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<th>Program Name:</th>
<th>Very Brief Advice for Smoking Cessation: 30 Seconds to Save a Life</th>
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VERY BRIEF ADVICE FOR SMOKING CESSATION:
30 SECONDS TO SAVE A LIFE

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LEARNING OBJECTIVES

- Recognize the key role of the primary care provider in facilitating smoking cessation
- Understand nicotine addiction as a major factor underlying smoking behaviour
- Describe the barriers to smoking cessation
- Discuss the components of a very brief intervention for smoking cessation
- Review pharmacotherapeutic options for smoking cessation

PRE-/POST-COURSE SURVEY

1. How likely are you to recommend smoking cessation to your patients who smoke? (Please rate on a scale from 1 to 5, with 1 = most unlikely and 5 = most likely)

2. For smokers who are ready to quit, how likely are you to do each of the following to facilitate smoking cessation? (Please rate on a scale from 1 to 5, with 1 = most unlikely and 5 = most likely)
   a) Build confidence
   b) Give information
   c) Refer for counselling
   d) Prescribe medication

3. Which of the following do you consider to be most effective for facilitating smoking cessation? (Please rate on a scale from 1 to 5, with 1 = most unlikely and 5 = most likely)
   a) Electronic cigarettes (e-cigarettes)
   b) Other forms of nicotine replacement therapy (NRT)
   c) Bupropion
   d) Varenicline
   e) Behavioural support/counselling
PRE-/POST-TEST

1. Which of the following most closely represents the percentage of Canadians aged ≥ 12 years who smoke?
   a) 1%
   b) 5%
   c) 20%
   d) 40%

2. Which of the following is an effect of nicotine?
   a) Depression of the central nervous system
   b) Release of dopamine, which plays a role in addiction mechanisms
   c) Hallucinogenic effect
   d) No pharmacologic effect

3. All of the following are risk factors for cigarette smoking, except:
   a) Aboriginal status
   b) Mental illness
   c) Substance abuse
   d) Older age

4. True or false: Most smokers want to quit smoking.
   a) True
   b) False

5. For heavy smokers, reducing the number of cigarettes smoked per day:
   a) may be an option if the smoker is unwilling or unable to contemplate stopping smoking completely.
   b) reduces the risk of myocardial infarction, hospitalisation for COPD, and all-cause mortality.
   c) should be recommended instead of complete cessation.
   d) will not reduce any risk to the smoker’s health.
CASE STUDY

Jerry, a 40-year old male factory worker, visits the physician’s office for routine physical check up. When asked about smoking, Jerry admits to smoking cigarettes daily for about 20 years.

1. According to the 3As (ASK-ADVISE-ACT) approach, what should be the next step at this point?
   a) Tell Jerry that he must stop smoking.
   b) Educate Jerry about the health risks associated with smoking.
   c) Inform Jerry that the best way to quit is with a combination of pharmacotherapy and behavioural support, and take action to arrange for these if he is interested in quitting.
   d) Ignore Jerry smoking habit, because he is unlikely to be interested in quitting.

2. The 3As approach is designed to be used:
   a) for offering Very Brief Advice to known smokers only.
   b) with only those smokers who have previously made unsuccessful attempts to quit.
   c) with only those smokers who have previously made unsuccessful attempts to quit.
   d) with all patients, to identify smokers and to offer Very Brief Advice to those who smoke.

3. How little time does it take to offer Very Brief Advice according to the 3As approach?
   a) 30 seconds.
   b) 1 minute.
   c) 3 minutes.
   d) 5 minutes.

Jerry is told that the best way to quit smoking is with a combination of medication and support. However, Jerry indicates that he is not interested at this time. So he is told that help is available whenever he is ready.
Some months later, Jerry returns and informs about his readiness to make a quit attempt. His physician offers support, provides him with information regarding what to expect when quits smoking (e.g. nicotine withdrawal symptoms, urges and cravings, dealing with other smokers, re-adjusting daily routines), including information about medication options (and a prescription if necessary), and also refers patient to smoking cessation resources. The physician suggests using a form of nicotine replacement therapy (NRT).

4. Regarding pharmacotherapy for smoking cessation:
   a) Pharmacotherapy should be offered only to those smokers who are unable to quit without medication.
   b) NRT can increase the rate of quitting, regardless of the setting.
   c) Bupropion should not be used in individuals who are not depressed.
   d) Varenicline is less efficacious for smoking cessation than bupropion or NRT.

5. For smokers attempting to quit smoking, the highest risk of relapse is:
   a) within 1-2 weeks of a quit attempt.
   b) 15-30 days after a quit attempt.
   c) 1-6 months after a quit attempt.
   d) 1 year after a quit attempt.

On follow up, the patient remains abstinent for the first week following his quit attempt, but later has a relapse, and resumes smoking as previously. Despite this setback, Jerry is offered continued support, and is told that this unsuccessful attempt should not be viewed as a failure, but rather as a learning experience. Jerry inquires about e-cigarettes as another alternative, but is informed that they are not approved for sale in Canada. (The physician can be instrumental in helping the patient explore the circumstances and factors that lead to the relapse, e.g., breakthrough cravings, being around other smokers, consuming alcohol, low mood, etc. A key requirement is to recognize these as situations with a high risk for relapse, and to prepare a plan for dealing with them in the future (using delay-avoidance and substitution strategies. If the patient is using NRT, the dose of NRT may have to be better titrated to reduce cravings).

Jerry is encouraged to make another attempt to quit.
Introduction
Cigarette smoking leads to poor health related quality of life and premature death, [16] and primary care providers can play a key role in facilitating smoking cessation efforts. Even very brief advice from a health professional increases the likelihood that a smoker will successfully quit smoking. [7] Spending just 30 seconds can save a life! [17]

Adverse effects of smoking
The adverse effects of smoking are well known. Smoking harms nearly every organ of the body and causes many diseases. It is a risk factor for lung cancer, heart disease, stroke, chronic respiratory disease, and several other conditions (Table 1). Smoking is associated with an average loss of about 9 years of life expectancy, and smoking cessation can reduce by 50% the risk of death over the next 15 years. [18, 19]

Table 1. Health effects of smoking [8, 20]

<table>
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<th>Health effect</th>
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<tr>
<td>Eyes: Macular degeneration, cataracts</td>
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<tr>
<td>Hair: Hair loss</td>
</tr>
<tr>
<td>Skin: Ageing, wrinkles, wound infection</td>
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<tr>
<td>Brain: Stroke</td>
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<tr>
<td>Mouth and pharynx: Cancer, gum disease</td>
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<tr>
<td>Lungs: Cancer, COPD, pneumonia</td>
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<tr>
<td>Heart: Coronary heart disease</td>
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<td>Stomach: Cancer, ulcer</td>
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<tr>
<td>Pancreas: Cancer</td>
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<tr>
<td>Bladder and kidney: Cancer</td>
</tr>
<tr>
<td>Arteries: Peripheral vascular disease</td>
</tr>
<tr>
<td>Bones: Osteoporosis</td>
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<tr>
<td>Women: Cervical cancer, early menopause, irregular and painful periods</td>
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<tr>
<td>Men: Erectile dysfunction</td>
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Prevalence
Despite the adverse effects of smoking, approximately 1 in 5 Canadians aged ≥12 years smoke. As per Statistics Canada estimates, 5.7 million (or 19.3%) Canadians aged ≥12 were current smokers in 2013 (Figure 1). [1]
Nearly 1 in 5 Canadians aged ≥12 years are current smokers

Figure 1. Percentage of Canadians aged ≥12 years who smoke, 2013 [1]

Canadian provinces/territories in which the highest percentages of residents are current smokers are Nunavut (59.0% of residents), Northwest Territories (33.2%), Yukon (25.9%), Saskatchewan (22.8%), and New Brunswick (21.8%), and Quebec (21.4%). [21] Smoking rates are particularly high among Canada’s Aboriginal populations. [5]

Why people smoke

Risk factors for cigarette smoking include the following [2-4]:

- Genetic factors: Genetic differences among individuals play a role in smoking behaviour, cessation, and response to antismoking interventions.
- Social influences: Children coming from backgrounds that favour smoking (e.g., family members/friends who smoke, deprived neighbourhoods) are more likely to smoke.
- Age: Smoking often begins in childhood or adolescence. About 80-90% of current smokers began smoking regularly before their 20th birthday.
- Mental illness: People with depression, schizophrenia, post-traumatic stress disorder or other forms of mental illness are more likely to be smokers.
- Substance use: People who abuse alcohol and illegal drugs are more likely to be smokers.

Smoking often begins with experimentation during the early teenage years, and is driven by predominantly psychosocial motives. This may involve an adolescent notion of perceived adulthood or rebelliousness, particularly among those coming from backgrounds that favour smoking and those with impaired psychological well-being. Peer-pressure also prompts adolescent smoking experimentation/initiation. [2]

The need to attain the desired self-image helps the novice smoker to tolerate any initial aversion to cigarettes; thereafter, pharmacological factors assume greater importance. Following inhalation, cigarette smoke is rapidly absorbed from the lung, producing high concentrations of nicotine that reach the brain in 10-16 seconds. [2] In addition to nicotine’s psychomotor stimulant action, activation of nicotinic acetylcholine receptors induces release of dopamine, which plays a role in addiction mechanisms, as with other drugs of misuse such as amphetamines and cocaine. Nicotine has a terminal half-life of 2 hours, and hence smokers require regular cigarettes to maintain raised nicotine
concentrations. Psychological, socioeconomic and other factors play a role in maintaining the smoking habit. Over time, smokers find a certain level of tobacco/nicotine intake that feels 'best' for them. They smoke tobacco at a rate that allows them to maintain brain nicotine concentrations at an idiosyncratic 'comfort' level. [2]

Ask the expert video questions

- What are the risk factors for smoking? How does nicotine cause addiction?

Quit intent

Most smokers want to quit smoking. A recent report [6] on tobacco use in Canada found that 63% of Canadian smokers had seriously considered quitting in the next 6 months, and 29% had considered quitting in the next month (Figure 2). However, quitting smoking can be difficult, and may require several attempts. Almost half of smokers (48%) in the study had tried to quit in the past year, and many had tried more than once (Figure 3). Quit attempts were more common among males than among females, and among young smokers compared to older smokers.

Figure 2. Percentage of smokers seriously considering quitting in the next 6 months and in the next 30 days [6]

Figure 3. Quit attempts in the previous 12 months [6]
Patient barriers to smoking cessation

Barriers to smoking cessation operate at multiple levels, including individual and lifestyle factors; social and community networks; living conditions; and cultural and socioeconomic factors (Figure 4). A systematic review [22] to identify patient barriers to smoking cessation in vulnerable populations (low socioeconomic status; indigenous; mental illness and substance abuse; homeless; prisoners; and at-risk youth) found that barriers to quitting smoking endorsed over multiple studies included smoking for stress management; enjoyment of smoking; addiction to nicotine; habit; social acceptability of smoking; lack of support to quit and access to quit resources; boredom; stressful life factors; pro-smoking living environments; smoking cultural norms; and socioeconomic disadvantages. Factors associated with higher smoking cessation rates are high motivation, readiness to quit, moderate to high self-efficacy and supportive social networks. [8] Some serious acute illnesses (e.g., myocardial infarction, MI) can prompt people to quit. However, there are some groups of patients (e.g., those with lung cancer, chronic obstructive pulmonary disease [COPD], peripheral vascular disease [PVD]) that seem to continue smoking despite their illnesses.

Figure 4. Barriers to smoking cessation [22]
Clinician barriers

Healthcare providers frequently ask people about their smoking and advise smokers to quit. The problem is that they rarely follow through and act to provide the types of assistance that are known to help people quit smoking, i.e., smoking cessation medications and behavioural support/counselling. A report, *Tobacco Use in Canada (2014 edition)*, [6] noted that among smokers who visited a health professional (doctor, dentist/hygienist or pharmacist) in the past year, advice to quit smoking most often came from a doctor (56%), compared to a dentist/hygienist (39%) or pharmacist (13%). However, for patients who received advice to quit, quitting assistance came most often from pharmacists (85%), compared to doctors (61%) or dentists/hygienists (25%).

Clinician barriers to facilitating smoking cessation among patients include the belief that cessation services are too time-consuming (although a 30-second interaction may be enough, as discussed later). Clinicians may also believe that they lack the expertise to counsel patients about smoking cessation, or have inadequate knowledge of smoking cessation resources. They may feel that discussing smoking cessation is unpleasant or unproductive, and may feel discouraged by previous unsuccessful experiences. In addition, clinicians may hold misconceptions about smoking cessation medications, making them reluctant to prescribe them. [23] Clinician barriers are often rooted in their beliefs, including faulty beliefs about smoking ("It's a lifestyle choice"), smokers ("They don't want to quit"; "They don’t understand the risks"; "They could stop if they really wanted to"), and smoking cessation interventions ("They don’t work"; "They take too much time") that impede the actual provision of assistance to smokers. Physicians also generally under-appreciate the tenacity of nicotine addiction and the effects of chronic smoking on the brain. Table 2 shows some of the common myths among physicians regarding smoking.

Ask the expert video question

- What are the barriers to smoking cessation?

**Table 2. Myths among physicians regarding smoking [7, 24]**

**Myth: Smokers do not like to be asked about their smoking behaviour.**

Fact: Patients have a positive view of health care providers who inquire about their smoking status, and believe that providers are not fulfilling their duty if they do not enquire.

**Myth: Reducing smoking (but not stopping), lowers your risk of adverse outcomes.**

Fact: Myocardial infarction and other adverse outcomes are not decreased in patients who reduce, but do not quit, smoking. By contrast, quitting smoking entirely, at any age, significantly increases life expectancy.

**Myth: Most smokers do not want to quit.**
Fact: Most smokers are at least thinking about quitting or are actually preparing to quit smoking. Almost half try to quit each year.

Myth: Very brief advice about smoking cessation is not effective.

Fact: Very brief advice can encourage a smoker to quit.

Role of the healthcare provider

Healthcare providers can play a critical/pivotal role in initiating and maintaining smoking cessation efforts. A review [7] of randomised trials involving over 31,000 smokers showed that advice from physicians about smoking cessation can help smokers quit. Even if the advice is brief and simple, it increases the likelihood that a smoker will successfully quit and remain a non-smoker 12 months later. Physicians can be much more effective if they act to provide quitting assistance: Quit rates can be increased 3- to 6-fold with medications and appropriate behavioural support.

All healthcare providers should identify smokers and offer smoking cessation treatment and behavioural support at every opportunity. If a patient has a problem caused/exacerbated by smoking, it is vitally important to discuss smoking cessation. [8, 25] Interventions may include one or more of the following [8]:

- Brief advice to stop smoking
- Assessing the smoker’s interest to quit
- Offering pharmacotherapy where appropriate
- Providing self-help material
- Offering counselling or referral

For patients who are motivated to quit, using a combination of counselling and smoking cessation medication is more effective than either alone, and hence, both should be provided to these patients. Patients who are not ready to quit should know that help is available whenever they are ready. [9, 17, 25] Motivational interviewing (MI) can be used to facilitate smoking cessation among patients who are ambivalent or reluctant about changing their use of tobacco. [26]

Ask the expert video question

- What should be the role of the primary care provider in smoking cessation efforts?

Very Brief Advice: The 3As approach

Even very brief advice and an offer of support from the healthcare provider (taking as little as 30 seconds to deliver) can help smokers to quit. A systematic review and meta-analysis [17] assessing the effects of opportunistic brief physician advice to stop smoking together with an offer of assistance found that, compared with no advice to smokers, the likelihood of quitting was 24% higher if the smoker
received advice, 68% higher if NRT was offered, and 217% higher if behavioural support was offered. Therefore, Very Brief Advice should be offered to every smoker, and not only to those already motivated to quit.

Very Brief Advice takes just 30 seconds, and is designed to be used opportunistically in almost any consultation with a smoker. The smoker is not asked if he/she wants to quit, because it takes time, may put the patient on the defensive, and can be counterproductive. Smokers are also not asked how much they smoke nor are they advised to stop. [9] Rather, the smoker is advised that the best way to quit is with a combination of medication and counseling and that the physician is able to assist the smoker to access these supports if they are interested in trying to quit.

Figure 5. The 3As approach [9, 27]

**Very Brief Advice on Smoking**

*30 seconds to save a life*

**ASK**

AND RECORD SMOKING STATUS

*is the patient a smoker, ex-smoker or a non-smoker?*

**ADVISE**

ON THE BEST WAY OF QUITTING

The best way of stopping smoking is with a combination of medication and specialist support.

**ACT**

ON PATIENT’S RESPONSE

Build confidence, give information, refer, prescribe.

REFER TO COUNSELLING, INTERNET PROGRAMS, TELEPHONE QUIT LINES

PRESCRIBE PHARMACOTHERAPY
Very Brief Advice involves the "3As" - ASK, ADVISE, and ACT [9]:

1. **ASK**: Ask and record the patient's smoking status. Opportunities to ask about smoking status are frequently available, whether relating to a patient's current problem or history.

2. **ADVISE**: Advise the patient that the best way to stop smoking is with a combination of medication and support. Be supportive and non-judgmental. Most smokers know the risks of smoking and want to quit. They need assistance, not education.

3. **ACT**: Take action to provide access to smoking cessation medications and counselling/behavioural support if the patient is interested in trying to quit. If there is not sufficient time during the current visit, schedule a follow-up appointment to specifically discuss smoking cessation. Build confidence and give relevant smoking cessation information. Prescribe smoking cessation medication. Refer to smoking cessation resources including smokers' helplines, internet programs/websites, and/or counsellor/clinic where possible.

If the patient wants to discuss the matter at length, the patient may be advised that stopping smoking is too important to deal with hurriedly, and it would warrant a separate smoking cessation consultation.

To view National Centre for Smoking Cessation and Training (NCSCT) videos on Very Brief Advice for smoking cessation, click on the links below:

- 30 Seconds to save a life
- Introducing VBA
- ASK ADVISE ACT
- Closing the consultation

Ask the expert video question

- What is Very Brief Advice (or the 3As approach)?

**Pharmacotherapy**

Smoking cessation pharmacotherapies reduce nicotine withdrawal symptoms when smokers are quitting smoking and increase the likelihood they will be able to quit smoking for the long-term. Some smokers may prefer to attempt quitting without assistance, and while this choice should be respected, the best results are achieved with pharmacotherapy employed together with counselling and support. In a population study, [10] the chances of success were found to be 3- to 6-fold higher for smokers who used a combination of behavioural support and pharmacotherapy for selecting smoking cessation compared to those who use neither pharmacotherapy nor behavioural support.

Pharmacotherapy should be offered to all nicotine-dependent smokers who are interested in quitting, except if contraindicated. [8] Pharmacotherapeutic options include nicotine replacement therapy (NRT) in various forms (e.g., gum, transdermal patch, nasal spray (not available in Canada), oral spray, inhaler and sublingual tablets/lozenges) and oral medications such as bupropion and varenicline. An algorithm for pharmacotherapy is provided in Figure 6.
Figure 6. **Pharmacotherapy for smoking cessation algorithm** [8]
NRT (Nicotine Replacement Therapy)

NRT aims at reducing withdrawal symptoms associated with smoking cessation by providing some of the nicotine that would normally be obtained from cigarettes, without providing the harmful components of tobacco smoke. [11] Some of the previous concerns about NRT are no longer considered necessary, as decades of research and use have shown that NRT products do not appear to have significant potential for abuse or dependence. [28]

NRT can increase the rate of quitting regardless of the setting. Various product forms are available, and all these forms can help people who make a quit attempt in increasing their chances of successfully stopping smoking. The effectiveness of NRT is largely independent of the intensity of additional support provided to the individual. [11]

A combination of short- and long-acting forms of NRT should be considered, e.g., the long-acting nicotine patch may be used, together with the shorter-acting nicotine gum, inhaler, and/or lozenge to manage sudden nicotine cravings. [29] Dosing guidelines are provided in Table 3.

**Nicotine Patch:** The nicotine patch is long-acting form of NRT that is applied on the skin, from where nicotine is absorbed into the blood stream. The patch should be changed every 24 hours. Minor skin irritation at the patch site is reported by 30-50% of users, and can be relieved by moving the patch to another site. Other side effects may include headache and nausea. Sleep disruption is usually resolved by removing the patch at bedtime. [29, 30]

**Nicotine Inhaler:** With the inhaler, nicotine is primarily absorbed through the oral cavity (36%) and the esophagus and stomach (36%), rather than through the lungs (4%). It acts quickly and has a short duration of action; thus it is useful for coping with nicotine cravings. Side effects may include irritation of the throat and mouth. [29, 31]

**Nicotine gum:** Absorption of nicotine from the gum formulation occurs through the buccal mucosa. It is a short-acting preparation, and can be used to ease cravings for a brief period. The gum should be kept in the buccal area and chewed once or twice every few minutes. If chewed too quickly, nicotine will be swallowed with the saliva, and the patient can experience nausea or dyspepsia. Other possible side effects include sore mouth or throat, throat irritation, increased salivation and headache.

**Nicotine lozenge:** This formulation releases nicotine as the lozenge slowly dissolves in the mouth. It is also short-acting, with a duration of action of 20-30 minutes. No more than 20 lozenges should be used per day. Side effects may include soreness of the teeth and gums, throat irritation, and indigestion. [29, 31]

**Nicotine mouth spray:** Nicotine mouth spray provides a faster nicotine delivery than nicotine lozenges. Nasal and throat irritation, rhinorrhea, and nausea are common side effects. [31, 32]

**E-cigarettes:** Electronic cigarettes (e-cigarettes) deliver a nicotine-containing vapour with lower levels of some of the toxins delivered in cigarette smoke. Unanswered questions about e-cigarettes include their safety, efficacy for harm reduction and cessation, and total impact on public health. Dual use of e-cigarettes with cigarettes results in delayed or deferred quitting. [33]
Bupropion

Bupropion is an atypical antidepressant that inhibits the neuronal reuptake of dopamine and may act by maintaining dopamine levels. Bupropion suppresses nicotine withdrawal symptoms, and has demonstrated efficacy for smoking cessation in a number of clinical trials. Bupropion therapy can help approximately 1 in 5 smokers to stop smoking. [12]

Bupropion should be started 1-2 weeks before the quit date and continued for 12 weeks (see dosing in table 3 below). Seizures are the most serious adverse effect, occurring in an estimated 1 in 1000 users. Other adverse effects include insomnia, dry mouth, nervousness, difficulty concentrating, rash, and constipation. [12, 34, 35]

Varenicline

Varenicline is a nicotinic acetylcholine receptor partial agonist that binds to the α4β2 nicotinic receptor, which is thought to mediate the rewarding properties of nicotine by modulating the release of dopamine in the nucleus accumbens. Varenicline is more efficacious for smoking cessation than placebo and bupropion, and at least equally efficacious as NRT. [13, 14] There have been concerns about the neuropsychiatric safety of varenicline, but a recent meta-analysis [36] of randomized controlled trials found no evidence of an increased risk of suicide or attempted suicide, suicidal ideation, depression, or death with varenicline.

Varenicline therapy should be started 1 week before the quit date and continued for at least 12 weeks. Adverse effects include nausea, sleep disturbances, constipation, flatulence, and vomiting. [35, 37]

Table 3. Pharmacotherapy for smoking cessation [8, 35, 37]

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<th>Product</th>
<th>Patient group</th>
<th>Dosage</th>
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| Nicotine patch  | >10 cigarettes per day and weight >45 kg           | • 21 mg/24 hours or 25 mg/16 hours | • Duration 8-12 weeks*  
|                 |                                                    |                   | • May cause local skin reaction, headache, sleep problems and abnormal dreams, cold/flu-like symptoms, dizziness |
|                 | <10 cigarettes per day or weight <45 kg            | • 14 mg/24 hours or 10 mg/16 hours | |
| Gum             | First cigarette >30 minutes after waking           | • 2 mg, 8-12/day  
|                 |                                                    | • Duration: up to 12 weeks* | May cause mouth, throat, or gum irritation, nausea and stomach upset, jaw ache, hiccups, headache |
|                 | First cigarette <30 minutes after waking           | • 4 mg, 6-10/day  
|                 |                                                    | • Maximum, 24 pieces/day  
<p>|                 |                                                    | • Duration: up to 12 weeks* | |
|                 |                                                    | • Park between cheek and gum when peppery or tingling sensation appears; resume chewing when tingle fades |
|                 |                                                    | • No food or beverages 15 | |</p>
<table>
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<tr>
<th>Medication</th>
<th>Timing</th>
<th>Dosage</th>
<th>Side Effects</th>
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| **Inhaler**      | >10 cigarettes per day                | • 6-12 cartridges/day  
• Duration: 3-6 months                                                   | May cause nausea, headache, mouth or throat irritation, stomach upset       |
|                  | First cigarette >30 minutes after waking | • 1.5 mg or 2 mg, 1 lozenge every 1-2 hours  
• Duration: up to 12 weeks*                                              | May cause mouth/throat/tongue irritation, nausea and stomach upset, hiccups, headache, taste change |
|                  | First cigarette <30 minutes after waking | • 4 mg, 1 lozenge every 1-2 hours  
• Duration: up to 12 weeks*                                              |                                                                            |
| **Lozenge**      | First cigarette >30 minutes after waking | • Up to 4 sprays/hour  
• Duration: up to 12 weeks*                                              | May cause tingling lips, hiccups, taste change                             |
| **Nicotine oral spray** | First cigarette >30 minutes after waking | • Days 1-3: 150 mg q am  
• Day 4-end: 150 mg twice daily (at least 8 hours between doses)  
• Start 1-2 weeks before quit date  
• Duration: 7-12 weeks; maintenance up to 6 months in selected patients | • May cause dry mouth, insomnia, headache, nervousness, weight loss  
• Contraindications: seizure disorder, concomitant bupropion therapy, bulimia/anorexia nervosa, MAO inhibitor therapy in previous 14 days |
| **Bupropion SR** | Smokers who are clinically suitable for this medication | • Days 1-3: 0.5 mg daily  
• Days 4-7: 0.5 mg twice daily  
• Day 8-end: 1 mg twice daily (0.5 mg twice daily for severe renal impairment)  
• Start 1-2 weeks before quit date so that receptors are saturated well  
• Duration: 12 weeks; additional 12-weeks in selected patients | • May cause nausea/vomiting, flatulence, constipation, insomnia, abnormal dreams, headache, mood/behaviour change, suicidal ideation. Monitor changes in mood |
| **Varenicline**  | Smokers who are clinically suitable for this medication | • Days 1-3: 0.5 mg daily  
• Days 4-7: 0.5 mg twice daily  
• Day 8-end: 1 mg twice daily (0.5 mg twice daily for severe renal impairment)  
• Start 1-2 weeks before quit date so that receptors are saturated well  
• Duration: 12 weeks; additional 12-weeks in selected patients | May cause nausea/vomiting, flatulence, constipation, insomnia, abnormal dreams, headache, mood/behaviour change, suicidal ideation. Monitor changes in mood |

*Extending treatment beyond 12 weeks is one of the best ways to prevent relapse with any of the medications.
Counselling

Smoking cessation attempts are associated with a high risk of relapse. The highest risk of relapse is within 1-2 weeks of making a quit attempt, and hence adequate support must be provided, particularly during this period. [15, 38] Counselling by a variety or combination of delivery formats (self-help, individual, group, helpline, web-based) is effective, and should be used to assist patients who express a willingness to quit. [8, 25, 39] Evidence suggests that counselling should be provided on at least 4 occasions for a minimum of 10 minutes per session. Assuming one of the sessions occurs before the quit attempt, follow-up sessions can be scheduled for 1-2 weeks after the initial quit date and at 4 and 8 weeks, for example.

Counselling should include offers of support and encouragement to build confidence, together with information about the treatment (e.g., how to use the medication correctly, symptoms of nicotine withdrawal, etc.). The patient should be advised about strategies to cope with urges and cravings, which may be summarized as follows [40]:

- **Delay**: Distract from the urge to smoke by finding something else to do, e.g., talking to someone, going for a walk, or working on a task.
- **Avoid**: Reduce/eliminate exposure to people/situations that encourage smoking, or that can reduce the chances of successfully quitting.
- **Substitute**: Replace cigarettes with something else, e.g., engage in a hobby or some physical activity. For those who feel the need to have something in the mouth, options include chewing gum, or even chewing on a straw. Brushing the teeth several times a day can be another approach, because toothpaste can make cigarettes taste bad.

For smokers are unable/unwilling to completely quit smoking, reducing the number of cigarettes smoked has been proposed as a possible option. A smoking cessation medication may be started to help the patient cut down the amount smoked, as a staged approach to smoking cessation. However, although reduction in heavy smoking (≥15 cigarettes/day) can reduce the risk of lung cancer, it does not decrease the risk of myocardial infarction, hospitalization for COPD, or all-cause mortality compared with heavy smokers who do not change smoking habits. Therefore, reduction may be considered a temporary measure for smokers who are not ready for complete cessation. [8, 41]

Ask the expert video questions

- What is the best way to quit smoking? Which pharmacotherapies are available for smoking cessation? What is the role of counselling for smoking cessation?

Nicotine withdrawal

Nicotine withdrawal may be associated with symptoms such as dysphoric or depressed mood, insomnia, irritability, frustration/anger, anxiety, difficulty concentrating, restlessness, and increased appetite or weight gain. Patients should be advised that this discomfort is temporary. Suggestions for managing these symptoms are provided in Table 4. [42]
For smokers with past recurrent major depression and high nicotine dependence, cognitive behavioral therapy (CBT) directed specifically for depressed mood may be preferred to standard CBT for smoking cessation. [43]

Table 4. Coping with withdrawal symptoms

<table>
<thead>
<tr>
<th>Withdrawal symptom</th>
<th>Advice for the patient: what to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Use positive self-talk. Speak to a friend or family member. Seek medical advice if the depression is intense or does not go away.</td>
</tr>
<tr>
<td>Headaches</td>
<td>Use mild analgesics. Drink plenty of water. Relax and rest.</td>
</tr>
<tr>
<td>Appetite changes</td>
<td>Follow a well-balanced diet. Choose healthy, low-fat snacks such as fruit or vegetables.</td>
</tr>
<tr>
<td>Constipation, flatulence</td>
<td>Drink plenty of fluids. Eat lots of fruits, vegetables and high fibre cereal.</td>
</tr>
<tr>
<td>Insomnia</td>
<td>Avoid beverages containing caffeine (e.g., coffee, tea, cola), particularly before bed. Try relaxation exercises before bed.</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>Break large projects into smaller tasks. Take regular breaks.</td>
</tr>
<tr>
<td>Cough, dry throat &amp; mouth,</td>
<td>Drink plenty of fluids.</td>
</tr>
<tr>
<td>nasal drip</td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td>Sit down and rest until it passes.</td>
</tr>
</tbody>
</table>

Relapse

Unsuccessful quit attempts should not be viewed as failures, but rather as a learning experience. Smokers who have unsuccessfully tried to quit should be reminded that most people make repeated quit attempts before they are successful. The circumstances of the relapse should be reviewed, and new strategies, including alternative/additional pharmacotherapy, should be tried. [15]

Ask the expert video question

- What is the best way to quit smoking? Which pharmacotherapies are available for smoking cessation? What is the role of counselling for smoking cessation?
- When a smoker relapses what do you review to determine a better way forward (dose, brand, social supports etc)?
KEY LEARNING POINTS

- Nicotine addiction is a major factor underlying smoking behaviour.
- Most smokers want to quit, and even brief advice from a physician can increase the likelihood that a smoker will successfully quit.
- Very Brief Advice takes as little as 30 seconds to deliver, and can be used opportunistically in almost any consultation with a smoker. Smokers are offered support for smoking cessation, not education.
- The best way to quit is with a combination of medication and behavioural support.
- Pharmacotherapy options include nicotine replacement therapy (NRT), bupropion, and varenicline.
- Counselling by a variety or combination of delivery formats is effective, and should be used to assist patients to quit.

DISCUSSION FORUM

- In your practice, which strategies have been the most successful for helping smokers to quit smoking?
- What approaches do you use to reduce the risk of relapse following a quit attempt?

RESOURCES

For physicians

- National Centre for Smoking Cessation and Training (UK): Very Brief Advice training module
- CAN-ADAPTT smoking cessation guideline
- Clinical Tobacco Intervention Program
- The Training Enhancement in Applied Cessation Counselling and Health (TEACH) Project

For patients

- Smokers’ Helpline
- Quit Now
- I Quit Now
- Quit Path
- Alberta Quits
- Mantra
- SHL Smokers Helpline
- NWT Quitline
- Nunavut Quits
- Health Canada
- Centers for Disease Control and Prevention
REFERENCES

40. So you want to stop smoking? Available from: 
42. Smoking Cessation Guidelines: How to Treat your Patient’s Tobacco Addiction. Available from: 