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While this topic doesn't have very many objectives to cover, we're dedicating an entire episode to it given cigarette smoking remains Canada's #1 preventable cause of death and disease (https://www.cmaj.ca/content/197/28/E846). We will also dedicate a little time to the hot button topic that is vaping and review some of the early evidence on health outcomes.

Also, before we get started, we're going to take a second to highlight that this is a nuanced topic. Patients often feel judged by healthcare workers constantly asking them if they're going to quit smoking. Additionally, racial minorities, folks with lower socioeconomic status, and patients with disabilities are disproportionately represented among Canadian smokers.

Because of this, it is extra prudent to use a trauma-informed approach when counselling patients on smoking cessation and to always be cognizant of your patient's social and cultural context.
(https://www.canada.ca/en/health-canada/services/canadian-tobacco-nicotine-survey/2022-summary.html#cigarette)

As we often do on the Generehlist, we're going to run through the objectives using a case. So you are a locum family physician covering a primary care clinic seeing a 67y/o male patient named Paul with the primary complaint of 'want to quit smoking'. You review the patients chart and note he has COPD, hypertension, dyslipidemia, and type 2 diabetes. There are several previous notes in the chart discussing smoking in relation to his various chronic diseases but no dedicated visits and no obvious previous quit attempts.

Objective #1: In all patients, regularly evaluate and document smoking status, recognizing that people may stop or start at any time.

The family doctor you are locuming for diligently documents smoking status in the 'past medical history' banner of all of their patients, so you can clearly see that Paul smokes a pack per day and has done so since he was 21 years old. This family doc also has a 'screening' section in their EMR that shows Paul is up to date on his colon cancer screening but has never had lung cancer screening.

Different EMRs will have different capabilities but it is ideal to have every patients smoking status documented on their chart, including number of pack years in ex-smokers. With this documentation, you could include the status of their lung cancer screening and when it was last completed (if appropriate for the patient).

As a refresher, the Canadian Task Force on Preventive Health Care (CTFPHC) recommends annual screening for up to three consecutive years for lung cancer in high risk adults with a low-dose CT scan (https://canadiantaskforce.ca/new-lung-cancer-screening-guideline/). They define 'high risk' adults as those aged 55-74 years with at least a 15 pack year smoking history.

So, in summary → document smoking history for all patients, regularly check in with those who are currently smoking, and consider lung cancer screening.

Now, pack to Paul. After your initial introduction he tells you his kids have been encouraging him to think more about quitting smoking lately, and it has been on his mind. He is back and forth on quitting, though, as he feels he has smoked for so long that he isn't sure it would make a difference if he stopped now.

2) In all smokers:

a) Discuss the benefits of quitting or reducing smoking.

A real mic-drop stat I found while researching for this episode is that 'People who quit smoking before age 50 are 50% less likely to die in the next 15 years compared with continuing smokers'. I'm not sure I can think of many other interventions in medicine that straight up cut your risk of death in half.

The benefits to quitting smoking are innumerable, so we've broken it down into categories to make it easier to discuss with patients.

1) Cancer-related benefits:
    a) Smoking cessation reduces the overall risk of many, many cancers but especially those of the lung, oral cavity, esophagus, pancreas and bladder
    b) After 10 years of abstinence, the risk of lung cancer is about 30% to 50% of the risk for continuing smokers. This risk continues to decline with further abstinence.
2) Cardiovascular:
    a) The excess risk of coronary heart disease (CHD) from smoking is reduced by 50% after one year of abstinence and then declines gradually. After 15 years of abstinence, the risk of CHD is similar to that for people who have never smoked.

b) Within five to 15 years of abstinence, the risk of stroke returns to the level of people who have never smoked

3) Respiratory:
    a) For patients who don't yet have COPD, pulmonary function is improved by about 5% within only a few months of cessation and continues to improve with continued cessation.
4) Financial:
    a) The average pack of cigarettes costs around $15 in Canada (although obviously this varies widely by province and where patients are sourcing their smokes). This means the average pack per day smoker is spending up to $5,000 a year on cigarettes.

And that is just to name a few! An important component of discussing the benefits of quitting or reducing smoking is getting a sense of the context of smoking in your patients life, which is where motivational interviewing can come in really handy.

Counselling around benefits of smoking cessation can be tailored to your individual patient, but there is so much to pull from that you should have plenty to say.

2b) In all smokers: regularly assess interest in quitting or reducing smoking

We've all heard this one before - the 5 A's of smoking cessation! It's a nice framework to follow for the assessment, instigation, and followup of smoking cessation.

The 5 A's of smoking cessation are: ask, advise, assess, assist, and arrange.

1. Ask:
    a. frequency of use (aka how many cigarettes per day)
    b. the products used (cigarettes, cigars, vapes, chewing/oral tobacco)
    c. the degree of nicotine dependence - a nice, quick screening question is 'how long after waking are you smoking your first cigarette'?
    d. the history of previous quit attempts
2. Advise: provide smoking cessation advice (as described in this episode 😁)
3. Assess: willingness to stop smoking. You can describe this using the stages of change (precontemplation, contemplation, preparation, action, and maintenance). Our patient Paul is currently contemplative.

4. Assist: provide a quit plan, ideas for therapy/support groups, and pharmacotherapy options
5. Arrange: frequent, regular follow up

After your discussion on the benefits of quitting smoking and some motivational interviewing, Paul is convinced. He wants to give quitting a try. He asks you what the best way to go about this is and asks what you think about vaping as a way to help him stop smoking cigarettes.

3) In smokers motivated to quit, advise the use of a multi-strategy approach to smoking cessation.

The CCFP really wants us to highlight here that patients should be offered both behavioural and pharmacologic treatment options when trying to quit smoking. We'll cover the pharmacologic options first.

In August 2025 the Canadian Task Force on Preventative Health Care released Canada's first official smoking cessation guideline!!! We'll link the guideline in the shownotes.
The pharmacotherapy options that they strongly recommend for smoking cessation include Varenicline (also known as Champix), nicotine replacement therapy, Bupropion, and Cytisine. Varenicline has the most robust evidence and is generally considered the gold standard.

The Canadian guideline doesn't specifically rank the medications in terms of efficacy, but the American Thoracic Society does, and they state:
Varenicline plus NRT > Varenicline alone > NRT or Buproprion.

This is based off of an RCT that showed patients had the highest smoking cessation rates at 2 years if both Varenicline and NRT were given in conjunction. In BC and many other provinces, pharmacies will cover one form of smoking cessation for 3 months of each calendar year; our expert reviewer pointed out that given the effect of combining Varenicline plus NRT is fairly modest, he typically recommends patients start with one or the other.

He also notes that several studies have shown that nicotine replacement therapy is most efficacious when both a long acting and short acting method are used at the same time; for example, the patch as well as gum or lozenges.

Our reviewer also highlighted that while Bupropion can be a good choice, it should obviously be avoided in patients with a history of seizure as it is known to lower seizure threshold. An important patient context piece to keep in mind.

Since it is considered the gold standard pharmacotherapy, we'll dive into Varenicline a bit further.

- It is recommended that patients pick a date that they are going to quit smoking, start Varenicline a week before this date, and continue it for 12 weeks
- There used to be a black box warning around Varenicline causing increased suicidality; this has since been debunked! There was a massive double-blind RCT done called the EAGLES trial in 2016 which found that there was no increased suicidal ideation, attempts, or completions by patients using varenicline when compared to placebo.
- Some side effects that MAY be anticipated when starting varenicline include nausea, headaches, insomnia, and most importantly bizarre dreams - some patients note hyperrealistic or distressing dreams when taking Varenicline, and this is the side effect that most commonly causes patients to stop the medication.

Now, for the behavioural interventions! There are counsellors trained specifically in smoking cessation, so this would be a great place to start. Group and individual CBT both have good evidence.

Something that the new Canadian guideline strongly recommends under the behavioural treatment category is text message-based interventions. In Caleb and I's home province of BC there is a service called QuitNow BC (and there are similar services in other provinces) where patients sign up to receive daily text messages that align with their chosen quit date about symptoms they might be experiencing and encouragement to continue abstaining from smoking.

This website is great as it can also link patients with trained smoking cessation counsellors and support groups. Since primary care providers can't be checking in with patients every single day, the text-based services are a nice option to provide patients with support in between appointments.

Now, although not directly listed in the objectives for smoking cessation, since it is so relevant to primary care we thought we would review some of the limited research available on vaping. This will be relevant to our patient Paul's question around vaping as an avenue for smoking cessation.

1. Impacts of vaping on health

The impacts of vaping on health have been somewhat of a mystery given the recency of vaping becoming commonplace. The relative recency makes it hard to follow patients long term and observe health outcomes typically associated with long-term cigarette smoking like cardiovascular disease, respiratory disease, and cancer.

There was a study published in 2020 with over 21,000 patients that found chronic vapers to be more likely to develop COPD independent of current or historic cigarette smoking. It was a prospective cohort trial, so more robust research is definitely needed, but it does not signal good things.
(https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2772829?utm_source=openevidence&utm_medium=referral).

A meta-analysis published in 2025 found e-cigarette users to be more likely to suffer from an MI or stroke than their non-vaping peers, again, EVEN when adjusting for history of cigarette smoking. This study also notes the need for more longitudinal studies to corroborate evidence.

(Gupta R, Singh PK, Rout S, Mariano LC, Yadav CP, Singh S. Are electronic cigarettes associated with the risk of myocardial infarction and stroke? A systematic review and meta-analysis. BMC Public Health. 2025 Dec 11;26(1):199. doi: 10.1186/s12889-025-25161-2. PMID: 41382044; PMCID: PMC12801771).

2. Vaping as an avenue to quit smoking

Many patients will ask what you think about vaping as an avenue to quit smoking. Again, most of the long-term outcomes around vaping remain unknown, however a meta-analysis published in 2021 compared smoking cessation outcomes between patients who used vapes vs. traditional nicotine replacement therapy (i.e. patch, gum, lozenges, inhaler).

They do admit the overall quality of the evidence was low, but they found no difference in rates of smoking cessation between folks using vapes vs. those using traditional NRT.

The Canadian task force guideline on smoking cessation we talked about earlier in the episode states the following:

“We suggest against using e-cigarettes for smoking cessation for most people because of uncertainty about unapproved products, long-term harms, and public health impacts, but recognize that this may be considered for people who have unsuccessfully attempted other interventions or express a strong preference”.

Pound CM, Zhang JZ, Kodua AT, et al. Smoking cessation in individuals who use vaping as compared with traditional nicotine replacement therapies: a systematic review and meta-analysis. BMJ Open 2021;11:e044222. doi: 10.1136/bmjopen-2020-044222

3. Vaping cessation

Interestingly, there are a handful of RCTs that have been published showing varenicline as an effective agent for vaping cessation. A meta-analysis summarizing these papers found a vaping abstinence rate of 51% in those using varenicline vs. 14% abstinence for placebo.

As we said earlier, counsel patients on those possible weird and wacky dreams, but this could be a valuable option for people having a hard time kicking the vape.

(Tamila Varyvoda, Tetiana Zolotarova, Areesha Moiz, Delia Munteanu, Kristian B. Filion, Mark J. Eisenberg. Efficacy and safety of varenicline for vaping cessation: A systematic review and meta-analysis of randomized controlled trials, The American Journal of Medicine, 2025, ISSN 0002-9343, https://doi.org/10.1016/j.amjmed.2025.12.006).

That's it! Thanks for tuning in for our return to the Generehlist. As always, if anyone wants to get involved, please reach out.

the generalist

Recommendations on interventions for tobacco smoking cessation in adults in Canada

RECOMMENDATIONS

- **Know** your patients' smoking status
- **Encourage** all patients who smoke to quit
- **Offer** 1 or more recommended smoking cessation interventions
- **Engage** in shared decision-making to determine best option(s)

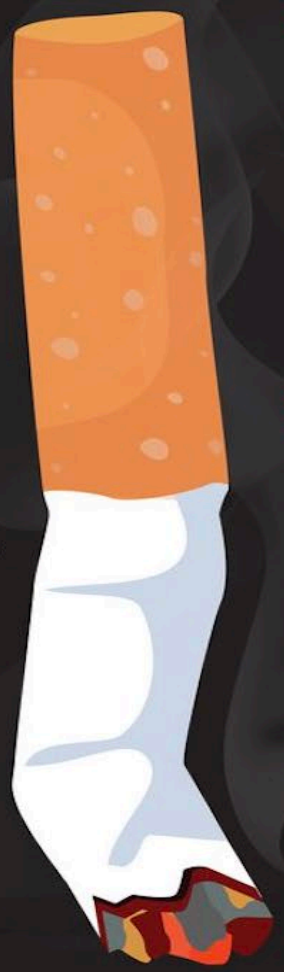
Interventions

Strongly recommended

- **Behavioural**
  - Primary care advice
  - Individual or group counselling by trained cessation counsellor (in person or by telephone)
  - Text messaging interventions
  - Self-help materials
- **Pharmacotherapy**
  - Bupropion
  - Cytisine
  - Nicotine replacement therapy (patch, gum, lozenges, inhaler and/or spray)
  - Varenicline
- **Combined behavioural and pharmacotherapy interventions**

Conditionally recommended

- Interactive computer-based or online programs with direct behavioural support



Strongly recommended against

- Acupuncture
- Hypnotherapy
- Laser therapy
- Continuous auricular stimulation
- Electrostimulation
- St. John's Wort
- S-adenosyl-L-methionine

Conditionally recommended against

- Interactive computer-based or online programs without additional support
- E-cigarettes*

We suggest against using e-cigarettes,* except in people who:

- have unsuccessfully tried other interventions
- are unwilling to try other interventions
- express a strong preference for e-cigarettes

No e-cigarettes have been approved for smoking cessation in Canada.

*With or without nicotine.

Resources:

EAGLES trial:
Anthenelli RM, Benowitz NL, West R, St Aubin L, McRae T, Lawrence D, Ascher J, Russ C, Krishen A, Evins AE. Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. Lancet. 2016 Jun 18;387(10037):2507-20. doi: 10.1016/S0140-6736(16)30272-0. Epub 2016 Apr 22. PMID: 27116918.

Tamila Varyvoda, Tetiana Zolotarova, Areesha Moiz, Delia Munteanu, Kristian B. Filion, Mark J. Eisenberg. Efficacy and safety of varenicline for vaping cessation: A systematic review and meta-analysis of randomized controlled trials, The American Journal of Medicine, 2025, ISSN 0002-9343, https://doi.org/10.1016/j.amjmed.2025.12.006.

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Gupta R, Singh PK, Rout S, Mariano LC, Yadav CP, Singh S. Are electronic cigarettes associated with the risk of myocardial infarction and stroke? A systematic review and meta-analysis. BMC Public Health. 2025 Dec 11;26(1):199. doi: 10.1186/s12889-025-25161-2. PMID: 41382044; PMCID: PMC12801771.

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