D <u>NRT Decision-Making Algorithm</u>

APPLICABILITY:

Vaping

- Most heavy smokers who switch to vaping start at a concentration of 18 mg / ml, but the starting point is less clear for youth vapers who were never smokers.
- For some youth vapers using nicotine salt products like JUUL, the concentration can be well over 20 mg/ml.
- Most students reported using 50 mg/ml pods. Pods are 2 mls and come 3 in a pack. Generally the students say this lasts 1 week, sometimes 2 weeks.²
- Centre for Addiction and Mental Health (CAMH) vaping NRT recommendations
 - Given the lack of standardization and quality standards between and within brands of eliquids, it is not easy to estimate the dose of NRT that a person might need to replace their e-cigarette use.
 - When in doubt, it is safer to start with multiple doses of short-acting NRT for 3 to 7 days and then use the daily amount used to calculate a starting dose of the nicotine patch.
 - The dose of the patch can be adjusted every 4 to 7 days depending on how much the person continues to vape.
 - Clients should be educated to
 - recognize the symptoms and signs of nicotine toxicity
 - how to avoid them
 - how to respond should they develop
- Follow the CAMH <u>New E-Cigarette Use Guidance and Recommendations</u> Nicotine Pouches³
 - Unfortunately, Health Canada did not restrict the sale of nicotine pouches to adults until August 2024, just over a year after they were approved. During that time many youth became addicted to nicotine pouches and are now seeking NRT to stop using them.

² This dose would result in quite high amounts of nicotine resulting in serious withdrawal and inability to focus upon cessation.

¹ CAMH, 2022. Use of smoking cessation medications for vaping cessation would be considered 'off-label' in most jurisdictions. Healthcare providers should inform clients that medication options are based on tobacco cessation treatment approaches.

³ PHAC Public Advisory, Mar 2024

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- Nicotine pouches are only authorized as NRT to help <u>adults</u> quit smoking; they are not authorized for use under the age of 18.⁴ Health Canada has only authorized one 4 mg pouch, <u>Zonnic</u>. This dose would be suggested for an adult who smokes 25 cigarettes a day, but HPEPH does not recommend nicotine pouches as a cessation method.
- Pouches should not be used recreationally, by nonsmokers, by people under the age of 18, or by others at risk of the toxic effects of nicotine.

RECIPIENT CLIENTS:

Adults and youth \geq 12 years of age ^{5,6} who have requested cessation assistance for smoking or an alternative nicotine delivery system, have undergone assessment, and have been found to be eligible for NRT.

AUTHORIZED IMPLEMENTERS:

Registered Nurses (RNs), Registered Practical Nurses (RPNs), and Health Promoters (HPs) who accept the delegation to determine eligibility for and to dispense combination system NRT and have completed the core course from the CAMH TEACH (Training Enhancement in Applied Cessation Counselling and Health) program or other recognized organization.

INDICATIONS:

- Determine eligibility for and dispense the appropriate dose of combination system NRT continuous transdermal patches, short-acting NRT gum, lozenges, inhaler, or oral spray for client who will
 - attend either a support group, smoking / vaping cessation class, clinic, meeting, phone interview, or home visit OR
 - under special circumstances, to be determined, a client who cannot attend a smoking / vaping cessation clinic visit, due to, but not limited to, illness or mobility issues, or during a pandemic, may undergo a phone / video conference interview / consultation, then NRT may be dispensed on their behalf to a designated substitute
- In addition, client will
 - have an individualized smoking / vaping cessation plan, addressing lifestyle changes and behavioural interventions
 - o be educated about the proper uses of NRT

Clients on prescription medications on Drug Interactions with Tobacco Smoke list 7

- If client is commencing NRT and takes a prescription medication(s) listed on Drug Interactions with Tobacco Smoke (Related Links), advise them to notify their health care provider (HCP) since some drugs may require monitoring during smoking cessation (because of tobacco smoke, in most cases, **not** the nicotine) due to an altered pharmacologic response. Client should be advised to
 - provide the list to HCP
 - o notify HCP that potential maximum daily patch dose is 84 mg NRT

⁴ <u>PHAC News release re: Nicotine pouches</u> Aug 22, 2024. To be sold only by a pharmacist or an individual working under the supervision of a pharmacist, and to be kept behind the pharmacy counter.

⁵ <u>American Academy of Pediatrics</u>, 2019; AAP policy recommends NRT off-label under the age of 18 if moderately or severely addicted and motivated to quit; low risk outweighs potential harm

⁶ Canadian Pediatric Society, 2022. NRT Recommended...for regular smokers 12 to 18 years of age

⁷ American Academy of Family Physicians, 2019

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- allow Hastings Prince Edward Public Health (HPEPH) to share medical records with HCP, as noted in electronic medical records (EMRs), if necessary
- If client does not have an HCP, give them the list to take with them to the clinic on their next visit and note "Client does not have HCP" in Oscar

Clients with medical conditions advised to contact HCP

- o heart attack in the last 2 weeks
- severe or worsening angina
- o life-threatening arrhythmias
- o recent cerebral vascular incident
- o severe psychiatric condition, not well controlled
- Client should be advised to
 - provide their HCP with the list Drug Interactions with Tobacco Smoke and Smoking Cessation
 - o notify HCP about they are on prescription medication(s) on the list
 - notify HCP about a potential maximum daily patch dose of 84 mg NRT
 - allow HPEPH to share medical records with HCP, as noted in electronic medical records (EMRs), if necessary
- If client does not have an HCP, give them the list to take with them to the clinic on their next visit and note "Client does not have HCP" in Oscar
- For all ages, be aware of disease-related cautions when prescribing NRT, including cardiovascular disease, diabetes, and hyperthyroidism; however, it is important to note that these cautions are relative, not absolute: **NRT is safer than continued tobacco use.**
- The decision to prescribe a drug is the responsibility of the medical provider, who must weigh the risks and benefits of using the drug for a specific situation.

Pregnancy ⁸

- There is evidence that the use of NRT may increase cessation rates, and, relative to continued smoking, the benefits of NRT to aid smoking / vaping cessation in pregnant women, who cannot stop smoking / vaping without such therapy, substantially outweigh the risks of either continual smoking / vaping or NRT.⁹
- NRT is considered to be a safe and effective method for assisting pregnant women in smoking cessation. Accelerated nicotine metabolism can be observed in pregnant women, meaning it can be even more difficult to quit. Higher doses of nicotine may be needed in order to combat cravings. Studies have shown that there are no significant effects of using the NRT patches during pregnancy and the smoking cessation leads to healthier pregnancies, deliveries, and fewer developmental impairments.¹⁰
- The benefits of cessation are greatest if the cessation occurs early in pregnancy when it can still help protect against some health problems for developing babies, such as low birth weight or premature birth.¹¹
- First line treatment: Smoking / vaping cessation counselling about lifestyle and behavioural changes (CAMH, 2022).
- Second line treatment: The Society of Obstetricians and Gynecologists of Canada suggest offering NRT at the lowest effective dose if counselling alone fails (CAMH, 2022), along with

 ⁸ If pregnant client does not have an HCP or obstetrician, they can be referred to an obstetrician by an HPEPH nurse in Healthy
 Families, Sexual Health Harm Reduction, or Healthy Schools via G-16 Referral to Obstetrician for Unattached Clients.
 ⁹ Diamanti, 2019

¹⁰ Ottawa Model, FAQs Pregnancy and Smoking Cessation, 2024

¹¹ CDC Pregnancy, 2020

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an informed discussion of the benefits and risks of NRT therapy,¹² keeping in mind that quit smoking medicines are much safer than smoking (CDC, 2022).

- Patch(es) may be considered to a maximum daily dose of 42 mg (patch(es) removed at night); the patch(es) should be removed at bedtime to reduce fetal nicotine exposure unless the pregnant client wakes up at night to smoke (Nicorette, Oct 2019).
- o Patches may be preferred if the client is suffering from nausea during the pregnancy.
- According to the CAMH Vaping Cessation Guidelines, when developing a treatment plan, HCPs should consider the impact of the stage of pregnancy on nicotine metabolism. If NRT is being used, <u>higher doses may be needed</u>, <u>especially by the latter</u> <u>part of the second trimester</u>. Nicotine metabolism tends to revert back to normal by 4 weeks post partum, so the NRT dose may need to be reduced to prevent side effects.
- Studies have shown there are no significant adverse effects from using the NRT patch(es) during pregnancy, and smoking / vaping cessation leads to healthier pregnancies and deliveries and fewer developmental impairments.¹³
- Studies of the effectiveness of NRT in pregnant clients are inconclusive to date, but realworld studies suggest effectiveness in clinical practice. The Mayo Clinic (2022) reports NRT products are safe during pregnancy, and counselling, with NRT, is the most effective way to quit.

Note: HCPs should consider extending treatment during post-partum and post-breastfeeding / chestfeeding periods.

Breastfeeding / Chestfeeding

- The benefits of NRT for breastfeeding / chestfeeding clients and their infants outweigh the risks of smoking and offer great potential benefit to the infant because of reduced exposure to harmful second-hand smoke ¹⁴ In addition, the amount of nicotine from NRT is less than that from cigarettes (Quit Victoria, 2021).
- First line treatment: Smoking / vaping cessation counselling about lifestyle and behavioural changes is recommended (CAMH, 2022).
- Second line treatment: short-acting NRT / patch(es) (CAMH, 2022) at the lowest effective dose may be considered to a maximum daily dose of 49 mg, along with an informed discussion of the benefits and risks of NRT, keeping in mind that any smoker is safer with NRT (Pipe 2012).

Note: If an increased dose is indicated, the Recipient Client will agree to consult with their HCP prior to the increase.

 Short-acting NRT should be avoided, if possible, for at least one hour before breastfeeding / chestfeeding; instead, it should be used, if needed, immediately afterwards (Nicorette, Oct 2019).

Precautions

- Side effects from increased caffeine Smoking / vaping reduces the effects of caffeine, so
 once the client quits smoking / vaping, the side effects from caffeine will likely increase:
 - caffeine consumption should be reduced by 50% (or more, during pregnancy) while quitting smoking to reduce the side effects of too much caffeine, e.g. palpitations, sweating, anxiety, insomnia, difficulty concentrating, impatience, restlessness.

¹² RNAO, 2018. Tobacco smoke contains more than 7,600 chemicals, at least 70 of which are known to cause cancer.

¹³ Ottawa Model Smoking Cessation (University of Ottawa Heart Institute), 2022, FAQs Pregnancy

¹⁴ Quit 2021. Infants exposed to second-hand smoke have twice the risk of Sudden Infant Death Syndrome (SIDS)

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- it is not advisable to stop smoking and abruptly stop drinking all caffeinated beverages at the same time, as the symptoms of caffeine withdrawal—headache and fatigue—may be mistaken for nicotine withdrawal.
- Nicotine overdose / poisoning from e-cigarettes the liquid nicotine in e-cigarettes poses a danger to users and children. If it occurs, vomiting is the most common symptom. Other signs and symptoms are listed in Table 1: Signs and Symptoms of Nicotine Poisoning.¹⁵
 - According to the American Academy of Pediatrics, as little as one teaspoon of liquid nicotine can be fatal to a 26-pound child; even liquid nicotine spilled on the skin can be poisonous within minutes.¹⁶
 - Liquid refills are sold in quantities of 10 mL to more than 30 mL (about two to six teaspoons) in a variety of nicotine strengths. The products come in flavors with attractive scents and inviting packaging. Store e-cigarettes and nicotine refill products out of reach of children and pets.¹⁷

Note: Advise clients to avoid certain flavours shown to cause harm, e.g. cinnamon, cherry, menthol and products containing diacetyl (CAMH, 2022).

 In addition, a number of the chemicals found in the aerosol produced from vaping devices have known toxicity (e.g. formaldehyde).¹⁸

Table 1 - Signs and Symptoms of Nicotine Poisoning

Early phase symptoms after ingestion include

- Nausea and vomiting. Vomiting occurs in more than 50% of people with symptoms
- Increased salivation
- Abdominal pain
- Pale skin color
- Sweating
- Increased blood pressure
- Increased heart rate
- Rapid, heavy breathing (hyperpnea)
- Loss of full control of body movements (ataxia), loss of balance, difficulty walking
- Tremors
- Headache, dizziness, mental confusion
- Disturbed hearing / vision
- Muscle twitching
- Seizures

Late phase symptoms include

- Diarrhea
- Low blood pressure (hypotension) and slow heart rate (bradycardia)
- Abnormal heart rhythms
- Shock
- Coma
- Muscle weakness/paralysis
- Shallow breathing, difficulty breathing, respiratory failure

¹⁵ Cleveland Clinic, 2022

¹⁶ Cleveland Clinic, 2022

¹⁷ Cleveland Clinic, 2022

¹⁸ PHO, 2021

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• Side effects from NRT

- Past history of adverse effects to NRT such as rash or serious cardiovascular symptoms, advise the client to consult with HCP.
- If there are concerns about the accuracy of the medical information provided, e.g. list of medications or physical and mental health status, advise the client to consult with HCP.
- Caution should be exercised in patients with a history of epilepsy or seizures during introduction of NRT. Tobacco smoke contains substances – including nicotine – which act on brain receptors, and the changes in intake of these when switching from smoked tobacco to NRT during quitting may affect seizure threshold. ¹⁹
- The dosage of NRT may need to be reduced if the client experiences side effects of **excess nicotine** as per Table 1.

Note: Some symptoms are similar to those from nicotine withdrawal.

- Patch(es) should be removed immediately if the client shows signs of excess nicotine or overdosage as per Table 1, and they should seek immediate medical care by contacting a physician or local poison-control centre. The skin surface should be flushed with water and dried. Hands should be washed with plain water after applying (or removing) the patch.²⁰ Nicotine will continue to be delivered into the bloodstream for several hours after removal of the system because of a depot of nicotine in the skin.
- Keep <u>new</u> or <u>used</u> short-acting NRT or long-acting NRT patches out of the reach of children and pets to avoid swallowing, chewing or sucking since a small amount of nicotine can produce severe toxicity. The lethal dose of nicotine in a small child is approximately 10 to 15 mg.²¹
 - Dispose of patches as directed, with sticky sides together. Each patch contains up to 114 mg of nicotine; approximately 60% of that amount is absorbed transdermally, which could leave up to 68 mg of available nicotine on the discarded patch.
 Note: If nicotine is ingested, contact poison control; activated charcoal should be given as soon as possible.
 - Patch(es) should be removed at night if the client experiences vivid dreams, insomnia or a sleep disturbance. Day-only patches result in a reduction of the daily dose of NRT.
 - Up to 50% of clients will have a local skin reaction to the patch; it is usually mild and self-limiting. Suggest rotating sites and using hydrocortisone cream to continue use of this method.
 - Patch(es) should be removed prior to magnetic resonance imaging (MRI) testing as a burn may occur underneath the patch(es).
- Short-acting NRT gum should be avoided in clients with an active jaw disorder, such as temporomandibular joint disorder (TMJ), dentures or dental problems.
- Short-acting NRT should be reduced if it results in dyspepsia or irritation of the oral mucosa.
- Inhalers should be used with caution in clients with chronic throat diseases or asthma.
 Note: Vasoconstrictors can reduce the effects of nicotine nasal spray
- o NRT lozenges and gum are sugar free.

¹⁹ Nicorette Inhalator, 2023 and Quickmist, 2024

²⁰ HealthLinkBC, 2021

²¹ Pfizer, Aug 2019

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Note: Acidic beverages (e.g. coffee, juices, carbonated soft drinks) may inhibit buccal absorption of nicotine from gum, lozenge or orally inhaled NRT.²²

- Clients allergic to soya should carefully check the ingredients in lozenges as some contain soy.²³
- Transferred dependence on NRT is possible, but it is rare, less harmful, and easier to overcome than smoking dependence. The amount of nicotine in NRT products is low, and compared with cigarettes, it takes longer for the nicotine in NRT products to get to the brain and produce the rush that is a big part of nicotine dependence.²⁴

CONTRAINDICATIONS:

- Severe hypersensitivity or allergy to any components of the NRT.²⁵
- NRT is <u>not</u> contraindicated in pregnancy. The decision to use NRT should be made with a risk benefit assessment as early on in the pregnancy as possible with the aim of discontinuing use as soon as possible.²⁶
- NRT is <u>not</u> contraindicated in lactation. Nicotine from smoking and NRT is found in breast milk; however, the amount of nicotine the infant is exposed to is relatively small and less hazardous than the second-hand smoke they would otherwise be exposed to.²⁷

CONSENT:

Informed consent will be obtained as per the current College of Nurses of Ontario (CNO) Practice Guidelines and the HPEPH Policy, Consent to Treatment.

GUIDELINES FOR IMPLEMENTATION:

- Authorized Implementers should use their clinical judgment on a case-by-case basis to determine which tool is best suited to their client to assess dependence as per Appendix A and <u>CAMH List of Assessment Tools</u> and to determine the NRT treatment pathway based on level of dependency (CAMH, 2022).
- Initiate one-on-one or Facilitated Small Group Sessions to implement youth cessation strategies, if appropriate, as per procedure <u>Youth Centred Vaping / Tobacco Cessation</u>.
- Dosing is based on the client's level of nicotine dependence, which can be measured using <u>CAMH List of Assessment Tools</u> at the discretion of the Authorized Implementer
- Clients who are motivated to quit should use as much safe, FDA-approved NRT as needed to avoid smoking or vaping.
- Err on the side of a little extra NRT, so the client does not become discouraged; however, youth are more sensitive to NRT, especially the patch, so counsel them on side effects of too much NRT, e.g. nausea, and when to remove patch.
- If client weighs under 45 kg (99 lbs) start with lowest level patch unless significant history to suggest a higher dose.
 Note: There is variation in picotine content across e-cigarette products, and variation in use.

Note: There is variation in nicotine content across e-cigarette products, and variation in usepatterns across individuals. For example, there is a marked difference in nicotine delivery among e-cigarette products that use salt-based nicotine solutions (e.g., JUUL) and other

²² American Society of Health-System Pharmacists, 2022

²³ Nicotine - Continuing education activity, 2022

²⁴ CAMH, 2018

²⁵ Components of specific NRTs are listed on the NRT Fact Sheet

²⁶ Nicorette, Oct 2019

²⁷ Nicorette, Oct 2019

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brands that use freebase nicotine. **Salt-based nicotine solutions deliver dramatically higher levels of nicotine** without creating harsh, unpalatable effects.

- Work with each client to determine a starting dosage of NRT that is most likely to help them quit successfully.
- If a lower dose is prescribed but doesn't seem to be working, assess adherence and move the client to a higher dose or consider a longer schedule for use and weaning/stepping down.
- Work together to wean NRT over time, when the client feels that they are no longer at risk of returning to tobacco or nicotine use.
- Review <u>Vaping and Youth Fact Sheet</u>²⁸ and Centre for Disease Control (CDC) <u>E-Cigarettes</u> (<u>Vapes</u>) page with numerous fact sheets.
- Review the NRT Clinic Follow-up Assessment at each support group, smoking / vaping cessation class, clinic, meeting, phone interview, or home visit to reconfirm eligibility.
- Determine eligibility for and dispense Recipient Client's NRT supply, during, but not prior to, a regularly scheduled support group, smoking / vaping cessation class, clinic, meeting, phone interview or home visit, following the guidelines in the Guidelines for Titration of Combination System NRT Appendix B and the NRT Decision-Making Algorithm Appendix C, based on the client's individual needs and high trigger times. Currently, the maximum recommended dose of NRT from patches is 84 mg.²⁹
 Note: In exceptional circumstances, NRT starter packs may be handed out at front reception for clients who have not yet connected with the program but who are eager to quit, e.g. clients who have recently been discharged from the hospital and have been advised to stop smoking. The starter packs should be accompanied by an NRT Fact Sheet including HPEPH contact info.
- Advise the client
 - to follow specific directions for applying or taking NRT and provide the <u>NRT Fact Sheet</u> and the <u>NRT Inhaler / Oral Spray Information, Set-Up and Directions Fact Sheet</u>
 - to understand that the word *inhaler* is misleading, since the "inhaler" NRT should **not** be inhaled into the lungs; instead it should be absorbed by the oral mucosa by means of shallow intakes / puffs of air, similar to the way one smokes a cigar
 - that about 50 % of the released nicotine in an inhaler cartridge is systemically available, so a 4 mg cartridge will deliver 2 mg during 20 minutes of frequent puffing at 20°Celsius. This is the equivalent to once hourly chewing of NRT 2 mg gum. The inhaler dose increases by almost 30% if the surrounding temperature is 30°C, and about 50% at 40°C.³⁰
 - to contact HPEPH, consult their HCP, remove the patch(es) or stop using the gum, lozenges, inhaler or oral spray if they experience symptoms of excess nicotine, as per the NRT Fact Sheets

Note: Youth may be more sensitive to the patch than to short-acting NRT so advise removal of patch if nauseated

• If, despite maximizing the daily patch dose to 84 mg NRT, the client is still experiencing symptoms of nicotine withdrawal, consult with the MOH or designate for reassessment of the maximum dose of NRT or advise the client to contact their HCP as another approach may be considered

²⁸ Interior Health, 2022

²⁹ CAMH, 2018. PFSD, 2018. Recommended by OMSC

³⁰ CAMH, 2018. PFSD, 2018. Recommended by OMSC pg 2

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- common symptoms of nicotine withdrawal due to smoking / vaping cessation include irritability, frustration, anger, anxiety, difficulty concentrating, restlessness, trouble sleeping, increased appetite, headaches or a strong desire to smoke
- withdrawal symptoms should resolve once the proper balance of NRT is achieved
- Support the client in gradually reducing their NRT daily dosage, for example
 - suggest that they use NRT for fewer hours each day
 - o if they are using 2 mg lozenges / gum, suggest that they try 1 mg lozenges / gum
 - if they are using the inhaler cartridges, suggest they gradually reduce the number and length of their sessions
 - if they are using the Oral Spray, suggest they gradually reduce the number and frequency of their sprays
 - if they are wearing two patches and smoke the majority of their cigarettes per day (CPD) in the morning, suggest removing one patch during the afternoon
 - if they smoke the majority of their CPD after work, suggest applying the patch(es) near the end of the work day
 - if they are reluctant to reduce their NRT, suggest they reduce the amount of continuous nicotine by removing a patch and adding some short-acting NRT, if symptomatic; reassure them they can always return to their previous dose the following day, if necessary

DOCUMENTATION AND COMMUNICATION:

- Dispensed NRT will be documented in EMRs and will include the client's name, date NRT was dispensed, type of NRT, amount—including number of boxes of lozenges, gum, inhaler or spray—and any adverse reactions.
- Lot number(s) and expiry date(s) will be documented on the dispensed NRT

REVIEW AND QUALITY MONITORING GUIDELINES:

Review annually as per the Medical Directives Policy.

ATTACHMENTS:

Appendix A – Hooked on Nicotine Checklist (HONC) and E-cigarette Dependence Scale (EDS) Appendix B - Guidelines for Titration of Combination System NRT Appendix C – NRT Decision-Making Algorithm

SUPPORTING DOCUMENTS:

Agency-Wide Tobacco Use Screening Policy <u>CAMH, May 2024. Ner E-cigarette Use Guidance and Recommendations</u> Clinic / Prenatal Follow-up Assessment Form for HC and Clinical Documentation Tool for HST (OSCAR) HPEPH Website – <u>Tobacco / Quit Smoking Program</u> and <u>Vaping</u> <u>NRT Fact Sheet</u> <u>NRT Inhaler / Oral Spray Information. Set-Up and Directions Fact Sheet</u> <u>NRT Decision-Making Algorithm</u> HPEPH <u>Youth Centred Vaping / Tobacco Cessation</u>

RELATED LINKS:

CAMH Centre for Addiction and Mental Health. List of Assessment Tools CAMH New E-Cigarette Use Guidance and Recommendations CDC E-Cigarettes (Vapes) 2024 CDC Smoking, Pregnancy, and Babies 2023 CDC Tips from Former Smokers 2023

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Drug Interactions with Tobacco Smoke 2019. University of California. Zevin, S. & Benowitz.N.L. HealthLinkBC 2021 Nicotine Patch - Transdermal

Interior Health, B.C. 2022 Vaping and Youth Fact Sheet

Lower Risk Nicotine Use Guidelines (LRNUG) -CAMH: e-cigarettes and vaping

https://www.nicotinedependenceclinic.com/en/electronic-nicotine-delivery-systems-(ends)

The Lower-Risk Nicotine Use Guidelines (LRNUG) present the current state of evidence on tobacco/nicotine products, highlighting modifiable behaviours that can help reduce the negative health outcomes associated with tobacco/nicotine product use. They have been designed to guide people who use, or are thinking about using nicotine, on how to lower the risk associated with various nicotine products. The products covered in the Guidelines include heated tobacco products, smokeless tobacco (chew and snus), waterpipes, and e-cigarettes/vapes.

Lung Health Foundation News Release July 8, 2021

Helping young Canadians get their health back on track after more than a year of COVID-19 lockdown Nicorette Inhalator (Apr 2023) Product info.

Nicorette Inhaler & Quickmist (2024) Johnson & Johnson

Nicotine – Continuing Education Activity, July 2022

PHAC Public advisory re: Nicotine pouches Mar 20, 2024

PHAC News release re: Nicotine pouches Aug 22, 2024

PHO Youth Health Trends in Ontario: Vaping Infographic, 2021

RNAO International Affairs & Best Practice Guidelines. Fact Sheet. Need Help to Quit or Reduce Your

Tobacco Use? Feb 2018

Quitting is Possible - Heart & Stroke / Canadian Cancer Society

Vaping and E-cigarette Toxicity Overview and Recommendations (Project VECTOR)

Vaping Cessation Guidance Resource –CAMH Feb 2022

This resource is meant to guide healthcare providers to support their clients who want to quit vaping (i.e., people seeking treatment who use e-cigarettes or who use both e-cigarettes and tobacco).

This resource can be used for both adults and youth (ages 15 to 24).

- Severity and Dependence
- Approaches
- Treatment Approaches
- Dual Use (people who use both tobacco and electronic cigarettes)
- Pharmacotherapy Strategies and Behavioural Therapy Strategies
- Harm Reduction (related to vaping device
- Relapse Prevention

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Appendix A

The Hooked on Nicotine Checklist (HONC) is scored by tallying the number of Yes responses, from 0-10. Any score greater than zero indicates that the youth has lost some autonomy over their smoking / vaping. This indicates that nicotine addiction has begun. (American Academy of Pediatrics - Updated Nov 2019)

HONC—Smoking	YES	NO
1) Have you ever tried to quit, but couldn't?		
2) Do you smoke now because it is really hard to quit?		
3) Have you ever felt like you were addicted to tobacco?		
4) Do you ever have strong cravings to smoke?		
5) Have you ever felt like you really needed a cigarette?		
6) Is it hard to keep from smoking in places where you are not supposed to, like school?		
When you tried to stop smoking (or, when you haven't used tobacco for a while)		
7) did you find it hard to concentrate because you couldn't smoke?		
8) did you feel more irritable because you couldn't smoke?		

9) did you feel a strong need or urge to smoke?

10) did you feel nervous, restless or anxious because you couldn't smoke?

HONC—Vaping	YES	NO
1) Have you ever tried to stop vaping, but couldn't?		
2) Do you vape now because it is really hard to quit?		
3) Have you ever felt like you were addicted to vaping?		
4) Do you ever have strong cravings to vape?		
5) Have you ever felt like you really needed to vape?		
6) Is it hard to keep from vaping in places where you are not supposed to, like school?		
When you tried to stop vaping (or, when you haven't vaped for a while)		_
7) did you find it hard to concentrate because you couldn't vape?		

	/ / · · · · · · · · · · · · · · · · · ·	
8)	did you feel more irritable because you couldn't vape?	
9)	did you feel a strong need or urge to vape?	
10) did you feel nervous, restless or anxious because you couldn't vape?	

Four-Item E-cigarette Dependence Scale for Assessing Adolescent E-cigarette Nicotine Dependence To score the measure, take the mean of the item scores.

Higher scores indicate higher levels of dependence. (Abridged)

Instructions: Please respond to each question	Never	Rarely	Sometimes	Often	Almost
marking one box per row.	(0)	(1)	(2)	(3)	always (4)
I find myself reaching for my e-cigarette without					
thinking about it.					
I drop everything to go out and get e-cigarettes or					
e-juice.					
I vape more before going into a situation where					
vaping is not allowed.					
When I haven't been able to vape for a few hours, the			-		
craving gets intolerable.					
Total:					

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Appendix B - Guidelines for Titration of Combination System NRT First visit / meeting Start by replacing each cigarette with 1 mg NRT from patch plus a maximum of 20 mg short-acting If using more than 20 mg short-acting daily (e.g. 10 cartridges), consider additional 7 mg patch						
 <10 cigarettes per day (CPD) Vaping < 6 mg / day Light smoker / vaper Offer lifestyle counselling & behavioural interventions Start with 7* -14 mg patch and / or short-acting NRT, as needed, to maximum of 20 mg (may combine types) 10 pieces of gum or lozenges per day (1 or 2 mg each); / 10 inhaler cartridges (4 mg each but only release 2 mg each); / 1 oral spray per hour (1 mg each) during the day 	 10 – 29 CPD Vaping < 14 mg / day Moderate smoker / vaper 14* - 21 mg patch along with lifestyle counselling / behavioural interventions Consider adding short- acting NRT, as needed, to a <u>maximum</u> of 20 mg (may combine types) 10 pieces of gum or lozenges per day (1 or 2 mg each), / 10 inhaler cartridges (4 mg but only release 2 mg), / 20 oral sprays (I mg each) during the day 	 30+ CPD Vaping > 24 mg / day Heavy smoker / vaper 21* - 28 mg patch (21 + 7); or 35 (21 + 14); or 42 (21 x 2); or 63 (21 x 3); or (84 (21 x 4) along with lifestyle counselling / behavioural interventions Consider adding short-acting NRT, as needed, to a <u>maximum</u> of 20 mg 10 pieces of gum or lozenges per day (1 or 2 mg each); / 10 inhaler cartridges (4 mg each but only release 2 mg each); / 20 oral sprays (1 mg each) during the day 				
 *If client weighs less than 45 kg (99 lb), start at lowest recommended dose for patch and adjust, as necessary Pregnant or Breastfeeding / Chestfeeding (PG/BF/CF) Clients First-line treatment: lifestyle counselling and behavioural interventions Second-line treatment: NRT - short-acting and / or day-only patch(es) up to 49 mg, as indicated above, in lowest effective dose, since research shows that medicinal NRT safer than smoking/vaping 						

Modelled after University of Ottawa Heart Institute

Adapted from Centre for Addiction and Mental Health

Subsequent visits / meetings (every 1 to 2 weeks)

- NRT Follow-up Assessment and NRT Decision-Making Algorithm
- If still smoking / vaping, adjust NRT daily dose:
 - o 1 5 CPD Add 7 mg patch to current dose plus short-acting NRT
 - o 6 9 CPD Add 14 mg by patch to current dose plus short-acting NRT
 - 10+ CPD Add 1 or more 21 mg patch(es) to current dose plus short-acting NRT NRT maximum daily dose from patch is 84 mg (21 x 4) plus short acting*
- If client still has withdrawal symptoms, despite maximum dose of 84+ mg, consult MOH or designate, or advise client to consult HCP to reasses
- When client is ready to reduce NRT, reduce by 7 mg patch every 1 to 2 weeks until off patches, if possible; then reduce short-acting NRT until no longer needed

PG/ BF/CF Clients

- Continue **as indicated above** (if appropriate patch dose will exceed 42 mg, consult HCP)
- NRT should be discontinued if PG/BF/CF client does not reduce # CPD / vapes

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Appendix C

Nicotine Vaping Calculations ³¹

Nicotine Vaping

If product is labelled with nicotine in mg/mL then multiply by # mL/day used by patient = mg/day

= cigs/d, then divide by 20 = PPD*

OR multiply nicotine mg/mL by # mL per cartridge and divide by the days it takes to use a cartridge to get the nicotine mg used per day

If the product is only labeled in % THC or CBD per mL then multiply by 10 (or use the cannabis oil conversion table) to get the nicotine mg/mL. Then calculate based on use as above

*based on nicotine 20 mg = 1 PPD



Patient says 8 days to finish:

20 mg/mL X 14 mL/unit = 280 mg/unit - 8 days = 35 mg/day = 35 cigs/day - 20 cigs/pack = 1.7 PPD*



Patient used in 10 days:

(12 mg/mL X 30 mL vile) -10 days =36 mg/day = 2.8 PPD*



Advertised as 18 mL 3500 puffs sN50 Synthetic nicotine 50

5% solution = 50 mg/mL = 2.5 Packs/mL*

NICOTINE VAPING

- CIGARETTE EQUIVALENT BASED ON PERCENT AND VOLUME*

% nicotine	0.1 mL	l.0 mL	2 mL	mL per PPD equiv.
۱%	l cig	IO cig	20 cig	2.0 mL
1.5%	1.5 cig	15 cig	30 cig	I.3 mL
2%	2 cig	20 cig	40 cig	I.0 mL
5%	5 cig	50 cig	100 cig	0.4 mL

*Assuming nicotine 1 mg/cigarette and 20 mg/pack. Can divide the # cigarettes/day by 20 to get PPD.

³¹ <u>Graves, Lisa and Rieb, L. (Nov 2023).</u> New Math: Dose Calculations for Cannabinoids, Nicotine and Alcohol Slides 37 and 38

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Summary of Vaping Formula Determination

- The vaping formula determination for NRT will guide the dosage of NRT.
- The first part (x mg/ 1 ml) is the dose/ strength of the e-juice being used, e.g. 3, 6, 10, 12, 18 mg/ ml times; the second part is the consumption of e-juice per day.

x mg X x mL = x mg / day1 mL day

- For example, a vaper using 10 mg/mL e-juice and consuming 2 mL/day would have a recommended NRT dose of 20 mg/day.
- Since usage patterns can be variable, calculations should be based on usage reported over the past week or month.

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Appendix D – Nicotine Replacement Therapy Decision-Making Algorithm

