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SMOKING PREVENTION AND CESSATION

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INTRODUCTION

The Collège des médecins du Québec, in association with the Direction de la santé publique, Régie régionale de la Santé et des Services sociaux de Montréal-Centre, has been studying the strategic role physicians play in the fight against smoking, which is now a major public health problem.

In its 1994 "Anti-Smoking Action Plan" (*Plan d'action de lutte au tabagisme*),[1] the Ministère de la Santé et des Services sociaux was already planning "to promote action by health care professionals and, in particular, physicians".

Although various studies[2,3] have confirmed the value of physicians counselling their patients about smoking, a number of recent surveys seem to indicate that this type of endeavour is neither systematic nor optimal.[4,5] The following guidelines have been developed to help Québec physicians improve their intervention regarding this addiction.

The various recommendations contained in this document have been reviewed and approved by the Fédération des médecins omnipraticiens du Québec, Association des pédiatres du Québec, Association des cardiologues du Québec, Association des obstétriciens et gynécologues du Québec, Association des pneumologues de la province de Québec and the Association des médecins spécialistes en santé communautaire du Québec, as well as by the Ministère de la Santé et des Services sociaux.

It should be noted that the Direction générale de la santé publique (Ministère de la Santé et des Services sociaux) and the Direction de la Santé publique (Régie régionale de la Santé et des Services sociaux de Montréal-Centre) supplied the funds required to draw up these guidelines.

COLLÈGE DES MÉDECINS
DU QUÉBEC

RÉGIE RÉGIONALE
DE LA SANTÉ ET DES
SERVICES SOCIAUX
DE MONTRÉAL-CENTRE
Direction de la santé publique

1. Background

Direct intervention with patients who smoke is not only useful and effective but, from a cost/benefit point of view, results are also superior to those achieved with a number of other preventive methods.

Smoking is correctly considered to be Public Health Enemy No. 1. Approximately 12,000 Québecers die every year from smoking-related illnesses: 40% from cardiovascular disease, 40% from cancer and 20% from respiratory disease.[6,7]

It is estimated that environmental tobacco smoke (ETS) may be responsible for approximately 1,000 deaths from cardiovascular disease in Québec and 100 deaths from lung cancer.[8,9] Furthermore, children exposed to ETS are more prone to asthma and infections such as pneumonia, bronchitis, bronchiolitis, tonsillitis and otitis.[10] Smoking in pregnant women is associated with an increase in complications such as intrauterine growth retardation, preterm birth, perinatal mortality and sudden infant death syndrome.[11]

Despite these alarming data, 30% of the Québec population over age 15 was still smoking in 1997.[12]

Since approximately 75% of smokers visit their doctor every year, physicians are strategically placed to help them.[13] In addition, 70% of smokers want to break the habit[14] and physicians are very often cited as key motivators.[15] According to a recent Health Canada study, only 41% of smokers who consulted a doctor during the preceding year stated that the physician had advised them to stop smoking.[13] Many physicians, therefore, are not taking advantage of the opportunity to intervene with patients who are smokers.

A great number of physicians are pessimistic about this type of action proving useful, and so prefer to do nothing. Yet it has been shown that when physicians do intervene with such patients, approximately 5 to 35% quit and remain abstinent for up to six months or a year. The difference in cessation rate relates to the intensity of the counselling and the patient's health.[3] The use of nicotine replacement therapy (NRT) or bupropion approximately doubles smoking quit rates when compared with a non-pharmacotherapeutic approach.[16,17]

Direct intervention with patients who smoke is not only useful and effective but, from a cost/benefit point of view, results are also superior to those achieved with a number of other preventive strategies. In the United States, it is estimated that smoking cessation counselling by physicians costs an average of $2,600 per year of life saved, compared with $61,700 per year of life saved for breast cancer screening in women 40-49 years of age, and $23,300 for hypertension screening in men aged 40 and over.[18]

2. Recommendations by various organizations

Recommendations of the Canadian Task Force on the Periodic Health Examination

For almost 20 years now, the Canadian Task Force on the Periodic Health Examination has been making various preventive care recommendations to Canadian physicians. In 1994, the group published the Canadian Guide to Clinical Preventive Health Care,[19] in which the following recommendations can be found:

- Provide smoking prevention counselling to **children and non-smoking adolescents** (B recommendation);
- Provide smoking cessation counselling to **adolescent smokers** (A recommendation);
- Provide smoking cessation counselling to **pregnant women who smoke** (A recommendation);
- Provide smoking cessation counselling to **adult smokers,** with nicotine-replacement therapy as an adjunct (A recommendation);
- Refer **adult smokers** to recognized smoking cessation programs after advising them to quit smoking (B recommendation).

The tables in the Appendix (see page 17) separate the recommendations into five categories, A, B, C, D, E, and also give the quality of the data (I, II, and III) on which the recommendations are based.

Very few measures are considered category A recommendations in the Canadian Guide to Clinical Preventive Clinical Health Care, but there are three for smoking alone, based on good evidence!

U.S. clinical practice guidelines on the cessation of smoking

The Agency for Health Care Policy and Research (AHCPR) and the Centers for Disease Control and Prevention (CDC) joined forces at the end of 1993 to develop the first U.S. clinical practice guidelines on smoking cessation.[14] A committee of 19 recognized experts supervised the process which culminated in the publication, in 1996, of specific, evidence-based recommendations on smoking. A great deal of this information has been used for our own guidelines.

Very few measures are considered category A recommendations in the Canadian Guide to Clinical Preventive Clinical Health Care, but there are three for smoking alone, based on good evidence!

3. Smoking Prevention and Physicians

With patients age 9 and up, physicians should:

- ***Check smoking status***
- ***Talk about smoking and cessation with the young patient***
- ***Suggest how to refuse cigarettes***
- ***Talk with parents about the importance of discussing smoking with their children, and of not smoking themselves***

Smoking behaviour is generally acquired during adolescence; on average, young people smoke their first cigarette around age 12. In 1996, 38% of Québec high school students stated they smoked, 21% on a regular basis and 17% on an occasional basis.[20] These data are alarming because they mean that the prevalence of smoking during adolescence has doubled since 1991. It also appears smoking is more common among girls than boys.

Young people start smoking for various reasons: peer pressure, curiosity, the mistaken perception that smoking makes one popular, parental smoking, etc.[21,22] As they either do not know or underestimate the highly addictive properties of nicotine, young people who begin to smoke think they will be able to stop whenever they want.

The physician appears to be the person best placed to provide effective counselling to this age group. They consider physicians as credible experts and health care role models.

The physician should broach the subject of smoking with pre-adolescent patients, ideally from age 9 on. He can ask them if they have ever smoked, or intend to smoke. To help identify those who risk becoming smokers, questions on the following can be useful:

- The smoking habits of parents, brothers, sisters, and friends
- Academic performance
- Knowledge or beliefs about the harmful effects of smoking
- Risk taking behaviours.[22,23]

It is important to discuss the negative effects of smoking, emphasizing short-term consequences such as odour, stained teeth and fingers, bad breath and decreased athletic ability. The positive effects of not smoking should also be brought out and important information passed on (Table 1).[14]

Table 1
Subjects for Discussion with Young People
· Most young people do not smoke.
· All forms of tobacco cause dependence, and most young people who smoke cigarettes are nicotine-dependent
· Smoking interferes with personal freedom and can lead to loss of control.
· Tobacco companies manipulate young people, putting out misleading advertising so that they will become dependent.
· Smoking does not make people cool, sexy, virile or happier.
· Bad breath, stained fingers and teeth, breathlessness and decreased athletic ability are some of the short-term consequences of smoking.
· Smoking can cause health problems in many young people, including chronic cough or sore throat.
· Smoking is expensive, and money spent on it could be used in other ways.
· There are other ways to stand out, without having to adopt a habit that quickly leads to dependence and a whole series of long-term health problems

To help young people refuse when offered cigarettes, they should be able to anticipate how they will react when this happens.[23] If they find it difficult to imagine how to refuse, suggest answers like "No, thank you", "I hate the smell", or "Thanks, I've already tried it and it doesn't do anything for me (been there, done that)."

The physician should also tell the parents that their opinions, values and behaviour have a definite influence on their children. Even if the parents are smokers, their advice has an impact on pre-adolescents and adolescents with respect to not using tobacco.[24] Parents often underestimate the number of young people who try to smoke and the age at which they first do so. It is important to discuss these facts with them. The physician should also use the opportunity to counsel them to stop smoking, if possible before their child reaches age 8.

4. Physicians and Smoker Patients

Identification of smoking status

From age 9 onwards, patients should be asked at every visit whether they smoke. Studies over the past few years indicate that smoking initiation is occurring at an increasingly early age.[22,25] Smoking status can be determined by the physician or a member of his staff (Table 2). The patient (or his parents) can also provide this information by filling out a health questionnaire in the waiting room to give the physician at the beginning of the visit.

Once the patient's smoking status has been established, it is important to note it in the patient's record so that smokers can easily be spotted during subsequent visits. There are various ways of doing this:

- Use a rubber stamp or labels to indicate smoking status
- Include it in the list of problems
- Use a preprinted form which includes smoking status
- Use a follow-up questionnaire including smoking status which the patient fills out at each visit
- Enter the smoking status in a computerized record
- Add smoking status to the vital signs.

Since 1996, the Collège des médecins du Québec has recommended that smoking status should be included in a patient's record.[26]

When adult patients have never smoked or stopped smoking many years ago, it is less relevant to note the smoking status on a regular basis, although relapses may occur a number of years after cigarettes have been given up.

Table 2

Identification of Smoking Status

Do you smoke?	
YES, every day	Regular smoker
YES, sometimes	Occasional smoker
NO, I stopped	Ex-smoker
NO, I've never smoked	Never smoked

With all patients, physicians should:

- **Check smoking status**
- **Note smoking status on the patient's record**
- **Identify behavioural change stage**
- **Adjust counselling to the particular behavioural change stage**

Identification of behavioural change stage

Since the early '80s, a number of studies have been conducted to understand how people manage to change various types of behaviour, such as smoking. It has been established that they go through several stages before successfully adopting the new behaviour pattern.[27] All that is needed to determine a smoker's current stage is to ask if he is thinking about stopping smoking.

If he answers that:

- He is not thinking of stopping smoking during the next six months, he is at the precontemplation stage.
- If he is interested in stopping smoking during the next six months, he is at the contemplation stage
- If he wants to stop smoking during the next month, he is at the preparation stage.
- If he stopped smoking less than six months ago, he is in the action stage.
- If he stopped smoking more than six months ago, he is at the maintenance stage.

It is estimated that smokers are divided as follows: 50 to 60% are in the precontemplation stage; 30 to 40% are in the contemplation stage, while only 10 to 15% are preparing to stop smoking.[27]

Table 3 gives smokers' characteristics at each of these stages.[27]

A knowledge of these behavioural change stages allows physicians to adjust their counselling to the patient's motivation level. It has been shown that this type of approach will allow smoking patients to move faster towards non-smoker status.[28] The physician, in turn, will have a better idea of whether his intervention has really been effective, because he will be able to assess the patient's progress through the various stages.

Action based on behavioural change stage[14,29]

Pre-contemplation and contemplation stage smokers

Even if a smoker is not planning to stop smoking in the near future, physicians should still talk about the possibility for a few minutes. The intent is to help the patient start or continue thinking about smoking and its cessation.

Information about the benefits and problems individual patients have with smoking gives the physician a clearer understanding of barriers blocking the decision to stop smoking.

Table 3

Smoker's Characteristics at each Behavioural Change Stage

Change Stage	*Smoker's Characteristics*
Precontemplation	The smoker does not consider his smoking to be a problem.
Contemplation	The smoker is aware his smoking is a problem and is thinking about it.
Preparation	The smoker is getting ready to stop smoking very soon.
Action	This new ex-smoker is struggling with the difficulties inherent in smoking cessation: withdrawal symptoms, strong desire to smoke, trigger factors, etc.
Maintenance	This person gave up smoking six months ago and is continuing his efforts to maintain his status

Some of the areas of satisfaction are controlling stress and negative emotions such as anger, stimulation when tasks require concentration, and weight control. Many smokers also know about some of the harmful effects of smoking, and physicians should emphasize the risks that seem the most relevant. They can also tell the patient about risks of which he seems to be unaware.[14,30]

During the discussion, the physician can also point out the advantages of stopping smoking. There is usually a close relationship between these and the disadvantages patients find with smoking. It is important to emphasize the benefits that seem most important to the patient (Figure 1).

Even patients with smoking-related conditions, such as chronic obstructive pulmonary disease, can feel quitting smoking has been beneficial when they see that their illness is progressing less rapidly.[32] Smoking cessation benefits for patients with coronary disease appear to be greater than those expected when treating other risk factors, such as hypercholesterolemia or hypertension.[33]

It is extremely important for physicians' messages on smoking to be clear and unequivocal when smokers are not prepared to stop. Smokers must know that their physicians strongly recommend that they stop smoking, and that this is the single most important step they can take to protect their health. The message will also have the advantage of being personalized, because it would relate to either the patient's own health or the effect his smoking has on the members of his family. The physician can also leave the door open by telling the patient that he will always be ready to help.

Very often, patients who are not ready to quit smoking are highly ambivalent about making this decision. They weigh the pros and cons. It is therefore important to show empathy and say that this ambivalence is fully understandable. An argumentative, confrontational approach must be avoided because it may create resistance on the part of the patient.[34]

With precontemplation or contemplation stage smokers, physicians should:

- ***Discuss the benefits and problems of smoking and cessation***
- ***Give a clear, unequivocal message on the importance of smoking cessation***
- ***Provide educational material***
- ***Leave the door open for another appointment***

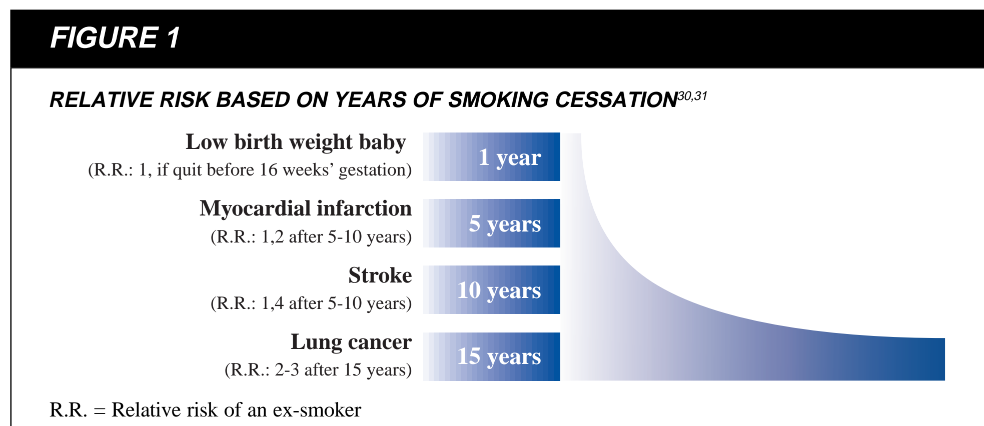

FIGURE 1

RELATIVE RISK BASED ON YEARS OF SMOKING CESSATION[30,31]

With preparation stage smokers, physicians should:

- ***Discuss concerns and strategies about stopping***
- ***Provide pharmacotherapy to help ease withdrawal***
- ***Give educational material, if needed***
- ***Provide a list of smoking cessation resources, if necessary***
- ***Set a target date with the patient***
- ***Follow up during the month following cessation***

Smokers should be given educational material that can help them during the contemplation process. For some years now, documentation has been available for smokers geared to their particular behavioural change stage. A list of some examples is attached.

Preparation stage smokers

Counselling a smoker who is getting ready to stop smoking should help him identify various strategies to overcome the difficulties he may face when he does stop.

In very many instances, smokers will have tried to quit several times. They will therefore know when the temptation to smoke is greatest. Asking the patient to describe when he has the greatest difficulty and learning the solutions he envisages can prove useful. This type of discussion will allow the patient to identify various strategies that will help him cope with the factors triggering his desire to smoke.

Some of the most common concerns expressed by smokers are withdrawal symptoms, a strong desire to smoke, stress control, weight gain, interaction with friends who smoke, trigger factors, etc. Various strategies (Table 4) can be suggested for such situations. However, the smoker will remain the person best able to find the most appropriate solutions.

Keeping a diary can be very useful in helping smokers identify circumstances which make them want to smoke. The person writes down the time, situation and emotion related to each cigarette smoked. This will help them to know themselves better as smokers, and find solutions likely to help them modify their behaviour.

TABLE 4

FREQUENT CONCERNS ABOUT SMOKING CESSATION AND STRATEGIES TO SUGGEST[29]

Concerns	*Strategies*
Withdrawal symptoms	· Consider drug therapy (see Pharmacotherapy)
Strong desire to smoke	· Do something else · Wait five minutes before deciding to light up · Breathe deeply · Drink some water; eat some raw vegetables
Stress control	· Avoid or modify sources of stress · Modify reaction to stress · Use relaxation techniques
Weight gain	· Consider using nicotine gum (see Pharmacotherapy)
Social relationships	· Tell smoker friends about the decision · Ask for support from family members, friends and colleagues at work · Go to places reserved for non-smokers
Trigger factors	· Reduce alcohol and coffee intake · Alter habits related to smoking · Get rid of any and all cigarettes

It is important for the smoker to be fully informed about the frequent reasons for relapses (e.g. being with friends who smoke, stressful situations, alcohol, etc.). When patients live with other smokers who are not planning to stop, their attention should be drawn to the additional difficulties that they may encounter. Relapses are more frequent in such circumstances.[14]

At this stage, the physician should also assess the advisability of treatment to ease withdrawal symptoms. This is described in the Pharmacotherapy section.

When patients are given educational material, it provides an additional aid, helps them to clearly understand what is involved in stopping smoking and to prepare properly for it.

Giving the patient a list of smoking cessation resources available is also important (example attached).

Finally, follow-up is an extremely important aspect of the intervention with preparation level smokers. When a patient who is actively preparing to quit smoking leaves the physician's office, he must have set a specific target date after which he undertakes to no longer smoke. Ideally, the physician should see the patient one week after this target date, and again during the first month following this date. The first month is a critical period during which ex-smokers have to cope with a great many situations likely to cause a relapse.[14]

Ex-smokers in the action and maintenance stages

Patients who have just stopped smoking need encouragement to persevere. The follow-up visit represents an ideal opportunity to talk about the difficulties encountered and tactics for coping with them. It is also an excellent time to congratulate the patient on what he has done and review the benefit he is already feeling from having stopped smoking. Discussing common causes of relapse is also important, and he should be cautioned against thinking that, one day, he might be able to smoke without becoming dependent again.

Relapsed smokers

Patients who have begun to smoke again are most likely discouraged and view it as a personal failure. Physicians are well placed to remove these guilt feelings by stressing the efforts made. They can also point out that most smokers have to try several times before finally managing to stop smoking.[27]

It is important to encourage relapsed patients to try again. The cause of the relapse should be reviewed with the patient and new strategies for resisting the desire to smoke should be discussed. Patients should concentrate on the basic reason they wanted to stop smoking. If they have been using medication, the approach should be reassessed. If no medication has been used, however, the physician (with the patient) could look at the possibility of recommending or prescribing adjuvant therapy.

Finally, the physician should make sure that the patient has received the appropriate educational material and a list of cessation resources.

With action and maintenance stage patients, physicians should:

▪ Discuss any difficulties encountered and tactics used

▪ Congratulate smoker on taking action and encourage him/her to continue

▪ Discuss common causes of relapse Adjust pharmacotherapy, if necessary

With patients who have relapsed, physicians should:

▪ Remove the smoker's guilt feelings and encourage him/her to try again

▪ Reassess pharmacotherapy

▪ Provide educational material

▪ Provide a list of smoking cessation resources available

▪ Leave the door open for another appointment

Smoking and some specific groups

For many women, pregnancy is a good time to stop smoking. Most of them know that smoking can have harmful effects on the wellbeing of the child they are carrying.

Pregnant women

For many women, pregnancy is a good time to stop smoking. Most of them know that smoking can have harmful effects on the wellbeing of the child they are carrying. They are therefore particularly motivated to dispense with cigarettes. Physicians following up the pregnancy will see such women several times, and should use the opportunity to provide smoking counselling.

So far, the safety of pharmacotherapy for pregnant women has not been demonstrated. Discussing withdrawal symptoms and ways to handle them without using medication is therefore particularly important. Nicotine replacement therapy (NRT) can be envisaged if the physician considers that the benefits outweigh the risks, including the possible risk that the woman might continue to smoke even while on NRT.[14]

Approximately 70% of mothers who refrain from smoking during pregnancy relapse once the child is born. It is thought that they stop smoking temporarily because of the baby.[35] A woman who has not smoked for several months in order to provide her fetus with an optimal environment would probably be receptive to information about diseases caused in young children by environmental tobacco smoke.[14] Physicians should stress the relationship between second-hand tobacco smoke and the increased risk of children contracting asthma or otitis media, as well as the possibility of sudden infant death syndrome.[10]

Finally, the physician should give pregnant women documentation specifically designed to help them decide to stop smoking. An example is given in the list of cessation resources.

Adolescents

Adolescents over 13 years of age join the ranks of dependent smokers six months to three years after their first cigarette.[22] Most experience the same withdrawal symptoms as adults when they try to stop smoking.[36] Counselling them to stop smoking as soon as possible is therefore essential to prevent nicotine dependence becoming too ingrained.

The physician's intervention with young patients is the same as that used with adults. Open-ended questions lead to a discussion on smoking and cessation. The physician can thus learn why the adolescent is smoking, his concerns, his thoughts on the benefits of stopping smoking, coping strategies, etc.

It may be worthwhile touching on various aspects that are particularly important to young smokers (see *Smoking Prevention and Physicians*). Weight control should be discussed with young girls, as this is constantly on their minds. It is also a good idea to make them aware that tobacco company advertising only shows the positive side of smoking.

The safety of pharmacotherapy for adolescents under 18 years of age has not been demonstrated. However, a recent study (19 subjects) suggests that the use of nicotine patches would be safe in this population.[37] Physicians could therefore

consider recommending nicotine replacement therapy to adolescents who are motivated to stop smoking and who are nicotine-dependent.

Finally, a smoking cessation kit designed specifically for adolescent smokers 13 to 19 years of age is available. It is included in the list of cessation resources attached.

Smokers concerned about weight gain

Most smokers will gain 5 to 10 lb. after stopping smoking,[38] because of increased caloric intake and changes in metabolism.[14] It is important to point out that the health benefits of stopping smoking far outweigh the disadvantage of gaining a few pounds.

A number of experts have shown that strict diets might compromise the chances of continued abstinence.[39] Patients should therefore be advised not to restrict food intake too severely, but to concentrate instead on the objective of stopping smoking. Once the patient no longer experiences withdrawal symptoms and feels he has conquered his dependence on cigarettes, he will be able to turn his attention to losing weight.

Pharmacotherapy (consult the CPS for detailed information)

Nicotine and withdrawal

Nicotine reaches a smoker's cerebral neurons only seven seconds after the tobacco smoke has been inhaled. This causes the release of dopamine from the mesolimbic system and noradrenaline from the *locus ceruleus*. Cigarette smoke also inhibits monoamine oxidase, thus potentiating the effect of the dopamine, a neurotransmitter associated with the euphoric effect of addictive substances like cocaine or heroin. Nicotine dependence is considered to be just as strong as that caused by cocaine, heroin or alcohol.

As the half-life of nicotine is two hours, nicotine blood levels are virtually nil after eight hours of sleep. That is why smokers feel such an intense desire to light up after one or two hours without a cigarette, and why the first one in the morning is considered to be the best cigarette of the day.

Eighty percent of people who stop smoking experience withdrawal symptoms to some degree.[40] The main manifestations include:

- Irritability, anxiety, impatience and nervousness
- Difficulty concentrating
- An uncontrollable desire to smoke
- Headache
- Sleep problems
- Constipation, increased appetite
- Tremor, increased sweating, dizziness.

These symptoms occur a few hours after stopping smoking and peak within 48 hours, gradually decreasing over the next two to five weeks.[41] This of course explains the high level of relapse during the first few days and the first two weeks. However, most people do not experience all these symptoms.

Various drugs are available to help relieve withdrawal symptoms and significantly increase quit rates. Smokers preparing to stop smoking virtually double their chances of success if they use nicotine replacement therapy (transdermal patches or gum)[14] or bupropion (Zyban®).[17]

Nicotine replacement therapy (NRT)

Nicotine replacement therapy is available in the form of patches or gum. It has the advantage of meeting the nicotine needs of smokers while being free of the thousands of other toxic compounds contained in tobacco smoke. With this type of therapy, nicotine blood levels are not as high as those to which smokers are accustomed, but it does make smoking cessation easier by decreasing the presence and intensity of the withdrawal symptoms.[15]

It is now recommended that NRT be made available to everyone trying to stop smoking, providing no contraindication exists. However, few studies have been conducted on individuals who smoke 15 cigarettes a day or less.[14]

Contraindications

The manufacturers of nicotine replacement medications specify the following contraindications:

- Patients recovering from myocardial infarction that occurred less than four weeks previously
- Patients recovering from stroke
- Patients with severe cardiac arrhythmia
- Patients with unstable or severe angina pectoris
- Pregnant women
- Breastfeeding women
- Young people under 18.

Nicotine patches are contraindicated in patients with a hypersensitivity to diachylon or generalized skin disease.

Although nicotine patches do not represent a specific risk factor in acute coronary events, physicians treating patients recovering from acute infarction which occurred less than four weeks previously or patients with severe cardiac arrhythmia or unstable angina should not recommend or prescribe this treatment unless all the risks and benefits have been weighed.[14]

Nicotine transdermal patches

Patches appear preferable to gum because there are fewer compliance problems.[14] The transdermal patches now on the market are given in Table 5, together with the recommended dosage.

Table 5

Nicotine Transdermal Patch Dosages[14, 42]

Trademark	*Dosage per patch*	*Length of application*	*Length of treatment*
Nicoderm® or Habitrol®	21 mg	24 hours	First 4 weeks
	14 mg	24 hours	Next 2 weeks
	7 mg	24 hours	Next 2 weeks
Nicotrol®	15 mg	16 hours	First 4 weeks
	10 mg	16 hours	Next 2 weeks
	5 mg	16 hours	Next 2 weeks

If the patch is used by people who smoke a maximum of 15 cigarettes per day, it is suggested that a lower strength be used.

Twenty-four hour patches allow stable nicotine blood levels to be maintained and probably prevent morning withdrawal symptoms.[42] On the other hand, patients who complain of disturbed sleep because of nightmares can use a 16-hour patch or remove the 24-hour patch before going to bed.

The manufacturers suggest a three-month course of treatment, but clinical trials have shown that an eight-week period is just as effective as 12 weeks.[14]

Physicians should recommend that their patients stop smoking when using the nicotine patch because nicotine blood levels decrease gradually only several hours after the patch has been removed.[14]

Nicotine gum

Nicotine gum is supplied in two dosage forms, 2 mg and 4 mg. The 2 mg gum is recommended for patients smoking up to 20 cigarettes per day. It is preferable that patients follow a regular schedule, i.e. one piece of gum every hour. Patients must not exceed more than 30 pieces of 2 mg gum or 20 pieces of 4 mg gum per day.[14]

To avoid intolerance, it is important to explain clearly the way the patient should chew the gum. It must be chewed two or three times, then placed between the cheek and gum for one minute to promote absorption of the nicotine by the oral mucosa. This process must be repeated for 30 minutes at a time. The patient must not eat or drink anything other than water 15 minutes before and during mastication in order not to interfere with the nicotine absorption.[14]

Side effects such as oral pain, hiccups, dyspepsia and jaw pain are generally mild and temporary. They disappear when the patient achieves the proper mastication technique.

Gum might present a worthwhile solution if smokers are concerned about weight gain if they stop smoking. Weight gain because of smoking cessation is delayed until the end of treatment when nicotine gum is used.[14]

BUPROPION (ZYBAN®)[43]

Mechanism of action

Bupropion hydrochloride (sustained-release tablets) is available as an antidepressant under the name of Wellbutrin® and a smoking-cessation aid under the name of Zyban®. The product is rapidly absorbed by the digestive tract, metabolized in the liver and eliminated in the urine. The half-life is 21 hours. The mechanism of action seems related to the drug's effect on the cerebral neuro-transmitters. Bupropion appears to inhibit neuron reuptake of dopamine and noradrenaline.

Clinical studies

The value of bupropion in smoking cessation has been confirmed by two double-blind, placebo-controlled studies in non-depressive patients smoking at least 15 cigarettes per day. No subject under 18 years of age took part in these trials. The first study showed that 300 mg bupropion (150 mg BID) for seven weeks resulted in a smoking abstinence rate of 19% versus 11% with the placebo from week 4 to 26.[43]

The second study showed that when bupropion was taken alone or with a 21 mg transdermal nicotine patch, cessation rates were significantly higher than with placebo or the nicotine patch alone. The cessation rates observed from week 4 to 52 were 23% with bupropion alone, 28% with bupropion and the patch, 12% with the nicotine patch alone, and 8% with the placebo.[43]

Contraindications and precautions

There is a dose-related risk of seizures with bupropion. The seizure rate is approximately 0.1% when dosage does not exceed 300 mg per day.

Bupropion (Zyban®) is contraindicated in patients:

- Taking bupropion as an antidepressant (Wellbutrin®)
- Prone to seizures
- Taking a monoamine oxidase inhibitor antidepressant at that point or during the previous two weeks
- Presenting with a diagnosis or history of bulimia or anorexia nervosa
- With a known allergy to bupropion.

Clinicians should also pay particular attention to certain clinical situations likely to lower seizure threshold:

- History of head injury or seizures
- Central nervous system tumour
- Excessive use of alcohol
- Sudden withdrawal of alcohol or sedatives
- Opiate, cocaine or stimulant dependence
- Use of over-the-counter stimulants or appetite suppressants
- Use of oral hypoglycemic products or insulin
- Other drug regimens that lower the seizure threshold, such as theophylline, systemic steroids, antipsychotics and antidepressants.

No studies have yet been conducted on adolescents under 18 years of age or pregnant women. It is known that bupropion and its metabolites are secreted in human milk.

Dosage

The recommended dosage is 150 mg bupropion once a day for three days, then 150 mg twice a day for seven to twelve weeks. Smoking cessation is advised during the second week of taking bupropion.

Because of the risk of seizures, the drug must never be taken at less than eight hour intervals. If a dose is forgotten, it should not be replaced and 150 mg per dose (total 300 mg per day) must never be exceeded.

Side effects

The side effects most commonly reported are insomnia and dry mouth. During a comparative study on bupropion, insomnia occurred in 40% of patients taking the product, versus 28% of those using nicotine patches and 18% taking the placebo. To decrease the risk of insomnia, it is suggested that the second dose of bupropion should be taken with the evening meal rather than at bedtime. If insomnia persists, the dose should be reduced to 150 mg per day. Tremor and rash are the side effects most commonly leading to treatment being stopped.

COMMUNITY RESOURCES

There are a number of resources available in the community to help people stop smoking. Although most smokers prefer to go it alone, some look for support groups or so-called alternative methods. Smokers should understand that such resources complement the action they are taking, and their personal success mainly depends on:

- The preparation efforts made before cessation
- Identification of trigger factors
- Various strategies to cope with difficulties encountered
- Pharmacotherapy
- Social support.

A list of smoking cessation resources is attached to these guidelines. A list of regional resources can be obtained from Direction de la santé publique offices in each region of Québec.

There are a number of resources available in the community to help people stop smoking.

Smokers should understand that such resources complement the action they are taking.

5. Conclusion

Generally speaking, it only takes a few minutes to bring up the subject of smoking and pass on a very clear message. If this is done regularly at every visit, a good number of patients will start to think about their smoking habits. The physician is identified as a resource person on whom the smoker can rely when he finally decides to stop smoking. Physicians therefore have a responsibility to adopt a receptive attitude and be readily available.

APPENDIX

RECOMMENDATION CLASSIFICATION[19]	
Category	***Definition***
A	Good evidence for utilization
B	Fair evidence for utilization
C	Poor evidence for or against utilization
D	Fair evidence against utilization
E	Good evidence against utilization

QUALITY OF EVIDENCE JUSTIFYING THE RECOMMENDATIONS[19]	
Category	***Definition***
I	Evidence obtained from at least one properly randomized controlled trial
II	Evidence obtained from well-designed controlled trials without randomization, cohort or case-control analytic studies, preferably from more than one centre, based on comparisons between times or places with or without the intervention, or dramatic results in uncontrolled experiments
III	Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees

Generally speaking, A and E recommendations relate to interventions validated or invalidated by type I results, whereas type II results relate to B and D recommendations.

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