CESSATION OF TOBACCO USE

Quick Facts

- The U.S. Public Health Service (PHS) developed a Clinical Practice Guideline in 2000 for public health professionals. The guide contains the best evidence-based information about treatment effectiveness in smoking cessation.
- Once smokers are screened, health professionals can use the 5 A's intervention strategy suggested in the PHS guideline:[1]
    1. **ASK** smokers about their smoking habit.
    2. **ADVISE** smokers to quit.
    3. **ASSESS** smokers' motivation and readiness to quit. If they are not ready to quit motivate them to consider cessation with specific behavioural skills and pharmacological aids.
    4. **ASSIST** smokers by telling them how to quit if they are ready.
    5. **ARRANGE** follow-up care with smokers to prevent relapse. If smokers do relapse, they can be cycled back into treatment, and a new treatment plan can be developed. Thus, treatment does not end until the smoker can maintain a tobacco-free life.
- Drug therapy is one of the most effective tobacco cessation methods.[2, 3]
- Utilization of a telephone quitline is an effective cessation strategy, one that is growing in popularity largely because of an increase in evidence-based support, improved cost-effectiveness, and accessibility.[1, 4-13]

- Incorporating oral assessments and behavioural interventions in dental practices may increase smokeless tobacco cessation rates.[14]
- Many youth want and try to quit smoking but meet with limited success. Interventions tailored for youth need to be further evaluated and developed. There are established guidelines to assist such an effort.[15]
- Quitting smoking during a cessation attempt for another substance does not jeopardize sobriety from other substances. In some cases, quitting smoking can improve sobriety from other substances.[16-21]

Definitions

(Note: These definitions are taken from the Canadian Tobacco Use Monitoring Survey)

A *former smoker* is a person who has smoked at least 100 cigarettes in his or her lifetime, but currently does not smoke.

A *current smoker* is a person who currently smokes cigarettes daily or occasionally.

A *daily smoker* is a person who currently smokes cigarettes every day.

A *non-daily (occasional) smoker* is a person who currently smokes cigarettes, but not every day.

TOBACCO CESSATION METHODS

There are many different tobacco cessation methods, and some are more effective than others. This chapter describes some of the best practices and methods for smoking cessation and provides information on the effectiveness of these methods. Also explored are factors affecting smoking cessation, smoking cessation among people with co-addictions, smoking cessation among people with mental health problems, and smokeless tobacco cessation. (For information on the concept of addiction, quit rates and relapse rates, refer to the chapter Tobacco Addiction.)

Results from a 2006 longitudinal study that followed a group of smokers for 13 years indicated that pairing tobacco-control policies with well-funded tobacco-control programming can be effective in increasing cessation rates.[22]

Guidelines for Health Professionals

In 2000, the Public Health Service (PHS) of the U.S. Department of Health and Human Services published T*reating Tobacco Use and Dependence: A Clinical Practice Guideline*. The PHS Clinical Practice Guideline contains evidence-based information about treatment effectiveness and was developed for primary care physicians. The PHS model for treatment of tobacco addiction emphasized the need for reaching smokers, and stressed the importance of physicians determining the tobacco use status of every patient, and of offering at least minimal intervention to every user.[1, 23, 24]

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4. **ASSIST** smokers by telling them how to quit if they are ready.
5. **ARRANGE** follow-up care with smokers to prevent relapse. If smokers do relapse, they can be cycled back into treatment, and a new treatment plan can be developed. Thus, treatment does not end until the smoker can maintain a tobacco-free life.

While the guideline documents the various drug therapies available, it also emphasizes the importance of social support and skills training in cessation efforts.[23]

Major findings and recommendations of the PHS Smoking Cessation Clinical Practice Guideline (pp. iii-v)[1]

1. *Tobacco dependence is a chronic condition that often requires repeated intervention. However, effective treatments exist that can produce long-term or even permanent abstinence.*

2. *Because effective tobacco dependence treatments are available, every patient who uses tobacco should be offered at least one of these treatments.*
   - *Patients willing to try to quit tobacco use should be provided with effective treatments such as the use of the 5 A's approach.*
   - *Patients unwilling to try to quit tobacco use should receive a brief intervention designed to increase their motivation to quit.*

3. *It is essential that clinicians and health-care delivery systems consistently identify, document and treat every tobacco user seen in a health-care setting.*

4. *Brief tobacco dependence treatment is effective, and every patient who uses tobacco should be offered at least brief treatment.*

5. *There is a strong dose-response relationship between the intensity of tobacco dependence counselling and its effectiveness. Treatments involving person-to-person contact (via individual, group or proactive telephone counselling) are consistently effective, and their effectiveness increases with treatment intensity (that is, the number of minutes of contact).*

6. *Three types of counselling and behavioural therapies were found to be especially effective and should be used with all patients attempting tobacco cessation:*
   - *provision of practical counselling (problem-solving and skills training)*
   - *provision of social support as part of treatment (intra-treatment social support)*
   - *help in securing social support outside of treatment (extra-treatment social support)*

7. Numerous effective pharmacotherapies for smoking cessation now exist. Except in the presence of contraindications, these should be used with all patients attempting to quit smoking.

- *Five first-line pharmacotherapies have been identified that reliably increase long-term smoking abstinence rates:*
  - *bupropion SR*
  - *nicotine gum*
  - *nicotine inhaler*
  - *nicotine nasal spray*
  - *nicotine patch*
- *Two second-line pharmacotherapies have been identified as effective and may be considered by clinicians if first-line pharmacotherapies are not effective:*
  - *clonidine*
  - *nortriptyline*
- *Over-the-counter nicotine patches are effective relative to placebo, and their use should be encouraged.*

8. Tobacco dependence treatments are both clinically effective and cost-effective relative to other medical and disease prevention interventions.[1]

Smoking Cessation Methods

A wide range of cessation methods is available in Alberta to help smokers cope with the physical and psychological symptoms of withdrawal, and to support the process of long-term change. Smoking cessation methods include drug therapies, counselling and formal support programs, self-help programs or products, and a variety of alternative therapies. Several methods are often used together to increase the smoker's chances of success. Shown in Table 1 are cessation methods that were used by Albertans.

Table 1. Quit methods used by Alberta smokers who tried to quit or quit smoking*

Method	Percentage of respondents who used the method
Nicotine patch	31%
Nicotine gum	22%
A product like Zyban	22%
Made a deal with a friend or family	30%
Reduced the number of cigarettes as a strategy to quit	63%

Source: Statistics Canada, Canadian Tobacco Use Monitoring Survey, 2006[94]

*respondents were current and former smokers who had tried to quit or quit smoking in the two years preceding the survey.

1. Drug therapies

Drug therapies are effective tobacco cessation methods that can be enhanced when used in conjunction with support programs (e.g., telephone quitlines) and counselling.

Drug therapies that are used to reduce cravings and increase successful tobacco cessation include nicotine replacement therapies (nicotine gum, patch, nasal spray, inhaler and lozenges) and bupropion. Use of these drug therapies can double or even triple quit rates.[3]

Nicotine replacement therapies

(Common NRTs are nicotine gum such as Nicorette® and Nicorette Plus®, and nicotine patches such as Nicotrol®, Nicoderm Patch® and Habitrol.®)

Nicotine replacement therapies (NRTs) are designed to break the smoking cycle, cut exposure to carcinogens and other chemicals in cigarettes, and ease withdrawal. They are used until initial withdrawal symptoms have lessened and until smokers feel more confident in their ability to quit.[25] There are several forms of NRTs. Nicotine chewing gum and the nicotine patch are the most common; nasal spray and inhalers are also available. Both the gum and the patch temporarily provide smokers with a lower, more gradual dose of nicotine to help reduce the severity of withdrawal symptoms. Both products provide smokers with one-third to half of their normal nicotine intake.[25]

NRTs have been proven to double the chances of long-term cessation independent of other support or settings; however, success rates increase when NRTs are used in combination with well-developed support or behaviour modification programs.[2, 3]

The main drawback to using NRT products is that some smokers will continue to experience withdrawal symptoms, because NRTs offer slower and lower doses of nicotine than do cigarettes. (Cigarettes offer high levels of nicotine seven seconds after inhaling.)[25]

Nicotine-free pill

(Zyban® or bupropion hydrochloride)

Zyban is a prescription drug that helps to suppress withdrawal symptoms and reduce the weight gain associated with smoking cessation.[27] Zyban is a weak inhibitor of the neuronal uptake of norepinephrine and dopamine (chemicals in the brain that are affected by nicotine).[28] Zyban comes in the form of time-released tablets. Treatment begins one week before the quit date and continues for seven to 12 weeks.

Studies show that Zyban doubles the rate of cessation, and combining Zyban with a nicotine replacement therapy may produce even better

Since nicotine replacement therapies (NRTs) such as the patch and gum became available in Canada without a prescription, they have become an important part of self-help strategies.

Differences between the gum and the patch

These are the primary differences between nicotine chewing gum and the nicotine patch:[25, 26]

- *The speed at which they deliver nicotine to the brain*: the gum delivers a faster boost of nicotine, 20 to 30 minutes after each dose; the patch offers a steady release over a longer period (it's worn 16 to 24 hours a day).
- *The ease of use*: the gum requires more instruction and is more complicated to use than the patch.
- *The degree to which smokers can regulate the dose themselves*: the gum can be regulated by the smoker, whereas the patch offers a consistent dose.
- *Side effects*: the gum can cause mouth and stomach irritation; the patch can cause skin irritation, insomnia and nightmares.

Champix,® or varenicline, is a medication that is approved by Health Canada as an effective smoking cessation treatment in combination with smoking cessation counselling. Champix works as a partial nicotinic receptor antagonist. That is, it imitates the effect of nicotine on the brain, which decreases cravings and withdrawal symptoms. Furthermore, if a person smokes while taking Champix, they do not feel the reinforcing and satisfying sensations normally associated with smoking.[30] Clinical trials indicate that people who used Champix for 12 weeks were 2.7 to 3.1 times more likely to quit smoking than those who received a placebo medication.[31]

results.[27] Side effects include dry mouth, headache, insomnia and, in rare cases, seizures.[29]

The nicotine-free pill called Zyban must not be confused with the ZYBAN sold in nurseries, which is a fungicide powder used on grass and ornamental plants that is harmful to humans.

The research literature suggests that two of the major barriers preventing smokers from using pharmacological medications are availability and cost. [32-36] Therefore, increasing the accessibility and decreasing the costs related to these pharmacological medications should result in higher usage rates.[32]

2. Behavioural and psychological interventions

Well-designed behaviour modification programs have been shown to double cessation rates.[2] Behavioural and psychological interventions most often are delivered in the form of counselling, although there are exceptions (e.g., an exercise program). Counselling typically includes developing coping skills, identifying and avoiding smoking triggers, developing relaxation techniques, nicotine fading (gradually reducing nicotine intake), and relapse prevention training.

Counselling by a health-care professional

Studies have shown that cessation advice given by physicians, nurses, pharmacists, dentists, dental hygienists and therapists can help motivate smokers to quit and have a positive effect on cessation rates.[37] A review of studies found that a brief prompt with limited counselling can yield a quit rate of 3% to 13%, whereas a more intensive intervention that includes follow-up sessions can produce cessation rates between 13% and 40%.[38-41]

Group and individual counselling

Both group and individual therapy increase the odds of quitting.[4, 37-39] Comparisons of group therapy and individual therapy suggest no differences in effectiveness; however, it has been suggested that although group therapy may be more cost-effective, more smokers may be willing to enter and persist in attending individual therapy. Group therapy has been found to be more effective than self-help or other less intensive interventions in helping people quit.[42] Many health agencies offer support and education through group programs at minimal or no cost to the smoker.

Relapse can be an important opportunity for learning. What is viewed by some as failure can be a key part of the cessation process. If relapse is used constructively, it can become an effective tool, preparing the smoker for the next attempt. A smoker who has relapsed is in a good position to evaluate available cessation methods and decide what might work the next time. In fact, research suggests that smokers with a quitting history have a better chance of achieving abstinence in the next year or two.[43]

Telephone quitlines

Telephone quitlines, especially "proactive" telephone quitlines, are effective in aiding tobacco cessation. Furthermore, they are growing in popularity because of their cost-effectiveness and high accessibility.

Telephone quitlines offer various services including counselling, educational materials, and referral to tobacco treatment programs.

One advantage of telephone quitlines is that they are highly accessible to a substantial number of tobacco users. In fact, all Canadian provinces as well as the Yukon have toll-free quitlines, all of which are branches of a national quitline network.[44] Telephone quitlines are also a cost-effective way to deliver tobacco cessation treatment.[4, 45] Another advantage of telephone quitlines is the centralized nature of their operation, which makes it easier to manage and administer a quitline as a component of a larger tobacco control program.[46]

There are two types of approaches employed by telephone quitlines: a reactive approach, whereby assistance is provided only upon request of a client; and a proactive approach, whereby assistance is provided upon request of a client and, if agreed to by the client, further service is provided in the form of outbound calls made by a counsellor.[46, 47]

Both reactive and proactive telephone quitlines have been demonstrated as useful tools in tobacco cessation; however, more research has been conducted on proactive quitlines. Of the research that has been conducted, evidence shows that proactive quitlines are effective.[1, 10-12, 48-50] A meta-analysis of 13 studies showed that active quitlines yielded quit rates that were 56% higher than self-help quit rates.[51] Not only has it been demonstrated that telephone counselling independently increases the odds of quitting, but two recent studies indicated that telephone quitlines may enhance other treatment methods, such as use of smoking cessation medications and participation in counselling programs.[52, 53]

Proactive quitlines have received more widespread endorsement than reactive quitlines, including a recommendation in the *U.S. Clinical Public Health Clinical Practice Guideline and the Guide to Community Preventive Services* to use proactive quitlines as a way to help smokers quit.[1, 46] Research supports the use of reactive quitlines as well,[11, 13] and it is frequently recommended that they be accompanied by promotional campaigns.[10, 54]

Telephone quitlines are recommended to be part of a comprehensive tobacco control program. When developing and implementing a telephone quitline, it is important to consider the following:[55]

- the range of services offered
- staffing
- training and supervision
- evaluation
- promotion
- technology
- costs

Online cessation

Large numbers of smokers can access the Internet to learn about quitting. However, finding an effective and reliable site can be a challenge. Advantages of online cessation websites include the relatively low costs

associated with the Internet, as well as the explosive growth of access to the Internet.[56] Approximately 675 million people worldwide use the Internet, and approximately 73% of Canadian adults and 81% of Albertan adults have access to the Internet.[57] This is advantageous because large numbers of smokers who want to quit may be able to find help online. Additionally, the research suggests that the perceived anonymity of the Internet provides a more comfortable setting (e.g., chat rooms, forums, listservs) for people to discuss health issues.[58, 59]

Although the Internet possesses the promising traits of low cost and high accessibility, the variability in quality of websites is a concern. There are hundreds of tobacco cessation websites, yet only a handful of these websites have been identified in the literature as useful in aiding tobacco cessation.[56, 60, 61] Although research in this area is nascent, emerging research suggests effective tobacco cessation websites are those that provide resources and advice tailored to individual smokers. It is also recommended that websites provide follow-up support.[56, 61, 62] Further evaluation of tobacco cessation websites is needed to identify effective websites and determine what makes these websites successful. Examples of tobacco cessation websites can be found in the "Further Resources" section of this handbook.

Exercise

Smokers who are trying to quit are often concerned when they gain weight during a quit attempt.[27] Exercise is a healthy way to reduce weight gain, and there is speculation that it may have other benefits. The U.S. Department of Health and Human Services has identified this method as an area that merits further research.[63] Because the research is still in its early stages, strong conclusions cannot yet be made about the effect of exercise on tobacco cessation. Emerging research suggests that following a brief period of moderate-intensity exercise there is a short-term reduction in the symptoms of withdrawal and cravings.[64, 65] Moreover, cessation programs that incorporate exercise as part of treatment often show an improvement in cessation during treatment and shortly following treatment.[66, 65] However, research has not yet found a consistent relationship between long-term abstinence and exercise.[68, 69] The lack of findings may be due to inadequate research design; well-designed research studies will need to be conducted before reliable conclusions can be drawn about the effect of exercise on tobacco cessation.

3. Self-help

"Self-quitters" quit without the support of an organized program, although many use self-help aids that are designed to be used without additional assistance. Information and interactive tools are available to self-quitters, such as video or audiotapes, pamphlets or booklets, and computer programs. Research finds that self-quitters who use materials without intensive contact with a therapist often experience minimal

success in cessation.[69] Therefore, providing materials to smokers without counselling or therapy is of limited benefit; however, if the materials provided to the quitter are tailored to the individual smoker, as opposed to untailored or standard materials, then cessation rates minimally improve. Furthermore, research has shown that using self-help materials in conjunction with telephone quitlines can also increase the odds of successful cessation.[69]

Most smokers who try to quit "cold turkey" without any cessation aids meet with fairly low success.[70]

4. Alternative therapies

Alternative, non-drug therapies are popular, although few have been scientifically proven to increase cessation rates. The following are some examples of non-drug therapies.

Hypnosis

Hypnotic therapy seeks to alter smokers' attitudes about tobacco by offering them suggestions or prompts while they are in a relaxed and focused (hypnotic) state. Hypnosis can be used either in a group or an individual setting. The success rate of hypnosis is unclear.

Acupuncture

Acupuncture is based on the traditional medicine of affecting energy pathways in the body. Needles or staple-like attachments are inserted in the skin at strategic points with the theory that this will reduce or eliminate cravings to smoke.

In a recent review of several articles, the researchers concluded that acupuncture is ineffective in helping smokers quit. Although there is some promising research, not enough support has emerged to determine whether acupuncture is any more effective than placebo acupuncture (using sham acupuncture points) or no treatment in helping smokers quit.[72, 73]

Laser therapy

Laser therapy is based on the same principle as acupuncture, but it uses lasers rather than needles to relieve withdrawal symptoms. This method is new to Canada and there is no scientific evidence to support the high success rates attributed to it.[72, 73]

Substitution

Some smokers try to substitute herbal or clove cigarettes for their regular brands, believing them to be a healthy alternative. Insufficient literature exists about the health effects of herbal cigarettes. However, Health Canada has not deemed them as a safe alternative to smoking regular cigarettes, because of the danger associated with inhaling smoke of any kind.[74]

Theories of Smoking Cessation

The stages of change model

A popular approach used by health professionals and smokers to better understand the process of quitting is the stages of change model (the transtheoretical model of change). This model was developed 20 years ago, but has become widely used in cessation programs in the past few years. Today, many programs use a "staged" approach to intervention.[75, 76] The model recognizes that quitting does not happen in one step and that change is a dynamic process.

Understanding the stages of change model can help programmers refine their interventions and target smokers at various stages. Below is a description of the five stages involved in changing addictive behaviour and examples of appropriate intervention goals for each stage of change.[75-78]

1. Precontemplation
   In this first stage, the smoker has no intention of quitting in the next six months. Fifteen per cent of Canadian smokers are in this stage, according to the 2006 CTUMS.[77]

   Examples of appropriate intervention goals[76]

   - Increase the client's perception of the risks associated with smoking.
   - Encourage the client to begin considering the pros and cons of smoking.

2. Contemplation
   A smoker in the contemplation stage is aware that a problem exists and is seriously thinking about quitting at some point, but has not yet made a plan to do so. People can remain in this stage for a long time. Seventeen per cent of Canadian smokers are in this stage.[77]

   Examples of appropriate intervention goals[76]

   - Tip the decisional balance in favour of quitting.
   - Increase motivation to quit.

3. Preparation
   In this stage, the smoker has made a decision to quit within the next 30 days and prepares to do so. Usually this involves mental preparation, but some smokers also try to ready themselves for abstinence by cutting down or by delaying the first cigarette of the day. Eight per cent of Canadian smokers are in this stage.[77]

Examples of appropriate intervention goals[76]

- Help the client select the best approaches to cessation.
- Help build the client's confidence in his or her ability to achieve abstinence.

4. Action
   The action stage begins with the first day of abstinence and continues for six months. Two per cent of Canadian smokers are in this stage.[77]

Examples of appropriate intervention goals[76]

- Help the client develop a plan of action (based on level of addiction and experience with previous cessation attempts).
- Support the client in learning cessation techniques and skills.

5. Maintenance
   In maintenance, people actively work to prevent relapse and remain non-smokers. Maintenance is a continuation, not an absence, of change. More than half (57%) of Canadian former smokers (who quit smoking at least six months prior to the time of the survey) are in this stage.[77]

Examples of appropriate intervention goals[76]

- Help the client identify and use relapse prevention strategies (substitute behaviour, coping strategies).
- Offer support.

Research indicates that many smokers would like to quit: they are in the contemplation and preparation stages of change.[77] Many have already quit. As understanding of tobacco addiction and behaviour change continues to grow, the support for people wanting to quit will continue to evolve so that smokers have a better chance of overcoming their addiction.

The relevance of the stages of change model to adolescent smoking cessation is currently being studied. Early findings suggest that the model is generally appropriate to youth, but likely requires some refinements because adolescents seem to enter the action stage prematurely. When young people do not complete the earlier stages, they are poorly prepared for cessation. Research suggests, therefore, that a heavy emphasis should be placed on the early stages of change (precontemplation and preparation) in youth cessation efforts.[75]

Self-efficacy theory

Introduced by Bandura in 1977, self-efficacy theory contends that a person's perception of his or her ability to perform a task will affect the outcome.[79] In the research literature, self-efficacy typically emerges within the context of cessation maintenance. Particularly, research indicates that people with low levels of self-efficacy are more prone to relapse and those with high levels of self-efficacy are more likely to abstain.[80-85] As O'Leary (1992, p. 231) describes,

> *A cigarette smoker who believes that he "just doesn't have what it takes" to quit is unlikely to attempt smoking cessation, or if he does, will not display much effort or persistence compared to someone with strong confidence in his or her self-regulatory capabilities*[86]

Researchers have also examined other factors that relate to self-efficacy theory and smoking cessation maintenance. For instance, researchers have found that high levels of negative affect (mood) and cigarette cravings were associated with decreased ability to abstain from smoking.[87] Self-efficacy has also been studied in relation to the stages of change model. Research finds that self-efficacy is associated with the transition between different stages.[88-90]

Factors Affecting Smoking Cessation

Growing research on the physical aspects of addiction and the psychological aspects of behaviour change has helped to increase the smoker's chances of abstinence. The support offered to smokers today is based on an appreciation for the complexity of the cessation process, a process that is influenced by many interrelated factors, including [91-93]

- the degree to which the smoker is motivated to quit
- readiness to change and ability to change
- the extent of the smoker's biological and psychological addiction to nicotine
- the smoker's mood or mental state
- the smoker's level of confidence
- the smoker's past experience with cessation
- the smoker's environment (home, work and leisure)
- the influence of family and friends, and day-to-day events
- social support and information

Two factors, stress and weight control, have recently received attention in relation to smoking cessation.

In the 2006 Canadian Tobacco Use Monitoring Survey, Albertans who tried to quit but relapsed were asked "Why did you begin to smoke again?" The main reasons given were[94]

- stress, need to relax or to calm down (26%)
- addiction/habit (24%)

Other reasons given for resuming smoking, although mentioned rarely, included[94]

- family or friends smoke
- going out more
- boredom
- increased availability
- no reason/felt like it

Stress

In Alberta, 26% of current smokers who had tried to quit smoking reported that the main reason they began to smoke again was stress or the need to relax or calm down.[94] In the literature, stress is identified as a significant barrier to smoking cessation. This may in large part be because smoking, for some people, is a mechanism for coping with stress.[95, 96] Research suggests that smoking behaviour may be initiated during adolescence in an attempt to cope with stressful life events; when asked to recall life events, smokers report more stressful life events than non-smokers.[97-101] Furthermore, smoking cessation has been associated negatively with stress and stressful life events.[98, 102] Stressful events such as bankruptcy, divorce and receiving welfare are related to heavier levels of smoking.[103] Financial stress and job loss have also been linked with a decreased likelihood to quit smoking.[104, 105]

Understanding the relationship between stress and smoking may help stakeholders develop more effective treatment programs. For instance, treatment programs may be more effective if they provide techniques for coping with stressful life events and focus on preventing smoking relapse in the face of such events. Similarly, health-care providers could ask former smokers about recent stressful episodes to provide appropriate aid and promote abstinence.[98]

Smokers who are motivated to quit, who stay positive and who have positive support from those around them have a better chance of quitting. [106]

Weight control

Smokers who want to quit often report that they fear cessation will result in weight gain. This fear prevents smokers from quitting and often leads to relapse.[107- 115] Weight gain is most frequently reported as a major concern for women, but it is also a concern for men.[114, 116, 117] The average amount of weight gained is about five to seven pounds. The health risks related to this weight gain are negligible as compared with the health risks of smoking.[118] Exercise during cessation may reduce or eliminate weight gain.[69, 119]

Studies have shown that long-term maintenance sessions can improve success rates.[38]

Youth smoking cessation

Many adolescents want to quit or reduce their smoking but frequently report difficulty in doing so.[120-124] This can be frustrating for youth who often indicate they are unable to refrain from smoking despite their best intentions.[125, 126] Youth who try to quit may run into difficulties dealing with withdrawal symptoms.[125, 127]

According to the 2006 CTUMS, 59% of Albertan youth (aged 15 to 19) and 44% of young adults (aged 20 to 24) reported that they were considering quitting within the 30 days following the survey. Smokers were also asked if they were seriously considering quitting smoking within the six months following the survey: 70% of Alberta youth (aged 15 to 19) and 70% of young adults (aged 20 to 24) who were smokers responded "Yes." [94]

The majority of youth who smoke report that they would like to quit smoking and have made a serious attempt to do so.[128] However, youth who smoke may often think that quitting tobacco is not difficult enough to warrant intervention,[129] yet spontaneous quit rates are quite low.[93] Interestingly, the low spontaneous or unassisted quit rates among adolescents are sometimes unexpected because it is sometimes assumed that adolescents will "mature out" of smoking or easily quit on their own.[120, 125, 130-133]

What helps youth to quit smoking

Youth with greater parental supervision have higher quit rates. Youth are motivated to quit by health concerns, appearance and cost.[129,138-141]

What keeps youth from quitting smoking

Youth say that it's more difficult to stop when peers smoke around them, offer them cigarettes, or harass them about not smoking.[142] They are also less likely to quit if their parents are smokers.[131, 143, 144]

It is apparent that young smokers need help quitting. Youth need access to and awareness of tobacco cessation programs, and these programs must be designed to appeal to youth and be relevant to them. Research supports the need to design smoking cessation aids that meet the specific needs of adolescent smokers.[134] For instance, cessation interventions that take place in a variety of settings can help address the diverse population of youth smokers.[135] Croghan et al. (2004) found that tobacco cessation

messages designed by teens can encourage their peers to participate in cessation programs.[136] It has also been suggested that recruitment strategies be modified to attract youth who smoke to cessation programs.[129]

To encourage young smokers to quit, it is useful to offer tobacco control programs that reach youth.

Programs currently offered in Alberta that are tailored to youth include "Kick the Nic," "BLAST," "Teaming Up for Tobacco-Free Kids," "ASTEP," "YAAP" and "Sport for Life."

Established guidelines should be applied when developing youth smoking treatment programs. A valuable resource for such guidelines is the Youth Tobacco Cessation Collaborative (YTCC). YTCC is a collaborative effort between Canada and the United States that aims to increase knowledge of effective cessation, to raise awareness of and interest in youth cessation, and to create capacity to deliver effective cessation to youth. This group has prepared several useful documents on youth cessation, some of which cover guidelines and recommendations. Two such documents are *The Guide for Making Decisions in Youth Tobacco Cessation*[129] and the *National Blueprint for Action*.[137] These can be found on the website http://www.youthtobaccocessation.org

For more detail on youth and smoking, refer to the Youth and Smoking chapter.

Tobacco cessation and co-addictions

Smoking is highly associated with using other substances.[145-147] Smoking rates are higher among people who abuse alcohol than those who do not.[148-151] According to the 2005 Canadian Community Health Survey, in Canada, 86% of daily smokers, 91% of occasional smokers and 75% of non-smokers had consumed alcohol within the year prior to the survey. Similar results were found for Alberta: 88% of daily smokers, 82% of occasional smokers and 74% of non-smokers had consumed alcohol within the year before the survey.[152] The 2006 CTUMS indicated that 34% of current smokers in Canada had used marijuana within the year before the survey, versus 21% of never smokers and 15% of former smokers. For Alberta, 33% of current smokers and 18% of never smokers reported using marijuana within the year before the survey.[94]

People who smoke and use other substances find it more difficult to quit smoking.
Research shows that smokers who use alcohol or illicit drugs find it more difficult to quit smoking than do people who smoke but do not use alcohol or illicit drugs.[145-147, 153] This greater difficulty may be due in part to higher nicotine dependence in smokers who use other substances.[154, 155] Considering this and the high rates of smoking among users of other substances, treatment of dependence on smoking and dependence on other substances has been an emerging issue in the treatment area.

In the past, it was assumed that people who smoke and use other substances would not want to try to quit smoking while stopping substance use, for fear that the attempt to quit would compromise their ability to remain sober. It has been suggested in the research, for example, that many

people with alcohol problems use cigarettes to cope with urges to use alcohol and other drugs. It was also believed that patients feared that trying to quit smoking may divert energy and focus from attempts to stop other substance use.[156, 157] Recently, however, several studies offer evidence that some people are interested in quitting smoking during or after treatment for their dependency on alcohol or other drugs.[16-20, 146, 148, 150, 158-160]

Quitting smoking during a cessation attempt for another substance does not jeopardize sobriety from the other substance. In fact, simultaneous cessation can be beneficial, so long as concurrent treatment is not mandatory.

Simultaneous cessation treatment for tobacco and other substances has been examined in the literature. Several studies conclude that alcohol abstinence is not jeopardized by concurrent smoking cessation.[161-163] Moreover, studies have indicated that quitting smoking can improve sobriety from other substances.[147, 163-165] However, mandatory cessation programs have had unintended negative effects (iatrogenic effects) on abstinence outcomes. This finding emphasizes that it is important that the individual is receptive to concurrent treatment.[159, 160, 164]

One study showed that those who use both smokeless tobacco and cigarettes were less likely to stop using tobacco than users of just cigarettes or just smokeless tobacco.[166]

Tobacco cessation among people with mental health problems

Smoking rates are high among those with mental health problems,[167-170] and tobacco use has a severe impact on the health and finances of this population,[171-173] a group that is already at higher risk for morbidity and premature death.[169, 174, 175] Yet, people with mental health problems who want to quit smoking may not receive the support they need.[176-180]

There are some extra factors to consider when helping people with mental health problems to stop using tobacco. A literature review by Brown (2004) suggests that tobacco cessation may increase the risk of psychiatric complications for a person with mental health problems. When pharmacological cessation aids are used, possible side-effects should be considered. Moreover, it is important to be aware that smoking tobacco can interact with medications: medical staff will need to monitor patients who are trying to quit for changes that result from the absence of tobacco and its interactions with medication.[181, 182]

There is insufficient Canadian research about the efficacy of the various treatment methods available for people with mental health problems. Existing international research suggests that methods commonly used for smokers can also be effective in this population. The following

measures are recommended for smokers with mental health problems who are trying to quit:[183]

- A multiple treatment approach should be adopted. This includes brief advice from health professionals,[184] pharmacological treatment, and expert cessation support.[169]
- Treatment should not occur when the mental illness is highly active, but rather when the patient is stable.[185]
- People with mental health problems should be followed closely to monitor their mental health status.[169]

In addition to the various treatments, smoke-free policies can be implemented in mental health institutions to encourage smoking cessation. Supportive participation and careful planning by hospital staff may alleviate many of the anticipated adverse effects of a smoke-free policy.[186] Though smoke-free policies can be implemented successfully, such policies should be accompanied by smoking cessation treatment to improve smoking cessation rates.[187]

Smokeless Tobacco Cessation

Incorporating oral assessments and behavioural interventions in dental practices may increase smokeless tobacco cessation rates.[14] Dentists and dental hygienists are trained to detect oral lesions and periodontal problems that are related to tobacco use. Dentists and dental hygienists are thus in a position to help prevent the initiation of tobacco use by children and adolescents through the use of positive anti-tobacco messages. Over the past decade, tobacco cessation strategies have been modified for practical use in the dental setting.

One study reviewed several brief smokeless tobacco cessation treatment interventions by dental professionals: oral cancer screening, cessation advice, self-help materials, and brief cessation counselling by a dental hygienist. The study showed that oral screening and brief cessation counselling by dental professionals in the dental office or in athletic facilities were effective in promoting smokeless tobacco cessation.[188] Furthermore, a 2006 review showed that behavioural interventions by oral health professionals improved smokeless tobacco cessation rates. Incorporating oral assessments and behavioural interventions in dental practices may increase smokeless tobacco cessation rates.[14]

A U.S. study revealed that mental health patients preferred using a nicotine inhaler to wearing a nicotine transdermal patch.[191]

Behavioural interventions beyond the dental setting (e.g., doctor examinations) are also effective in helping smokeless tobacco users quit. Specifically, interventions that entail an oral examination as well as feedback about mucosal changes brought on by smokeless tobacco use (e.g., oral cancer, leukoplakia, stomatitis, keratosis, hairy tongue) have been shown to be effective.[189]

In a 2004 review of studies examining smokeless tobacco cessation, there was no indication of benefits of using pharmacotherapy such as bupropion, a nicotine patch, or nicotine gum. However, it was suggested that larger trials investigating pharmacotherapy are needed. Research in the area of smokeless tobacco cessation is limited, but seems to suggest that a combination of therapies offers the greatest possibility for success.[190]

For the Smoker: Benefits of Cessation

There are many benefits to quitting smoking:[117]

- improved health
- greater sense of physical well-being
- better sense of smell and taste
- healthier babies
- cleaner-smelling home, person and car
- good example for children
- no worry about exposing others to second-hand smoke
- money savings
- less perceived stress
- improved self-esteem
- freedom from addiction

Smokers who relapse after having quit for a week or more should be strongly encouraged to avoid returning to high levels of cigarette consumption. By reducing their addiction level, they will better their chances of cessation the next time around.[192]

After the last cigarette, the body begins healing itself:

- 20 minutes after quitting, blood pressure drops to pre-cigarette level.
- 8 hours after quitting, the carbon monoxide in a smoker's blood returns to normal.
- 24 hours after quitting, smokers lower their chances of having a heart attack.

In the months and years to come, the body will continue to recover:

- Two weeks to three months after quitting, circulation will improve and lung function will increase (try taking the stairs now).
- Within nine months of quitting, smokers will experience less coughing, sinus congestion, fatigue and shortness of breath.
- One year after quitting, risk of coronary heart disease will be about half of what it would have been if the smoking behaviour continued.
- Five years after quitting, the risk of stroke will be substantially reduced: within five to 15 years after quitting, it becomes about the same as a non-smoker's.
- Ten years after quitting, the risk of dying from lung cancer will be about half of what it would have been had the smoking behaviour continued. The risk of cancer of the mouth, throat, esophagus, bladder, kidney and pancreas will also decrease.
- Fifteen years after quitting, the risk of coronary heart disease will be the same as a non-smoker's.

Although quitting smoking is followed by a multitude of beneficial outcomes, there are some withdrawal symptoms, which typically include[117]

- irritability
- anxiety
- difficulty concentrating
- restlessness
- sleeplessness
- depression
- increased appetite
- cravings

With motivation and help, smokers can assuage these withdrawal experiences and improve their chances of quitting.

Summary

The U.S. Public Health Service (PHS) Clinical Practice Guideline was developed in 2000 for health professionals. This guide contains the best evidence-based information about treatment effectiveness. The overall PHS model for treatment of tobacco addiction includes reaching smokers within a larger population unit through various channels or delivery systems within the community, and screening smokers and encouragingthem at every opportunity to consider cessation. Once smokers are screened, health professionals can employ the 5 A's intervention strategy suggested in the PHS guideline.

A wide range of cessation methods are available in Alberta to help smokers cope with the physical and psychological symptoms of withdrawal, and to support the process of long-term change. Drug therapy, counselling and telephone quitlines are a few of the methods that have proven effective.

Incorporating oral assessments and behavioural interventions in dental practices may increase smokeless tobacco cessation rates.

Many youth want to quit but need help to do so. Cessation programs for youth need to be evaluated and developed in order to provide the most effective type of programming for youth who want to quit smoking. There are established guidelines that are useful for developing youth smoking treatment programs.

Substance use and smoking co-occur at high rates. Quitting smoking during a cessation attempt for another substance does not jeopardize sobriety from other substances and can be beneficial.

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