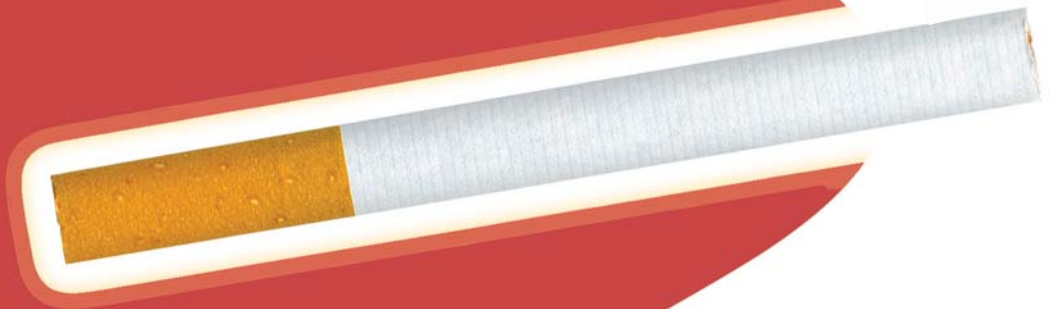


Tobacco is responsible for more than 3,400 deaths in Alberta every year.



*In 2004, 23% of Albertans are addicted to tobacco***

It is reported that Albertans consumed an average of 14.4 cigarettes per day



Message from the Minister of Health, Alberta Health and Wellness



As Minister of Health and Wellness, I am committed to sustaining and enhancing the health of all Albertans, and I am pleased to endorse the Alberta Dental Association and College's use of *Counselling Patients Who Smoke - A Guide for Dentists*.

This is an excellent resource for dentists to use in their practice, giving them the tools they need to counsel their patients on tobacco cessation. Support is a critical factor to those attempting to quit smoking, and that support has increased credibility when it comes from a health professional. I believe this resource will help further develop professional capacity within your dental community, the capacity to help Albertans lead healthy lives free of tobacco.

I wish to congratulate the Alberta Dental Association and College and its members for their support in developing this resource, and for their proactive approach to tobacco cessation in Alberta.

Sincerely yours,

A handwritten signature in cursive script that reads "Iris". The signature is written in black ink and is positioned above the printed name.

Iris Evans
Minister

Message from the President of the Alberta Dental Association and College



The Alberta Dental Association and College is proud to present its membership with a comprehensive guide to help their patients with the often daunting task of kicking tobacco dependence.

We are all aware of the devastating statistics of diseases related to this crippling addiction. As health care professionals, it is our obligation to help our patients eradicate this never-ending health problem.

This guide is meant as a resource for the dental team to help in the difficult process of ending this tobacco dependence. It contains information you will need to better understand the issue of tobacco dependence and how to more effectively counsel patients who use it.

A few minutes of our time will have a lasting effect and can be enough to help them kick this habit once and for all. I am confident we can make a difference.

Dr. J.A. (Jack) Sherman

A handwritten signature in black ink that reads "J. Sherman". The signature is written in a cursive, flowing style.

President

Smoking and Oral Health

The impact of smoking on overall health is well known, but it is just as harmful to smokers' oral health. It is an important risk factor for many oral diseases.

Members of the dental team are well placed to talk to smokers about the oral health problems associated with their habit.

Oral cancer

The most prevalent form of oral cancer is squamous cell carcinoma (**Figure 1**). It represents over 90% of all oral malignancies.¹ The incidence of squamous cell carcinoma increases with age, peaking in the 60-69 age group.² The most important risk factors for this disease are smoking and heavy drinking.



Photo: Dr. Martin T. Tyler

Figure 1: Squamous cell carcinoma

The carcinogenic effects of tobacco products—cigarettes, cigars, pipes and chewing tobacco—on the oral mucosa are well known. They are linked to the amount of tobacco consumed and the length of consumption. Depending on the importance of these factors, smokers are two to twenty times more likely to have oral cancer than non-smokers. Alcohol increases the risk of squamous cell carcinoma in smokers. The carcinogenic effects of tobacco are exacerbated by the simultaneous consumption of alcohol. In Canada, tobacco consumption and excessive alcohol consumption account for approximately 75% of oral and pharyngeal cancers.²

Leukoplakia

Leukoplakia is the most common precancerous lesion of the buccal mucosa. It may degenerate into oral cancer and present the same etiological factors. Leukoplakia is the oral lesion most often associated with tobacco use.³ It is six times more common among smokers than among non-smokers.⁴ The risk of malignant degeneration of a lesion varies with the type of leukoplakia, the site affected, the degree of epithelial dysplasia observed in the histology and the patient's age and gender. A number of studies have shown that the incidence of leukoplakia declines when the patient quits smoking.⁵

Periodontitis

Longitudinal and transversal studies have clearly shown that smoking is a major risk factor for periodontitis, once variables such as age, gender, race and socioeconomic factors have been controlled for.⁶ More than half of all cases of chronic periodontitis can apparently be attributed to tobacco use. There is a positive correlation between the number of cigarettes smoked a day and the odds of developing periodontitis.⁶ Research has also shown that bone loss progresses faster in smokers than non-smokers.⁷

Many authors have confirmed the relationship between smoking and the severity of periodontitis.^{8,9} Smokers show greater loss of alveolar bone than non-smokers, deeper periodontal pockets and a more pronounced loss of epithelial attachment. Smoking not only promotes the development of periodontal disease, but impairs its treatment, surgical or otherwise.^{10,11} Smokers who undergo guided tissue regeneration surgery have a lower success rate than non-smokers,¹² and many of them do not respond favourably to periodontal therapy.¹³

Dental implants

It has been clearly shown that smoking reduces the short- and long-term likelihood of successful dental implants.¹⁴ Smoking is the main factor likely to interfere with implant therapy: the failure rate is 11% among smokers as opposed to just 5% among non-smokers.¹⁵

Studies have shown that smokers with osseointegrated implants have a significantly higher bleeding index than non-smokers, deeper peri-implant pockets, more marked peri-implant inflammation and mesial and distal bone resorption visible on X rays.^{16,17}

Wound healing

Smoking is considered a complicating factor in the healing of surgical wounds,¹⁴ particularly those due to detartaring or periodontal curettage or periodontal surgery. Even the healing of wounds due to dental extractions seems to be delayed among smokers.^{10,11}

Smoker's melanosis

Smoking can cause pigmented lesions or exacerbate existing pigmentations in the oral mucosa (**Figure 2**). Chemicals in tobacco smoke cause over-production of melanin, especially on the anterior labial gingiva. This type of melanosis occurs in 21.5% of patients who smoke.¹⁸ The intensity of the pigment is linked to the quantity of tobacco used and the duration of use.¹⁹ Smoker's melanosis is asymptomatic and reversible. Nonetheless, it may take several years after the person has stopped smoking for the lesions to disappear.^{18,20}



Figure 2: Smoker's melanosis

Photo: Dr. Martin T. Tyler

Oral candidiasis

Smoking, on its own or associated with other factors, is an important predisposing factor in oral candidiasis.^{21,22,23} All patients who continue to smoke following anti-fungal treatment show relapses.²² On the other hand, clinical experience shows that this type of infection can disappear without treatment after patients quit smoking.

Oral candidiasis requires diligent attention by the dentist. Treatment may sometimes prove difficult. If candidiasis is linked to the presence of a generalized illness, it may be advisable to refer the patient to a physician.

Nicotine stomatitis

Nicotine stomatitis often appears on the palates of heavy smokers and pipe smokers in particular. It is asymptomatic and does not constitute a precancerous lesion. It disappears quickly after the person quits smoking.

Acute necrotizing ulcerative gingivitis

Acute necrotizing ulcerative gingivitis is a disease that evolves with relapses and remissions. Exacerbations cause the progressive destruction of gums and deep supporting tissue, most often without forming pockets (**Figure 3**). This disease appears



Photo: Dr. Martin T. Tyler

Figure 3: Acute necrotizing ulcerative gingivitis with recession of the gingivae and lip lesions

to be more prevalent among smokers than nonsmokers.²⁴ A study on individuals with HIV showed a relationship between smoking and this kind of gingivitis.²⁵

Aesthetics

Tobacco use stains teeth, obturations and prostheses^{26,27} more seriously than do tea or coffee.²⁸ A dentist can observe black or brownish spots (**Figure 4**) on the tooth collar when performing a clinical examination, due to the combustion of tar and other substances contained in tobacco products.²⁹ In fact, burns and stains can often be seen on the lips at the site where the cigarette or cigar is held.³⁰



Photo: Dr. Martin T. Tyler

Figure 4: Pronounced tobacco stains due to excessive tobacco consumption

Taste, smell and halitosis

Many studies corroborate the fact that smoking dulls the senses of taste and smell.^{31,32} Tobacco products are also an important factor in bad breath, or halitosis.³³

Endnotes

1. Pérusse R. Clinical manifestations of oral cancer. *J Dent Que* 2004; 41 Suppl: 16-21.
2. Allison P. The epidemiology and etiology of oral and pharyngeal cancers in Canada and Quebec. *J Dent Que* 2004; 41 Suppl: 6-11.
3. Squier C. Introduction: Tobacco, Human Disease, and the Role of the Dental Profession. *J Dent Educ* 2001; 65 (4): 303-5.
4. Baric JM, Alman JE, Feldman RS, et al. Influence of cigarette, pipe, and cigar smoking, removable partial dentures, and age on oral leukoplakia. *Oral Surg Oral Med Oral Pathol* 1982; 54: 242-49.
5. Gupta PC, Murti PR, Bhonsle RB, et al. Effect of cessation of tobacco use on incidence of oral mucosal lesions in a 10-yr follow-up study of 12,212 users. *Oral Dis* 1995; 1: 54-8
6. Tomar SL, Asma S. Smoking-attributable periodontitis in the USA: findings from NHANES 111 – National health and nutrition examination survey. *Periodontol* 2000; 71: 743-51.
7. Winn DM. Tobacco Use and Oral Disease. *J Dent Educ* 2001; 65(4): 306-12.
8. Salvi GE, Lawrence HP, Offenbacher S, Beck JD. Influence of risk factors on the pathogenesis of periodontitis. *Periodontol* 2000; 1997; 14: 173-201.
9. Bergström J, Eliasson S, Dock J. A 10-year prospective study of tobacco smoking and periodontal health. *J Periodontol* 2000; 71 (8): 1338-47.
10. Preber H, Bergström J. Effect of tobacco smoking on periodontal healing following surgical therapy. *J Clin Periodontol* 1990; 17: 324-28.
11. Kaldahl WD, Johnson GK, Patil KD, et al. Level of cigarette consumption and response to periodontal therapy. *J Periodontol* 1996; 67: 675-82.
12. Trombelli L, Scabbia A. Healing response of gingival recession defects following guided tissue regeneration in smokers and non-smokers. *J Clin Periodontol* 1997; 24: 529-33.
13. MacFarlane G, Herzberg M, Hardie N. Refractory periodontitis associated with abnormal polymorphonuclear phagocytosis and cigarette smoking. *J Periodontol* 1992; 63: 908-13.
14. Bain CA. Implant installation in the smoking patient. *Periodontol* 2000. 2003; 33:185-93.
15. Bain CA, Moy PK. The association between the failure of dental implants and cigarette smoking. *Int J Oral Maxillofac Implants* 1993; 8: 609-15.
16. Hass R, Haimbock W, Mailath G, et al. The relationship of smoking on peri-implant tissue: a retrospective study. *J Prosthet Dent* 1996; 76: 592-95.
17. Linquist LW, Carlsson GE, Jemt T. A prospective 15-year follow-up study of mandibular fixed prostheses supported by osseointegrated implants. *Clin Oral Implants Res* 1996; 7: 329-36.
18. Axell T, Hedin CA. Epidemiologic study of excessive oral melanin pigmentation with special reference to the influence of tobacco habits. *Scand J Dent Res* 1982; 90 (6): 434-42.
19. Neville BW, Damm DD, Allen CM, Bouquot, JE. *Oral and Maxillofacial Pathology*. 2nd edition. Philadelphia: W.B. Saunders Company, 2002.
20. Hedin CA, Pinborg JJ, Axell T. Disappearance of smoker's melanosis after reducing smoking. *J Oral Pathol Med* 1993; 22: 228-30.
21. Holmstrup P, Bessermann M. Clinical, therapeutic, and pathologic aspects of chronic multifocal candidiasis. *Oral Surg Oral Med Oral Pathol* 1983; 56: 388-95.
22. Arendorf TM, Walker DM, Roll JRS, Newcombe RG. Tobacco smoking and denture wearing in oral candidal leukoplakia. *Br Dent J* 1983; 155: 340-43.
23. Arendorf TM, Walker DM. Tobacco smoking and denture wearing as aetiological factors in median rhomboid glossitis. *Int J Oral Surg* 1984; 13: 411-15.
24. Kardachi BJR, Clarke NG. Aetiology of acute necrotizing gingivitis: a hypothetical explanation. *J Periodontol* 1974; 45: 830-32.
25. Swango PA, Kleinman DV, Konzelman JL. HIV and periodontal health: A study of military personnel with HIV. *J Am Dent Assoc* 1991; 122: 49-54.
26. Asmussen E, Hansen EK. Surface discoloration of restorative resins in relation to surface softening and oral hygiene. *Scand J Dent Res* 1986; 94: 174 - 77.
27. Murray ID, McCabe JF, Storer R. The relationship between the abrasivity and cleaning power of dentifrice-type denture cleaners. *Br Dent J* 1986; 161: 205-8.
28. Ness L, Rosekrans DL, Welford JF. An epidemiologic study of factors affecting extrinsic staining of teeth in an English population. *Community Dent Oral Epidemiol* 1977; 5: 55-60.
29. Regezi J, Sciubba J. Oral pathology. *Clinical-pathologic correlations*. Philadelphia. Saunders. 2nd edition. 1998; 146-50.
30. Mirbod SM, Ahing SI. Tobacco-Associated Lesions of the Oral Cavity: Part I. Nonmalignant lesions. *J Can Dent Assoc* 2000; 66:252-6.
31. Fortier I, Ferraris J, Mergler D. Measurement precision of an olfactory perception threshold test for use in field studies. *Am J Ind Med* 1991; 20: 495-504.
32. Pasquali B. Menstrual phase, history of smoking, and taste discrimination in young women. *Percept Mot Skills* 1997; 84: 1243-46.
33. Allard R, Johnson N, Sardella A, et al. Tobacco and oral diseases: Report of EU Working Group, *J Irish Dent Ass* 1999; 46: 12-23.

A Job for the Whole Dental Team

For decades now, dentists and their teams have been advising patients on how to improve their oral and dental health.

There is no reason to make an exception when it comes to smoking.

A few minutes is enough to make a difference.

Here are some helpful steps in the process.

Is the patient a smoker?

Dentists must systematically evaluate their patients' past and current status as smokers, as well as how many cigarettes they smoke daily, and record this information in patients' files at every visit. They must pay particular attention to young people and evaluate their status, since they are taking up smoking at an increasingly early age—some as young as nine.¹ Just ask the following questions:

Do you smoke?

Yes, every day (How many cigarettes per day?)

Yes, occasionally

No, I have quit (Since when?)

No, I have never smoked

It is important to properly measure the patient's motivation, so as to advise him most effectively. For instance, it would not be useful to talk about pharmacological aids to someone who is not planning to quit smoking in the next six months. On the other hand, this does not mean that the dentist should not talk to him about it at all.



How motivated is the patient?

Most smokers would like to quit, yet only 10% to 15% of them are actively preparing to give up smoking. The rest are thinking about the possibility of quitting or are not concerned about their smoking (**Table 1**).^{1,2}

Table 1 - Stages of change in a smokers behavior

Are you thinking seriously of quitting?	Stage of change	Patient characteristics
No, not in the next six months.	Precontemplation: 50% to 60% of smokers	The patient does not see tobacco use as a problem, and has no intention of quitting.
Yes, in the next six months, but not within the coming month.	Contemplation: 30% to 40% of smokers	The patient is aware that smoking is a problem and is thinking about it. He would like to quit, but has not yet set a date.
Yes, within the coming month.	Preparation: 10% to 15% of smokers	The patient is preparing to quit smoking within the next month.
I quit smoking less than six months ago.	Action	The patient is coping with the problems that go along with quitting, i.e. withdrawal symptoms, cravings, cues that would normally have him reaching for a cigarette, etc.
I quit smoking six months or more ago.	Maintenance	The patient is pursuing his efforts to remain a non-smoker.

Adapted from Prochaska, Norcross, Di Clemente² and the Collège des médecins du Québec.¹

Table 2 - Benefits and drawbacks of smoking

Main benefits	Main Drawbacks	
Reduced stress	Stained teeth	Infertility
Improved concentration	Halitosis	Impotence
Appetite control	Periodontal disease	Cardiovascular disease
Relaxation	Shortness of breath	Pulmonary disease, including chronic bronchitis and emphysema
Opportunities for social interaction	Aggravated asthma	
No withdrawal symptoms	Risk to pregnant women	Lung, laryngeal and oral cancer, etc.

Talking with smokers at the precontemplation or contemplation stage

All smokers see benefits and drawbacks to smoking. Those who are not thinking of quitting generally consider that the benefits outweigh the drawbacks. However, the more problems they see, the more motivated they will be to quit (Table 2, page 13).

What the dentist needs to do is ask the smoker, using open and non-threatening questions, just what he gets from smoking. This will encourage him

to think about his behaviour and to understand the obstacles preventing him from quitting.

The dentist should then summarize what the patient has just said, and explain the symptoms, disorders and clinical signs related to smoking. A personalized description of the health risks of smoking always makes an impression on smokers. It may also be worthwhile to talk about the short-term benefits of quitting, as well as some lesser-known advantages, such as a 50% drop in the odds of cardiovascular disease after one year (Table 3).

Table 3 - Benefits of quitting smoking

Improved senses of taste and smell and oral health
Better performance in sports and recreational activities
Less coughing, hacking and respiratory infections
Freedom from dependence
Odds of cardiovascular disease drop by 50% after one year
Lower risk of cancer
Increased life expectancy
Monetary savings
Family members no longer exposed to secondhand smoke
Good example for children



Counselling Steps by the Dental Team

<p>1 Determine whether the patient is a smoker</p> <p>Do you smoke?</p>	<p>2 Determine the patient's motivation</p>	
<p>YES ▶</p> <p>▼</p> <p>Every day Regular smoker</p> <p>OR</p> <p>Occasionally Light smoker</p> <p>▼</p> <p>Enter information in the patient's file</p>	<p>are you seriously thinking of quitting?</p>	<p>stage of change</p>
	<p>No, not in the next six months</p> <p>Yes, in the next six months</p>	<p>Precontemplation</p> <p>Contemplation</p>
<p>NO</p> <p>▼</p> <p>Never smoked Non-smoker</p> <p>OR</p> <p>I quit Ex-smoker</p> <p>▼</p> <p>Enter information in the patient's file</p>	<p>Yes, within the coming month</p>	<p>Preparation</p>
	<p>I quit less than six months ago</p> <p>I quit six months or more ago</p>	<p>Action</p> <p>Maintenance</p>

Helping a Patient Who is Ready to Quit

A patient who smokes tells you that he is seriously thinking of quitting.

You need to counsel him by discussing his concerns and coming up with strategies that will help him cope.

A patient who is thinking of quitting is almost certainly not trying for the first time. Sometimes it takes five to seven attempts before smokers can free themselves completely from this dependence. It is crucial that you encourage him to persevere.

Discuss useful strategies

People who are thinking of giving up smoking generally share the same worries about quitting, and their concerns are entirely legitimate. They worry about withdrawal symptoms and strong cravings. Many of them are concerned about gaining weight and wonder how they will cope when they are around smokers in social situations. Finally, they are aware that some triggers can make it hard to resist the desire to light up. As a dentist, you can help your patients kick the habit by advising them on strategies for dealing with concerns like these (**Table 1**).

You may wish to advise a smoker who is thinking of quitting to keep a journal for a few days as a way of understanding himself better, in particular by keeping track of events and circumstances that trigger the desire to smoke.

For example, some smokers feel the urge to light up whenever they pick up the telephone. This type of habit is sometimes so ingrained that they are not even aware of it. By carefully examining his journal entries, you can pinpoint the specific times and circumstances most likely to trigger his desire to smoke, and then suggest realistic ways of coping.

Finally, it is always good to remind patients thinking of quitting of the benefits of giving up smoking. Some can be seen very soon—as soon as 20 minutes after the last cigarette—while others will be felt over the space of several years (see *Some benefits of quitting*, page 21).



Table 1 - Frequent concerns about quitting smoking and strategies to suggest

Concerns	Strategies
Withdrawal symptoms	Consider pharmacotherapy (nicotine gum, patch or inhaler, bupropion, etc.)
Strong cravings	Do something else Wait two or three minutes for the craving to pass Breathe deeply Have a drink of water; eat some raw vegetables
Stress management	Avoid or change sources of stress Change reaction to stress Use relaxation techniques
Weight gain	First concentrate on quitting smoking Adopt habits like exercising and healthy eating Consider using nicotine gum
Social relationships	Tell smoker friends about your decision Ask for support from family members, friends and colleagues Go to places reserved for non-smokers
Trigger factors	Reduce alcohol and coffee intake Alter habits related to smoking Get rid of all cigarettes

Adapted from the Collège des médecins du Québec.¹

Determine the level of dependence

It is essential to determine the patient's level of dependence. You can do so using two questions from the Fagerström test:²

How many cigarettes do you smoke a day?

Do you smoke your first cigarette within 30 minutes of getting up in the morning?

The more cigarettes the patient smokes a day and the sooner he lights up after waking, the higher the level of dependence is likely to be. This means that the smoker is very likely to experience withdrawal symptoms such as irritability, anxiety, impatience and nervousness; difficulty concentrating; uncontrollable cravings; headaches, difficulty sleeping, constipation, increased appetite, trembling, heavy sweating and dizziness.¹

These symptoms appear in the first 48 hours and gradually fade over the next two to five weeks. The dizzy spells will disappear quickly; on the other hand, difficulty concentrating, impatience, anxiety and irritability may last for several weeks. A doctor can prescribe certain drugs to ease such discomfort.

A patient tells you that she has started smoking again. She looks rather uncomfortable, and is disappointed with herself for failing after trying so hard. Reassure her and tell her that she shouldn't see her relapse as a personal failure. Encourage her to give it another try. It takes most smokers several attempts, often five to seven, before they finally manage to butt out for good.



Talk about pharmacological aids

Many smokers resist taking drugs because they are afraid of becoming addicted. It has been shown that nicotine replacement therapies (NRT) like nicotine gum, patches or inhalers, as well as bupropion, double the success rate for quitting and are very unlikely to be addictive.^{3,4} Moreover, these products do not contain the 4,000 chemicals found in tobacco smoke.

US guidelines recommend that pharmacotherapies be used for all smokers who smoke 10 or more cigarettes per day, provided there are no contraindications.³ NRT and bupropion are recommended as the first-line choices, but contraindications and the smoker's preferences, experience with other drugs in the past and personal characteristics must be taken into account in choosing a pharmacological aid (see *Pharmacotherapy and Tobacco Dependence*, page 22).

Set a quitting date

In closing the consultation, the dentist should ask when exactly the smoker plans to quit. That way he can follow up at the patient's next appointment or refer the patient to local resources, as necessary. If possible, the dentist can even assure the patient that he or a member of his team will be available at all times to offer support over the telephone or at the office during the week when the patient is attempting to quit. Many smokers weaken and start smoking again during the first week, and encouragement, particularly from a health professional, is very important.

Some benefits of quitting

After just 20 minutes — Blood pressure and pulse return to normal, along with hand and foot temperature.

After 8 hours — Carbon monoxide count in the body drops and the oxygen level in the blood rises, as both return to normal.

After 24 hours — The odds of a heart attack decline.

After 48 hours — The senses of taste and smell improve and nerve endings begin to grow again.

After 3 months — Blood circulation improves, and pulmonary function increases by about 30%.

After 9 months — There is a significant improvement in breathing (less coughing and nasal congestion). Fatigue and shortness of breath diminish.

After 1 year — The risk of coronary disease is half that for a smoker.

After 5 years — The odds of oral, laryngeal and pharyngeal cancer are half those for a smoker.

After 10 to 15 years — The risk of heart disease is almost similar to that for a non-smoker.

After 15 years — The mortality rate attributable to lung cancer is greatly reduced.

Adapted from a guide produced by Pratt & Whitney Canada and the Direction de la santé publique de la Montérégie.

Tell the patient about the free resources available

Albertans wishing to quit have plenty of free resources at their disposal.

If the patient says he needs additional support, the dentist can suggest one of a number of tools:

*the toll-free smokers' helpline, at 1 866-33AADAC (1-866-332-2322),

*the www.albertaquits.ca Website,

*and numerous other free resources (see *Free Resources for Help with Quitting Smoking*, page 30).

Endnotes

1. Collège des médecins du Québec and Direction de la santé publique, régie régionale de la santé et des services sociaux de Montréal-Centre. *Clinical Practice Guidelines. Smoking Prevention and Cessation*. Montreal: 1999.
2. West R. Assessment of dependence and motivation to stop smoking. *Br Med J* Feb. 2004; 328: 338-9.
3. Fiore M C, Bailey W.C, Cohen S J, et al. *Treating Tobacco Use and Dependence – Clinical Practice Guideline*. US Department of Health and Human Services. Public Health Service. Rockville, MD: June 2000.
4. Molyneux A. Nicotine replacement therapy. *Br Med J* 2004; 328: 454-6.

Pharmacotherapy and Tobacco Dependence

The nicotine in cigarette tobacco reaches the smoker's brain neurons just seven seconds after the smoke is inhaled. This causes the neurons to release dopamine, a neurotransmitter associated with the exhilarating effects of addictive substances like cocaine and heroin.¹ Furthermore, cigarette smoke is a monoamine-oxidase inhibitor, potentializing the effects of dopamine.

The strong dependence created by nicotine must not be underestimated. As soon as a smoker quits, he experiences physical withdrawal symptoms, which are a major obstacle to successfully butting out (**Table 1**). Over 80% of people who quit smoking have such symptoms to varying degrees.² Unless there are contraindications related to the smoker's health, anyone wishing to quit smoking should be encouraged to use pharmacological aids such as a nicotine replacement product or bupropion, since they considerably ease such symptoms and reduce cravings. They also help to prevent mood swings and improve concentration and the ability to handle stress. Finally, they double the success rate for quitting smoking.^{3,4}

Nicotine replacement therapy

Nicotine replacement therapy (NRT) provides less nicotine than tobacco, but helps to ease the frequency and intensity of withdrawal symptoms. The different forms of NRT (gum, transdermal patches, lozenges and inhalers) have been proven to be effective when combined with another therapy. The choice of the form of therapy is a matter of individual preference, since no studies have shown one form to be more effective than another.^{3,4} Nonetheless, NRT has contraindications that must be considered (see the sidebar on *NRT contraindications*).

Nicotine gum

Nicotine gum is more like an oral patch than real chewing gum. It comes in 2 mg and 4 mg doses. The 4 mg tablets are recommended for people who smoke their first cigarette within 30 minutes of waking up, while the 2 mg form is recommended for people with a weaker dependence.⁵

NRT contraindications

- ◆ Recent heart attack
- ◆ Recent stroke
- ◆ Unstable or severe angina
- ◆ Severe arrhythmia
- ◆ Pregnancy or nursing
- ◆ Under age 18

Source: Compendium of Pharmaceuticals and Specialties (CPS) 20046

Table 1 - Physical Symptoms of Nicotine Withdrawal

Symptom	Duration	Suggestion
Dizziness	1 to 2 days	Relax, control breathing
Headaches	Variable	Relax
Fatigue	2 to 4 weeks	Get exercise and more sleep
Cough	Less than 7 days	Drink water
Tightness in chest	Less than 7 days	Relax
Trouble sleeping	Less than 7 days	Don't drink or eat anything containing stimulants, like coffee, chocolate or cola, in the evening
Constipation	3 to 4 weeks	Drink plenty of water, eat high-fibre foods, exercise
Hunger	A few weeks	Eat three low-calorie meals daily
Lack of concentration	A few weeks	Expect this and be ready for it
Very strong craving for cigarettes	Especially in the first two weeks	Do something else. The craving usually lasts three minutes

Adapted from *Nurses: Help your Patients Stop Smoking*. Department of Health and Human Services, Public Health Service, National Institutes of Health. NIH Publication No. 92-2962. Bethesda, Maryland: January 1993.

The way the gum is used is very important, since chewing it too quickly can irritate the mouth and throat and cause hiccups, nausea or dyspepsia. For maximum effect, the gum should be chewed two or three times and then slipped between the gum and cheek for one minute. Then it should be transferred to the other side of the mouth, and so on for 30 minutes.

The gum should be used at set times—once an hour, for example—but can also be chewed as necessary. The dosage should not exceed 20 tablets daily, although most smokers chew about a dozen a

day.⁶ It is recommended that the treatment be used for 12 weeks and, if the person is worried about a relapse, that it be continued for another 12 weeks. Nicotine gum can temporarily limit weight gain during the treatment period.



Transdermal patches

Nicotine patches are easy to use. They are applied to the chest or the outer arm. The skin must be clean, dry, healthy and smooth. The main side effects are skin irritations, but this inconvenience can be avoided by applying the patch in a different place every day. Nicotine patches are contraindicated for anyone with an allergy to adhesive in bandages or with a generalized skin disease.



Patches come in 21 mg, 14 mg and 7 mg doses. It is recommended that people begin with a 21 mg patch if they smoke more than 10 cigarettes a day and gradually reduce the dosage over 8 to 12 weeks.⁶ The treatment may last longer. The ex-smoker is the best judge of whether the therapy should be extended or not.

Inhalers

Nicotine inhalers are a recent arrival on the Canadian market. They have a plastic mouthpiece in which one inserts a 10 mg nicotine cartridge. Since the device imitates the act of smoking, it can be ideal for smokers with a strong behavioural dependence. The nicotine is absorbed through the oral mucosa and the throat. It does not reach the lungs, despite what the term “inhaler” might suggest. The recommended dosage is 6 to 12 cartridges a day.⁷

Bupropion

Sustained-release bupropion hydrochloride is marketed under the name Zyban®. It was originally developed as an antidepressant, but is now also used as a smoking-cessation aid. It acts on the brain by increasing noradrenalin and dopamine levels. Its effectiveness has been proven by two double-blind placebo-controlled clinical trials,^{8,9} which showed that bupropion doubles the success rate for cessation and reduces withdrawal symptoms. It also has the benefit of limiting the weight gain that often accompanies quitting.

Bupropion comes only in 150 mg tablets. Treatment starts one week before the quitting date and lasts two to three months. It may be extended for up to one year. The patient takes one 150 mg tablet daily for the first three days and then doubles the dosage and continues with 300 mg daily until the end of the treatment, with an interval of eight hours between the two daily doses.^{1,4} The best time to quit smoking is during the second week of treatment.

Dentists registered with the Alberta Dental Association and College are authorized to prescribe bupropion.

Bupropion contraindications

- ◆ Seizure disorders
- ◆ Already taking Bupropion as an antidepressant
- ◆ Current or prior diagnosis of bulimia or anorexia
- ◆ Withdrawal of alcohol
- ◆ Sudden withdrawal of benzodiazepines or other sedatives
- ◆ Hypersensitivity to bupropion
- ◆ Taking a monoamine-oxidase inhibitor or thioridazine antidepressant for less than 14 days

Source: CPS 2004⁶

NRT's are not covered through Alberta Health and Wellness.

Prescriptions such as Bupropion and Zyban are prescribed and may be covered for patients on social assistance or through a personalized drug plan and/or health insurance.

Maximizing the chances of success

NRT and bupropion improve the likelihood of succeeding for smokers wishing to quit. They ease withdrawal symptoms such as irritability, depression and nicotine cravings, although they cannot completely eliminate the craving for tobacco. It is essential that patients themselves truly want to quit.

Dentists who counsel patients who smoke must take the time to discuss the problems involved in quitting and ways of coping (**Table 1**, page 19). They can also inform their patients of the resources at their disposal. (See page 30)



Endnotes

1. Collège des médecins du Québec and Direction de la santé publique, Régie régionale de la santé et des services sociaux de Montréal-Centre. *Clinical Practice Guidelines. Smoking Prevention and Cessation*. 1999; 11.
2. Geller A. Common addictions. *Clin Symp* 1996; 3: 32.
3. Molyneux A. Nicotine Replacement Therapy. *Br Med J* 2004; 328: 454-56.
4. Fiore M C, Bailey W C, Cohen S J, et al. *Treating Tobacco Use and Dependence – Clinical Practice Guideline*. US Department of Health and Human Services. Public Health Service. Rockville, MD: June 2000.
5. Nicorette Product Monograph, October 2003.
6. Canadian Pharmacists Association. *Compendium of Pharmaceuticals and Specialties: CPS 2004*.
7. Beaglehole R H, Watt R G. *Helping smokers stop. A guide for the dental team*. British Dental Association and Health Development Agency. 2004: 28.
8. Glaxo Wellcome Inc. *Zyban®, bupropion hydrochloride; 150mg sustained-release tablets: smoking cessation aid (product monograph)*. Mississauga, ON: 1999.
9. Jorenby D, Leishow S, Nides M, et al. A controlled trial of sustained release Bupropion, a nicotine patch, or both for smoking cessation. *N Engl J Med* 1999; 340: 685-91. particular the national smokers' helpline (1 800 853-6666), the www.jarrete.qc.ca Website and quit-smoking centres (see *Free Resources for Help with Quitting Smoking*, page 27).

Smokers' Questions and Arguments

Have Your Answers Ready

My father smoked and he was never sick a day in his life. Why should I quit?

That's possible, but if so he was very lucky. You may not be as fortunate. It's well known that smoking causes about 50 different illnesses, including 85% of pulmonary disorders and lung cancer cases, as well as 30% of cardiovascular diseases and other types of cancer. One smoker in two will die prematurely. Smoking is like playing Russian roulette. Think about yourself, but remember your loved ones, too.

I smoke light cigarettes, so it's not dangerous.

The risks are just as high, because most people who smoke light cigarettes try to compensate for the lower nicotine content by inhaling more often and more deeply than those who smoke regular cigarettes. All cigarettes are bad for you—they contain 4,000 or more toxic substances!

I can't quit smoking. I'll get fat!

Which is more dangerous, putting on a few pounds or continuing to smoke? The most important thing is protecting your health, not destroying it. It is possible to stop smoking without putting on too much weight or even without gaining any at all. Since food will taste better, you'll tend to want to eat more. But by choosing healthy foods and getting some exercise, you can control your weight.

It's too late for me to stop anyway.

It's never too late to stop smoking. Some benefits of quitting show up very quickly. For instance, just 24 hours after butting out, you will be at less risk of a heart attack. Within one

to five years of quitting, you will have considerably reduced the odds of coronary disease and certain cancers. Think about yourself, but remember your loved ones, too.

I like smoking. I find it relaxing.

There are many sources of enjoyment that are less harmful than smoking, and you can pay for them with the money you save by not buying cigarettes. The feeling of relaxation you get is actually just the result of temporarily satisfying your craving for a cigarette.

It's too hard. I'm afraid I'll fail.

There are more ways than ever before to quit smoking. Some pharmacological aids are available over the counter, including gum, patches and nicotine inhalers, while others like Zyban® can be prescribed by a doctor. The government also offers a wide range of resources free of charge, like a provincial toll-free telephone line, a Website and numerous other resources. It's normal to be afraid, but there are lots of people ready to help you quit.

We all have to die sometime.

Why run the risk of dying prematurely, though? By continuing to smoke you are not only shortening your life expectancy, but also putting yourself at risk of cancer or a chronic disease. You could be sick for years, and your quality of life and that of the people around you would suffer.



Dentists' Questions and Arguments

Your Professional responsibility

It's not my job...

“My patients do not want advice on tobacco products. They get enough advice elsewhere.”

According to a recent Alberta Cancer Board study, 60 per cent of patients felt cessation information should be part of routine dental practice.

I don't want to interfere...

“I'm trying not to be too pushy, and maybe I assume they don't want to hear about it if they don't ask any questions or don't seem interested when I recommend quitting.”

The “Stages of Change” model has had a profound effect on smoking cessation programs in North America.² Dental health professionals can help their patients go from “pre-contemplative” to “contemplative” or move into “action” if they are close to being ready to try to quit. Research shows that patients do want to hear about the advantages of tobacco cessation from their dental professionals.¹

I don't have time...

“There is not enough time in my schedule. I would have to dedicate time from planned dentistry.”

Brief interventions of 3 to 4 minutes can move patients through the various stages of change.^{6,7} Dentists need to ask their patients if they use tobacco and if they have given any thought to quitting, *advise* them about the oral health benefits of quitting, and *assist* them by providing referrals to readily available cessation services.

I don't want to bother my patients...

“I know they need to know the effects, but I feel that they've heard it all before and will get annoyed hearing it again.”

Once again, the evidence shows that cessation rates increase significantly when quitting advice is offered by respected health care professionals³ and that the majority of patients want and expect to hear it.

I'm not being paid to talk about it...

“Why use the time my patient pays for to tell them what they already know. If they booked and paid for an appointment regarding smoking, then more effort would be required to meet the patient's desire.”

In 1964, the House of Delegates of The American Dental Association resolved that: “...members be encouraged to inform their patients of the health hazards of the use of tobacco.”⁴ The Canadian Dental Association reaffirms the dentist's role in tobacco cessation strategies.⁵

Obviously, a great many more people nowadays know a good deal more about the hazards of tobacco use, but dental professionals are in a unique position to take advantage of “teachable moments” to *ask, advise* and *assist* their patients.

End Notes

1. Campbell, H.S., Sletten, M., Petty, T.: Patient Perceptions of Tobacco Cessation Services in Dental Offices. *Journal of the American Dental Association* 130:219-226, 1999.
2. Alberta Alcohol and Drug Abuse Commission, *Tobacco Basics Handbook*, 27, 2002
3. Russell, M.A.H., Wilson, C., Baker, D.D.: Effect of general medical practitioner advice against smoking. *British Medical Journal* 2:231-235, 1979.
4. American Dental Association: News of dentistry. *Journal of the American Dental Association* 69:776, 1964.
5. Consideration re: Dentists and Tobacco Cessation; Resolution 2002.68, Canadian Dental Association Board of Governors, September 2002.
6. Project CREATE: Volume 3, Smoking Cessation: Published by Project CREATE; University of Toronto, 1998.
7. A practical guideline for treating tobacco use and dependence: A US Public Health Service report. The Tobacco Use and Dependence Clinical Practice Guideline Panel, Staff, and Consortium Representatives. *JAMA* 2000; 283(28):3244-54.

Free Resources for Help with Quitting Smoking

In recent years, Alberta has poured a great deal of energy into efforts to prevent and reduce smoking. These efforts include free resources available to the public and professional associates provided by AADAC's Tobacco Reduction Strategy, in collaboration with Alberta Health and Wellness. This strategy is also dependent on numerous partnerships with organizations at the national, provincial, regional, and community level. It is essential that the members of the dental team be familiar with these resources available to their patients. (See pg. 17 notes on Free Resources for help with quitting smoking).

A provincial toll-free telephone line: 1 866-332-2322 (1-866-33AADAC)

An expert is available weekdays from 8 a.m. to 8 p.m. to support smokers in their efforts to quit, and can also suggest tools and services tailored to the individual's needs.

Alberta Quits Website

This online smoking cessation program is free for Albertans to use and is brought to them through a partnership between: The Lung Association, AB/NWT; Canadian Cancer Society, AB/NWT; and AADAC. This program is based upon the QuitNet program from Dr. Nathan Cobb, Boston University School of Public Health and was founded on best-practices research. It has been established in North America for over a decade. Highlights of this program's features are as follows:

- 24 hours a day/7 days a week Support Community
- Personal Q-Mail account
- Quit-smoking stats calculator
- Quit Date Wizard
- Quit Buddies
- Chat Forums
- Topic-specific message boards
- Personal Quit Page
- Quit Calendar
- Expert Support
- Personal Quitting Guide
- QuitNet Greeting Cards
- Quit Tips and Anniversary emails
- Directory of local support programs
- Self-assessment tools

Essential sites

www.albertaquits.ca

www.cancer.ca

www.ab.lung.ca

www.aadac.com



*In the 12 months preceding
the Canadian Tobacco Use
Monitoring Survey, in 2003,
52% of smokers made
one to three quit attempts,
while 18% made
four or more.*



*Your contribution
could make a difference
in the life of one of the 750,000
Albertans who want to stop smoking.*

Help them quit for good.

