Smoking Cessation
FM Clerkship Tutorial

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- Matthew W. Loranger, B.Sc., Ph.D.
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Objectives

01

Identify patient's stage of change in quitting smoking

02

Understand & practice brief interventions (motivational interviewing) to support behaviour modification

03

Describe management of nicotine addiction with community resources, nicotine replacement therapy and prescription medications

Take Away Points

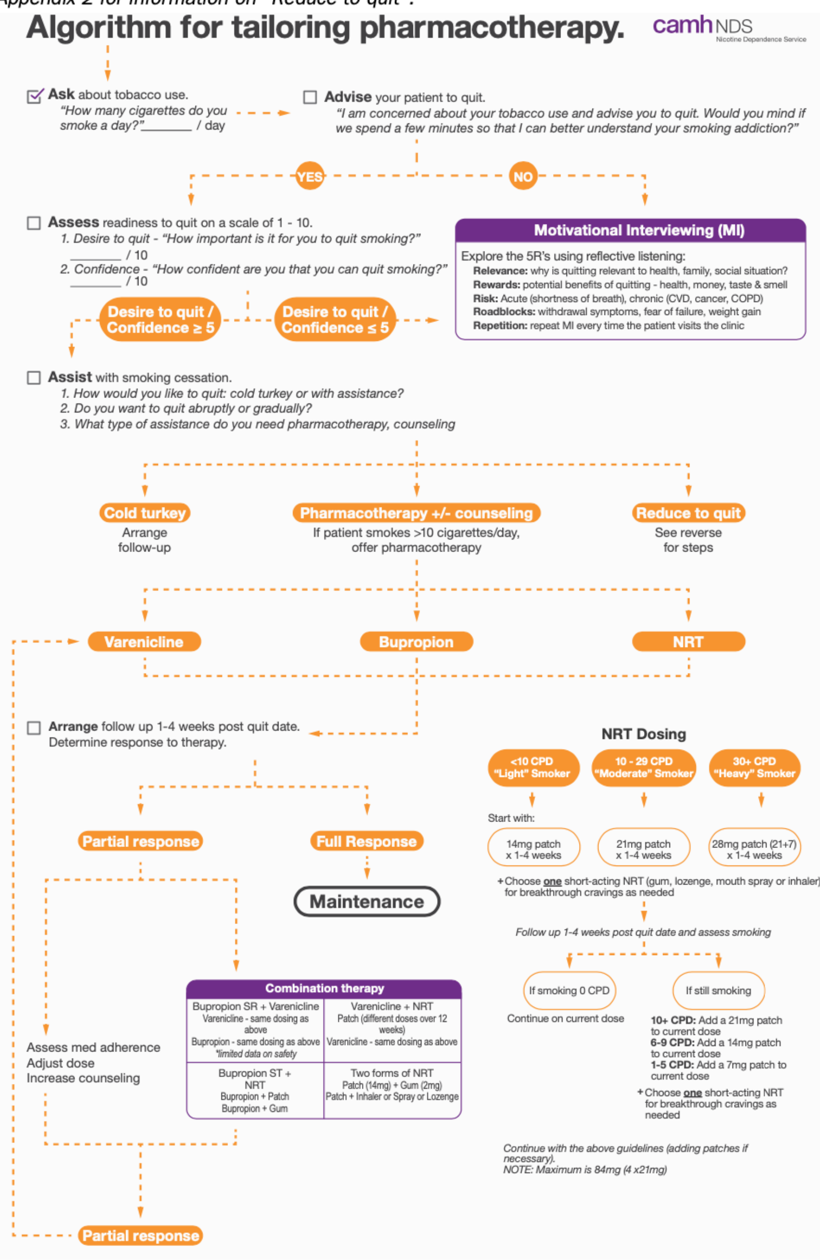
Smoking is the leading cause of death in Canada & quitting has many benefits to the individual and those around them

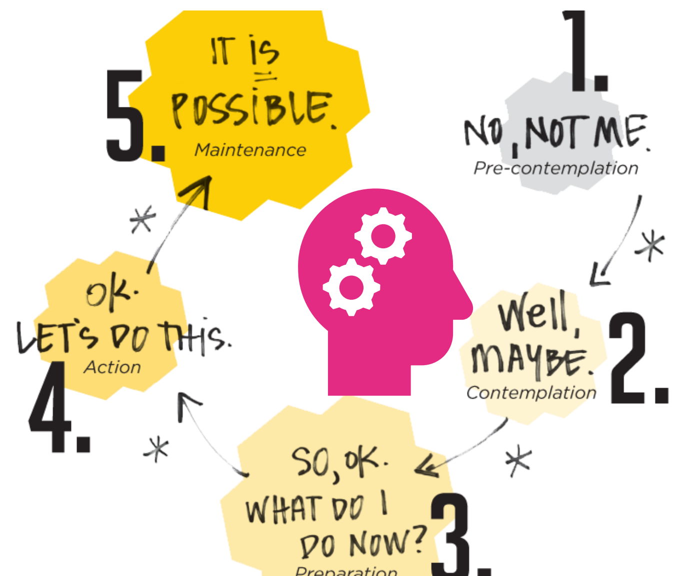
5 A's:

- Ask - screen
- Advise – clear, strong, personalized messaging
- Assess – motivational interviewing, 5R's, stages of change
- Assist – STAR, with effective interventions: counseling, NRT, medication
- Arrange – follow up

APPENDIX 1. Algorithm for Tailoring Pharmacotherapy in Primary Care Setting

Note: See Appendix 2 for information on "Reduce to quit".





First line pharmacotherapy
Therapy should be tailored to individual's needs and preferences

	Varenicline (Champix®)	Nicotine Replacement Therapy (NRT)	Bupropion (Wellbutrin SR®, Zyban®)
Advantages	Most effective - highest quit rates. No drug interactions except with NRT (may increase risk of adverse events.)	Safe in stable cardiac disease. Patch is the most effective form of NRT.	Minimal weight gain, helps depression, can use with NRT, as effective as NRT.
Quit Date	7-14d (up to 35) after starting	Same day up to 4 weeks after starting	7-10d after starting
Caution	Risk of increased cardiac events in patients with heart disease; Steven-Johnson Syndrome; andioedema; erythema multiforme. Reduce dose in renal disease. Avoid driving/machinery if sedated	Inhaler: still has nicotine when finished - dispose properly Patch: OK if smokes, leave patch on and try to quit again	Seizures, mood changes, suicide, drug interactions. *Contraindications:* Seizure disorders, bulimia/anorexia (recent or remote), liver failure, monoamine oxidase inhibitors
Side Effects	Nausea, nightmares, insomnia	Patch: abnormal dreams/insomnia (remove before bed) All other forms of NRT- mouth irritation, dyspepsia	Dry mouth, constipation, agitation, insomnia, headache, tremor
Dose	Day 1 - 3: 0.5mg PO once daily Day 4 - 7: 0.5mg PO BID Day 8 - onwards: 1mg PO BID x 12 - 24 weeks	Patch: different doses tapered over 12 weeks Inhaler: cartridge=10mg nicotine+1mg menthol, PRN max12/d Gum: Nicorette® (2/4mg); Thrive® (1/2mg), max 20/d Spray: 1mg per spray, 1-2 sprays q30-60m, max 4 sprays/hr Lozenges: 2mg(<25 cig/day); 4mg(>25 cig/day), max20/d	150mg SR PO qam x 3d; then BID x 7-12 weeks

Source: Permission received from CAN-ADAPTT. Canadian Smoking Cessation Clinical Practice Guideline. *Toronto, Canada: The Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment, Centre for Addiction and Mental Health.* 2017. www.can-adaptt.net

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PBLP PABP

Outline

- Epidemiology
- How do we get people to quit smoking?
  - 5A’s & 5R’s
  - Stages of Change
  - Motivational interviewing
  - Community resources
  - Nicotine replacement therapy
  - Pharmacological management
- Case

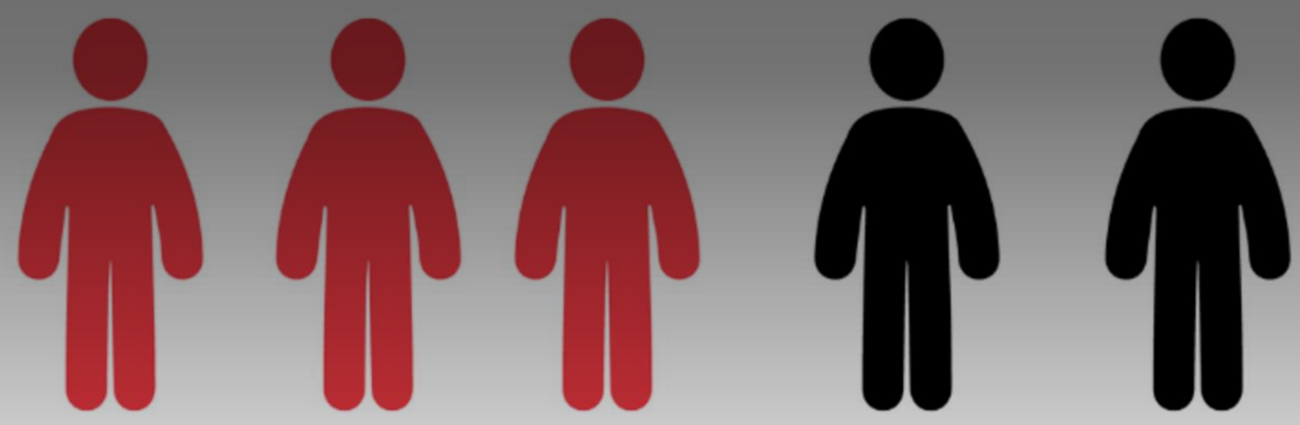
Epidemiology

Tobacco continues to be the number one cause of preventable disease and death in Canada and the world.

An estimated 48,000 Canadians and 6 million people worldwide die each year as a result of smoking. Countless others live with chronic diseases.

Approximately 15% of Canadians currently smoke.

Smokers die on average 10-17 years younger than nonsmokers & 50% of long-term smokers die prematurely



3 out 5 people who try a cigarette will become addicted.

- Tobacco smoke contains more than 7000 chemicals, of which at least 250 are known to be harmful and at least 69 are known to cause cancer.
- All tobacco products are harmful.

Smoking impacts beyond personal health

- Second hand smoke exposure for family and friends
- Economic costs
- Social stigma, isolation, and increased risk of smoking in their children

Benefits of Smoking Cessation

Health Topics ⌄ Countries ⌄ Newsroom ⌄

Are there immediate and long-term health benefits of quitting for all smokers?

Beneficial health changes that take place:

- Within 20 minutes, your heart rate and blood pressure drop.
- 12 hours, the carbon monoxide level in your blood drops to normal.
- 2-12 weeks, your circulation improves and your lung function increases.
- 1-9 months, coughing and shortness of breath decrease.
- 1 year, your risk of coronary heart disease is about half that of a smoker's.
- 5 years, your stroke risk is reduced to that of a nonsmoker 5 to 15 years after quitting.
- 10 years, your risk of lung cancer falls to about half that of a smoker and your risk of cancer of the mouth, throat, esophagus, bladder, cervix, and pancreas decreases.
- 15 years, the risk of coronary heart disease is that of a nonsmoker's.

- Years of life gained!
- Reduced risks of 2nd hand smoke to children and others in the home
- Improved fertility, sexual health, and pregnancy outcomes

Toolkit for delivering the 5A's and the 5R's brief tobacco interventions in primary care. WHO. 2014. https://apps.who.int/iris/bitstream/handle/10665/112835/9789241506953_eng.pdf

Benefits of Smoking Cessation

Intervention	NNT
Smoking Cessation	9
Lowering Lipids by 10%	16
BP Control with Diuretics	34
Mammography	205
Pap Smear	534
Pneumococcal Vaccine	716

Source: Woolf SH. *JAMA* 1999;282(24):2358-65.

Post MI Intervention	Reduction in Mortality
Smoking Cessation	36%
Statin Therapy	29%
Beta-Blockers	23%
ACE Inhibitors	23%
Aspirin	15%

Critchley JA, Capewell S. *JAMA*;2003;290:86-97

Benefits of Smoking Cessation

Health

Economic – money saved

Social – reduced isolation, increased productivity, reduced risk of smoking in their children

Barriers to Quitting

- “In a 2015 survey, nearly two-thirds of Canadian smokers claimed that they wanted to quit smoking and almost half had tried to quit in the previous year.
- Despite the statistics, less than 5% achieve any long-term abstinence.
- Challenges include the symptoms of withdrawal from nicotine and the psychosocial effects of smoking (e.g., mood, stress/anxiety reduction, pleasure/gratification, social circle of fellow smokers).”

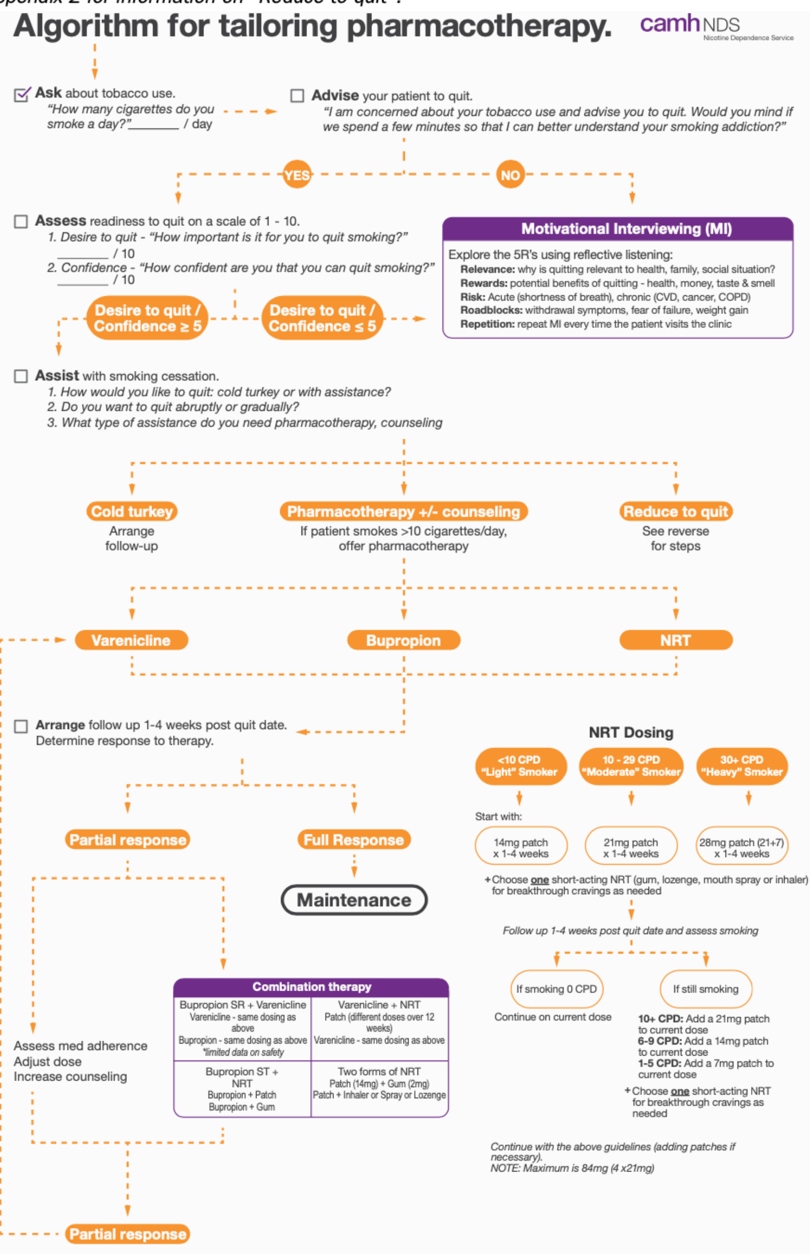
Reid RD, Pritchard G, Walker K, Aitken D, Mullen KA, Pipe AL. Managing smoking cessation. CMAJ. 2016;188(17-18):E484-E92. PM:27698200.

SMOKERS WHO TRY TO QUIT WITH THE HELP OF BEST PRACTICE COUNSELLING AND CESSATION MEDICATIONS EXPERIENCE 2 - 4 TIMES THE SUCCESS WITH QUITTING LONG TERM.

5A's

APPENDIX 1. Algorithm for Tailoring Pharmacotherapy in Primary Care Setting

Note: See Appendix 2 for information on "Reduce to quit".



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Algorithm for tailoring pharmacotherapy.

☑ **Ask** about tobacco use.
"How many cigarettes do you smoke a day?" ________ / day

☐ **Advise** your patient to quit.
"I am concerned about your tobacco use and advise you to quit. Would you mind if we spend a few minutes so that I can better understand your smoking addiction?"

YES → Assess
NO → Motivational Interviewing (MI)

☐ **Assess** readiness to quit on a scale of 1 - 10.
1. *Desire to quit - "How important is it for you to quit smoking?"* ________ / 10
2. *Confidence - "How confident are you that you can quit smoking?"* ________ / 10

Desire to quit / Confidence ≥ 5 → Assist

Desire to quit / Confidence ≤ 5 → Motivational Interviewing (MI)

Motivational Interviewing (MI)

Explore the 5R's using reflective listening:
- **Relevance:** why is quitting relevant to health, family, social situation?
- **Rewards:** potential benefits of quitting - health, money, taste & smell
- **Risk:** Acute (shortness of breath), chronic (CVD, cancer, COPD)
- **Roadblocks:** withdrawal symptoms, fear of failure, weight gain
- **Repetition:** repeat MI every time the patient visits the clinic

☐ **Assist** with smoking cessation.
1. *How would you like to quit: cold turkey or with assistance?*
2. *Do you want to quit abruptly or gradually?*
3. *What type of assistance do you need pharmacotherapy, counseling*

5A's	Action	Strategies for implementation
Ask - Systematically identify all tobacco users at every visit.	• Ask **ALL** of your patients at every encounter if they use tobacco and document it. • Make it part of your routine.	• Tobacco use should be asked about in a friendly way – it is not an accusation. • Keep it simple, some sample questions may include: – "**Do you smoke cigarettes?**" – "**Do you use any tobacco products**?"

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https://apps.who.int/iris/bitstream/handle/10665/112835/9789241506953_eng.pdf

IMA-STOP-NOW

- ID smoking status – cigarettes/day
- Morning smoking – 1st cigarette within 30mins of waking
- Abstinence attempts - prior Hx
- Smoking initiation/duration
- Triggers – i.e. stress, boredom, drinking?
- Other smokers in home/work environment
- Positives – i.e. stress relief, weight loss?
- Negatives – ?
- Other tobacco – i.e. w/ marijuana?
- Worries/Concerns about quitting – i.e. weight gain, birth control, difficult, mental illness, financial stress

Tobacco Use History

5A's	Action	Strategies for implementation
Advise - Persuade all tobacco users that they need to quit	• Urge every tobacco user to quit in a clear, strong and personalized manner.	Advice should be: • **Clear** – "It is important that you quit smoking (or using chewing tobacco) now, and I can help you." "Cutting down while you are ill is not enough." "Occasional or light smoking is still dangerous." • **Strong** – "As your doctor, I need you to know that quitting smoking is the most important thing you can do to protect your health now and in the future. We are here to help you." • **Personalized** – Tie tobacco use to: – *Demographics:* For example, women may be more likely to be interested in the effects of smoking on fertility than men. – *Health concerns:* Asthma sufferers may need to hear about the effect of smoking on respiratory function, while those with gum disease may be interested in the effects of smoking on oral health. "Continuing to smoke makes your asthma worse, and quitting may dramatically improve your health." – *Social factors:* People with young children may be motivated by information on the effects of second-hand smoke, while a person struggling with money may want to consider the financial costs of smoking. "Quitting smoking may reduce the number of ear infections your child has." In some cases, how to tailor advice for a particular patient may not always be obvious. A useful strategy may be to ask the patient: – "*What* do you not like about being a smoker?"

Toolkit for delivering the 5A's and the 5R's brief tobacco interventions in primary care. WHO. 2014. https://apps.who.int/iris/bitstream/handle/10665/112835/9789241506953_eng.pdf

<table>
<tr><th>5A's</th><th>Action</th><th>Strategies for implementation</th></tr>
<tr>
<td>Assess -
Determine readiness to make a quit attempt</td>
<td>• Ask two questions in relation to "importance" and "self-efficacy":
1. "Would you like to be a non-tobacco user?"
2. "Do you think you have a chance of quitting successfully?"</td>
<td>• Any answer in the shaded area indicates that the tobacco user is NOT ready to quit. In these cases you should deliver the 5 R's intervention (see Session V).
<table>
<tr><td>Question 1</td><td>Yes</td><td>Unsure</td><td>No</td></tr>
<tr><td>Question 2</td><td>Yes</td><td>Unsure</td><td>No</td></tr>
</table>
• If the patient is ready to go ahead with a quit attempt you can move on to Assist and Arrange steps.</td>
</tr>
</table>

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Motivational interviewing

- A counseling approach developed by psychologists
- A collaborative and patient-centered form of guiding to elicit and strengthen motivation for change
- Can be used within all fields of medicine

Motivational interviewing

01

Express empathy – open ended questions, reflective listening, normalize, support autonomy

02

Develop discrepancy – reinforce ”change talk”, deepen commitment

03

Roll with resistance – back off and use reflection, empathy & permission

04

Support self-efficacy

Motivational interviewing - RULE

A.K.A. Make the patient think it was *their* idea!!!

Resist the Righting Reflex

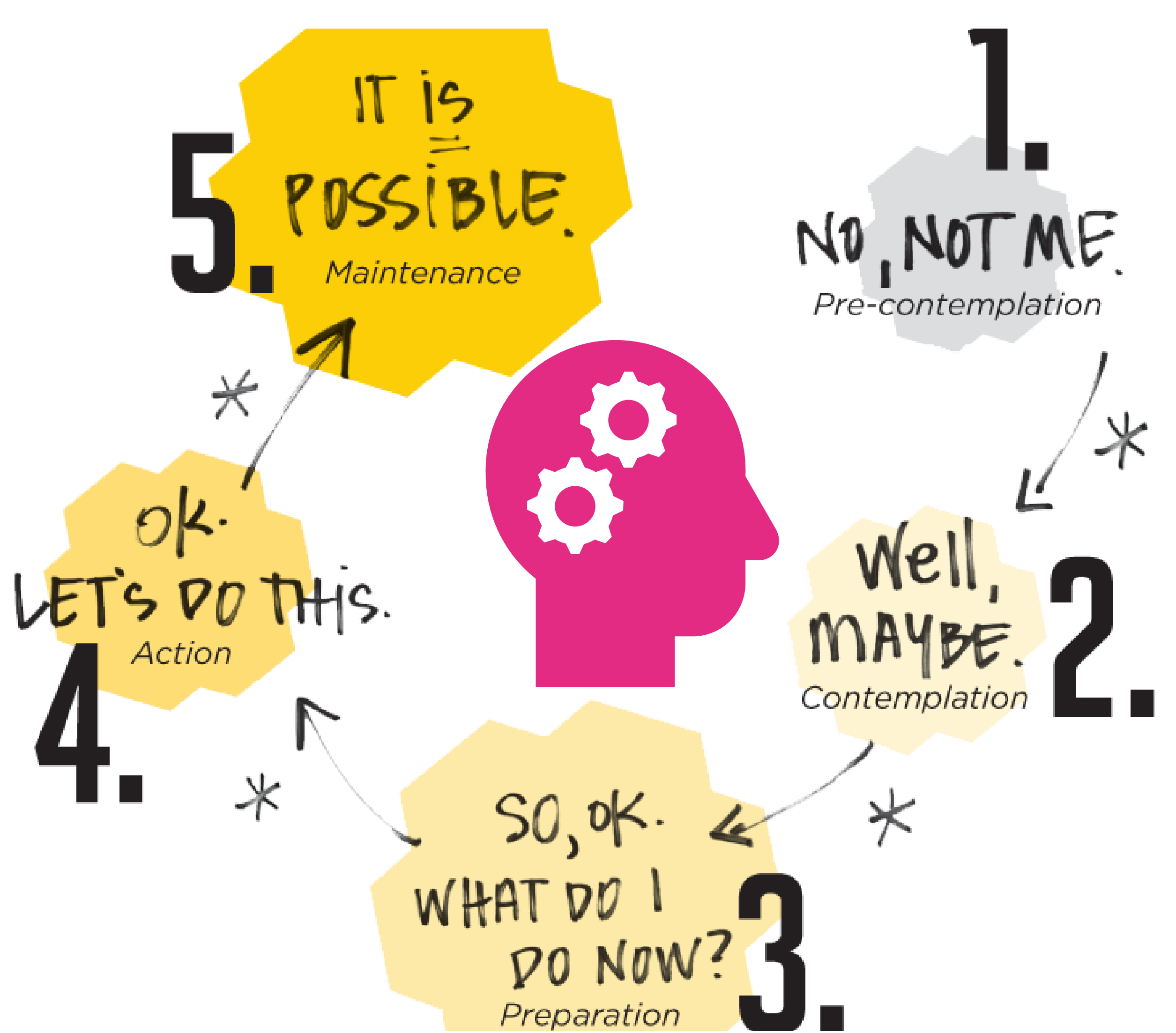
Understand the Patient's Motivations

Listen with Empathy

Empower the Patient: **Elicit** understanding ➔**Provide** information ➔**Elicit** response

Motivational Interviewing Example for Smoking Cessation

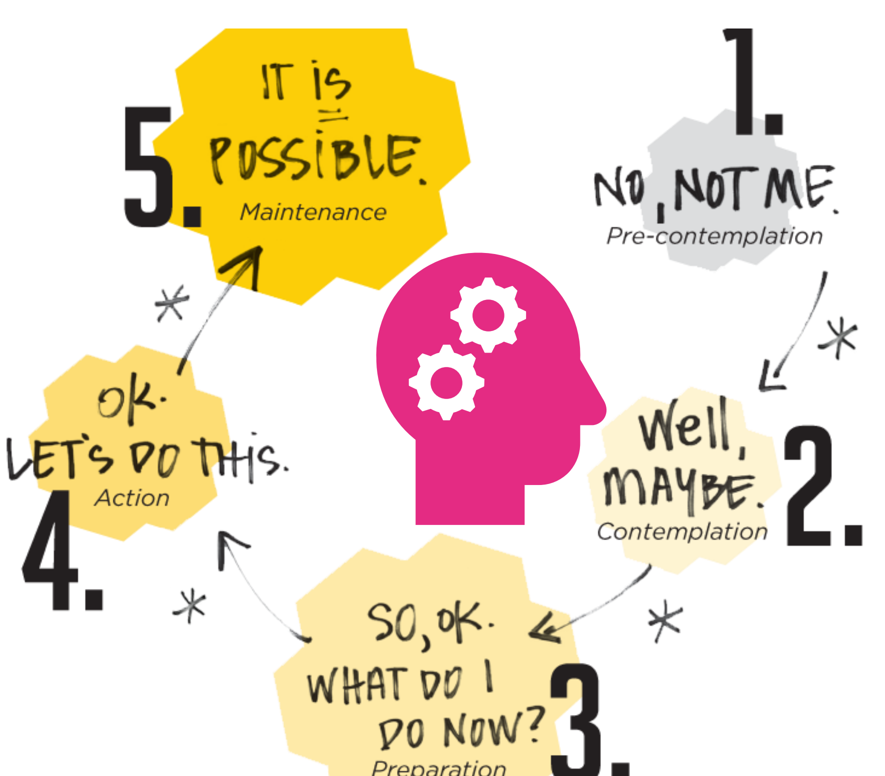
- https://www.youtube.com/watch?v=URiKA7CKtfc&t=1s



Stages of Change

- Aim to progress patients to empower themselves to move through the stages of change with motivational interviewing techniques

Stages of Change – <u>Precontemplation</u>



- Not considering a change in behaviour
- Use motivational interviewing to understand their perspective
- Apply 5R's

Motivational Interviewing (MI)

Explore the 5R's using reflective listening:

- **Relevance:** why is quitting relevant to health, family, social situation?
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Algorithm for tailoring pharmacotherapy.

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Table 1. Using the Motivational Intervention 5Rs – Patients Not Ready to Quit Smoking Immediately[45,46]

Relevance	Encourage patients to reflect on the personal relevance of quitting smoking (greatest impact if it affects personal health, family, expense, quality of life, prior quitting experience, personal barriers).
Risks	Encourage patients to identify relevant negative consequences (acute risks, long-term risks, environmental risks, e.g., second-hand smoke) of continuing to smoke/use tobacco products.
Rewards	Ask patients to identify potential benefits of quitting smoking that are personally relevant to them (e.g., improved health or sense of taste/smell; saving money; setting a good example for children; improved appearance).
Roadblocks	Ask patients what they think would be the barriers to their quitting and provide counselling/treatment to help address those barriers (e.g., withdrawal symptoms, weight gain, enjoyment, associating socially with other smokers).
Repetition	Repeat evaluation of readiness to quit at a later date, if still not ready to quit (e.g., every time patients visit the clinic setting). It is important that smokers/tobacco users understand that many people make repeated attempts to quit before being successful.

APPENDIX 2. 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 quitting	Take comprehensive smoking history, daily smoking habits (i.e., within 30 minutes of waking) at every visit. Written instructions for pharmacotherapy, to start 2–4 weeks before proposed quit date. Set quit date within four weeks. Focus on problem-solving, set reduction goals: i.e., ≥ 25% 1st week; ≥ 50% 2nd week; ≥ 75% by quit 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 quit date.	Evaluate smoking status. Congratulate those who have quit 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 quit)	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 quit; if intention has changed (i.e., interest in considering quitting) follow above steps for ***reduce-to-quit***.
Unwilling to reduce or quit smoking	Use 5Rs as motivational intervention [High Evidence].	Evaluate smoking status. Congratulate those who have quit 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

Reduce to quit protocol

Step 1: (0-6 weeks)

Set target no. of cigarettes per day to cut down (recommended at least 50%) and a date to achieve it by. Use gum to manage cravings.

Step 2: (6 weeks - 6 months)

Continue to cut down cigarettes using gum. Goal should be complete stop by 6 months. Seek advice from HCP if smoking has not stopped within 9 months.

Step 3: (within 9 months)

Stop all cigarettes and continues to use gum to relieve cravings.

Step 4: (within 12 months)

Cut down the amount of gum used, then stop gum use completely (within 3 months of stopping smoking).

Case – 1st visit – Jennifer 42

PMH: Breast Ca, HTN, Bi-polar Affective Disorder & anxiety

- Age 38 - Breast CA: followed closely since
- Advised to stop smoking previously
- 1st time to express interest in quitting!
- Goal: smoke-free ≤6 mo.: planned reconstructive breast surgery.

Case – 1st visit Jennifer continued

Tobacco Use History

- Smoking cigarettes x19 years, onset age 23
- 5 cigarettes per day (1st cigarette immediately upon arising)
- Uses marijuana laced with tobacco daily to “help get to sleep”
- Lives w/ male roommate 🡐 heavy smoker
- Both enjoy smoking in the home

Cessation & Relapse History

Always offer **congratulations** on previous quit attempts and on successful periods of abstinence!

Have you tried to quit before?

How many attempts to quit have you made in the past year?

What has been your longest period of abstinence?

What's worked in the past?

What's made it difficult for you to quit?

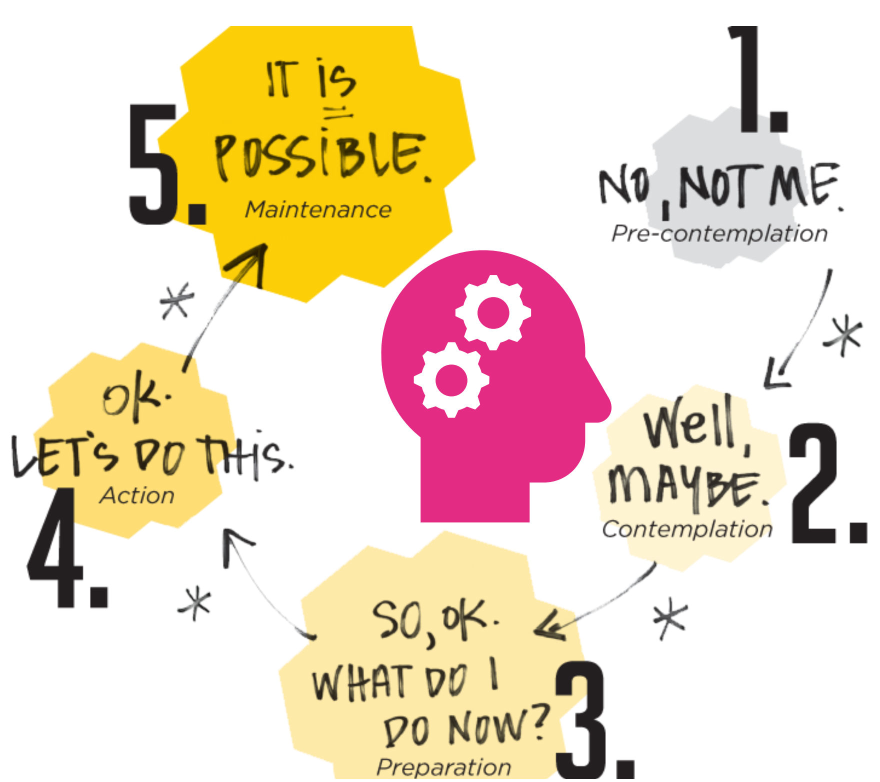
What might you do differently this time?

Case – 1st visit Jennifer continued

Cessation/Relapse History

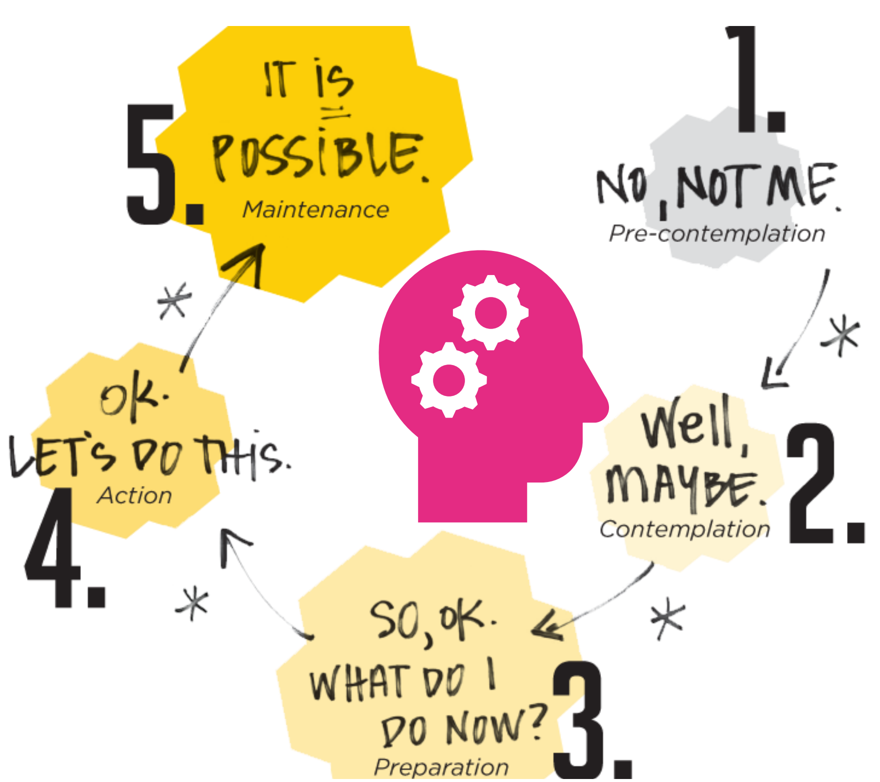
- Attempted cessation 4 times
- Longest abstinence 1.5 years
- Resumed smoking due to stress, boredom & enjoying cigarettes w/ alcohol
- Most challenging to eliminate morning & nighttime smokes

Stages of Change – Contemplation



- Considering change
- Use motivational interviewing to build motivation
  - open ended questions
  - reflective statements
  - affirm patient's feelings
  - express empathy
- Encourage focus on reasons for quitting
- Create dissonance between pros & cons of the health behaviour

Stages of Change – <u>Contemplation</u>



- Disadvantages of status quo

  "What about your smoking worries you?"

- Advantages of change

  "What makes you think it would be helpful to stop smoking?"

- Optimism re: change

  "Are there other changes you have made successfully in your life? What were they and how did you do it?"

- Intention to change

  "If there is one thing you could change about your life, what would it be?"

Motivations & Concerns

What are your triggers for smoking?

What are the positives of smoking?

What are the negatives of smoking?

What are your motivators for wanting to quit?

What are your concerns about quitting?

On a scale from 1–10, how important is quitting smoking to you?

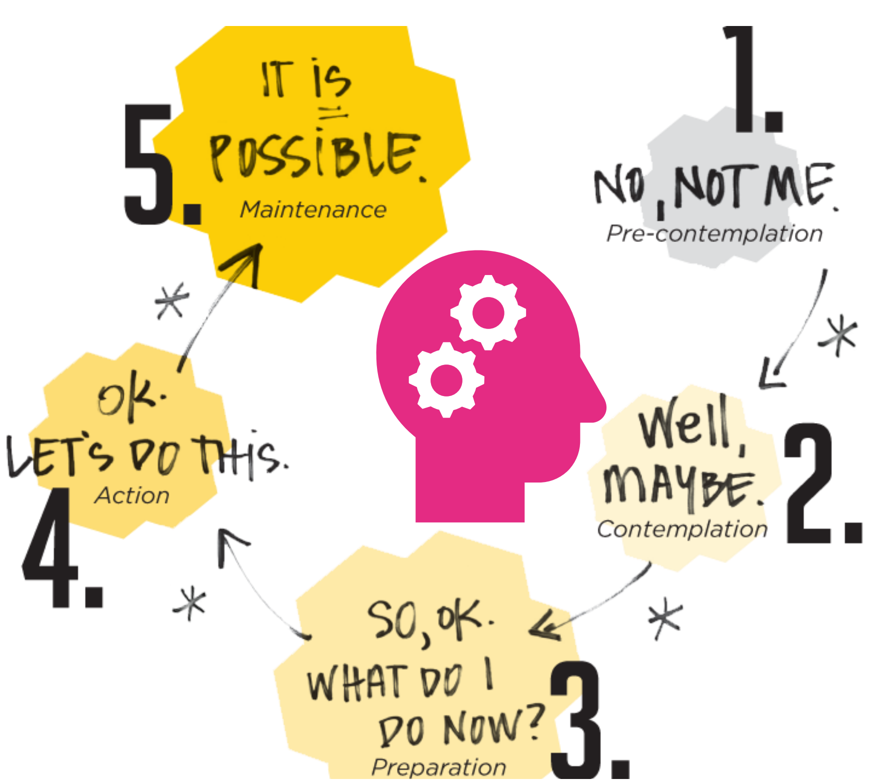
On a scale from 1–10, how confident are you that you can quit?

Case – 1st visit Jennifer continued

Motivations & Concerns

- Triggers for smoking: stress, boredom, & drinking
- Helps relieve stress (due to financial burdens & mental illness)➔positive role in her life + aids weight loss
- Not candidate for surgery until quit ➔negatives of smoke
- Acknowledges importance of surgery to overall happiness
- Highly confident of ability to quit
- Concerns about cessation: fear of weight gain, social pressures, & difficulty of remaining smoke-free.

Stages of Change – <u>Contemplation</u>



- Getting ready to make a change
- Set target quit date (TQD)
- Discuss nicotine withdrawal symptoms & remedies
- Arrange follow up before & after quit date to ensure support for patient
- Reassure that relapse is not viewed as failure
- Discuss non-pharmacologic & pharmacologic tools

5A's	Action	Strategies for implementation
Assist - Help the patient with a quit plan	• Help the patient develop a quit plan • Provide practical counseling • Provide intra-treatment social support • Provide supplementary materials, including information on quit lines and other referral resources • Recommend the use of approved medication if needed	• Use the STAR method to facilitate and help your patient to develop a quit plan: – **S**et a quit date ideally within two weeks. – **T**ell family, friends, and coworkers about quitting, and ask for support. – **A**nticipate challenges to the upcoming quit attempt. – **R**emove tobacco products from the patient's environment and make the home smoke free. • Practical counseling should focus on three elements: – Help the patient identify the danger situations (events, internal states, or activities that increase the risk of smoking or relapse). – Help the patient identify and practice cognitive and behavioral coping skills to address the danger situations. – Provide basic information about smoking and quitting • Intra-treatment social support includes: – Encourage the patient in the quit attempt – Communicate caring and concern – Encourage the patient to talk about the quitting process • Make sure you have a list of existing local tobacco cessation services (quit lines, tobacco cessation clinics and others) on hand for providing information whenever the patient inquires about them. • The support given to the patient needs to be described positively but realistically.

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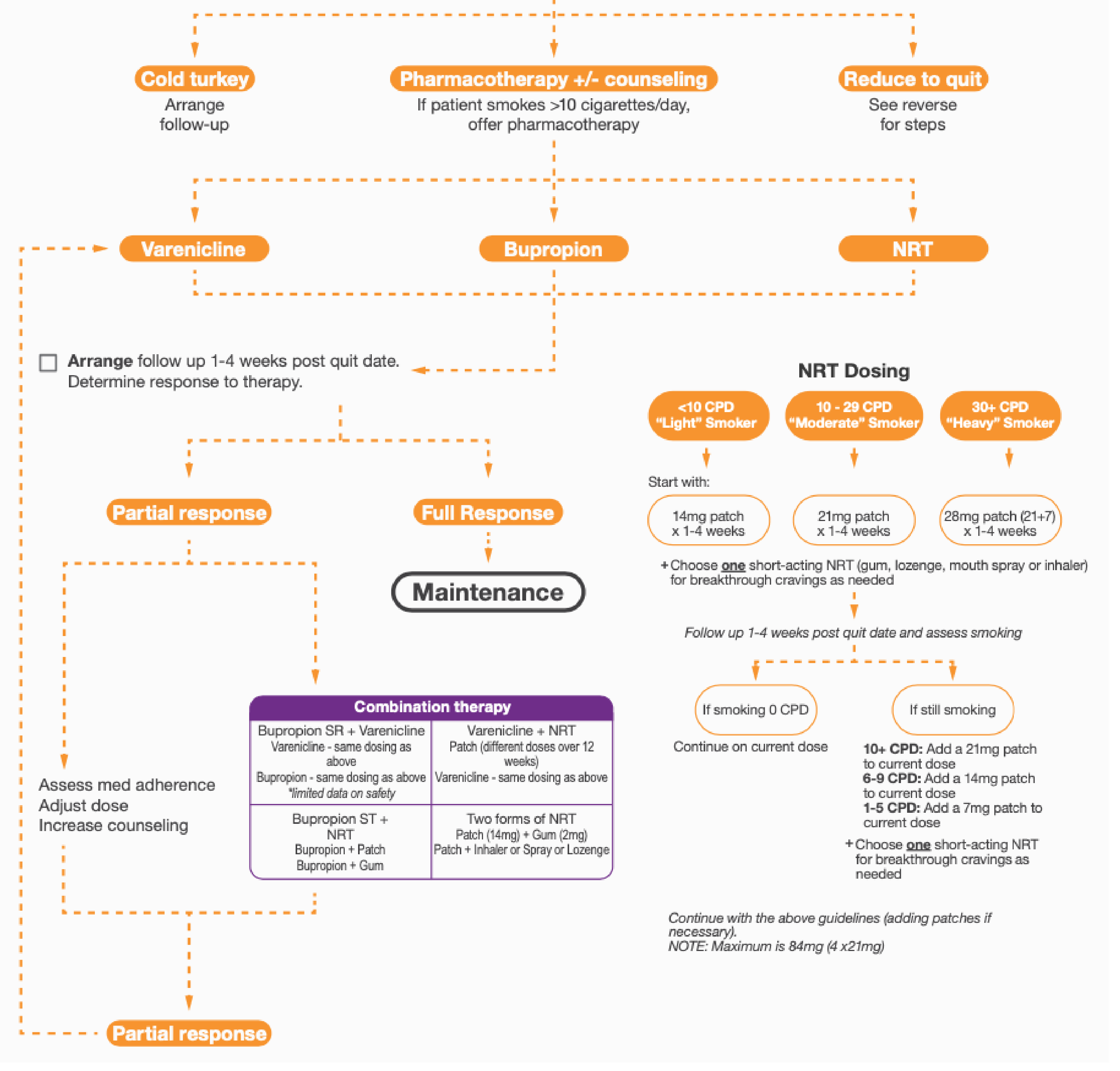

Cold turkey
Arrange follow-up
Pharmacotherapy +/- counseling
If patient smokes >10 cigarettes/day, offer pharmacotherapy
Reduce to quit
See reverse for steps
Varenicline
Bupropion
NRT
Arrange follow up 1-4 weeks post quit date. Determine response to therapy.
Partial response
Full Response
Maintenance
Assess med adherence
Adjust dose
Increase counseling
Combination therapy
Bupropion SR + Varenicline
Varenicline - same dosing as above
Bupropion - same dosing as above
*limited data on safety
Varenicline + NRT
Patch (different doses over 12 weeks)
Varenicline - same dosing as above
Bupropion ST + NRT
Bupropion + Patch
Bupropion + Gum
Two forms of NRT
Patch (14mg) + Gum (2mg)
Patch + Inhaler or Spray or Lozenge
Partial response
NRT Dosing
<10 CPD "Light" Smoker
10 - 29 CPD "Moderate" Smoker
30+ CPD "Heavy" Smoker
Start with:
14mg patch x 1-4 weeks
21mg patch x 1-4 weeks
28mg patch (21+7) x 1-4 weeks
+Choose one short-acting NRT (gum, lozenge, mouth spray or inhaler) for breakthrough cravings as needed
Follow up 1-4 weeks post quit date and assess smoking
If smoking 0 CPD
Continue on current dose
If still smoking
10+ CPD: Add a 21mg patch to current dose
6-9 CPD: Add a 14mg patch to current dose
1-5 CPD: Add a 7mg patch to current dose
+Choose one short-acting NRT for breakthrough cravings as needed
Continue with the above guidelines (adding patches if necessary).
NOTE: Maximum is 84mg (4 x21mg)

Quit Plan

Address readiness to quit

- Quit Date
- Reduce to Quit (RTQ)

Cessation pharmacotherapy

- Explain why and how to use medication
- Address common side-effects
- Address importance of compliance

Community resources

CAMH Nicotine Dependence Clinic
www.can-adapt.net

Health Canada – can access provincial resources
www.gosmokefree.gc.ca

Online resources

- The Canadian Cancer Society: www.smokershelpline.ca
  - Information for smokers, quit plans, tips for those not ready to quit, information for young adults and a free app (Break it Off – breakitoff.ca).
- Quit Now: www.quitnow.ca
  - Information on calculating the cost of smoking, the effects of smoking on the body, online forum, coaching, etc.
- Leave the Pack Behind: www.leavethepackbehind.org
  - Personalized support and quitting resources for young adults aged 18-29 in Ontario.
- Health Canada Website: www.canada.ca/en/health-canada/services/smoking-tobacco.html
  - A guide to becoming a non-smoker, 5 stages of quitting, a cost calculator for amount spent on smoking, and resources for youth (Quit4Life).

Smoking cessation
Non pharmacological therapy

- Brief counseling – effective when combined with pharmacotherapy and when frequent (4+ sessions) support offered
- Complementary therapies – acupuncture, hypnotherapy – have limited evidence

First line pharmacotherapy

Therapy should be tailored to individual's needs and preferences

	Varenicline (Champix®)	Nicotine Replacement Therapy (NRT)	Bupropion (Wellbutrin SR®, Zyban®)
Advantages	Most effective - highest quit rates. No drug interactions except with NRT (may increase risk of adverse events.)	Safe in stable cardiac disease. Patch is the most effective form of NRT.	Minimal weight gain, helps depression, can use with NRT, as effective as NRT.
Quit Date	7-14d (up to 35) after starting	Same day up to 4 weeks after starting	7-10d after starting
Caution	Risk of increased cardiac events in patients with heart disease; Steven-Johnson Syndrome; andioedema; erythema multiforme. Reduce dose in renal disease. Avoid driving/machinery if sedated	Inhaler: still has nicotine when finished - dispose properly Patch: OK if smokes, leave patch on and try to quit again	Seizures, mood changes, suicide, drug interactions. *Contraindications:* Seizure disorders, bulimia/anorexia (recent or remote), liver failure, monoamine oxidase inhibitors
Side Effects	Nausea, nightmares, insomnia	Patch: abnormal dreams/insomnia (remove before bed) All other forms of NRT- mouth irritation, dyspepsia	Dry mouth, constipation, agitation, insomnia, headache, tremor
Dose	Day 1 - 3: 0.5mg PO once daily Day 4 - 7: 0.5mg PO BID Day 8 - onwards: 1mg PO BID x 12 - 24 weeks	Patch: different doses tapered over 12 weeks Inhaler: cartridge=10mg nicotine+1mg menthol, PRN max12/d Gum: Nicorette® (2/4mg); Thrive® (1/2mg), max 20/d Spray: 1mg per spray, 1-2 sprays q30-60m, max 4 sprays/hr Lozenges: 2mg(<25 cig/day); 4mg(>25 cig/day), max20/d	150mg SR PO qam x 3d; then BID x 7-12 weeks

APPENDIX 3. Effectiveness of Pharmacotherapy for Smoking Cessation

Treatment	*Effectiveness*	*Prescribing/Titration*	*Contraindications (CI)*	*Side Effects (SE)*	*Comments*
Patch ***7, 14, 21 mg day patches***	NNT= ~15 for abstinence at 6 months with monotherapy[15]	Starting 1–4 weeks before quit date may increase success. Peak level after 6–12 hours. Apply new patch each morning. ≥ ***10 cigarettes/day*** 21 mg/d for 6 weeks; 14 mg/d for 2 weeks; 7 mg/d for 2 weeks ***< 10 cigarettes/day OR < 45 kg &/OR CHD*** 14 mg/d for 6 weeks; 7 mg/d for 2 weeks	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 fetus. May use prn.
Gum ***2, 4 g***	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 and acidic beverages affect absorption (min. 15 min apart) Individual taper	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 ***1,2,4 mg;*** ***4 mg mini-lozenge***	For ≥ 6 months RR=1.36 (1.17-1.59)[12]	Maximum: 15x2 mg lozenges in 24 hrs Heavy smokers: 4 mg; Light: 2 mg 2 mg lozenge = 4 mg gum Customize dose – flexible scheduling Peak level after 30 minutes 1 lozenge q 1–2 hrs for 6 weeks; q 2–4 hr for 3 weeks; q 4–8 hr for 3 weeks; Customize dose: craving on wake-up (within 30 min) – 4 mg lozenge; 2 mg for other times	Not advised for patients at increased risk of cardiac events – consider patch **DO NOT** chew or swallow	Soreness (gums, teeth, throat); hiccups; heartburn/indigestion. May delay weight gain.	No food or drink within 15 min of use or while in mouth.
Inhaler ***4 mg (in 10 mg cartridge)*** ***Nasal spray*** ***1 mg spray***		May use flexible scheduling 10 puffs= 1 cigarette puff Max absorption from short, continuous, frequent puffs Inhaler: 6–16 (max) cartridges/day; Spray: one dose = 2 x 0.5 mg (per nostril); maximum 5 doses/hour (40 per day) Individual taper 6–16 cartridges/day for 12 weeks; taper over next 6–12 weeks.	Not advised for patients at increased risk of cardiac events – consider patch		Buccal mucosal absorption for rapid solution to severe cravings. Prescription required. Inhaler good for 24 hours once punctured.

APPENDIX 3. Effectiveness of Pharmacotherapy for Smoking Cessation cont'd

Treatment	Effectiveness	Prescribing/Titration	Contraindications (CI)	Side Effects (SE)	Comments
Bupropion 150,300 mg XL (once daily) 150 mg SR BID	NNT=~11 for abstinence at 6 months[14]	Slow onset (1–2 weeks) Start ≥ 1 wk before quit date 150 mg SR/day for 3 days 150 mg SR BID for 7–12 weeks Wait ≥ 8 hrs between SR doses (reduce risk of seizure)	Personal or family history of seizures, increased risk of seizures, head trauma, patients on MAO inhibitors (within the last 14 days).	Nearly 30% discontinue because of SE. Insomnia, agitation/tremor (seizure), nausea/vomiting; dry mouth.	Useful for mild, untreated depression (treats both depression and smoking). May be helpful with substance abuse disorders. No increased risk of CV events for patients on SSRIs. May help with weight gain and food cravings after quitting.
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 ≥ 2 week before quit 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 Beyond 12 weeks well-tolerated for long-term use[2]	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.
Cytisine 1.5 mg caps	NNT = ~7 vs. placebo, NNT = 14 vs. NRT at 6 months	Days 1–3: 1 cap q2h (MAX 6 caps/d) Days 4–12: 1 cap q2.5h (MAX 5 caps/d) Days 13–16: 1 cap q3h (MAX 4 caps/d) Days 17–20: 1 cap q5h (MAX 3 caps/d) Days 21–25: 1-2 caps/d	Hypertension, advanced atherosclerosis, pregnancy, breastfeeding.	Self-limiting: dyspepsia, nausea, insomnia.	Derived from *Cytisus laburnum* plant. Partial agonist of nicotine receptor. Renally excreted. Available OTC and online (~$50 for 25 day course).

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 + bupropion: Modest but significant effect on quitting smoking; No increase in adverse events; Linked with a trend towards increased BP (pre-existing HTN). Monitor closely. RR 1.23 (CI 95%: 0.67-2.26)
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)
Varenicline + bupropion: Increases short-term but **not** long-term quitting rates compared to varenicline alone RR 1.52 (CI 95%: 1.22-1.88)

Of possible pharmacotherapies, what might be an appropriate first choice for Jennifer, a 5 cpd smoker?

- a. 21 mg long-acting NRT patch + short acting inhaler for cravings
- b. 7 mg long-acting NRT patch + short-acting inhaler for cravings
- c. 150 mg Bupropion tablet daily
- d. Try to cut down 1 cigarette/day, follow-up in 3 weeks
- e. Attempt cold turkey

What behavioural advice would you suggest to Jennifer?

Case – 1st visit Jennifer Continued

Quit Plan

Behavioural advice

- Withdrawal
- Cravings (4Ds)

  Delay: urges pass in 3-5 minutes

  Distract: occupy with a task

  Drink Water: helps to flush out the chemicals and toxins

  Deep Breaths: aids in relaxation and helps cravings subside
- Caffeine
- Routines/Triggers

  Avoid the trigger or situation

  Change the trigger or situation

  Find an alternative or substitute to the cigarette in response to the trigger or situation (e.g. short-acting NRT)

What are some common nicotine withdrawal symptoms Jennifer may experience during the next few weeks while attempting cessation?

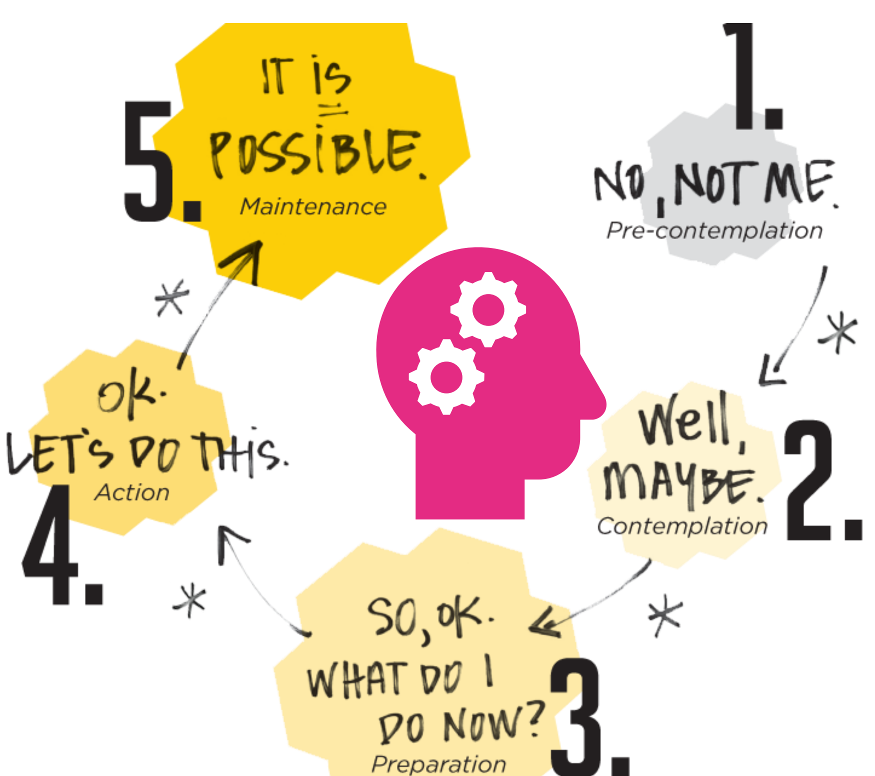
Nicotine Withdrawal Syndrome

- Dysphoric or depressed mood
- Insomnia
- Irritability, frustration, or anger
- Anxiety
- Difficulty concentrating
- Restlessness
- Decreased heart rate
- Increased appetite or weight gain

Case – 1st visit Jennifer continued

- Agrees to a quit date
- Start NRT patch (7 mg,)
- Use short-acting inhaler for withdrawal symptoms/cravings. Follow-up 3 wk.

Stages of Change – <u>Action</u>



- Ready to act on the change plan
- 1st weeks of smoking cessation are critical

  Scheduled F/U visits in early weeks after an attempt ➔effective in prevention of relapse

  >75% of <u>unaided</u> quitters relapse within 1st wk.
- Key components of follow-up visit:

  Assess progress & problems

  Titrate & review medication (as needed)

  Support relapse prevention

  - Discuss coping strategies for withdrawal symptoms, urges and triggers
  - Discuss strategies to deal with slips and relapses

  Boost motivation & confidence
- Follow up plan

What might you ask Jennifer at a follow up visit?

Follow up visit

Have you used any form of tobacco since your last visit?

How many caffeinated beverages consumed daily, on average?

How many alcoholic beverages consumed weekly, on average?

Are you still taking the prescribed medications?

Have you experienced any side effects?

What situations are most likely to stimulate return to smoking?

Have you experienced any withdrawal symptoms?

On a scale of 1–10, how confident are you to stay smoke-free?

Case – 2nd visit Jennifer

- Though used patch for 1st few days, eventually forgot
- Currently smoking 10 cpd
- Life stressors particularly challenging recently
- Continues smoking MJ laced w/ tobacco daily
- Inhaler helpful for cravings, but ran out after a few days
- Difficulty giving up early morning & nighttime cigarettes
- Started running & enjoying, but mood remains low

On average, how many unsuccessful attempts occur before complete abstinence?

A. 1 - 3

B. 4 - 7

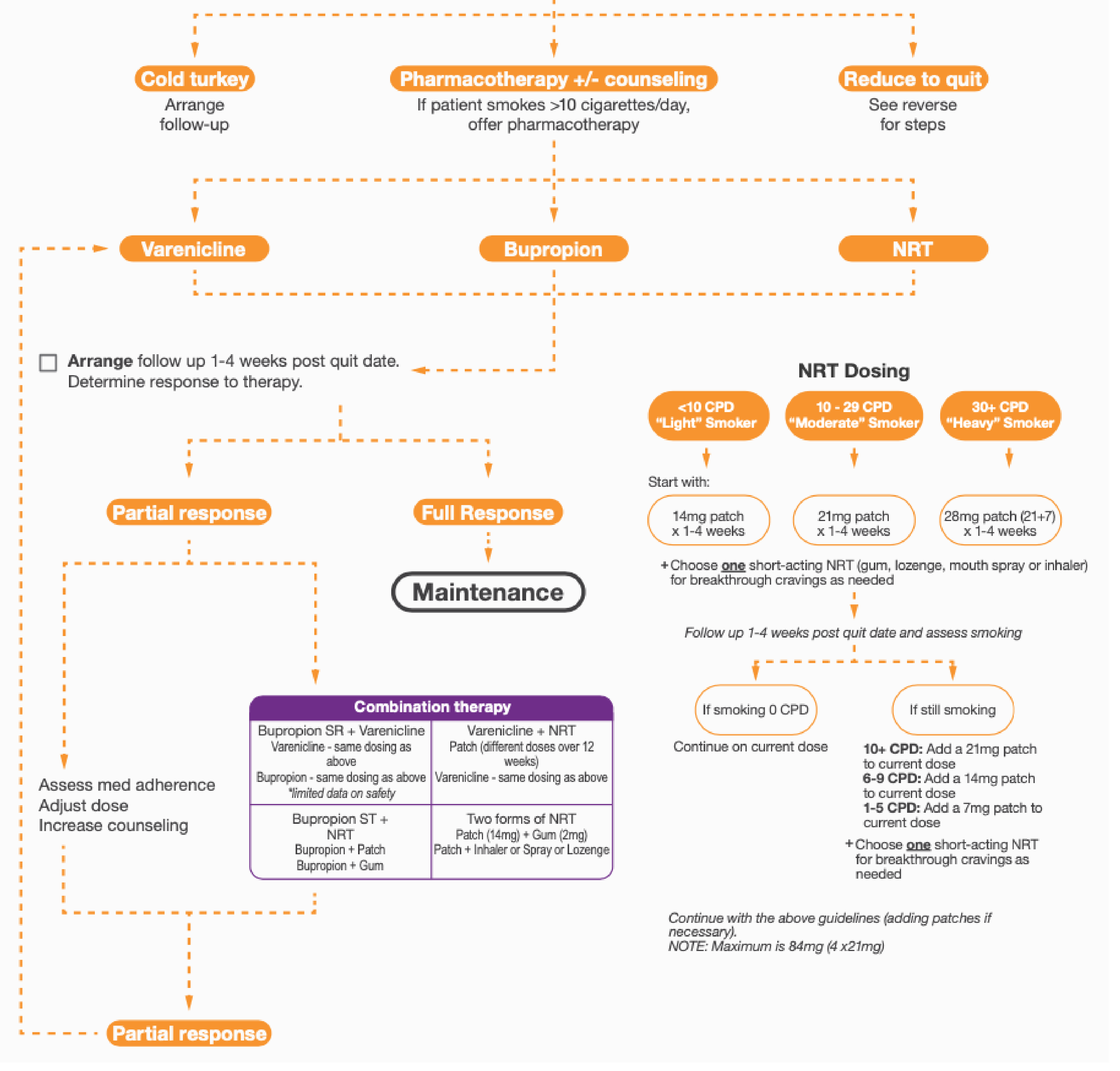
C. 8 - 10

D. 11 or more

Factors associated with relapse

- Alcohol or recreational drugs
- Depressed mood
- Other household smokers
- Prolonged withdrawal symptoms
- Dietary restriction
- Lack of cessation support
- Pharmacotherapy problems (adverse effects, inappropriate dose/cessation)

What advice might you offer Jennifer to help recommit her to quitting smoking?



Cold turkey
Arrange follow-up
Pharmacotherapy +/- counseling
If patient smokes >10 cigarettes/day, offer pharmacotherapy
Reduce to quit
See reverse for steps
Varenicline
Bupropion
NRT
Arrange follow up 1-4 weeks post quit date. Determine response to therapy.
Partial response
Full Response
Maintenance
Assess med adherence
Adjust dose
Increase counseling
Combination therapy
Bupropion SR + Varenicline
Varenicline - same dosing as above
Bupropion - same dosing as above
*limited data on safety
Varenicline + NRT
Patch (different doses over 12 weeks)
Varenicline - same dosing as above
Bupropion ST + NRT
Bupropion + Patch
Bupropion + Gum
Two forms of NRT
Patch (14mg) + Gum (2mg)
Patch + Inhaler or Spray or Lozenge
Partial response
NRT Dosing
<10 CPD "Light" Smoker
10 - 29 CPD "Moderate" Smoker
30+ CPD "Heavy" Smoker
Start with:
14mg patch x 1-4 weeks
21mg patch x 1-4 weeks
28mg patch (21+7) x 1-4 weeks
+Choose one short-acting NRT (gum, lozenge, mouth spray or inhaler) for breakthrough cravings as needed
Follow up 1-4 weeks post quit date and assess smoking
If smoking 0 CPD
Continue on current dose
If still smoking
10+ CPD: Add a 21mg patch to current dose
6-9 CPD: Add a 14mg patch to current dose
1-5 CPD: Add a 7mg patch to current dose
+Choose one short-acting NRT for breakthrough cravings as needed
Continue with the above guidelines (adding patches if necessary).
NOTE: Maximum is 84mg (4 x21mg)

Case – 2nd visit Jennifer continued

- Agrees to continue NRT patch (7mg)
- Provide new inhaler
- Encourage adjusting evening activities to avoid urge to smoke.

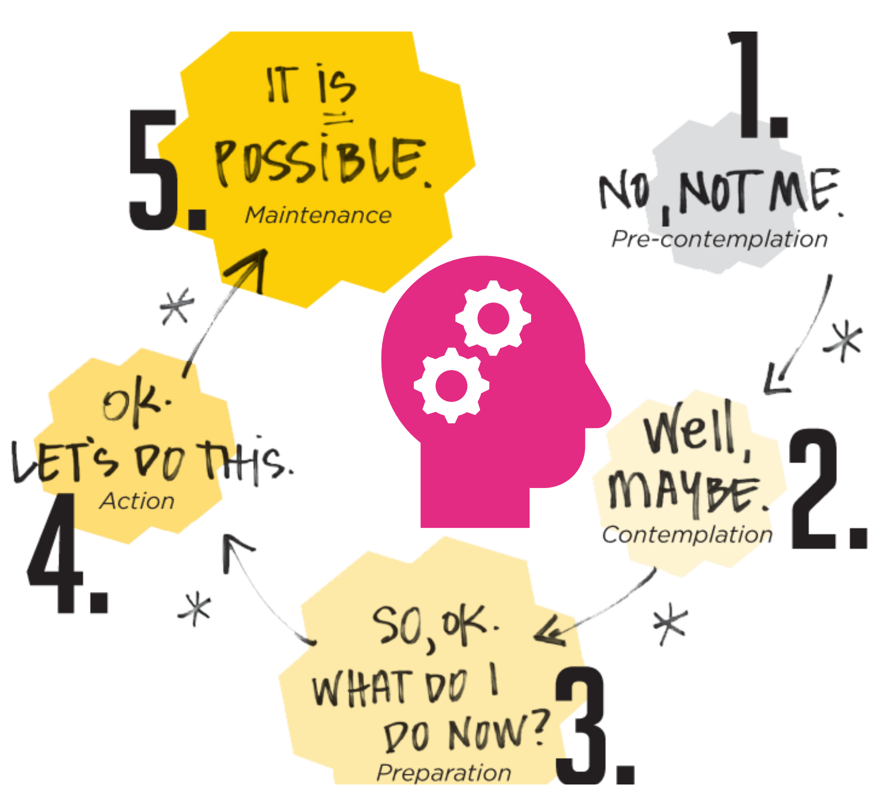
Case – 3rd Visit (3 weeks later) Jennifer

- Abstinent x1wk (but few puffs of roommate's cigarette on patio)
- Smoke-free house (w/ roommate's agreement)
- Doubled marijuana intake, but *without* tobacco
- Some irritability & headache (? related to NRT patch?)
- If smoke-free, surgery could be planned in 6-months
- Very enthusiastic about this w/ "improved" mood
- Notes a positive support network (friends and family).

5A's	Action	Strategies for implementation
Arrange - Schedule follow-up contacts or a referral to specialist support	• Arrange a follow-up contact with your patient either in person or by telephone. • Refer the patient to specialist support if needed	• **When**: The first follow up contact should be arranged during the first week. A second follow up contact is recommended within one month after the quit date. • **How**: Use practical methods such as telephone, personal visit and mail/email to do the follow up. Following up with patients is recommended to be done through teamwork if possible. • **What**: **For all patients**: – Identify problems already encountered and anticipate challenges. – Remind patients of available extra-treatment social support. – Assess medication use and problems. – Schedule next follow up contact. **For patients who are abstinent**: – Congratulate them on their success. **For patients who have used tobacco again**: – Remind them to view relapse as a learning experience. – Review circumstances and elicit recommitment. – Link to more intensive treatment if available.

Toolkit for delivering the 5A's and the 5R's brief tobacco interventions in primary care. WHO. 2014.
https://apps.who.int/iris/bitstream/handle/10665/112835/9789241506953_eng.pdf

Stages of Change – **Maintenance**



- Maintaining the health change
- Identifying tempting situations & develop coping strategy
- Encourage relaxation & stress management skills
- Encourage support system

Case – 4th visit (3 weeks later) Jennifer

- Smoke-free for nearly 30 days
- Continues to use inhaler, but infrequent
- Purchased e-cigarette & using for 2 weeks morning & evening
- Cartridge is nicotine-free & cherry-flavoured
- Reduced marijuana intake by ~50%
- Gained ~10lbs since quitting ← "disappointed"

What are some risks/potential benefits of Jennifer’s e-cigarette use?

Why would/wouldn’t you recommend this as a validated smoking cessation treatment?

E-cigarettes

- E-cigarettes are not recommended as a first-line cessation therapy.
- Although there is some evidence to suggest their effectiveness as smoking cessation aides, quit rates are inferior when compared to traditional smoking cessation therapies.
- Not advised in pregnancy.
- Many questions remain unanswered about e-devices and their physiological impact, long-term health effects/toxicity, effect on the environment (e.g., emissions), and psychological implications.

- For tobacco smokers who are unable or are unwilling to quit smoking, switching to e-cigarettes may be an option for harm reduction. To optimize health benefits of this approach, smokers should switch completely. Since long-term safety of e-cigarettes has not yet been established, those who have completely switched should be encouraged to set a goal for stopping all e-cigarette use eventually [Very Low Evidence – Expert opinion].

Smoking cessation. 2018. FMPE.org

Case – 4th visit (3 weeks later) Jennifer

- Encourage to continued anticipation of reconstructive Sx, a major motivator for abstinence
- Need to lose weight for surgery 🡐? get a dog to help maintain her mood & activity
- Notes benefits of remaining smoke-free 🡐 enjoys compliments from family regarding hygiene
- 🡒 Encourage her to keep up great work
- Plan RTC in 6wk

How might you counsel and support Jennifer in achieving her weight-loss goals while remaining smoke-free?

Case – 5th visit (6 weeks later) Jennifer

- 4-mo. smoke free!
- Decreasing marijuana intake & uses e-cigarette daily
- New dog & increased physical stamina, but difficulty losing weight (gained ~2lbs)
- Holiday season approaching & cravings again (esp. knowing her family members smoke
- Surgery date now 2mo. & more anxious
- Surgeon wants more weight loss ➔ increasing stress craving
- With holiday season, unable to commit to in-person follow-up visit in next 3 wks. ➔what other resources are available?

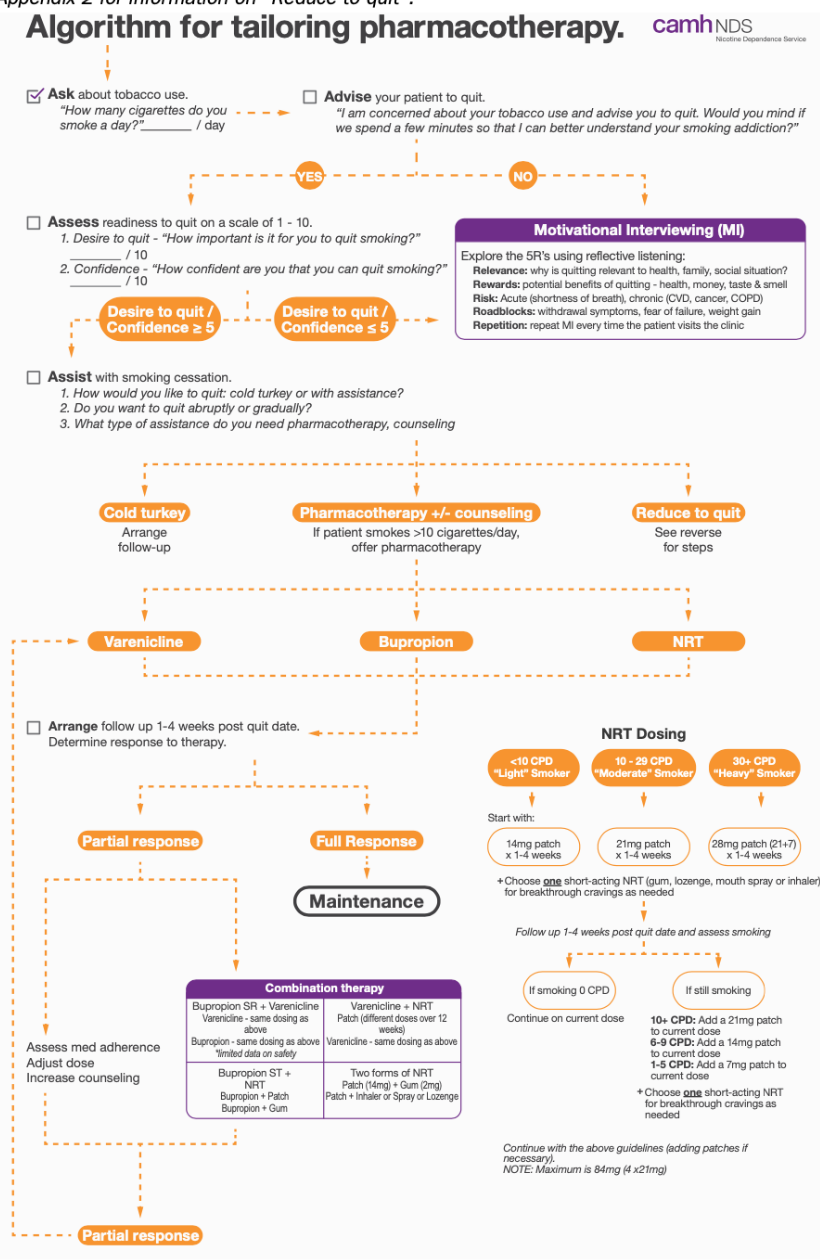
What advice might you offer Jennifer during this critical time?

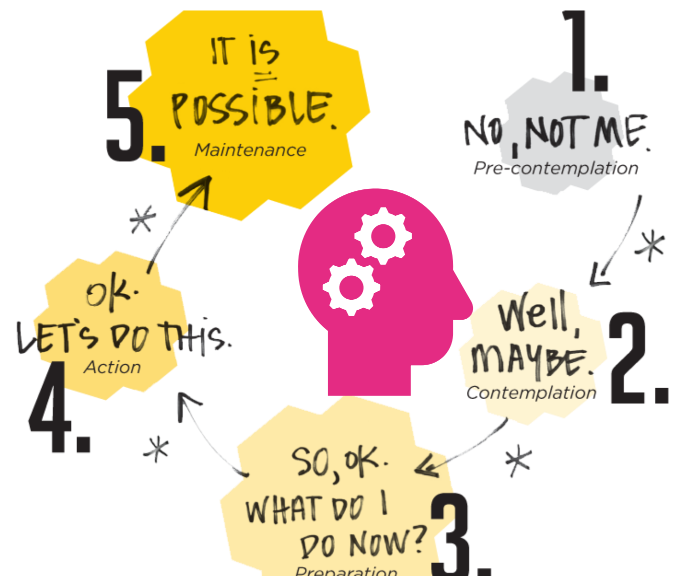
Other medical management at follow up

- Other medications may require dose adjustment as their metabolism is altered by smoking and will be altered again with smoking cessation – see Ottawa Heart institute resource https://ottawamodel.ottawaheart.ca/sites/ottawamodel.ottawaheart.ca/files/omsc_edu/edu_faq/interactionstable_catalyst.pdf
- Consider lung cancer screening – increased quit rates in those who accepted lung cancer screening programs

APPENDIX 1. Algorithm for Tailoring Pharmacotherapy in Primary Care Setting

Note: See Appendix 2 for information on "Reduce to quit".





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Source: Permission received from CAN-ADAPTT. Canadian Smoking Cessation Clinical Practice Guideline. *Toronto, Canada: The Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment, Centre for Addiction and Mental Health.* 2017. www.can-adaptt.net

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August 2018

PBLP PABP

Tools for you as a learner…
Smoking cessation management in 3 pages

- CAMH Nicotine Dependence Service Algorithm for Tailoring Pharmacotherapy – https://www.nicotinedependenceclinic.com/en/teach/Documents/Pharmacotherapy%20Algorithm%20JAN2018%20updated.pdf
- RxFiles Smoking Cessation – can access through University of Ottawa Library website