

Evidence-based Tobacco Cessation for Cancer Patients

Overview

Patients who are able to quit smoking and other forms of tobacco after a cancer diagnosis experience many benefits including: fewer treatment and disease-related complications, improved effectiveness of cancer treatments, improved survival and reduced risk of disease recurrence and development of secondary cancers.¹⁻⁴

Because approximately 70% of tobacco users see a family physician or primary care provider each year, you play an important role in supporting your patients in quitting smoking. As family physicians and other primary care providers, you have long-standing and trusting relationships with your patients. You are in an ideal

position to discuss tobacco cessation with all of your patients including those diagnosed with cancer.¹

In 2013, Nova Scotia had one of the highest smoking rates in the country with 22.8% of males and 16.1% of females over 15 years of age reported as smokers.⁵

All cancer patients should be asked about tobacco use, offered routine supportive counseling and pharmacotherapy as required regardless of their stage of disease.² The National Comprehensive Cancer Network[®] (NCCN[®])² Clinical Practice Guidelines in Oncology specifically recommend:

- Standardizing initial and periodic follow-up assessment according to smoking status (current smokers classified as those patients who report smoking within the past 30 days, former smokers, and never smokers);
- Providing evidence-based cessation pharmacotherapy, behavioral counseling, and follow-up with re-treatment as needed to all patients with cancer who identify as current smokers;
- Combining pharmacotherapy and behavioral therapy for superior cessation outcomes; and
- Documenting and regularly updating smoking status and tobacco treatment plan in a patient's medical record.

Tobacco Cessation Support for Patients:

- Tobacco Free Nova Scotia (tobaccofree.novascotia.ca)
- Call **8-1-1** to speak with a Nicotine Addictions Specialist

Referring Patients to Tobacco Cessation Support:

- Complete the Tobacco Free Nova Scotia Fax Referral Form (tobaccofree.novascotia.ca)
- Advise patients to call **8-1-1** to speak with a Nicotine Addictions Specialist

Implications of Continued Tobacco Use while Receiving Cancer-Related Treatment

Considering the serious implications of continued tobacco use after a cancer diagnosis, tobacco cessation supports should be offered to all cancer patients, whether they have a curative or non-curative disease.

Patients should be encouraged to quit smoking and other forms of tobacco as soon as possible before treatment begins.²

Typically, patients receiving a combination of surgery, chemotherapy or radiation have the shortest length of time to quit tobacco.⁶ Although quitting tobacco is not easy, all cancer patients should be made aware of the serious implications of continued tobacco use and tobacco cessation treatment should be provided to all cancer patients who are interested in quitting.^{2,6} The effects of tobacco use during cancer-related treatment are summarized in **Table 1**.

Continued tobacco use during cancer treatment can have a negative impact on treatment-related outcomes. For this reason, tobacco cessation must be part of a patient's treatment discussion.¹ Although preferred, patients may have difficulties deciding to completely stop using tobacco. Patients may instead choose to reduce the amount they consume, with the goal of cessation.²

The Importance of Remaining Tobacco-Free through Survivorship

The benefit of quitting tobacco does not end when patients complete their cancer treatment. In fact, refraining from tobacco use following cancer treatment improves survival regardless of the stage of the disease.² Tobacco cessation support should be continued through survivorship because relapse rates are high, and tobacco cessation may only last for a brief period following completion of treatment.⁶ A person's relapse rate is directly linked to their addiction to nicotine.¹

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Tobacco Cessation in Patients with Advanced Disease

While there is mixed evidence regarding the benefits of tobacco cessation for patients with advanced cancer, it is still important to consider the implications of nicotine addiction and withdrawal for this patient population. The NCCN^{®2} supports providing tobacco cessation despite stage of disease as nicotine replacement therapies (NRT) may be used to support nicotine cravings, reduce feelings of anxiety and maintain quality of life at or nearing end-of-life.^{7,8}

Although tobacco cessation may not be the goal, managing the nicotine addiction is important for maintaining patient comfort and quality of life.

Withdrawal can cause or worsen many symptoms, including anxiety and depression.⁸ In some cases, undiagnosed nicotine withdrawal in cancer patients with advanced disease can result in the diagnosis of an inaccurate psychiatric condition.⁷ By screening for and recording tobacco use, family physicians and other primary care providers can help to identify withdrawal symptoms as a potential variable that could impact the patients' health status and quality of life.

Implications of Continued Tobacco Use while Receiving Cancer-Related Treatment (cont'd)

Table 1: Effects of tobacco use during cancer-related therapies²

	Tobacco use during treatment	Impact
Chemotherapy	<ul style="list-style-type: none">• alters drug clearance time and plasma concentration• increases infection rates and pulmonary complications• potential exacerbation of side effects including:<ul style="list-style-type: none">- immune suppression- weight loss- fatigue- pulmonary and cardiac toxicity• increases incidence of infection	<ul style="list-style-type: none">• reduces efficacy of certain drugs• may decrease treatment response• increases overall mortality• decreases health-related quality of life after surgery (e.g., dyspnea, fatigue, pain)
Surgery	<ul style="list-style-type: none">• increases complications from general anesthesia• increases risk of severe pulmonary complications• increases post-operative complications after surgery• impairs wound healing following surgery	<ul style="list-style-type: none">• longer post-operative hospital stays• detrimental effects on wound healing, including:<ul style="list-style-type: none">- compromises capillary and blood flow- increases vasoconstriction- increases risk of infection
Radiation	<ul style="list-style-type: none">• reduces treatment efficacy• increases risk of radiation therapy-associated treatment complications• increases toxicity and side effects including:<ul style="list-style-type: none">- dry mouth- oral mucositis- loss of taste- pneumonitis- soft tissue and bone necrosis- poor voice quality	<ul style="list-style-type: none">• decreases rate of complete response to radiation, resulting in lower 2-year survival• lower response rates to radiation therapy

Level of Evidence

Category 2A: Based upon lower-level evidence, there is uniform National Comprehensive Cancer Network (NCCN) consensus that the intervention is appropriate. To see the full guideline and its associated references, please visit www.nccn.org.

Evidence-Based Tobacco Cessation Programming

Starting the Conversation: How to help a cancer patient quit tobacco

It is never too late to speak with a cancer patient about tobacco cessation.⁹ Any health care provider can facilitate tobacco cessation discussions (e.g., evaluation and assessment).² The American Society for Clinical Oncology (ASCO) has developed a “Tobacco Cessation Guide for Oncology Providers” to support health care providers in having tobacco cessation discussions with cancer patients. Similarly, the NCCN’s “Smoking Cessation Guidelines” also provides an algorithm that clearly summarizes how to facilitate an evaluation and assessment of a patient’s tobacco use history. Both resources include tips on effective communication with patients, and detailed suggestions on how to proceed with never, current, or former tobacco users.²

The Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment (CAN-ADAPTT) Canadian Smoking Cessation Clinical Practice Guideline⁹ emphasizes the “5-A’s” in counseling and psychosocial approaches to tobacco cessation. The CAN-ADAPTT 5-A’s are summarized in **Table 2**. The 5-A’s are simple, effective and take no more than five minutes to complete.

Recognizing that time with patients may be limited, minimum best practice is to ask, advise, and arrange.

To view the complete guideline, visit CAN-ADAPTT’s Canadian Smoking Cessation Guideline website at www.nicotinedependenceclinic.com.

Resources to Assist Cancer Patients with Tobacco Cessation

Research consistently shows that a combination of pharmacologic and behavioural interventions are necessary to achieve the highest possible smoking cessation rates.^{1,2,10} A patient’s history of tobacco use should be assessed/evaluated to inform a treatment plan that can support a lifestyle change which includes abstinence from tobacco.¹ When basic advice or treatment is unsuccessful, research recommends a stepped-care model of treatment, with more intense counseling and drug therapies combined, to continue moving patients toward longer periods of tobacco cessation.¹

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Pharmacotherapy

Pharmacotherapy for tobacco cessation in cancer patients includes NRT in the form of gum, lozenge, inhaler, or buccal spray, bupropion and varenicline.² For a detailed list of clinical recommendations for pharmacotherapy use (dosage, duration, and warnings), the NCCN[®] has a guide on “Principles of Smoking Cessation Pharmacotherapy”.²

Before prescribing any one of the aforementioned pharmacotherapies, health care providers must consider other physiological and psychological contraindications.¹ For example, a patient with oral cancer should not be prescribed oral nicotine replacement options like gum or inhalers – a nicotine patch would be a preferable option.¹ Furthermore, tobacco users with cancer have a high incidence of depression, anxiety, stress, or other mental health disorders which can be exacerbated (e.g., increased negative psychological symptoms or suicidal ideation) by the use of some pharmacotherapies.²

It is also important for health care providers to be aware of the adverse effects that can occur depending on the type of cancer and form of pharmacotherapy prescribed.

For example, bupropion has been found to lower the seizure threshold, and thus should not be used in patients with primary or metastatic cancer involving the central nervous system.^{11,12}

Evidence-Based Tobacco Cessation Programming (cont'd)

Table 2: **CAN-ADAPTT Guidelines for General and Hospital-Based Populations**

	GENERAL Health care providers should...	HOSPITAL-BASED POPULATIONS Facilities should have systems in place to...
ASK	<ul style="list-style-type: none"> ask every patient/client about his or her tobacco use and update that status on a regular basis. <i>Grade 1A*</i> 	<ul style="list-style-type: none"> identify all tobacco users. <i>Grade 1A</i>
ADVISE	<ul style="list-style-type: none"> clearly advise all patients/clients who use tobacco to quit. <i>Grade 1C</i> 	<ul style="list-style-type: none"> provide clear advice to quit. <i>Grade 1C</i> make patients/clients aware of hospital tobacco policies. <i>Grade 1C</i>
ASSESS	<ul style="list-style-type: none"> assess the willingness of patients/clients to begin treatment to quit. <i>Grade 1C</i> 	<ul style="list-style-type: none"> assess the willingness of patients/clients to begin treatment to quit (or manage withdrawal). <i>Grade 1C</i>
ASSIST	<ul style="list-style-type: none"> offer assistance to every tobacco user who is willing to begin treatment to quit. <i>Grade 1A</i> assist with minimum brief intervention. <i>Grade 1A</i> when possible, assist with intensive counseling. <i>Grade 1A</i> combine counseling and pharmacotherapy, which are more effective than either one on its own. <i>Grade 1A</i> 	<ul style="list-style-type: none"> link all elective patients who use tobacco to resources to help them quit before admission or surgery. <i>Grade 1B</i> manage a client's tobacco withdrawal during hospital stay, including pharmacotherapy. <i>Grade 1C</i> promote a client's attempts towards quitting. <i>Grade 1A</i>
ARRANGE	<ul style="list-style-type: none"> conduct follow-up, provide support and modify treatment as necessary. <i>Grade 1C</i> refer patients/clients to relevant resources. <i>Grade 1A</i> 	<ul style="list-style-type: none"> link patients to follow-up support upon discharge. <i>Grade 1A</i> arrange continued pharmacotherapy use post-hospitalization. <i>Grade 1B</i>

***Grades of evidence are based on the strength of the recommendation (1 = strong, 2 = weak).**

Level A: Strong recommendation, high quality evidence, consistent evidence from well performed RCTs or overwhelming evidence of some other form. Further research is unlikely to change the confidence in the estimate of benefit and risk.

Level B: Strong recommendation, moderate quality evidence. Evidence from RCTs with important limitations (inconsistent results, methodologic flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have an impact on the confidence in the estimate and benefit and risk may change the estimate.

Level C: Evidence from observational studies, unsystematic clinical experience, or from RCTs with serious flaws. Any estimate of effect is uncertain.

This table has been adapted from CAN-ADAPTT's Smoking Cessation Clinical Practice Guideline. To see the full guideline, please visit CAN-ADAPTT's website (see back page).

Behaviour Therapy

Behaviour therapy (BT) is used to enhance the cancer patient's knowledge of the addiction process; inform the cancer patient about related health implications of continued tobacco use; and increase the patient's understanding of tobacco treatment medication and strategies for sustained tobacco cessation.^{1,2} BT can also help cancer patients problem-solve strategies for responding to tobacco urges/identify tobacco use triggers (e.g., stress, drinking alcohol, being around other tobacco users, and other cues) and develop coping skills (avoid risky situations, provide cognitive strategies, short-acting NRT).²

Where and How to Refer Cancer Patients to Tobacco Cessation Support Services

Tobacco Free Nova Scotia is the primary location to refer cancer patients (tobaccofree.novascotia.ca) for free, personal, confidential and non-judgmental support on quitting tobacco and staying tobacco free. A variety of support resources are available through Tobacco Free Nova Scotia's website (tobaccofree.novascotia.ca) and quitline which can be accessed by calling 811. Resources include SMS/text-based motivational messaging; secure chats with a counselor; online forums; quit packs; fax referrals, as well as additional information on local tobacco cessation programs (tobaccofree.novascotia.ca/community-resources).

When a patient calls 811, they will speak with a counselor who is trained in tobacco cessation. Depending on the needs of the cancer patient, they can receive phone-based counseling, be referred to a Nicotine Addictions Specialist, or a Stop Smoking Program in their area, or register for the Motivational SMS/Texting programs.

If a family physician or primary care provider completes and sends the fax referral form to Tobacco Free Nova Scotia, a counselor trained in tobacco cessation will follow-up with a phone call to the cancer patient to determine the patient's needs (e.g., phone support, counseling, referral to Nicotine Addictions Specialist, information resources).

The form is titled 'Tobacco Free Nova Scotia CONFIDENTIAL' and 'Fax Referral Form 8-1-1 902-407-9898'. It includes a Nova Scotia logo and a URL <http://tobaccofree.novascotia.ca>. The form is divided into several sections: 'Healthcare Provider Referral Source - Required - Please Print' with radio button options for Physician, Nurse, Dietitian, Pharmacist, Respiratory Therapist, and Other; 'Patient/Client - Contact Information - Required - Please Print' with fields for First Name, Last Name, Street Address, City/Town, Province, Postal Code, Birthdate, Telephone, and Email Address; 'Tobacco Free Nova Scotia usually calls the client within 3 business days of receiving referral. When should we call?' with radio button options for Morning, Afternoon, Evening, and Anytime; and 'Patient/Client Information Consent' with a signature line and date field.

Tobacco Free Nova Scotia Fax Referral Form

In the community setting, tobacco cessation is the responsibility of Mental Health and Addiction Services. Nicotine addiction specialists are responsible for the provision of cessation services (noted above) in communities across the province. Mental Health and Addiction Services can provide pharmacotherapy in conjunction with behavioural therapy/counseling.

Conclusion

Quitting tobacco after a cancer diagnosis is very beneficial.¹⁻⁴ Continued tobacco use can significantly impact disease and treatment-related outcomes at each stage of the cancer trajectory.^{1,2} The encouragement and continued support from health care providers including family physicians, other primary care providers, specialists and/or allied health professionals, increases the likelihood that cancer patients will quit and abstain from tobacco.^{1,2}

For these reasons, family physicians and all health care providers who see cancer patients should ask them about tobacco use, and offer routine supportive counseling and pharmacotherapy regardless of their stage of disease.² When assisting a cancer patient to quit tobacco, please remind the patient:

- It is never too late to benefit from quitting smoking and other forms of tobacco use.
- Quitting tobacco can reduce treatment and disease-related complications, improve effectiveness of cancer treatment and survival, and reduce the risk of recurrence and development of secondary cancers.²

Reminders to family physicians and all health care providers:

- Using the 5-A's are a simple, quick and effective way to help a cancer patient quit tobacco.⁹
- Helping a cancer patient quit tobacco takes a multi-disciplinary approach. Tobacco Free Nova Scotia offers resources and specialized staff to help cancer patients quit tobacco by calling 811.

Continued tobacco use can significantly impact disease and treatment-related outcomes at each stage of the cancer trajectory.^{1,2}

Contributors

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Resources to Support Health Care Providers

ASCO – Tobacco Cessation Guide for Oncology Providers

http://www.asco.org/sites/default/files/tobacco_cessation_guide.pdf

CAN-ADAPTT – Canadian Smoking Cessation Clinical Practice Guideline

https://www.nicotinedependenceclinic.com/English/CANADAPTT/Documents/CAN-ADAPTT%20Canadian%20Smoking%20Cessation%20Guideline_website.pdf

Canadian Anesthesiologists' Society – Stop Smoking for Safer Surgery

<http://www.cas.ca/English/Stop-Smoking>

European Society for Medical Oncology

<http://oncologypro.esmo.org/content/download/47076/861416/file/ESMO-E-Learning-Smoking-Cessation-Oncology-Population-Sommer-Gupta-Nayan.pdf>

International Association for the Study of Lung Cancer

https://www.iaslc.org/sites/default/files/wysiwyg-assets/News/iaslc_2015_tobacco_statement_long.pdf

NCCN Clinical Practice Guidelines in Oncology:

Smoking Cessation Version 2.2015 (NCCN Guidelines®)

<https://www.nccn.org/about/news/newsinfo.aspx?NewsID=498>

Ottawa Model for Smoking Cessation

<http://ottawamodel.ottawaheart.ca/about-omsc>

The Lung Association – Stop Smoking Before Surgery (SSBS)

<https://www.quitnow.ca/helping-others-quit/healthcare-providers/what-works/stop-smoking-before-surgery>

Tobacco Free Nova Scotia

<https://tobaccofree.novascotia.ca/>

TEACH Certificate Program Courses

(*Cancer-Specific Course Coming October 2016)

<http://www.camh.ca/en/education/about/AZCourses/Pages/default.aspx?select=T>

UpToDate®

<http://www.uptodate.com/home>

Cancer Care Nova Scotia is part of the Program of Care for Cancer. Its mandate is to evaluate, coordinate and strengthen the cancer system in Nova Scotia.

Cancer Care Nova Scotia works with and supports professionals and stakeholders in the health care system to bring about patient-centred change. Its ultimate goal is to reduce the burden of cancer on individuals, families, communities and the health care system.

In Practice is written specifically for primary care practitioners with information that we hope will make a difference in your cancer practice.

Please contact Christine Smith, Communications Manager, Program of Care for Cancer, by phone at 902.473.2932 or by email at christine.smith@ccns.nshealth.ca with comments or suggestions for future topics.



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