

Smoking Cessation: How Can We Do Better?



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It is estimated that 100 million people will die during the 20th century as a result of tobacco-related disease and this number could increase to 1 billion in the current century.¹ Tobacco control initiatives in Canada have shown great success with smoking rates steadily declining in adults from nearly 50% to a current rate of 18%.² Moreover, smoking rates have also dropped in the critical 15- to 19-year-old age group from > 40% in the early 1980s to 15% in 2006. This is likely due to:

- an increase in tobacco sales prices,
- public education about the dangers of smoking,
- the existence of smoking bans in public places from coast to coast,
- changes in the public's and the media's attitudes towards smoking and
- the availabilities of new and more efficacious treatment for tobacco dependence

Effects of smoking

Regular smokers are estimated to live 2.5 to 10 years fewer than non-smokers.

Causal links have been established between tobacco use and heart, cerebrovascular and lung diseases and many forms of cancer. This

Table 1

The facts

- Worldwide, 1 in 10 adults and 50% of smokers will die due to a tobacco-related disease
- More than 4.9 million (18.6%) adult Canadians are current smokers
- In Canada, rates vary by province with the highest in Saskatchewan and lowest in British Columbia and Ontario
- Rates amongst women continue to increase and now equal those of men

includes:

- lung,
- kidney,
- larynx,
- head and neck,
- breast,
- bladder,
- esophagus,
- pancreas and stomach.

There is some evidence suggesting an increased risk of other different types of cancers. Smoking is also linked to poor asthma control and all major respiratory symptoms including coughing, phlegm, wheezing and difficulty breathing and it is a major contributor to COPD.³ Smoking is also associated with many

other medical conditions that may not be as widely publicized (*i.e.*, impotence is approximately 85% higher in male smokers compared to non-smokers). It is also associated with spontaneous abortions among pregnant smokers and increases the risk of peptic ulcer disease, osteoporosis and cataracts.

Benefits of smoking cessation

Smoking cessation is associated with immediate and persistent long-term health benefits for both male and female smokers of all ages.⁴ Participation in a smoking cessation program is associated with decreased all-cause mortality, particularly for smokers with airway obstruction.⁵ Smoking cessation is associated with a rapid decrease in the risk of new myocardial events, reducing CV mortality by 50% within one year of smoking cessation. There also appears to be a more gradual reduction in the risk of developing complications of atherosclerotic vascular disease.

It also reduces the accelerated rate of decline of forced expiratory volume in one second (FEV1) found in smokers compared to non-smokers. An improvement in FEV1 can also be observed in the first year after quitting in patients with mild disease. In addition, a large number of smokers with cough and sputum production have an improvement in symptoms in the first 12 months after cessation.

Cessation is associated with reduction of the risk of smoking-related malignancy. In individuals with one smoking-related cancer, cessation can decrease the risk of developing a second smoking-related malignancy. Smoking cessation decreases the risk of developing peptic

Table 2
The effect of physician advice on cessation

Intervention	Odds ratio
No advice to quit	1.0
Minimal physician advice to quit	1.3
Low-intensity counselling (3-10 mins)	1.6
High-intensity counselling (> 10 mins)	2.3

ulcer disease and accelerates the rate of healing in established disease.

Management of smoking cessation

Behavioural therapy

Counselling alone has been demonstrated to enhance spontaneous smoking cessation rates. Evidence has accumulated that supports the concept of motivational interviewing as an aid in smoking cessation. Behavioural modification therapy is founded on the concept that just as one “learns” to smoke, one must learn to quit. Behavioural therapy should:

- reinforce the importance of not smoking,
- provide practical counselling,
- aid in evaluating past quit attempts in an effort to improve the success of future attempts and
- provide problem-solving skills to help prevent relapses.

Most behavioural modifications are initiated prior to cessation and the duration of such counselling has a strong correlation with the efficacy of success (Table 2).

Table 3

The additive value of smoking cessation pharmacotherapy⁷

	No behavioural treatment	Brief advice	Behavioral therapy
Placebo	Control condition (CC)	2 x CC	3 x CC
Medication	2 x CC	4 x CC	6 x CC

- Tobacco use remains the leading preventable cause of death in developed countries
- There is strong evidence for the efficacy, safety and cost effectiveness of a combined pharmacological and behavioural support to aid patients to “quit for life.” All doctors should ensure that they are current with these treatment options and regularly offer these to their patients

Pharmacotherapy

Over the past 20 years, the ability to effectively help smokers has significantly improved.⁶ This is mainly due to the complementary use of smoking cessation pharmacotherapy in association with brief counselling or behavioral therapy (Table 3).⁷ Smoking cessation medications in Canada fall under two main categories: nicotine replacement therapy (NRT) that can be purchased OTC and medications that are available only by prescription (bupropion and varenicline).

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NRT

NRT include nicotine gum, patches and inhalers. NRT can double the likelihood of smoking cessation.⁸ Patients need to be educated regarding the safety and effectiveness of this proven therapy, as well as its possible side-effects. These include vivid dreams and sleep disturbances, which may be minimized by using the patch only during the day. Perhaps the most significant limitations to NRT use are concerns about its safety in people with CV disease, in pregnant women and in teenagers.

Bupropion

Bupropion was originally developed as an anti-depressant. While still available for that purpose, it was approved by Health Canada nine years ago for use as a smoking cessation aid. It is believed that bupropion possesses noradrenergic and dopaminergic properties, reducing cravings and other withdrawal symptoms. A meta-analysis of 31 randomized trials of bupropion monotherapy concluded that it doubles the likelihood of smoking cessation.⁹ It is contraindicated in patients predisposed to seizures and in those using monoamine oxidase inhibitors. Some patients experience side-effects such as:

- insomnia,

- dry mouth and
- anxiety.

Varenicline


Varenicline is the first partial agonist of the α -4, β -2 nicotinic acetylcholine receptor. It works by stimulating dopamine, which results in reduced cravings and withdrawal symptoms. The drug also blocks nicotine receptors, which prevents the dopamine release associated with nicotine consumption. Varenicline has been directly compared to placebo and bupropion in clinical trials and found to be approximately twice as effective as bupropion and over four times more effective than placebo.^{10,11} Nausea is the most common side-effect.

Stopping smoking benefits health and extends life at any age, even after many years of smoking or the diagnosis of smoking-related disease.

Summary

Adopting a systematic approach in your practice to nicotine addiction is a medically-effective and cost-effective intervention. Assisting with smoking cessation is the single best intervention a health professional can provide for their patients' long-term health. We need to congratulate the patient on their willingness to address nicotine addiction and assure them that we can

help. Practice nurses and other allied health professionals are useful partners to aid in this approach to nicotine addiction.

It is never too late for a patient to seek advice or begin the journey towards smoking cessation. Stopping smoking benefits health and extends life at any age, even after many years of smoking or the diagnosis of smoking-related disease. 

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