APPENDIX 1. Harm Reduction for Patients Not Ready to Quit Smoking

Aim of Treatment	Harm Reduction Through Reduced Smoking	
	Common steps to use	***Follow-up***
Reduce toward stopping	Take comprehensive smoking history, daily smoking habits (i.e., within 30 minutes of waking) at every consultation. Written instructions for pharmacotherapy, to start 2–4 weeks before proposed stop date. Set stop date within four weeks. Focus on problem-solving, set reduction goals: i.e., ≥ 25% 1st week; ≥ 50% 2nd week; ≥ 75% by stop date. Discuss barriers, pitfalls and specific coping strategies e.g., increasing time between cigarettes ranking easiest to hardest times to apply. Referral for support, i.e., counselling (solo or group). Self-help material. Remind to book a follow-up 1–2 weeks after stop date.	Evaluate smoking status. Congratulate those who have stopped smoking. Ask about adverse events. Encourage continued use of pharmacotherapy. Identify triggers and inquire about effectiveness of coping strategies. In the event of relapse: reasons for and treatment goals.
Reduce smoking only (no immediate intention to stop)	Referral for support, i.e. counselling (solo or group). Self-help material. Explain the role of pharmacotherapy in smoking reduction. Promote setting of reduction goal (e.g., by 50%) OR reduce as much as possible. Recommend two common techniques: • increase time between cigarettes. • rank easiest to hardest cigarettes to give up during the day; methodically eliminate easiest to hardest each day.	Ask about desire to stop; if intention has changed (i.e., interest in considering stopping) follow above steps for ***reduce-to-stop***.
Unwilling to reduce or stop smoking	Use 5Rs as motivational intervention [High Evidence].	Evaluate smoking status. Congratulate those who have stopped smoking.

Sources:

1) Reid RD, Pritchard G, Walker K, Aitken D, Mullen KA, Pipe AL. Managing smoking cessation. CMAJ. 2016;188(17-18:E484-E92. PM:27698200;

2) Larzelere MM, Williams DE. Promoting smoking cessation. Am Fam Physician. 2012;85(6):591-8. PM:22534270

APPENDIX 2. Effectiveness of Pharmacotherapy for Smoking Cessation

Treatment	*Effectiveness*	*Prescribing/Titration*	*Contraindications (CI)*	*Side Effects (SE)*	*Comments*
Patch ***16hr or 24hr***	NNT= ~15 for abstinence at 6 months with monotherapy[15]	Starting 1-4 weeks before stop date may increase success. Peak level after 6-12 hours. Apply new patch each morning. Use for 8-12 weeks post stop date	Hypersensitivity to ingredients Eczema	Skin irritation (32%): may be reduced by allowing alcohol on adhesive backing to evaporate for 60 seconds before applying to skin. Headache 20%. Insomnia/nightmares if worn at night.	**Serious addiction**: consider high dosage (> 21 mg/d). **Pregnancy:** apply for only 16 hours/day to reduce exposure to foetus. May use prn.
Gum	For ≥ 6 months, RR=0.99 (0.68-1.43)[12]	~1 pc/hr PRN to a max of 20-24 pcs. Avg = 10-16/days Coffee & acidic beverages affect absorption (min. 15 min apart) Individual taper Use for 8-12 weeks post stop date (and longer if needed)	Dental issues; TMJ syndrome; consider patch for patients at increased cardiac risk	Cough, throat irritation (mild), nausea/dyspepsia.	50% of nicotine remains in gum after chewing. Recommend "chew & park" chew, hold in cheek for 1 min, then chew again for rapid delivery through buccal mucosa. **Pregnancy:** may be preference as on-demand source of nicotine vs. constant (patch).
Lozenge ***mini-lozenge***	For ≥ 6 months RR=1.36 (1.17-1.59)[12]	Maximum: 15x2 mg lozenges in 24 hrs Customise dose- flexible scheduling Peak level after 30 minutes Use for 8-12 weeks post stop date (and longer if needed)	Not advised for patients at increased risk of cardiac events – consider patch **DO NOT** chew or swallow Avoid if client has phenylketonuria (PKU)	Soreness (gums, teeth, throat); hiccups; heartburn/indigestion. May delay weight gain.	No food or drink within 15 min of use or while in mouth. Lozenges may contain phenylalanine.
Inhalator ***Nasal spray*** ***Mouth spray***		May use flexible scheduling1 cartridge = 40 minutes intense inhalation periods Max absorption from short, continuous, frequent puffs Inhalator: 6max cartridges/day; Nasal spray: one dose per nostril; maximum 2 sprays per nostril/hour (64 sprays per day) Mouth spray: 1-2 sprays every 30-60 minutes Max 2 sprays per dose and 4 sprays per hour (daily max 64 sprays)	Not advised for patients at increased risk of cardiac events- consider patch Caution for those with bronchial asthma	Inhalator – similar to gum lozenge, but possible coughing too. Nasal spray – sneezing, coughing, eyes watering	Buccal mucosal absorption for rapid solution to severe cravings. Prescription required. Inhaler good for 24 hours once punctured.
Varenicline ***0.5, 1.0 mg tabs***	RR = 2.24 (2.06-2.43) Low dose: RR = 2.08 (1.56-2.78)[2] NNT= 8 at 6 months[2]	Start 7-14 days before stop date To be taken with water and food 0.5 mg/d, on days 1-3 0.5 mg BID on days 4-7 May increase at 1 mg BID for 12 wks An additional 12wks of 1mg BID can be considered for those that require it[78]	Psychiatric history is not a contraindication to use of varenicline[17]	Nausea (30%): may be managed by reducing dose back to 0.5 mg bid; sleep problems or abnormal dreams (18%); affects taste; fewer SE affecting discontinuing use compared to bupropion. Controversial SE include increased CV risk, end-stage renal failure. If used with: NRT – increased nausea. With alcohol, increased susceptibility to intoxication and amnesia.	Effective for stable depression.

APPENDIX 2. Effectiveness of Pharmacotherapy for Smoking Cessation cont'd

Treatment	*Effectiveness*	*Prescribing/Titration*	*Contraindications (CI)*	*Side Effects (SE)*	*Comments*
Combined Pharmacotherapy: ***NRT patch + NRT (different applications):*** 25%–30% more effective long-term than individual monotherapy; For acute smoking cravings (monitor regularly) RR 1.34 (95% CI: 1.18-1.51) ***NRT + varenicline:****: More effective than varenicline alone; No increase in adverse events. Significant increase in abstinence rate (32.4%; OR = 1.62, 95% CI 1.18-2.23)[8] *Not recommended for routine use in Scotland					

Sources: 1. Reid RD, Pritchard G, Walker K, Aitken D, Mullen KA, Pipe AL. Managing smoking cessation. CMAJ. 2016;188(17-18):E484-E92; **2)** Cahill K, Lindson-Hawley N, Thomas KH, Fanshawe TR, Lancaster T. Nicotine receptor partial agonists for smoking cessation. Cochrane Database Syst Rev. 2016(5):CD006103; **3)** Lindson-Hawley N, Hartmann-Boyce J, Fanshawe TR, Begh R, Farley A, Lancaster T. Interventions to reduce harm from continued tobacco use. Cochrane Database Syst Rev. 2016;10:CD005231; **4**) Cahill K, Stevens S, Lancaster T. Pharmacological; treatments for smoking cessation. JAMA. 2014;311(2):193-4; **5)** Nijjar G. Smoking Cessation Pharmacotherapy: Special Populations Pearls. EDs: Jensen K, Burgess J, Appel S, College of Pharmacy & Nutrition University of Saskatchewan. medSask, YOUR MEDICATION INFORMATION SERVICE January 2015. www.medsask.usask.ca ; **6)** Larzelere MM, Williams DE. Promoting smoking cessation. Am Fam Physician. 2012;85(6):591-; **7)** Mills EJ, Thorlund K, Eapen S, Wu P, Prochaska JJ. Cardiovascular events associated with smoking cessation pharmacotherapies: a network meta-analysis. Circulation. 2014;129(1):28-41. PM:24323793; **8)** Thomas KH, Martin RM, Knipe DW, Higgins JP, Gunnell D. Risk of neuropsychiatric adverse events associated with varenicline: systematic review and meta-analysis. BMJ. 2015;350:h1109. PM:25767129; **9)** Regier L, Jensen B, Chang W. Tobacco/Smoking Cessation: Pharmacotherapy It's never too late to quit. Taylor J, RXFiles. Saskatoon, SK: 2018. www.RxFiles.ca ; **10)** Chang P-H, Chiang C-H, Ho W-C, Wu P-Z, Tsai J-S, Guo F-R. Combination therapy of varenicline with nicotine replacement therapy is better than varenicline alone: a systematic review and meta-analysis of randomized controlled trials. BMC Public Health. 2015;15:689. PM:PMC4508997; **11)** Nicotine Replacement Therapy, Burpropion and Varenicline for Tobacco Cessation: A Review of Clinical Effectiveness. Canadian Agency for Drugs and Techonolgies in Health. 2016. Report # RC0747 www.cadth.ca; **12)** Ebbert JO, Elrashidi MY, Stead LF. Interventions for smokeless tobacco use cessation. Cochrane Database Syst Rev. 2015(10):CD004306. PM:26501380.; **13)** Ebbert JO, Croghan IT, Hurt RT, Schroeder DR, Hays JT. Varenicline for Smoking Cessation in Light Smokers. Nicotine Tob Res. 2016;18(10):2031-5. PM:27117285; **14)** Hughes JR, Stead LF, Hartmann-Boyce J, Cahill K, Lancaster T. Antidepressants for smoking cessation. Cochrane Database Syst Rev. 2014(1):CD000031. PM:24402784; **15)** Stead LF, Perera R, Bullen C, et al. Nicotine replacement therapy for smoking cessation. Cochrane Database Syst Rev. 2012;11:CD000146. PM:23152200; **16)** Karnieg T, Wang X. Cytisine for smoking cessation. CMAJ. 2018;190(19):E596. PM:29759967; **17)** Anthenelli RM, Benowitz NL, West R, et al. Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. Lancet. 2016;387(10037):2507-20. PM:27116918

Smoking Cessation

Health benefits begin soon after you smoke your last cigarette:

- Within 20 minutes, your blood pressure drops.
- Within 8 hours, carbon monoxide levels in your blood drop to normal.
- At 24 hours, your risk of a heart attack begins to fall.
- At 2 weeks to 9 months, you can breathe easier as you can get more air into your lungs.
- At 1 year, your risk of heart disease and stroke from smoking drops by 50%.
- At 5 years, your risk of stroke is the same as a non-smoker.
- At 10 years, your risk of dying from lung cancer reduces significantly.
- At 15 years, your risk of heart disease equals that of a non-smoker.

What can you do to stop smoking?

Even though stopping smoking will improve your health, it can be hard to stop. Speak with your doctor, nurse or pharmacist to discuss the best options for you. Nicotine replacement therapies (NRTs), medicine, and counselling are available to make stopping easier.

- ***Nicotine Replacement Therapies:*** These are available over-the-counter as skin patches, chewing gum, nasal sprays, inhalers, and lozenges. They contain less nicotine than cigarettes. They can help lessen nicotine cravings and withdrawal symptoms.

- ***Medicines:*** : Varenicline (brand name Champix) is a prescription pill that does not contain nicotine, but has been shown to help people stop smoking. This medicine should be started a week or two before you try to stop. There is also a natural health product called cytosine that is an option to help you stop smoking.

What are some of the side effects of stopping?

Your body gets used to the effects of nicotine, so you will experience withdrawal when you no longer smoke. Symptoms of withdrawal are different for different people, and may include feeling irritable, nervous, jittery, or sleepy. You may have trouble concentrating or feel more hungry than usual. These symptoms are usually worst during the first week after you stop, but it is important to understand that they may last up to a month or longer. Talk with your doctor, nurse or pharmacist about ways you can manage these symptoms.

Online resources

- NHS Inform Stopping Smoking https://www.nhsinform.scot/healthy-living/stopping-smoking
- information for smokers and friends and family, stop plans, advice on reasons to stop smoking (including benefits, a saving calucator, advice on smoking in pregnancy and second- hand smoke)
- Quit Your Way Scotland: https://www.nhsinform.scot/care-support-and-rights/nhs-services/helplines/quit-your-way-scotland Advice and support service for anyone trying to stop smoking in Scotland, including access to a trained stop smoking advisor and referral to local services