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Tobacco Screening and Treatment For Adult Cancer Patients

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Background

In 2022, an estimated 22,200 Albertans will be diagnosed with cancer and an estimated 7,500 people will die of their disease.¹ Between 2003-2007 and 2028-2032, the number of new cancer cases per year in Canada is predicted to increase by 84% in males (from 80,810 to 148,370) and by 74% in females (from 74,164 to 128,830).² Active tobacco smoking is the leading preventable risk factor for cancer and is responsible for an estimated 72% of lung cancer cases and 74% of larynx cancer cases in Canada.³

Tobacco screening and cessation treatment for cancer patients is a key to high-quality oncology care, and the use of clear, direct advice from healthcare providers to stop or reduce smoking continues to be the single most influential way to achieve smoking cessation in most patient populations. Tobacco intervention by health care professionals has been shown to be effective in increasing the abstinence rate in cancer patients.⁴ The integration of tobacco screening and cessation treatment into oncology care has been recommended by a number of national and international cancer-focused organizations as a best practice intervention, however, tobacco screening and treatment is not consistently or routinely implemented in cancer care programs across the province.

The “Ask, Advise, Refer” (AAR) brief intervention model has been adopted by Cancer Care Alberta (CCA) as a practice standard for all sites. This guideline presents the key recommendations to support the screening and treatment of tobacco use by cancer patients as a provincial standard of care.

Guideline Questions

1. What is the process for screening and treatment of tobacco use in cancer patients at Cancer Care Alberta?
2. What options are available for cancer patients for nicotine withdrawal and cessation pharmacotherapy?
3. What training and education resources are available for Cancer Care Alberta staff to deliver brief tobacco interventions to cancer patients?
4. How does concurrent tobacco treatment (behavioural and/or pharmacotherapy support) impact cancer treatment (e.g., chemotherapy, radiation, surgery)?

Search Strategy

The search strategy was selected and reviewed by members of the guideline working group with support from an Alberta Health Services research librarian.

The PubMed, EMBASE, Medline, Cochrane Database of Systematic Reviews, CINAHL, PsycINFO and Pharmacy databases were searched from January 2008 to February 2015 for literature on tobacco cessation interventions in a cancer care setting and associated impacts on tobacco use reduction and/or cessation. A variety of separate and combined search terms were used, including but not limited to: cancer patients, caregiver, staff, tobacco intervention, tobacco cessation treatment, cessation pharmacotherapy, cancer, cancer treatment, risk factors, quality of life, windows of

opportunity, recurrence, relapse and quit rates. Results were limited to randomized controlled trials, systematic reviews and observational studies published in English. Grey literature (e.g., Google, Google Scholar, ProQuest) as well as the reference lists of key articles were also searched for additional publications. Excluded from the analysis were pediatric cancer patients, tobacco treatment interventions that occur outside of cancer care (e.g., primary care) and non-oncology patients. A total of 74 studies were identified for inclusion.

Clinical guidelines databases (e.g., National Institute for Health and Care Excellence, the National Guidelines Clearinghouse, SAGE Directory,) and guideline bodies were also searched for guidelines on smoking cessation in cancer care settings. The search returned eight guidelines. A full copy of the evidence tables is available upon request by contacting GURU@ahs.ca.

Target Population

This guideline applies to all health professionals working with adult cancer patients (aged 18 years and older) at any phase of the cancer care continuum regardless of cancer type, stage (including metastatic) or treatment plan. Components of this guideline are also applicable to the patient's family and/or caregivers, where indicated. This guideline is intended for use in both inpatient and ambulatory (outpatient) settings.

Scope and Definitions

This guideline outlines recommendations to guide CCA health care professionals who have direct contact with patients and families to deliver brief tobacco intervention as a routine standard of care. The standards for more intensive intervention are outside of the scope of this guideline.

- **Tobacco Use** includes the use of cigarettes, cigars, cigarillos, pipe, smokeless tobacco products, waterpipes, and heated tobacco products. Use of the term 'tobacco' in this document does not refer to use of traditional tobacco for ceremonial and/or spiritual purposes, it refers instead to misuse and cessation of commercial tobacco products.
- **AAR Brief Tobacco Intervention Model** is an established model used in a variety of clinical settings. It is designed to be implemented in less than 3 minutes and involves the following three steps: ask about tobacco use, advise to quit, and refer to a local resource for more intensive tobacco treatment counselling or pharmacotherapy.
- **Health Professional** means an individual who is a member of a regulated health discipline, as defined by the Alberta Health Disciplines Act or Health Professions Act, and who provides promotional, preventive, curative, or rehabilitative care as per their defined scope or role.
- **Digital MySymptom Report – (MSR)** is a self-reported questionnaire completed by the patient. The form consists of the electronic revised Edmonton Symptom Assessment System for Cancer, (eESAS-r Cancer), the MyPersonal Needs checklist, and questions designed to satisfy CCA operational and accreditation requirements.

Recommendations

1. CCA Inpatient and Outpatient Procedure for Tobacco Treatment

A brief tobacco intervention involves using the “Ask, Advise, Refer” (AAR) model with electronic implementation and documentation in Connect Care. Refer to Appendix A for the Algorithm for the Screening and Treatment of Tobacco Use.

In compliance with the AHS Provincial [Tobacco and Smoke Free Environment Policy](#), patients, family member(s), or those accompanying the patient should be advised that consumption of commercial tobacco and tobacco-like products is not permitted on AHS property, including grounds and facilities.

2. Responsibilities of the Nurse or other Health Care Provider

2.1 Tobacco Use Screening (“Ask”)

- Patients should be screened for tobacco use at all clinical encounters where the MSR questionnaire is used. Tobacco use status should be documented within the patient’s chart in Connect Care under “Screenings” → “Psychosocial”. The screening should capture:
 - tobacco use within past 30 days (high relapse risk)
 - tobacco use within the past year
- Where able and/or appropriate, accompanying caregivers or family members should also be asked about their tobacco use with appropriate follow-up advice or referral to available cessation supports including but not limited to AlbertaQuits. Refer to Appendix B for a sample of the AlbertaQuits Helpline Referral Form; this form can be accessed on the [external AHS website](#).
- If the patient is not a tobacco user, stop the intervention.

2.2 Education and Assessment (“Advise”)

- Patients who self-identify as using tobacco should be advised to stop. Advice should be personalized to the patient’s cancer type, stage, and treatment plan and broadly address:
 - health effects of continued tobacco in context of cancer treatment.
 - benefits of cessation and/or reduction.
 - benefit of counselling and medication as most effective treatment.
- Advise patients and/or their family members of available local cessation resources including [AlbertaQuits](#), [Primary Care Networks](#), and community pharmacies. Assess patient interest in receiving a referral to such services for counselling and support.

- Document advice given within the patient's chart in Connect Care under "Screenings" → "Psychosocial".
- If appropriate, patients should be advised on importance of reducing exposure to secondhand smoke with messaging of cessation to accompanying caregivers/family members who identify as tobacco users.
- A longer tobacco cessation intervention following the 5A's Approach ("Ask, Advise, Assess, Assist, Arrange") can occur when staff knowledge and time enables them to do so. For more information, please reference the resource [The 5A's Approach: A Continuum of Brief and Intensive Settings](#), available from the [Alberta Health Services Tobacco, Vaping & Cannabis Program](#) website.

2.3 Referral ("Refer")

- Provide information on [AlbertaQuits](#) services and self-help resources for patients and family members interested in quitting.
- **Referral Process:**
 - CCA staff and prescribers wishing to refer a patient to the AlbertaQuits program can use the following process:
 - An order for "Ambulatory Referral to Smoking Cessation Program" is entered in the Connect Care system.
 - The completed referral form from the Alberta Referral Directory is faxed to AlbertaQuits, using the number at the top of the form.
 - A tobacco cessation counsellor from AlbertaQuits will then connect with the patient using the contact information provided on the form.
 - See Appendix B for a screen shot of the Connect Care referral process, as well as the AlbertaQuits Helpline Referral Form; this form can also be accessed through the [external AHS website](#).
- For patients not interested in quitting:
 - Advise patients that they can self-refer to AlbertaQuits services at any time by calling the AlbertaQuits Helpline at 1-866-710-7848 or by visiting the [AlbertaQuits website](#).
 - Document refusal in the patient's chart.

3. Nicotine Withdrawal and Cessation Pharmacotherapy

3.1 Patients Admitted to Hospital – Inpatients

- Inpatients who self-identify as using tobacco products should be assessed for nicotine withdrawal symptoms and offered the most appropriate Nicotine Replacement Therapy

(NRT) (e.g., patch, gum, inhaler). Algorithms for tailoring pharmacotherapy are available through the [Alberta Health Services Tobacco, Vaping & Cannabis Program](#) and through the [CAMH Nicotine Dependence Service](#). Pharmacotherapy can be ordered using the “Smoking Cessation Adult Smartset” in Connect Care. Refer to Appendix C for a Summary of Cessation Pharmacotherapy and to the American Academy of Family Physicians summary of [Drug Interactions with Tobacco Smoke](#).

3.2 Outpatient Visits

- Where outpatients express interest in stopping or reducing tobacco use and where time or scope of practice allow, pharmacologic assistance can be offered/ initiated by an available authorized prescriber at point of care. Pharmacotherapy can be ordered using the “Smoking Cessation Adult Smartset” in Connect Care.
- Outpatients receiving day care treatment(s) for an extended period of time should be encouraged to bring a personal supply of cessation medication to manage withdrawal, if required.

4. Staff Education

CCA health care professionals who have direct contact with patients and families are encouraged to participate in professional education and training opportunities pertaining to tobacco cessation or treatment as offered. Additional supports and training available from the [Alberta Health Services Tobacco, Vaping & Cannabis Program](#) include:

- Tobacco Cessation in Cancer Care Education Modules: can be found on [MyLearningLink](#) for AHS staff and on the [Primary Health Care Learning Portal](#) for Non-AHS staff, and are appropriate for any healthcare provider working with patients who have cancer.
 - i. Tobacco Cessation in Cancer Care - Module 1 “Rationale for Cessation”: provides an overview of the evidence, rationale and importance for inclusion of tobacco cessation and relapse prevention supports with patients who have cancer.
 - ii. Tobacco Cessation in Cancer Care - Module 2 “Cessation Pharmacotherapy”: describes the types of pharmacotherapies available to support tobacco cessation with a strong focus on the unique considerations when prescribing Nicotine Replacement Therapy and/or pharmacotherapies to patients with cancer.
 - iii. Tobacco Cessation in Cancer Care - Module 3 “Evidence-Based Programs”: provides an overview of current evidence-based best practice for tobacco cessation in cancer care and outlines patient referral processes to cessation programs and services in Alberta.
- [AlbertaQuits Learning Series](#): offers e-learning courses and classroom/virtual trainings to a broad health professional audience.

- Tobacco Comfort Measures and Cessation Support: clinical support primer and tobacco care pathway.
- Tobacco Cessation Toolkit: Includes a variety of tools designed to support healthcare providers in clinical practice.

Discussion

Impact of Continued Tobacco Use on Cancer Outcomes

Current evidence strongly supports quitting smoking following a cancer diagnosis. The 2020 Surgeon General's Report on Smoking Cessation concluded that there is sufficient causal evidence between smoking and increased all-cause mortality, increased cancer-specific mortality and increased risk of developing second primary cancers.⁵ Smoking was further associated with an increased risk of cancer recurrence, poorer response to treatment and increased treatment-related toxicity. Indeed, estimates suggest that quitting smoking at the time of diagnosis could lower the risk of dying by up to 40% with the benefits of cessation being equal to or exceeding the value of new cancer therapies for some cancer diagnoses.⁵

The benefits of cessation go beyond cancers known to be caused by tobacco use, with increased mortality rates associated with continued smoking after diagnosis reported across cancer types and stages of diagnosis.⁶⁻⁹ Results of a meta-analysis with early stage non-small cell lung cancer (NSCLC) and limited stage small cell lung cancer (SCLC) showed continued smoking increased the risk of all-cause mortality, recurrence and development of a second primary tumour.¹⁰ In patients with NSCLC, quitting smoking was associated with an estimated five-year survival rate of 70% compared to 33% in those who continued to smoke. Survival rates for patients with SCLC were at 63% and 29% in quitters and those who continued to smoke, respectively.¹⁰

There is consistent evidence that tobacco use, namely smoking, reduces the efficacy of radiation therapy and some chemotherapy agents^{5, 11-13} and increases the risk for treatment-induced complications including surgical site infections, pulmonary function and return to the operating room.^{6, 14-16} Studies further report an association between smoking and increased risk of recurrence following cancer treatments among patients with head and neck cancers,^{7, 12, 17, 18} prostate cancer,¹⁹ urothelial cancer,²⁰ and gastric cancer.²¹

Impact of Tobacco Use on Cancer Treatment: Chemotherapy Considerations

Tobacco smoke can interfere with the pharmacokinetic mechanisms of several chemotherapy drugs potentially causing an altered pharmacologic response.^{13, 22} Tobacco smoke increases the amount of drug binding protein resulting in induction of cytochrome-450 enzymes (primarily CYP1A2) and UGT isoenzymes which metabolize several chemotherapy drugs. Nicotine replacement therapy does not impact CYP1A2 activity or reduce cancer drug efficacy.

Erlotinib: Commonly used in the treatment of NSCLC and pancreatic cancer, erlotinib is primarily metabolized by CYPs 3A4 and 1A2. Cigarette smoking has been shown to cause induction of several CYP enzymes primarily by CYP3A4 but also by CYP1A2, resulting in more rapid metabolism and decreased systemic exposure to the drug.²³ Data analyzed from seven clinical trials that administered the standard dose of erlotinib (150 mg once daily) found that smoking status was a significant covariate affecting drug clearance.¹³ Patients who smoked and who were treated with erlotinib experienced a 23.5% increase in clearance and had lower (nearly half) median steady-state trough plasma concentrations compared to never and former smokers.^{13, 22} An increased dose of erlotinib may benefit patients with NSCLC who continue to smoke following diagnosis. Dosing consideration should also be given to patients exposed to secondhand smoke.²²

Irinotecan: Smoking is known to alter the pharmacokinetics of irinotecan, a topoisomerase-I inhibitor used to treat a variety of cancers including colon, rectal, lung, and bone cancers. While not definitive, a study of cancer patients treated with irinotecan (n=190) found those who smoked experienced 40% lower systemic exposure to the active metabolite SN-38, 18% faster clearance, and less neutropenia (6% smokers versus 38% nonsmokers) compared to non-smokers.²² The effects of smoking on irinotecan pharmacokinetics may be attributed to induction and modulation of the CYP3A and UGT1A1 enzymes involved in the drug's metabolism.^{13, 14} The personalization of irinotecan therapy by increasing dosing in patients who smoke has been proposed.²²

Quit Behaviours and Efficacy of Tobacco Cessation among Cancer Patients

Long-term abstinence is an important performance measure and clinical outcome for cessation interventions.²⁴ In the United States, an estimated 62% of patients recently diagnosed with cancer identified as current smokers, recent quitters (quit within the last 12 months), or former smokers.²⁵ In the short-term, cancer patients experience high cessation rates, relapse is common and higher among those experiencing comorbid mental health and/or addiction issues.²⁶⁻²⁸

A longitudinal study examining smoking behaviours among 154 lung and head/neck cancer patients following surgical treatment found that those who smoked the week before surgery experienced a 60% relapse rate at 12 months following their surgery compared to 13% of patients who were abstinent pre-surgery.²⁹ Using backward regression analysis, low quitting self-efficacy ($p=0.029$), higher depression proneness ($p=0.037$), and fear over cancer recurrence ($p=0.028$) were cited as reasons for relapse.²⁹

Tobacco Screening and Treatment in Healthcare Settings

Clinical practice guidelines from leading national and international health and cancer organizations recommend that all healthcare providers screen for and offer tobacco cessation treatment. Although the 5 A's Approach ("Ask, Advise, Assess, Assist, Arrange") is a recognized gold standard to support tobacco cessation across different health-care settings and populations,^{24, 30-33} several published reports have also highlighted the utility and efficacy of the abbreviated "Ask-Advise-Refer" (AAR) model to promote cessation intervention where time constraints and lack of expertise or resources

make it hard for clinicians to deliver a more intensive intervention.^{30, 34} Integrating the first two steps of the 5A's Approach, the AAR model concludes with a referral to available cessation support services for more intensive tobacco treatment and counselling.

The provision of physician-delivered advice to quit is a critical component of tobacco cessation treatment. The results of a 2012 systematic review and meta-analysis comparing advice to quit to the offer of assistance found that advice to quit on medical grounds increased long-term abstinence by 47%; the authors concluded, however, that offering assistance in the form of behavioural counselling or provision of NRT generated more quit attempts than simply giving advice to quit on medical grounds (behavioural support RR=1.69, 95% CI 1.24–2.31; offering medication RR=1.39, 95% CI 1.25–1.54).³⁵

While few studies have addressed the optimal intensity of tobacco interventions with cancer patients and their families, evidence conducted within other clinical settings report a dose-response relationship between intervention time and quit success.³⁰ The 2008 clinical practice guideline from the US Public Health Service reported that abstinence rates increase from 14.4% with brief counselling (<3 minutes) to 18.8% for interventions lasting 4-30 minutes. Optimal total contact time was estimated to be 91–300 minutes, resulting in abstinence rates of roughly 28%.³⁰

Initiating tobacco screening and intervention at the time of diagnosis and/or during the preoperative period is consistently recommended as best practice regardless of cancer type or level of intervention.^{36, 37}

Tobacco Treatment Options with Cancer Patients

Similar to the general population, first-line pharmacotherapy for tobacco cessation with cancer patients include all forms of nicotine replacement therapy (NRT), bupropion and varenicline.^{36, 37} Compared to placebo, varenicline is an effective monotherapy for successful long-term smoking cessation (see Table 1).

Table 1. Effectiveness of Cessation Mono and Combination Therapies

Pharmacotherapy	Abstinence Rate at 6 months (Odds Ratio)
Nicotine Gum	19% (1.5)
Nicotine Patch	23.7% (1.9)
Nicotine Inhaler	24.8% (2.1)
Nicotine Lozenge	19.9% (1.96)
Bupropion SR	24.2% (2.0)
Varenicline	33.2% (3.1)
Patch + Gum or Spray	36.5% (3.6)
Patch + Bupropion	28.9% (2.5)
Patch + Inhaler	25.8% (2.2)

Combination therapies improve efficacy over monotherapies alone (Table 1).³⁰ Systematic reviews show that combining bupropion or varenicline with NRT is more efficacious than either varenicline or bupropion alone.^{38, 39} Compared to NRT monotherapy, bupropion combined with NRT was not found

to be more efficacious.⁴⁰ Two randomized control trials suggest that varenicline combined with bupropion may be more effective than either monotherapy, however more research is needed.^{41, 42}

Treatment with pharmacotherapy combined with behavioural counseling is more effective than pharmacotherapy or counselling alone in both cancer and non-cancer patients. A 2013 meta-analysis comparing smoking cessation interventions with usual care in cancer patients found that the combined use of pharmacological (NRT and varenicline) and behavioural therapy were most effective at improving quit rates.²⁴

Clinical Considerations and Contraindications for Cancer Patients

Nicotine Replace Therapy (NRT): Oral products, including gum, lozenges, spray and inhalers, may be irritating to the oral mucosa and therefore may not be appropriate for use for individuals with oral cancer, or with head and neck cancer who are undergoing radiation and/or receiving chemotherapy with high incidence of stomatitis.⁴³ Some forms of NRT may be contraindicated in the immediate pre-and/or post-operative period in patients who undergo tissue reconstruction where revascularization is a concern. These cases should be discussed on an individual basis with the surgeon and health-care team. In such cases, non-nicotine treatments for smoking cessation are alternate options (e.g., varenicline, bupropion).

Bupropion: In cancer patients experiencing depression symptoms, bupropion has been shown to increase abstinence rates, decrease withdrawal symptoms and increase quality of life compared to those with no depression symptoms.⁴⁴ Bupropion is contraindicated in patients with a history of seizures or those with a predisposition to seizures, such as patients with CNS tumours.³⁰ The drug should also be avoided breast cancer patients taking tamoxifen as bupropion impacts the metabolism of tamoxifen by inhibiting conversion to its active metabolites.⁴⁵ In the general population, bupropion can reduce appetite and prevent weight gain and may warrant monitoring if prescribing in patients who may experience weight loss related to their cancer treatments.⁴³ Bupropion may be associated with neuropsychiatric symptoms, including suicidal ideation, suicide attempts, depressed mood, hostility, and agitation. Patients taking bupropion should be closely monitored for adverse effects and should stop taking the drug immediately if any of these side effects develop.

Varenicline: To date, there are no reported studies of interactions between varenicline and commonly used lung cancer therapies.¹³ A small study testing the effectiveness of varenicline and behavioural support in a cohort of cancer patients reported nausea as the most common side effect, similar to rates reported within general population which has about a 30% incidence.⁴ Drug titration and dosing can reduce nausea and should be considered with cancer patients experiencing cancer-treatment induced nausea.⁴³ Varenicline should be used cautiously in patients with a history of seizures or conditions that lower seizure threshold, and close monitoring is required for neuropsychiatric symptoms with consideration of NRT as an alternate treatment option.⁴⁶ Due to the psychological and medical vulnerability of cancer patients, varenicline is encouraged to be used along with intensive behavioural counselling to support cessation.⁴ While there have been studies of adverse cardiovascular events in patients taking varenicline,⁴⁷⁻⁴⁹ overall data suggest that the benefit

of varenicline as the most effective cessation drug in clinical trials outweighs the low risk of adverse events associated with its use.⁵⁰ Personalization of varenicline and close monitoring are still encouraged if prescribing in patients with cardiovascular disease.

Vaping

Vaping is the act of inhaling and exhaling an aerosol produced by an electronic smoking product, such as an electronic cigarette. Controversy currently exists as to whether vaping is a safer alternative and a potential harm reduction strategy for adults who currently smoke tobacco products.^{51, 52} Some research identifies that vaping may be less harmful than smoking because vaping products do not produce smoke, contain tobacco, or involve burning. In addition, except for nicotine, vaping products typically contain a fraction of the 7,000 chemicals found in tobacco smoke and lower levels of several of the harmful chemicals found in smoke. However, other research has identified health risks associated with vaping, including nicotine poisoning and addiction, health risks of other chemicals in vaping, second-hand vapour, and device malfunctions.⁵²

While evidence is still emerging, these products may reduce health risks and improve success rates for smokers who can't or don't want to quit smoking on their own; however, vaping is not considered a first line smoking cessation therapy.

For additional information, please refer to the [Electronic Smoking Products](#) Information Series, and the [Tobacco Harm Reduction – E-Cigarettes Clinical Support Primer](#), both available from the [Alberta Health Services Tobacco, Vaping & Cannabis Program](#) website.

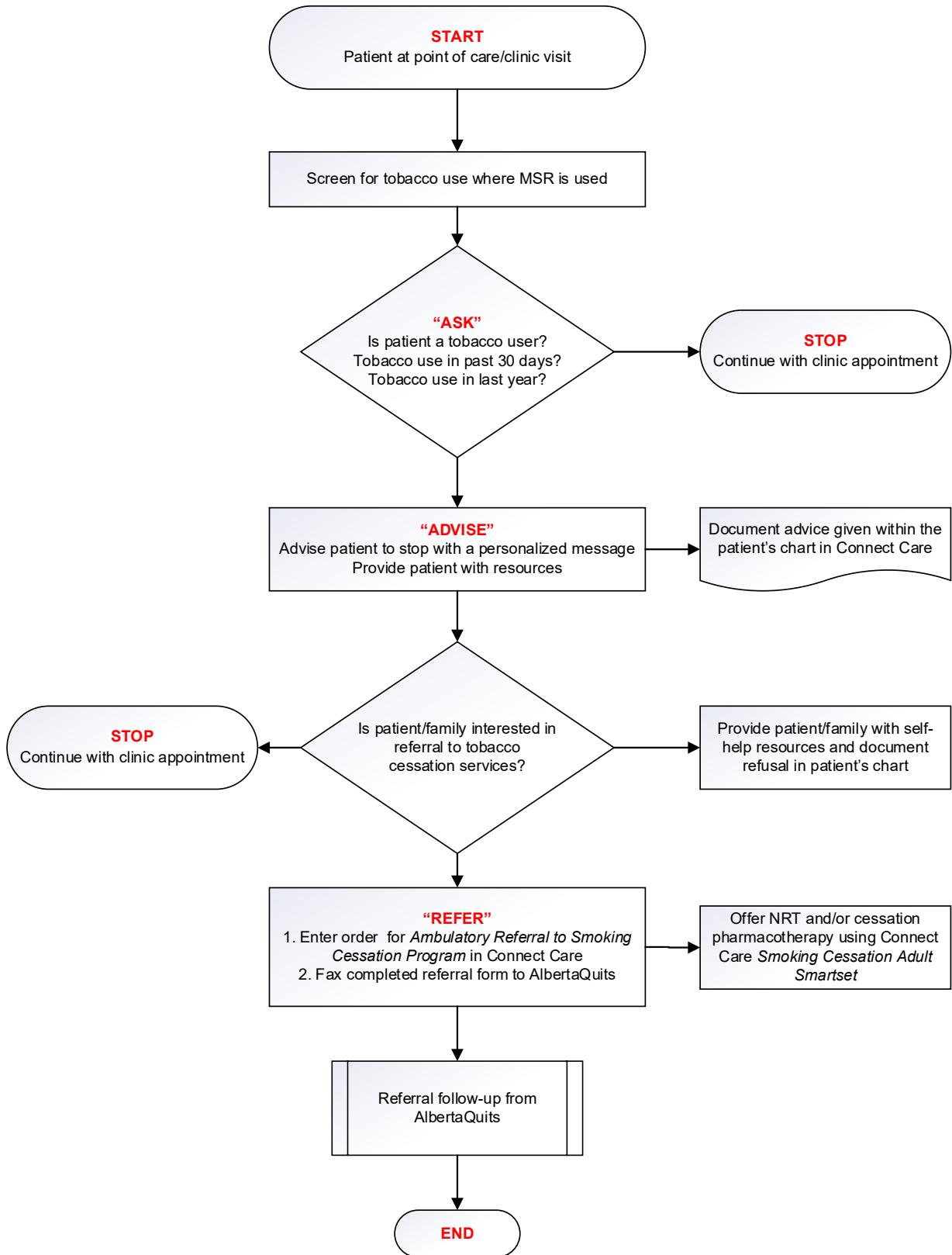
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Appendix A: Algorithm for the Screening and Treatment of Tobacco Use



Appendix B: AlbertaQuits Helpline Referral Process

Figure 1. Screenshot of Connect Care Ambulatory Referral to Smoking Cessation Documentation

Ambulatory Referral to Smoking Cessation Program

Class: Outgoing R. Internal Referral (To Connect Care Department) Outgoing Referral (To Non Connect Care Provider/Location)

Process Inst.: *Note: Outgoing referrals will NOT be sent electronically. A fax request to accompany this order is required. F1 for Help...*

Reference Links: 1. Use the Alberta Referral Directory to determine clinic specific referral guidelines and required information

Referral:

- To dept spec:
- Psychiatry Addiction Medicine
- To prov spec:
- To provider:
- To loc/pos:
- Reason: Specialty Services
- Priority: Routine Routine Urgent

Patient's Current Status: Stable Worsening See Comments

Referred on:

Next Required:

Figure 2. Screenshot of AlbertaQuits Helpline Referral Form

Available online at: <https://www.albertahealthservices.ca/frm-09973.pdf>

 <p>Alberta Health Services</p> <p>AlbertaQuits Helpline Referral</p>	Affix patient label within this box	
<p>Please complete all sections and fax to the AlbertaQuits Helpline at 1.866.979.3553</p>		
Client Demographics		
Last Name	First Name	
Gender <input type="checkbox"/> Male <input type="checkbox"/> Female	PHN	Date of Birth (yyyy-Mon-dd)
Street Address		Home Phone
City	Postal Code	Alternate Phone
Contact Information		
When and where would the client like to be contacted?		
<input type="checkbox"/> Home Phone	<input type="checkbox"/> Alternate Phone	
<input type="checkbox"/> Morning (8 am - 12 pm)	<input type="checkbox"/> Afternoon (12 pm - 6 pm)	<input type="checkbox"/> Evening (6 pm - 8 pm)
<input type="checkbox"/> Weekday	<input type="checkbox"/> Weekend	
Preferred Date (yyyy-Mon-dd) _____		
Consent for leaving message on client's voicemail received?		
<input type="checkbox"/> Yes		
<input type="checkbox"/> No		
Language interpreter required?		
<input type="checkbox"/> Yes, language/dialect (specify) _____		
<input type="checkbox"/> No		
Referring Source		
Physician/PCN/Program/Site	Physician Fax Number	
Address		
Reason for Referral (main concern)		
<input type="checkbox"/> Help for self		
<input type="checkbox"/> Help for someone else		
<input type="checkbox"/> Help during pregnancy		
<input type="checkbox"/> Information		
<input type="checkbox"/> Relapse prevention		
<input type="checkbox"/> Other (specify) _____		

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Appendix C: Summary of Cessation Pharmacotherapy

Drug	Administration	Common Side Effects
Nicotine Patch	<p>7mg (5-10 cigarettes/day); 14mg (11-15 cigarettes/day) and 21mg (16-25 cigarettes/day) per 24 hour sustained release transdermal patches. Take as directed.</p> <ul style="list-style-type: none"> • apply to a clean, dry, hairless area • remove old patch prior to application of new one change sites daily to prevent skin irritation • patient/client is normally advised not to use tobacco while using the patch; however, continued use is generally not considered • dangerous and does not imply treatment failure • if insomnia and vivid dreams are a concern, patch should be removed prior to bedtime 	<ul style="list-style-type: none"> • skin irritation • vivid dreams • insomnia • headache • nausea
Nicotine Gum	<p>2mg - One Piece as instructed every 1-2 hour(s) as needed. 4mg - One Piece as instructed every 1-2 hour(s) as needed.</p> <ul style="list-style-type: none"> • absorbed through the lining in the mouth • do not eat or drink for 15 minutes before or during use • the term "gum" is misleading, as proper use is bite, bite, park, repeat • bite gum until a peppery taste or tingling occurs; park gum • between cheek and gums; repeat when sensation goes away • do not swallow 	<ul style="list-style-type: none"> • mouth or throat soreness • jaw ache • hiccups • flatulence • upset stomach • insomnia • headache • nausea
Nicotine Lozenge	<p>1mg (<20 cigarettes/day); 2mg (Take every 1 - 2 hour(s) as needed.) 2mg nicotine bitartrate dehydrate 2mg and 4mg as nicotine polacrilex</p> <ul style="list-style-type: none"> • absorbed through the lining of the mouth • do not eat or drink for 15 minutes before taking the lozenge • do not chew or swallow the lozenge • slowly suck until there is a strong taste, then rest the lozenge in the cheek, wait 1 minute or until taste fades and then repeat. • may be useful for those who cannot chew gum • sugar-free and safe for use by people with diabetes 	<ul style="list-style-type: none"> • mouth or throat soreness • hiccups • upset stomach • insomnia • headache • nausea
Nicotine Inhaler	<p>10 mg cartridge that delivers 4 mg of nicotine through about 80 inhalations (over 20 minutes of active puffing)</p> <ul style="list-style-type: none"> • hand-mouth activity from using the inhaler is preferred by some quitters the inhaler is useful for those with poor oral health or dentures, and for those who cannot chew gum • similar in appearance to a cigarette: designed to be puffed on • not a true inhaler; the nicotine is delivered and absorbed through the lining in the mouth • allows fine tuning of how much and how often the user consumes nicotine 	<ul style="list-style-type: none"> • mild local irritation of mouth • sinus or throat • cough • dry mouth • hiccups • insomnia • headache • nausea
Nicotine Mouth Spray	<p>Available in a dispenser that contains 150 sprays; each spray delivers 1 mg of nicotine.</p> <ul style="list-style-type: none"> • absorbed through the lining in the mouth • do not eat or drink for 15 minutes before using the spray 	<ul style="list-style-type: none"> • hiccups • throat irritation • increased salivation

	<ul style="list-style-type: none"> if using the spray for the first time, or if the spray has not been used for two days, load the spray pump by pressing on the dispenser several times until a fine spray is released into a tissue point the spray nozzle towards the open mouth and hold as close as possible to the mouth, avoiding the lips press down on the dispenser to release a spray into the mouth do not inhale while spraying and avoid swallowing for a few seconds afterwards expect a strong mint taste in the mouth 	<ul style="list-style-type: none"> tingling sensation of the mouth/lips insomnia headache nausea
Bupropion	<p>150 mg orally daily x 3 days, then 150 mg orally two times daily for 12 weeks</p> <ul style="list-style-type: none"> If insomnia is bothersome, the afternoon dose can be taken early in the evening or late afternoon (as long as it is 8 hours after the morning dose). 	<ul style="list-style-type: none"> insomnia dry mouth headache weight loss agitation
Varenicline	<p>0.5mg, 1mg tablets</p> <ul style="list-style-type: none"> To reduce nausea, take on a full stomach and with a full glass of water. To reduce insomnia, take second dose at supper rather than bedtime. 	<ul style="list-style-type: none"> nausea Insomnia vivid dreams headache constipation agitation, depression, suicidal thoughts

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Development and Revision History

This guideline was developed by a multidisciplinary working group representing members from Cancer Care Alberta, AHS Cancer Prevention and Screening Innovation, the AHS Tobacco, Vaping & Cannabis Program, and a methodologist from the Guideline Resource Unit. The draft guideline was externally reviewed and endorsed by members of the Alberta Provincial Tumour Teams who were not involved in the guideline's development, including medical oncologists, pharmacists, advanced practice nurses, and respiratory therapists. A detailed description of the methodology followed during the guideline development process can be found in the [Guideline Resource Unit Handbook](#).

This guideline was first published in October 2015, revised in June 2016 to abbreviate the cessation intervention model to best support adoption across all CCA clinics and settings, and updated in November 2020 and May 2023.

Maintenance

A formal review of the guideline will be conducted in 2026. If critical new evidence is brought forward before that time, however, the guideline working group members will revise and update the document accordingly.

Abbreviations

AAR, Ask, Advise, Refer; AHS, Alberta Health Services; CAMH, Centre for Addiction and Mental Health; CCA, Cancer Care Alberta; CI, 95% confidence interval; CNS, central nervous system; ESAS-r, Edmonton Symptom Assessment Scale – revised; MSR, My Symptom Report; NRT, Nicotine replacement therapy; NSCLC, Non-small cell lung cancer; RR, risk ratio; SCLC, small cell lung cancer; UGT (isoenzyme), uridine diphosphate glucuronosyltransferase.

Disclaimer

The recommendations contained in this guideline are a consensus of the Tobacco Screening and Treatment Guideline Working Group and are a synthesis of currently accepted approaches to management, derived from a review of relevant scientific literature. Clinicians applying these guidelines should, in consultation with the patient, use independent medical judgment in the context of individual clinical circumstances to direct care.

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Conflict of Interest Statements

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