Smoking Cessation Module

Tobacco use is the single greatest preventable cause of chronic diseases and premature deaths worldwide. The Canadian Cancer Society reports that tobacco product use is responsible for about 30% of all cancer deaths in Canada (1).

Quitting tobacco/cigarette smoking is considered one of the hardest things your patients may have to deal with. Encourage them and let them know you are willing and able to support them to quit. The 5A's, **ASK**, **ADVISE**, **ASSESS**, **ASSIST** and **ARRANGE**, are recommended interventions for use in the daily practice of all healthcare providers. These interventions ensure patients are informed and engaged as well as enable healthcare providers to be proactive to help patients with tobacco cessation (2).

Brent Friesen, the Principal Investigator for Tobacco Futures, states that, "If you are a healthcare provider who sees **5 to 10** patients/clients a day, using the 5-A's approach could result in **12 to 24** of the people you see in a year stopping their tobacco use. This would not be accomplished without your support! This number of lives saved is potentially one of the most effective interventions that a healthcare provider could do for their patients/clients" (3).

The 5A's are practice guidelines on tobacco use prevention and cessation treatment (4):

1. **ASK** – Ask about tobacco use at every visit in a non-judgmental manner.
Every individual, 10 years of age and older, should be asked about his/her tobacco use as a standard of care and responses documented:

a) Implement a system in your pharmacy that ensures tobacco use status is obtained and documented. For example, record tobacco use along with vital signs (blood pressure, pulse, respiratory rate, temperature) and weight. Tobacco use should identify: **Current** or **Former** use, **Passive exposure (e.g. exposed to second hand smoke)**, **Never used** and **Recent quits** (cessation within the last year).

b) The identification of tobacco use should take into account:

- Use of all forms of tobacco including: cigarettes, cigars/cigarillos, spit/chew, pipe, and water pipes.
- Quantity and duration of use to determine level of tobacco dependence.
- Nicotine addiction.
- Time since last use.

2. **ADVISE** – Advise tobacco users to quit:
Advice from a health care provider can double the chances of a successful quit attempt (5). Let your patients know that quitting smoking is the most important thing to do to protect their health. Every patient should be informed of the Alberta Health Services Tobacco and Smoke-Free Environments Policy – The AHS *Tobacco and Smoke-Free Environments Policy* became effective on April 1, 2011. The policy outlines the commitment to a smoke and tobacco-free environment while ensuring the well-being of patients who use tobacco products. For more information on the policy, visit **AHS**

Tobacco and Smoke Free Environments Policy
at http://insite.albertahealthservices.ca/3548.asp

3. **ASSESS** – Assess readiness to quit:

a) Ask every tobacco user if he/she is ready to quit. Respect patient autonomy.
b) If willing to quit, provide resources and assistance.
c) If unwilling to quit, provide resources, and help patient identify barriers to quitting. Supplementary resources for patients and healthcare providers to assist with cessation support can be found at www.tobaccofreefutures.ca or http://www.albertaquits.ca/.

In addition, you can provide the patient with information regarding the adverse health effect of tobacco use based on sound scientific research:

- In Alberta, tobacco use and exposure is responsible for about 30% of all Cancer-related deaths.
- The risk of hospitalization for current smokers aged 45 to 74 is 80% higher than nonsmokers.
- Smokers aged 45-54 will stay in hospital on average 1.5 days longer while those aged 65 to 74 will stay an average 6 days longer. 20% of patients admitted to hospital are smokers.

Continue by stating the benefits of cessation based on sound scientific studies:

Within minutes of the last tobacco use - the body will start a process of healing that will continue over the following weeks, months and years:

- Within 20 minutes – blood pressure drops to a person's normal level.
- 8 hours – blood carbon monoxide levels drop to normal.
- 24 hours – chances of having a heart attack decrease.
- 2 weeks to 3 months – circulation improves.
- 9 months – lung function improves with less coughing, congestion, fatigue and shortness of breath.
- 1 year – risk of coronary heart disease reduces by half.
- 5 years – risk of stroke significantly reduces.
- 10 years – risk of lung cancer death reduces by half.

- 15 years – risk of coronary heart disease is the same as a non-smoker.

4. **ASSIST** – Assist every tobacco user with a quit plan:
   a) Set a quit date (ideally within 2 weeks).
   b) Get support from family, friends and co-workers.
   c) Review past quit attempts, what helped and what led to relapse.
   d) Anticipate challenges, particularly during the critical first few weeks, including nicotine withdrawal. Discuss nicotine withdrawal symptoms (irritability, anxiety, difficulty concentrating, restlessness, sleeplessness, depression, increased appetite, cravings) [6].
   e) Identify the reasons for quitting and the benefits of quitting.
   f) Give the following advice on successful quitting:
      - Total abstinence is essential – not even a single puff.
      - Drinking alcohol is strongly associated with relapse.
      - Having other smokers in the household hinders successful quitting.

   g) Encourage use of pharmacotherapy. Pharmacotherapy is a safe and effective way to improve patient comfort and support cessation (See table below):
      - Tobacco users who are interested in quitting should be provided with pharmacotherapy, to reduce the impact of withdrawal, and should be linked to behavioral supports.
      - Motivational interviewing is highly encouraged to support patients' willingness to make a quit attempt now and in the future. (**For more information on Motivational Interviewing, please refer to the Diet Module**)

   h) Effectively communicate and document the patient's desire for pharmacotherapy to his/her physician or other prescribers.
   i) Prescribe smoking cessation medications, such as varenicline, nicotine patch/gum/spray/inhaler/lozenge, bupropion. Nicotine replacement therapy (NRT), bupropion SR and varenicline are effective pharmacotherapy agents which have been approved by Health Canada to support tobacco cessation. The most effective way to manage successful cessation is by combining behavioral and pharmaceutical cessation interventions to manage the cravings (7). Healthcare providers should conduct regular assessments of patients who take these medications to determine adherence to treatment, adjust medications as necessary (to ensure withdrawal relief) and rule out nicotine toxicity.
   Signs of nicotine toxicity include nausea, abdominal pain, vomiting, diarrhea, hyper-salivation, perspiration, headache, dizziness, hearing and visual disturbances, mental confusion, and weakness [8].
   j) Provide resources and smoking cessation materials that are appropriate to age, culture, language, education and pregnancy status. Refer to the following sites for further information:

   1. Alberta Quits http://www.albertaquits.ca/

2. Tobacco Free Futures http://www.Tobaccofreefutures.ca

5. **ARRANGE** – Arrange follow up visits. Research indicates that a high percentage of those who ultimately return to smoking will do so by 6 months (9).

a) Provide information for follow up visits with patients.
b) If a relapse occurs, encourage repeat quit attempts. Let patients know that relapse is a part of the quitting process.
c) Use relapses as a learning process. Review and identify circumstances that caused the relapse.
e) Reassess pharmacotherapy use and problems.
d) Tobacco treatments should be tailored to the needs of the individual tobacco user. For example, tobacco users requiring minimal assistance may only require brief intervention as opposed to a tobacco user with a concurrent disorder who may require more intensive support (5).

Tips and strategies on what to do according to Fiore et al when patients:

1. **Are ready to quit** – Follow the 5As as mentioned earlier **AND**

a). Assess interest of the patient in participating in an intensive treatment program to make a quit attempt. Assessment can include readiness, importance, confidence to quit, stress level, level of nicotine dependence, supportive social network and environment, psychiatric comorbidity and substance use.

b). Program clinicians of multiple disciplines are effective and should be considered. A team of medical and non-medical professionals may provide intensive counseling and pharmacotherapy support.

c). Program intensity should consist of a minimum of 4 sessions with each session lasting 10 minutes or longer.

d). Program format includes either individual or group counseling. Telephone counseling is also effective and can supplement treatment. Use of self-help materials and web-based support with intensive programs is optional.

e). Counseling and behavioral therapies should include practical counseling (problem solving/skills training) and intra-treatment social support. This can include basic information about tobacco use and successful quitting, development of coping skills, identifying triggers and high-risk situations that increase the risk of tobacco use or relapse.

f). Medication should be offered to all tobacco users making a quit attempt.

g). Populations of all types benefit from intensive treatment. All tobacco users willing to participate should be offered intensive treatment.

2. Have recently quit

Studies have shown that tobacco users who have recently quit are at high risk of relapse and may need ongoing support from healthcare professionals to remain tobacco free and to deal effectively with issues associated with relapse (8). Any former tobacco user should be encouraged, supported to remain tobacco free and commended for their successes. Provide opportunities for discussion of the following:

a) Benefits of cessation and remaining tobacco-free
b) Successes experienced (e.g. length of quit, decreasing withdrawal and improved health)
c) Threats to continued cessation (e.g ongoing withdrawal symptoms, weight gain, depressed mood, significant stress)
d) Ongoing use and effectiveness of pharmacotherapy

3. Are not ready to quit

Many of the patients who acknowledge their use of tobacco products may not be ready to accept support to quit. Motivational interviewing techniques have been found to be effective when used to conduct a brief intervention (9). This approach, which includes tools such as the 5-R's, can motivate tobacco users to begin to think more critically about their use and possibly lead to a quit attempt in the future. The 5-R's include:

a). **Relevance:** Ask the smoker why quitting is personally relevant to him or her

b). **Risks:** Ask the smoker to identify the consequences of his or her smoking

c). **Rewards:** Ask the smoker to identify the benefits that he or she might get from quitting

d). **Roadblocks:** Ask the smoker to identify what some of his or her barriers are to quitting.

e). **Repetition:** These questions should be repeated at every clinical encounter.

References

1. ACB. (2007). *Briefing Note: Evidence Supporting Tobacco Control Policies*. Calgary: Alberta Cancer Board.
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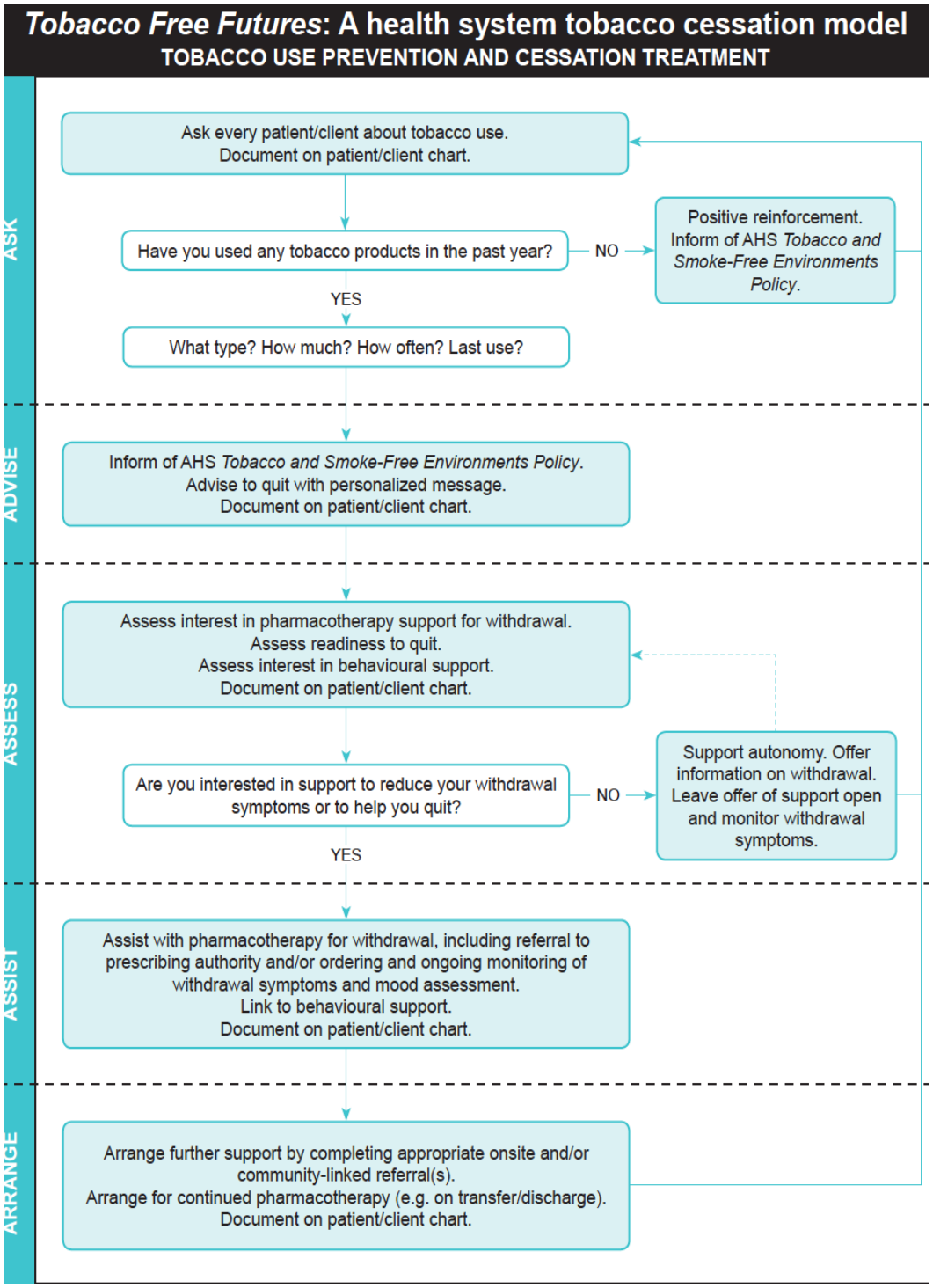
8. Hughes J. (2007). Measurement of the effects of abstinence from tobacco: a qualitative review. *Psychology of Addictive Behaviours*; 1(2): 127-137.
9. Fiore M., Bailey W., Cohen S. et al. (2008).*Treating Tobacco Use and Dependence*. Rockville, MD: US Department of Health and Human Services, Public Health Service.
10. Kroenke K., Spitzer R. & Williams J. (2003). The Patient Health Questionnaire – 2: Validity of a two-item depression screener. Medical Care 41(11):1284-1292.

Appendices

All tables and figures below are from the Alberta Health Services Tobacco Free Futures Guidelines (http://www.tobaccofreefutures.ca)



Summary of pharmacotherapy for nicotine withdrawal support [6,9]

DRUG	PREPARATIONS	COMMON SIDE EFFECTS	CORRECT USE	DRUG INTERACTIONS**
NICOTINE PATCH • sustained release • provides a steady, slow release of nicotine over 16 or 24 hours of use • average $3-$4/ day	• available in 21 mg, 14 mg, and 7 mg dosages per 24 hours (under AHS formulary) • also available in 15 mg, 10 mg, and 5 mg dosages per 16 hours (not under AHS formulary) • dosage should be titrated dependent on history of tobacco use • recommended patch(es) used daily x6 weeks then reassess; strength is reduced over time • may be used alone or in combination with other NRT (e.g., gum plus patch) or bupropion SR (combination with varenicline may also be considered[4])	• skin irritation • vivid dreams • insomnia • headache • nausea	• 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	Nicotine may: • reduce the sedative effects of benzodiazepines, • decrease subcutaneous absorption of insulin • reduce effectiveness of beta-blockers • lessen effectiveness of opioid analgesia. Changes in drug metabolism are similar on NRT to those seen when quitting without NRT. Adjustments in these types of medications may be necessary.
NICOTINE GUM • immediate release • effect within 15 minutes of use • average $2-$8/ day (6-25 pieces)	• available in 2 mg and 4 mg dosages • approved under AHS formulary • dosage should be titrated dependent on history of tobacco use • recommended one piece every 1 hour as needed; maximum 20 pieces per day • recommended that number and frequency used is decreased over time (reduction with intent to quit using nicotine gum may also be considered[12]) • may be used alone or in combination with other NRT or bupropion SR	• mouth or throat soreness • jaw ache • hiccups • flatulence • stomach upset • insomnia • headache • nausea	• 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	Nicotine may: • reduce the sedative effects of benzodiazepines, • decrease subcutaneous absorption of insulin • reduce effectiveness of beta-blockers • lessen effectiveness of opioid analgesia. Changes in drug metabolism are similar on NRT to those seen when quitting without NRT. Adjustments in these types of medications may be necessary.

DRUG	PREPARATIONS	COMMON SIDE EFFECTS	CORRECT USE	DRUG INTERACTIONS**
NICOTINE LOZENGE • immediate release • effect within 15 minutes of use • average $4-$10/day (6-15 lozenges)	• available in 1 mg, 2 mg, and 4 mg dosages • approved under AHS formulary • dosage should be titrated dependent on history of tobacco use • recommended one lozenge every 1 hour as needed; maximum 20 lozenges per day. • should dissolve within 20-30 minutes • recommended that number and frequency used is decreased over time • may be used alone or in combination with other NRT and buprorion SR	• mouth or throat soreness • hiccups • stomach upset • insomnia • headache • nausea	• absorbed through the lining in 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. • maybe useful for those who cannot chew gum • sugar-free and safe for use by people with diabetes	Nicotine may: • reduce the sedative effects of benzodiazepines, • decrease subcutaneous absorption of insulin • reduce effectiveness of beta-blockers • lessen effectiveness of opioid analgesia. Changes in drug metabolism are similar on NRT to those seen when quitting without NRT. Adjustments in these types of medications may be necessary.
NICOTINE INHALER • immediate release • effect within 15 minutes of use • average $6-$12/day (6-12 cartridges)	• available in a 10 mg cartridge that delivers 4 mg of nicotine through about 80 inhalations (over 20 minutes of active puffing) • approved under AHS formulary • dosage should titrated dependent history of tobacco use • recommended one cartridge every 20 minutes as needed; maximum 16 cartridges/day • recommended that number and frequency used is decreased over time, stopping when reduced to 1 or 2 cartridges per day • may be used alone or in combination with other NRT or bupropion SR	• mild local irritation of mouth, sinus or throat • cough • dry mouth • hiccups • insomnia • headache • nausea	• 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	Nicotine may: • reduce the sedative effects of benzodiazepines, • decrease subcutaneous absorption of insulin • reduce effectiveness of beta-blockers • lessen effectiveness of opioid analgesia. Changes in drug metabolism are similar on NRT to those seen when quitting without NRT. Adjustments in these types of medications may be necessary.

DRUG	PREPARATIONS	COMMON SIDE EFFECTS	CORRECT USE	DRUG INTERACTIONS**
NICOTINE MOUTH SPRAY • immediate release • effect within 60 seconds of use • average $4/day (15 sprays)	• available in a dispenser that contains 150 sprays. Each spray delivers 1 mg of nicotine. • dosage should titrated dependent history of tobacco use • recommended 1-2 sprays as needed; Maximum dose is 2 sprays at a time, 4 sprays per hour, and 64 sprays/day • recommended that number and frequency used is decreased over time, stopping when reduced to 2 to 4 sprays per day • may be used alone or in combination with other NRT or bupropion SR	• hiccups • throat irritation • increased salivation • tingling sensation of the mouth/lips • insomnia • headache • nausea	• absorbed through the lining in the mouth • do not eat or drink for 15 minutes before using the spray • 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. • 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 avoiding swallowing for a few seconds afterwards. • expect a strong mint taste in the mouth.	Nicotine may: • reduce the sedative effects of benzodiazepines, • decrease subcutaneous absorption of insulin • reduce effectiveness of beta-blockers • lessen effectiveness of opioid analgesia. Changes in drug metabolism are similar on NRT to those seen when quitting without NRT. Adjustments in these types of medications may be necessary.
BUPROPION SR • sustained release • average $2-$3/ day	• begin treatment one to two weeks before quit date • approved under AHS formulary • usual 150 mg in am X 3 days; increase to 150 mg twice daily X 7-12 weeks • may be used alone or in combination with NRT (may consider using in combination with varenicline)[5]	• insomnia • dry mouth • headache • weight loss • agitation	• should be monitored for unusual feelings of agitation, hostility, aggression, depressed mood, hallucinations, changes in behaviour or suicidal thoughts • contraindicated for those who have seizures, eating disorders, active alcohol addiction or who are on Monoamine Oxidase Inhibitors • insomnia may be avoided by taking PM dose earlier	Some drugs in the following classes have the potential to significantly interact with buproprion SR: • Alkylating agents • muscle relaxant • tricyclic • antidepressants • antipsychotics • anti-arrhythmics • MAO inhibitors • antiseizure medication • betablockers • Phenobarbital • H2 blockers

DRUG	PREPARATIONS	COMMON SIDE EFFECTS	CORRECT USE	DRUG INTERACTIONS**
VARENICLINE • average $3.50-$4.50/day	• begin treatment 1 to 2 weeks before quit date • approved under AHS formulary • usual dose 0.5 mg one daily for 3 days, then 0.5 mg twice daily for 4 days, then 1 mg twice daily for 12 weeks • Alternate maintenance dose 0.5 mg twice daily for 12 weeks • may be extended for 12 weeks	• nausea • insomnia • vivid dreams • headache • constipation • agitation, depression, suicidal thoughts	• should be monitored for unusual feelings of agitation, hostility, aggression, depressed mood, hallucinations, changes in behaviour or suicidal thoughts • should be monitored for and informed of symptoms of heart attack and stroke and instructed to seek immediate medical help if they experience them • take with food to reduce nausea; nausea may subside with continued use • insomnia may be avoided by taking PM dose at supper	No significant drug-drug interactions are known

** Polycyclic aromatic hydrocarbons in the tar of tobacco smoke impact liver enzymes (cytochrome P-450) causing faster metabolism of some drugs. Numerous medications may be impacted once a person stops smoking including: antidepressants (tricyclics, fluvoxamine), antipsychotics (clozapine, olanzapine, haloperidol), caffeine, benzodiazepines (chlordiazepoxide, diazepam), nifedipine, propafenone, theophylline, verapamil, and warfarin.* [2,4]

*** Refer to product monographs for more detailed information. All medications need to be closely monitored and adjusted accordingly.*

Assessing nicotine withdrawal

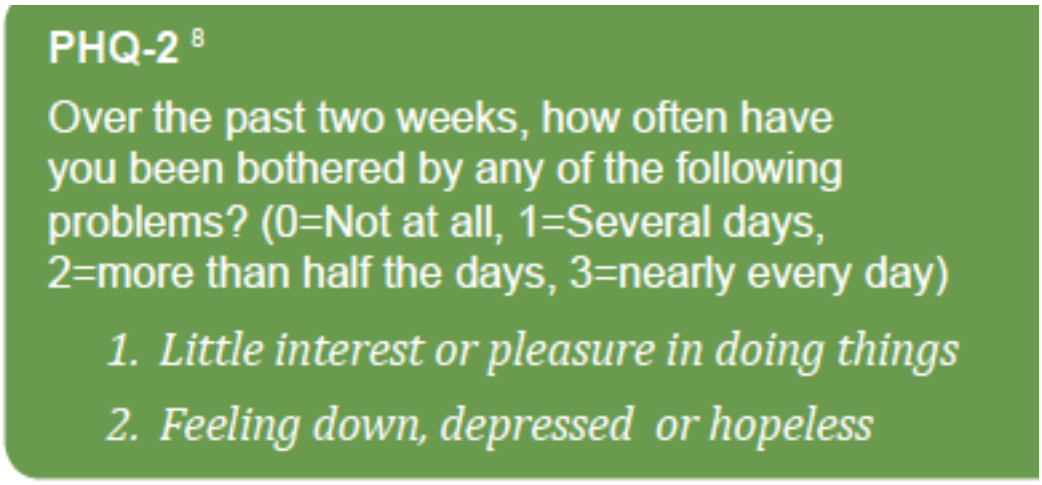
Withdrawal Scale **adapted from Minnesota Nicotine Withdrawal Scale*
If receiving pharmacotherapy and moderate to severe withdrawal symptoms persist reassess: technique, dose and frequency.

0 = none 1 = slight 2 = mild 3 = moderate 4 = severe

SYMPTOMS						
Desire / cravings	1	2	3	4	5	
Anger/ irritability/frustration	1	2	3	4	5	
Anxiety/nervousness	1	2	3	4	5	
Difficulty concentrating	1	2	3	4	5	
Restlessness	1	2	3	4	5	
Insomnia/sleep problems/waking at night	1	2	3	4	5	
Increased appetite/weight gain	1	2	3	4	5	
Depressed mood***	1	2	3	4	5	
						Total score:

Caution
Quitting smoking can decrease tolerance to caffeine. Symptoms associated with this increase in caffeine effect can often be confused with nicotine withdrawal symptoms.

*****Brief Mood Assessment:** Complete brief mood assessment (PHQ-2) if moderate to severe depressed mood identified.



There is strong evidence for the use of the Personal Health Questionnaire – 2 (PHQ-2) as a brief depression screening measure due to nicotine withdrawal. This measure inquires about the frequency of depressed mood and absence of pleasure over 2 weeks. The total score ranges from 0-6 with a score of 3 as the outpoint as shown in the figure above. A score of 3 would suggest that a mental health specialist be consulted (2; 10).