FM Clerkship Tutorial
Smoking cessation

Gary Viner BSc MD MEd CCFP FCFP
Department of Family Medicine,
University of Ottawa
Additional slides developed by:
Matthew W. Loranger, B.Sc., Ph.D.
Kayla A. Simms
MD Candidates 2017
Objectives

- Identify patient’s stage of change in quitting smoking
- Understand & practice brief interventions (motivational interviewing) to support behaviour modification
- Describe management of nicotine addiction with community resources, NRT & pharmacologic Rx
A Case

- 55 yr old man with HTN, BMI 30, stable depression on an SSRI
- smokes 20 cigarettes per day
- “I know I should quit, but I’ve tried everything and nothing works.”
  - used NRT patch for 3 days; “I still wanted a smoke.”
  - used bupropion for 1 month; “I didn’t want to smoke as much… cut down but couldn’t quit.”
- “What do you think of the electronic cigarette?”
Background: Mortality Due to Tobacco

- 17% of Canadians (4.7 million) >15 yrs smoke (Canadian Tobacco Use Monitoring Survey 2010)
- 37,000 Canadians/yr die from smoking
  - 100 infants/year (SIDS + IUGR + premies)
- 1 in 5 premature deaths are due to smoking
  - 5x (MVAs + suicides + other drug abuse + murder + HIV)
- 1 in 2 smokers die \(\leftarrow\) smoking-related disease
  - 20% of smokers develop lung cancer
    - 50% are 44-50 yrs.
Deaths Attributed to Smoking

- Tobacco
- Combined Preventable Deaths
- Suicides
- Car Accidents
- Alcohol
- Murders

0 5000 10000 15000 20000 25000 30000 35000 40000 45000 50000
The Adverse Effects of Smoking Are Reversible for Many Conditions

- Risk of heart attack drops within 48 hours
- Breathing, taste & smell improve within 2 days
- Coughing improves within 6 months
- Risk of an MI is reduced by 50% in one year
- Risk of dying of lung cancer drops by 50% within 10 years
- Risk of dying from a heart attack is equal to a non-smoker after 15 years
Quit Smoking (at any age) Increases Life Expectancy

<table>
<thead>
<tr>
<th>Age stop smoking by</th>
<th>Years of life gained</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 years</td>
<td>10 (normal life expectancy)</td>
</tr>
<tr>
<td>40 years</td>
<td>9</td>
</tr>
<tr>
<td>50 years</td>
<td>6</td>
</tr>
<tr>
<td>60 years</td>
<td>3</td>
</tr>
</tbody>
</table>

A POWERFUL INTERVENTION

<table>
<thead>
<tr>
<th>Intervention</th>
<th>NNT to save one life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking cessation</td>
<td>9</td>
</tr>
<tr>
<td>Lowering lipids by 10%</td>
<td>16</td>
</tr>
<tr>
<td>Blood pressure control with diuretics</td>
<td>34</td>
</tr>
<tr>
<td>Mammography</td>
<td>205</td>
</tr>
<tr>
<td>Papanicolaou smear</td>
<td>534</td>
</tr>
<tr>
<td>Pneumococcal vaccine</td>
<td>716</td>
</tr>
</tbody>
</table>

Probability of dependence after trying a substance at least once

- Tobacco: 32%
- Heroin: 23%
- Cocaine: 17%
- Alcohol: 15%
- Stimulants: 11%
- Anxiolytics: 9%
- Cannabis: 9%
- Analgesics: 8%
- Inhalants: 4%
Nicotine

- World’s most addictive substance
  - (CDC (Centre of Disease Control) list
- Compare w/ cocaine
  - but @ 20 cig x 10 puffs = 200 hits
  - rapid absorption thru oral mucosa, esp 1st “hit” of day
Nicotine “Addiction” or “Dependence”

- Terms used interchangeably
- Criteria for dependence in DSM-IV:
  - preoccupation or compulsion to use
  - impairment or loss of control over use
  - continued use despite negative consequences
    - minimization or denial of problems associated with use
  - craving (4 Cs)
- Relapsing/Remitting character
- Treatment: 60% of “ever smokers” have quit (CTUMS 2010)
Barriers to quitting smoking

1. Nicotine addiction
2. Behavioural/environmental/social triggers – i.e. “habit”
3. Enjoyment/pleasure loss
WHAT WE KNOW…

60% of smokers want to quit\(^1\)

25% will make a quit attempt each year\(^1\)

<20% use evidence-based supports for quitting\(^2,3\)

4-7% unaided quit attempts will be successful\(^4,5\)

All Smokers Benefit From Proactive Assistance to Quit

- Motivation to quit - not predictive of success
- Motivation can increase when effective treatment is offered
- Smokers with low motivation can achieve high continuous abstinence rates
- All smokers should be actively offered assistance to quit
Motivational Interviewing
http://motivationalinterviewing.org/

- Avoid arguing, ask for permission
- Express empathy
- Develop discrepancies
- Roll with resistance
- Support self-efficacy
  - Elicit understanding ➔ Provide information ➔ Elicit response
MI: Providing Information

- Choose the right moment
- Ask permission
- Provide information in neutral, non-dramatic way
- When finished, ask “What do you think about (make of) that?”
Stages of change

Behaviour change requires progress through 5 stages:
A Brief Smoking Cessation Intervention
The “5A” Approach

- ASK
- ADVISE
- ASSESS
- ASSIST (ACT)
- ARRANGE
Addressing Smoking: The “5As”

1. Ask about tobacco use: Identify patients
2. Advise quitting: Clear, strong & personalized recommendation

**Personalized Advice**

3. Assess: Determination/willingness to quit in 30d
4. Assist: Provide appropriate aids to quit
5. Arrange: Follow up, referral
Pre-Contemplation = resisting change
denies problem/unwilling to change

- Understand patient’s perspective
- Discussing pros & cons of smoking & cessation
- Provide information re: health risks for patient & household
  - Be specific: Aging skin / ED
Pre-contemplation: MI’s 5 “R”s

- Relevance – use pt specific context
- Risks – short/long-term/environmental
- Rewards – review potential impact
- Roadblocks – pt’s perceived barriers
- Repetition – review at each visit
Pros & cons of smoking

Pros
• Release tension
• Improve concentration
• Appetite control
• Relaxation, pleasure
• Social interaction

Cons
• SOB, ↑’d asthma, COPD
• Pregnancy-related risk
• Infertility
• Impotence
• Skin aging/wrinkling
• CAD, stroke, PVD
• Lung & other cancers
• 2nd-hand smoke effects
• ↑’d risk children smoking
• Fire hazards
## Pros & cons of smoking cessation

### Pros
- ↑'d health & longevity
- ↑'d smell & taste
- Financial savings
- ↑'d sport performance
- Better smelling home, car, clothes
- Role modeling for children
- Freedom from addiction

### Cons
- Withdrawal symptoms
- Grief reaction
- Boredom
- Missing the breaks
- Losing friends that smoke
- Loss of enjoyment of smoking-related activities
- Weight gain
Nicotine withdrawal syndrome

- Dysphoric or depressed mood
- Insomnia
- Irritability, frustration, or anger
- Anxiety
- Difficulty concentrating
- Restlessness
- Decreased heart rate
- Increased appetite or weight gain
Contemplation = change on horizon
aware of problem + pros & cons, but fearful

• Build motivation (MI techniques)
  • open ended questions
  • reflective statements
  • affirm patient’s feelings
  • express empathy
• Encourage focus on reasons for quitting
• Create dissonance between pros & cons
Assess: nicotine addiction

- History of smoking, age at onset, history of previous attempts to quit, possible reasons for relapse
- Co-morbidities
- Social history
- Family history
- Assessment of readiness to change
A Newer Way to “Assess”

• Don’t ask if a smoker is ready to quit.

• Just offer treatment.

“Quitting smoking can be hard, but there is good treatment and I can help you. Would you like to try?”
Practicing Motivational Interviewing
Case Scenario:

- Medical Student – learning MI
- Patient: 25 yr. old
  - routine pre-employment health exam
  - screens positive for smoking & occ Etoh
  - no other complaints
Practicing Motivational Interviewing - Tips

- Provide Individual Feedback
- Ask Permission
- Provide the information in a neutral, non-dramatic way
- Beware of overloading clients with too much didactic information
- Realize that multiple attempts may be necessary
Preparation = getting ready aware of problem & need to learn how to 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
Gradual Versus Abrupt Smoking Cessation
A Randomized, Controlled Noninferiority Trial
Nicola Lindson-Hawley, PhD; Miriam Banting, MSc; Robert West, PhD; Susan Michie, DPhil; Bethany Shinkins, DPhil; and Paul Aveyard, PhD

Background: Most smoking cessation guidelines advise quitting abruptly. However, many quit attempts involve gradual cessation. If gradual cessation is as successful, smokers can be advised to quit either way.

Objective: To examine the success of quitting smoking by gradual compared with abrupt quitting.

Design: Randomized, controlled noninferiority trial. (International Standardized Randomized Controlled Trial Number Register: ISRCTN22526020)

Setting: Primary care clinics in England.

Participants: 697 adult smokers with tobacco addiction.

Intervention: Participants quit smoking abruptly or reduced smoking gradually by 75% in the 2 weeks before quitting. Both groups received behavioral support from nurses and used nicotine replacement before and after quit day.

Measurements: The primary outcome measure was prolonged validated abstinence from smoking 4 weeks after quit day. The secondary outcome was prolonged, validated, 6-month abstinence.

Results: At 4 weeks, 39.2% (95% CI, 34.0% to 44.4%) of the participants in the gradual-cessation group were abstenent compared with 49.0% (CI, 43.8% to 54.2%) in the abrupt-cessation group (relative risk, 0.80 [CI, 0.66 to 0.93]). At 6 months, 15.5% (CI, 12.0% to 19.7%) of the participants in the gradual-cessation group were abstenent compared with 22.0% (CI, 18.0% to 26.6%) in the abrupt-cessation group (relative risk, 0.71 [CI, 0.46 to 0.91]). Participants who preferred gradual cessation were significantly less likely to be abstinent at 24 weeks than those who preferred abrupt cessation (38.3% vs 52.2%; P = 0.007).

Limitations: Blinding was impossible. Most participants were white.

Conclusion: Quitting smoking abruptly is more likely to lead to lasting abstinence than cutting down first, even for smokers who initially prefer to quit by gradual reduction.

Primary Funding Source: British Heart Foundation.

For author affiliations, see end of text.
This article was published at www.annals.org on 15 March 2016.

Conventionally, smokers are advised to quit abruptly by setting a quit day to stop smoking in 1 step. Quitting abruptly on a planned quit day (abrupt-cessation
Action = time to move
changes to more positive behaviour

- Encourage maintenance of non-smoking
- Discuss coping strategies for withdrawal symptoms, urges and triggers
- Discuss strategies to deal with slips and relapses
- Review use of pharmacologic therapies
- Follow up plan
Maintenance = staying there
new behaviour practiced & reinforced until automatic

- Identify tempting situations & develop coping strategy
- Encourage relaxation & stress management skills
- Encourage support system
Relapses

• >70% of smokers have attempted to quit (~46% annually) but only 7% are abstinent 1 year later
• Some smokers succeed after making several attempts
• Past failure does not prevent future success
• 98% relapsed smokers willing to try quitting again: 50% immediately & 28% within 1 month
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)
Non pharmacological treatment

- Brief counseling
  - Referral to community support programs
- Intensive counseling (CBT)
- Hypnotherapy
- Acupuncture
Pharmacotherapy for Smoking Cessation

- Effectiveness
- Tolerability
- Prescribing information
- Practicalities
  - how to choose
  - combinations
  - cost
Pharmacological treatments

- Nicotine replacement therapy (NRT)
  - gum, patch, lozenge, inhaler
- Bupropion = Wellbutrin®/Zyban®
- Varenicline = Champix®/Chantix® (in USA)
- Others: clonidine, nortriptyline, cytisine, buspirone, naloxone, naltrexone
NRT for Smoking Cessation

- Provide nicotine - ↓ withdrawal Sx & cravings
- Eliminates 4000 chemicals in cigarettes
  - ammonia, lead, arsenic, tars, others
  - >60 directly cause cancer
- Almost doubles quit rates
- Most effective when combined with counselling
- Can start before quit date (TQD)
Nicotine Replacement Therapy

**Patch**
- 21mg, 14mg, 7mg

**Gum**
- 2mg, 4mg
- 10mg (per cartridge)
- 2mg (absorbed)

**Inhaler**
- Electronic Cigarette?
NRT for Smoking Cessation

Gum (2 mg & 4 mg pieces)

- Fixed dose or ad lib (20-30min)
- Heavy smokers (>30 cigarettes/day) benefit from the 4mg pieces
- Oral gratification
- side-effects:
  - hiccups, GI disturbances, jaw pain, dental problems
NRT for Smoking Cessation

Patches

- Step 1 – 21 mg (6 weeks)
  - Start on morning of TQD
  - Change every 24hr in AM
- Step 2 – 14 mg (2 weeks)
- Step 3 – 7 mg (2 weeks)
NRT for Smoking Cessation

Patches

- eight weeks of patch therapy is as effective as longer courses
- no evidence that tapered therapy is better than abrupt withdrawal
- wearing the patch only during waking hours is as effective as wearing it for 24 hours a day
NRT for Smoking Cessation

Patches

- Small benefit in combining with gum or inhaler as needed
- Consider >one patch in heavy smokers or relapsers (because of craving and withdrawal symptoms on standard dose)
- Repeated courses of NRT in relapse after patch → only small additional probability of quitting
NRT for Smoking Cessation

Patches

- Side-effects:
  - Vivid dreams/sleep disturbed if used hs
  - Skin irritation <54% - rarely leads to D/C
  - No increased risk of cardiac events in patients with known CV disease
NRT for Smoking Cessation

Lozenge 1mg or 2mg

- absorbed through buccal mucosa
- 1mg if smoking <20/d; 2mg >20/d
- use prn instead of smoking
- ~30 minutes to dissolve
- 10 – 12/d (suck & park) for most
NRT for Smoking Cessation

Inhaler 10mg/canister (+ 1mg menthol)

- 4mg/dose (2mg absorbed)
- Small, cigarette shaped inhaler
- Satisfies sensory & ritualistic aspect

side-effects:
- throat irritation, coughing, oral burning
Pooled odds ratios for abstinence with NRT:

1.77 (95% CI, 1.66 to 1.88) (103 controlled trials)

<table>
<thead>
<tr>
<th>NRT Type</th>
<th>Odds ratio for abstinence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gum</td>
<td>1.66</td>
</tr>
<tr>
<td></td>
<td>(95% CI, 1.52 to 1.81)</td>
</tr>
<tr>
<td>Patches</td>
<td>1.81</td>
</tr>
<tr>
<td></td>
<td>(95% CI, 1.63 to 2.02)</td>
</tr>
<tr>
<td>Lozenge</td>
<td>2.05</td>
</tr>
<tr>
<td></td>
<td>(95% CI, 1.62 to 2.59)</td>
</tr>
<tr>
<td>Inhaler</td>
<td>2.14</td>
</tr>
<tr>
<td></td>
<td>(95% CI, 1.44 to 3.18)</td>
</tr>
</tbody>
</table>
WHY QUIT?
SWITCH TO BLU

blu is the smart choice for smokers wanting a change. Take back your freedom to smoke when and where you want without ash or smell. blu is everything you enjoy about smoking and nothing else. Nobody likes a quitter, so make the switch today.

Visit blucigs.com
Nicotine without smoke; e-cigarettes
Electronic cigarettes

Risk reduction tool or gateway to smoking?

- e-cigarettes containing nicotine are illegal in Canada but widely available
- 1% of cigarette market = $1.7 billion in U.S. sales
- “Big Tobacco” is acquiring independent manufacturers & marketing e-cigarettes
- no public health consensus on how to manage & regulate e-cigarettes due to knowledge gaps
How cheap will we let vaping products get before we see price as part of the youth vaping problem?

The new Vaping Industry Trade Association (VITA) is 100% funded by tobacco companies
Electronic cigarettes
Questions

- How much nicotine do they actually deliver?
- They should be less harmful than smoking tobacco but are they harmless?
- Will they help people stop smoking?
- Will they distract smokers who could quit from doing so?
- Will they appeal to youth, who then transition to cigarettes?
- Will their use undermine no-smoking norms?
- Should they be allowed where smoking is prohibited?
- Should you recommend them to your smokers?
Tools for Practice

Electronic cigarettes: help, hurt, or hype?

Elfriede Cross MD  Scott Garrison MD CCFP PhD  Michael R. Kolber MD CCFP MSc

Clinical question
Do nicotine electronic cigarettes (NECs) help smokers decrease or quit smoking?

Bottom line
Smokers motivated to quit who used NECs had similar quit rates compared with those using nicotine patches (NPs), but 1 in 7 reduced daily cigarette consumption by 50% or more. The long-term adverse effects are unknown.

Evidence
Evidence includes 2 high-quality industry-supported RCTs in which the mean age was in the early 40s and participants were each smoking about 1 pack per day.1,2

• In 657 smokers in New Zealand motivated to quit who

-Health Canada and the FDA are deciding how to regulate e-cigarettes, including addressing health warnings and marketing toward minors,10,12,13

-The WHO advises caution (especially for adolescents and pregnant women),4 while Public Health England supports e-cigarettes for smoking cessation and reduction.9

Implementation
Clinicians should ask all adults about tobacco use and their readiness to quit,13 as current smokers live 10 years fewer than those who have never smoked.15 Patients seeking to use e-cigarettes to help them quit should not be dissuaded, but might consider other cessation aids (eg, nortriptyline, varenicline, bupropion, NPs), given the greater evidence of their efficacy and safety.16 Licensing
Bupropion (Wellbutrin®/Zyban®)

- Originally designed to treat depression
- Sole therapy: chance of quitting =x2
  - 31 trials; OR 1.94, 95% CI, 1.72 to 2.19)
- Minimize wt. gain w/ quitting smoking
- Contraindications
  - Seizure History
  - Eating Disorder
  - MAOI Medications
  - Using/sensitivity to Bupropion
Antidepressants for Smoking Cessation

- Effective without depression/depressive Sx during smoking abstinence
- Combining bupropion & NRT ➔ no evidence for additional long-term benefit
Bupropion Tolerability

- insomnia
- dry mouth
- nausea
- ~1 in 1000 risk of seizures
  - risk of suicide is unproven
<table>
<thead>
<tr>
<th>Cessation aid</th>
<th>Nicotine gum</th>
<th>Nicotine patch</th>
<th>Bupropion</th>
<th>Verenicline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanism of action</strong></td>
<td>Buccal mucous membrane absorption Peak 20-30 min</td>
<td>Transdermal absorption Peak 2-4 hours</td>
<td>Dopaminergic effect on reward pathway, noradrenergic effect on withdrawal pathway Peak 7-10 days</td>
<td>$\alpha_4\beta_2$ Nicotine receptor partial agonist (reduces withdrawal &amp; minimizes effect of nicotine)</td>
</tr>
<tr>
<td><strong>Dosage</strong></td>
<td>2-4mg pieces q1-2h</td>
<td>7, 14 or 21mg q24h</td>
<td>150mg SR qam x 3d then bid Start 7-14d &lt;quit date</td>
<td>0.5mg qam x 3d, bid x 5d then 1mg bid Start 7-14d &lt;quit date</td>
</tr>
<tr>
<td><strong>Rx Duration</strong></td>
<td>Weeks to months</td>
<td>8-12+ wks</td>
<td>7-12+ wks</td>
<td>12-24 wks</td>
</tr>
<tr>
<td><strong>Side effects</strong></td>
<td>Burning in throat Hiccups Dental problems</td>
<td>Local skin irritation Disturbed sleep Nightmares</td>
<td>Dry mouth Insomnia</td>
<td>Suicidal thoughts Aggression Insomnia Nightmares Headaches Nausea</td>
</tr>
<tr>
<td><strong>Contraindications</strong></td>
<td>Serious angina, severe arrhythmia, MI &lt;2 weeks</td>
<td>Serious angina, severe arrhythmia, MI &lt;2 weeks</td>
<td>Pregnancy &amp; breast feeding Seizures Eating disorder Allergy MAO inhibitors use &lt;2 wks</td>
<td>None</td>
</tr>
<tr>
<td><strong>Cautions</strong></td>
<td></td>
<td></td>
<td>BP esp. used with NRT Alcohol dependence Medications (SSRIs) that lower seizure threshold</td>
<td>Previous or active psychiatric illness Observe for changes in behaviour</td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>Use on demand Hand to mouth stimulation Delays weight gain</td>
<td>Daily application Delays weight gain</td>
<td>Inexpensive Helps with depression Minimal weight gain</td>
<td></td>
</tr>
<tr>
<td><strong>Cost/d</strong></td>
<td>$2-5</td>
<td>$4-5</td>
<td>$2-3</td>
<td>$5</td>
</tr>
</tbody>
</table>
Varenicline (Champix)

- Approved in Canada 2008
- 1st pharmaceutical agent designed for smoking cessation
- Based on cytisine (plant derived $\alpha 4\beta 2$ receptor agonist used in Eastern Europe for smoking cessation)
Le Foll, B. et al. CMAJ 2007;177:1373-1380
Varenicline

- designed to be a selective $\alpha_4\beta_2$ receptor partial agonist & antagonist
  - 35 – 60% nicotine agonist effect on dopamine release
  - competitive antagonist with $> \text{affinity for } \alpha_4\beta_2$ receptor than nicotine

$\Rightarrow$ stimulates dopamine release
  - decrease craving & withdrawal
  - blocks pleasurable effects from nicotine
Varenicline vs. Bupropion: Effects on Craving, Withdrawal & Smoking Satisfaction

**Craving**

- both reduced craving but varenicline had twice the effect (moderate effect size)
- both reduced urge to smoke but varenicline had twice the effect size
Varenicline vs. Bupropion: Effects on Craving, Withdrawal & Smoking Satisfaction - 2

Withdrawal

• Both reduced the negative affect associated with quitting about equally
  • varenicline reduced restlessness (small effect size)
  • varenicline increased appetite cf. bupropion (small effect size)
Smoking Satisfaction

- varenicline & bupropion both had a moderate effect on reducing smoking satisfaction & psychological reward after smoking while taking the drug
Tolerability

Varenicline
- Nausea (28.1%)
- Headache (15.5%)
- Insomnia (14.0%)
- Abn dreams (10.3%)
- ↑'d Serious CVS events in pts w/ CVD?

Bupropion
- Insomnia (21.9%)
- Headache (14.3%)
- Nausea (12.5%)
- Seizures (n=1)
Pills or NRT to Quit?

Effectiveness?

• 3 studies show that varenicline is more effective than bupropion

• only varenicline helps prevent relapse with an additional 12 weeks of Rx

• no evidence to choose bupropion or nortriptyline over NRT or vice versa
# Pills or NRT to Quit?

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose for 12 wks</th>
<th>Approx. Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>smoking</td>
<td>1 pack/day</td>
<td>$670</td>
</tr>
<tr>
<td>varenicline</td>
<td>1 mg BID</td>
<td>$325</td>
</tr>
<tr>
<td>bupropion</td>
<td>150 mg BID</td>
<td>$180</td>
</tr>
<tr>
<td>nortriptyline</td>
<td>75-100 mg daily</td>
<td>$50 - 84</td>
</tr>
<tr>
<td>nicotine gum</td>
<td>2 or 4 mg PRN</td>
<td>$115 - 210</td>
</tr>
<tr>
<td>nicotine patch</td>
<td>1 OD x 10 weeks</td>
<td>$230 - 300</td>
</tr>
<tr>
<td>nicotine inhaler</td>
<td>6 – 12 cart. OD PRN</td>
<td>$280 - 550</td>
</tr>
<tr>
<td>nicotine lozenge</td>
<td>1 or 2 mg PRN</td>
<td>$110 - 290</td>
</tr>
</tbody>
</table>
Pills or NRT to Quit?

Patient factors?

Smoker’s level of dependence on nicotine influences NRT effectiveness

• heavy smokers (>30 cigarettes/d) benefit from higher doses of nicotine replacement e.g. 4mg gum vs. 2mg or combinations of NRT

• limited evidence of NRT effectiveness in those who smoke <10-15 cigarettes/d
How to Prescribe

Zyban (bupropion)
150 mg
1 po daily x3d, then 1 po BID
• Start 1 week before TQD
• Take for 12 weeks

Champix (varenicline)
0.5 mg & 1 mg
0.5 mg po daily x3d, then 0.5 mg po BID x4d, then 1 mg po BID
• Start 1 week before TQD
• Take for 12 – 24 weeks
Pharmacotherapy for Prevention of Relapse

• 50 – 60% of initially successful quitters go on to relapse within a year
Pharmacotherapy for Prevention of Relapse

nicotine gum
• 2 trials found a small effect; (n=2261: OR, 1.30; 95% CI, 1.06-1.61)

bupropion
• no effect when data from two trials pooled: (n=605; OR, 1.25; 95% CI, 0.86-1.81)
Pharmacotherapy for Prevention of Relapse

“Varenicline is the first smoking cessation treatment to demonstrate a (clinically) significant long-term relapse prevention effect.”
"First" Visit

Jennifer, 35 – smoking cessation
PMH: Breast Ca, HTN, Bi-polar Affective Disorder & anxiety
- 2013 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.
Approach in Primary Care

- Introduction/Identification
- PMHx
- Medications
- Social Hx:
  - Substance Use
    - Caffeine (# beverages/day)
    - Alcohol (# drinks/week)
    - Other Substances (narcotics, stimulants, depressants, hallucinogens, cannabis)
  - Diet/Exercise
  - Supports/Stressors
  - Finances/Employment
- Tobacco Use Hx
- Cessation/Relapse Hx
- Motivation/Concerns
- Quit Plan
Questions to gather a thorough smoking history?
IMA-STOP-NOW

• ID smoking status – cigarettes/day
• Morning smoking – 1\textsuperscript{st} cigarette after arising
• 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:

Opening Questions for new patients

- Have you used any form of tobacco in the last seven days?
- Have you used any form of tobacco in the past?
- What types of tobacco do you use?
- How many cigarettes do you smoke per day?
- How many years have you been smoking?
- Do you smoke within 30 minutes of waking in the morning?
- Are there other smokers in the home? Where, in the home, does smoking take place?
First Visit Cont’d (Tobacco Use History)

- Smoking cigarettes x12 years, onset age 23
- 5 cigarettes per day (1\textsuperscript{st} cigarette immediately upon arising)
- Uses marijuana laced with tobacco daily to “help get to sleep”
- Lives w/ male roommate \(\leftarrow\) heavy smoker
- Both enjoy smoking in the home
Cessation & Relapse History

- 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?

Always offer congratulations on previous quit attempts and on successful periods of abstinence!
First Visit Cont’d (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
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?
First Visit Cont’d (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.
Withdrawal lasts ___ to ___ days
Urges to smoke last ___ to ___ minutes
Cravings decrease in ___ to ___ weeks
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

*Recommend all patients attempting to quit be on some pharmacotherapy*
Of possible pharmacotherapies, what might be an appropriate first choice for Jennifer (given she smokes 5 cpd)?

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
Quit Plan (cont’d)

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 behavioural advice would you suggest to Jennifer?
First Visit Cont’d: Plan

- Agrees to a quit date
- Start NRT patch (7 mg,)
- Use short-acting inhaler for withdrawal symptoms/cravings.
  Follow-up 3 wk
What are some common Nicotine withdrawal symptoms Jennifer may experience during the next few weeks while attempting cessation?
2nd Visit (3 wks later)

- 1st weeks of smoking cessation are critical
  - Scheduled F/U visits in early weeks after an attempt ➔ effective in prevention of relapse
  - >75% of unaided quitters relapse within 1st wk

- Key components of follow-up visit:
  - Assess progress & problems
  - Titrate medication (as needed)
  - Support relapse prevention
  - Boost motivation & confidence
What questions might you ask Jennifer at a Follow-up Visit?
Follow-Up Questions

• Have you used any form of tobacco since your last visit?
• How many caffeinated beverages, on average, do you consume a day?
• How many alcoholic beverages, on average, do you consume a week?
• Are you still taking the prescribed medications?
• Have you experience any side effects?
• What are the situations most likely to stimulate a return to smoking?
• Have you experienced any withdrawal symptoms?
• On a scale of 1–10, how confident are you that you can stay smoke-free?
Second Visit Cont’d

- Started using patch for 1st few days, but 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 in first few days
- Difficulty giving up early morning & nighttime cigarettes
- Started running but (despite enjoying) mood remains low
What simple and strategic advice might you offer Jennifer in helping her recommit to quitting smoking?
Second Visit Cont’d: Plan

Agrees to continue NRT patch (7mg)
Provide new inhaler
Encourage adjusting evening activities to avoid urge to smoke.
On average, ___ to ___ unsuccessful attempts may occur before complete abstinence.
3rd Visit (3 wks later)

- Abstinent x1wk (except for few puffs of roommates 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).
What is appropriate next step for Jennifer? How might you encourage her to remain smoke-free?
Fourth Visit (Three Weeks Later)

- 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?
Fourth Visit Cont’d: Plan

- Encourage to continue to anticipate her reconstructive Sx, a large motivator to abstain from tobacco
- Need to lose weight for surgery considering getting a dog to help maintain her good mood & stay active
- When describing some benefits of remaining smoke-free enjoying compliments from family regarding hygiene
- You 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?
Fifth Visit (Six Weeks Later)

- 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?

What are some community resources you could suggest to Jennifer?
Smoking Cessation Sites

www.ItsCanadasTime.ca
www.SmokersHelpLine.ca (877) 513-5333
http://www.ctica.org/ - Clinical Tobacco Intervention (CTI)
http://www.stopsmokingcentre.net/
http://www.idocc.ca/Guideline/SmokingCessation_community-resources.pdf

Ottawa Heart Institute model

A.C.E.S.S. Smoking Cessation Programs - City of Ottawa