School of Public Health and Community Medicine
The University of New South Wales, Sydney

Associate Professor Colin Mendelsohn

How to help your patients stop smoking

GENCA National Conference

Saturday 28 April 2018
Disclosures

Payments for teaching, consulting and conference expenses from

• Pfizer Australia
• GlaxoSmithKline
• Johnson & Johnson Pacific
• Perrigo Australia
Outline

• General overview
• Behavioural counselling
• Pharmacotherapy
  – Optimising nicotine replacement therapy
• Drug interactions with smoking
• Electronic cigarettes
Australian smoking rates (18y+)

- 15.6% smokers \(^1\)
- 2.9 million smokers
- No decline in smoking rates 2013-2016

<table>
<thead>
<tr>
<th>Groups</th>
<th>% smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low socioeconomic groups (^1)</td>
<td>Lowest 20%</td>
</tr>
<tr>
<td></td>
<td>Highest 9.3%</td>
</tr>
<tr>
<td>Indigenous (^2)</td>
<td>45%</td>
</tr>
<tr>
<td>Mental illness (^3)</td>
<td>32%</td>
</tr>
<tr>
<td>Homeless people (^4)</td>
<td>77%</td>
</tr>
<tr>
<td>Sexual minorities (^1)</td>
<td>27%</td>
</tr>
</tbody>
</table>

2. ABS. Australian Aboriginal and Torres Strait Islander Health Survey, Australia, 2014-15
3. Australian National Survey of Mental Health and Wellbeing. ABS 2008 AIHW.
Gastrointestinal effects of smoking

Cancer
- Oral
- Oesophagus
- Stomach
- Liver
- Pancreas
- Colorectal

Other conditions

Surgical complications:
- wound healing, infections
- CV complications
- Gastro-oesophageal reflux
- Peptic ulcer
- Crohn’s disease

Up to 2 in 3 Australian smokers will die from a smoking-related disease

1. USDHHS 2010, 2014
2. Mahid S 2006
3. To N. APT 2016
**3As**

**ASK**
Ask all patients if they smoke
‘Do you smoke? Do you vape’
‘Are you still smoking?”

**ADVISE**
‘it’s not easy, but the best thing you can do for your health is to quit smoking. Your Crohn’s disease will improve and you will get less chest infections’

**ACT**
‘The best way to quit is with support and stop-smoking medication.
Can I give you a referral to see or speak to…
• Quitline 137 848
• GP
• Pharmacist
• Tobacco Treatment Specialist [www.aascp.org.au](http://www.aascp.org.au)
OR ‘Can we make an appointment to discuss further?’

---

**5As**

**ASSESS**
1. Readiness to quit
2. Nicotine dependence

**ASSIST**
1. Psycho-education
2. Coping strategies
3. Barriers to quitting
4. Pharmacotherapy
5. Set a Quit Date

**ARRANGE**
Arrange follow up visits
2 components of treatment

1. Behavioural counselling and education for habit

2. Pharmacotherapy for nicotine dependence
1) Behavioural counselling

- Information
- Motivation
- Triggers
- Barriers
- Lifestyle changes
- Support
Smoking triggers

- Avoid
- Escape
- Distract
- Delay
- Change
## Smoking with coffee

<table>
<thead>
<tr>
<th>Technique</th>
<th>Coping strategy</th>
</tr>
</thead>
</table>
| Avoid     | • Reduce coffee intake  
                          • Change to tea, herbal tea, orange juice or water |
| Distract  | • Do something else while drinking |
| ‘Change’  | • Have in a different place, where you usually don’t or can’t smoke  
                          • Use a different cup  
                          • Try a different brand of coffee |
| Oral NRT  | • Oral NRT *before* coffee break |
Barriers to quitting

- Nicotine withdrawal
- Fear of failure
- Weight gain
- Peer pressure
- Stress
Barrier: weight gain

• Nicotine suppresses appetite and speeds up the metabolism
• Weight concerns discourage 50% of women and 25% of men from quitting \(^1\)
• Average weight gain 2.6kg (5y) \(^2\)
• Advice
  – Strict dieting not recommended \(^3\)
  – Eat sensibly and exercise regularly
  – Accept some weight gain for now
    • Focus on quitting
    • Lose weight later

Barrier: stress

• The ‘stress paradox’
• Smoking appears to benefit stress but *actually increases it* \(^1,2\)
• Smokers feel happier and more relaxed after quitting \(^3\)

Stress from withdrawal

Relaxation confused with relief of withdrawal symptoms
Two kinds of ‘stress’

Perkins KA. Acute negative affect relief from smoking depends on the affect measure and situation, but not on nicotine. Biol Psychiatry 2010
• Smoking is a chronic, relapsing medical illness
• ‘Quitting is a journey’
• Relapse is normal
• Failed attempts are learning experiences
• Keep trying
Lifestyle changes

• Exercise
  – Reduces cravings, withdrawals and negative mood \(^1,2\)
  – Reduces weight gain \(^3\)
  – Protects against relapse \(^4\)

• Keep busy. New interests and activities

• Avoid high risk situations

• Stop smoking in the house or car

• Reduce alcohol

Quitline

- 137 848 or email referral
- Proactive phone calls
- Evidence-based \(^1\)

Borland R. The potential of quitlines to increase smoking cessation. Drug Alc Rev 2006
2) Pharmacotherapy

• For nicotine-dependent smokers
• Relieves cravings and withdrawal symptoms

• Most effective are varenicline and combination NRT
Assess nicotine dependence

Time To First Cigarette (TTFC) \(^1,2\)

All NRTs are not the same

<table>
<thead>
<tr>
<th>Speed of action</th>
<th>NRT product</th>
<th>Time to peak blood levels</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow</td>
<td>![Image]</td>
<td>3-12 hours</td>
<td>Background cravings</td>
</tr>
<tr>
<td>Medium</td>
<td>![Image]</td>
<td>30-60 minutes</td>
<td>Intermediate response</td>
</tr>
<tr>
<td>Fast</td>
<td>![Image]</td>
<td>10 minutes</td>
<td>Smoking triggers: fast response</td>
</tr>
</tbody>
</table>
Two types of cravings

Background cravings
• Due to reduced nicotine soon after quitting
• Relieved by nicotine patch\(^1\)

Cue-induced cravings
• Triggers such as smell of smoke, coffee, alcohol, stress
• Relieved by fast acting NRT \(^1\)

1. Ferguson S. J Subst Abuse 2009
Commencing NRT in hospital

Assess for nicotine dependence

• Commence as soon as possible after admission (within 3-4 hours) – nurse initiated

Options

• Nicotine patch
  – If >10 cpd and >45kg, start full strength nicotine patch

• And/or intermittent oral NRT (by bedside) for prn use

1. Supporting smoking cessation. RACGP 2014
6 rules for optimising NRT
1. Combination NRT

Cue-induced cravings

Baseline

Craving intensity

Background cravings due to low nicotine

7am 1pm 6pm
Effectiveness of combination NRT

• 50% more effective than monotherapy
• As effective as varenicline
• Relieves both types of cravings
• Consider for all nicotine-dependent smokers on NRT, esp. more dependent

2. Address ‘nicophobia’

- Many smokers believe NRT is
  - Unsafe
  - Addictive
  - Not effective

- Underused
- Poor compliance
- Underdosing
- Incorrect use
- Incomplete course

- Providing accurate information may increase uptake and compliance

Ferguson SG. Providing accurate safety info may increase willingness to use NRT. Add Behav 2011
Is nicotine safe?

• Nicotine is the main psychoactive agent in tobacco but causes few significant health effects (except in pregnancy)

• Nicotine
  – does not cause cancer
  – is not a major cause of cardiovascular disease
  – does not cause respiratory disease

• ‘NRT is always safer than smoking’

3. When to start the patch?

- 2 weeks before Quit Day
- 34% more effective \(^1\)
- Smoking while using NRT is safe and causes no additional adverse effects \(^1\)

---

4. Ensure optimal use of *oral* NRT

- Correct instructions vital
- Nicotine absorbed through mucosal lining
  - Don’t eat or drink while using
Nicotine gum
Nicotine gum

- ‘Chew and park’
  - Chew slowly until peppery, bitter taste then rest between gum and cheek
  - Chew again several times slowly when taste fades
  - Repeat for 30 min or till the taste fades

- Try not to swallow excessively

2mg and 4mg available
Nicotine lozenges

- Allow to dissolve slowly in mouth (about 20 minutes),
- Move from side to side from time to time
- Don’t chew
- Use 4mg if TTFC <30 mins

Lozenges 1.5/2mg, 4mg
Nicotine mouth spray

- Pump spray (150 doses)
- Spray under tongue or inside cheek
- Delay swallowing for as long as possible to allow absorption
- Rapid onset
  - Starts to relieve cravings after 60 sec $^1$
  - Peak effect in 10 mins $^2$

Inhalator

- Plastic pipe with replaceable nicotine cartridge
- Shallow, frequent puffs for 20 minutes per hour
- About 400 puffs per cartridge
5. Use an adequate dose

- Dose should be sufficient to control withdrawal symptoms and cravings
- If in doubt, use more – higher doses are safe
- Too much nicotine causes nausea
- Heavier smokers and faster nicotine metabolisers (women) need larger doses
- 4mg gum and lozenges if TTFC <30mins
6. Use a full course

- Encourage use for at least 8-12 weeks \(^1\)
- Most smokers stop prematurely \(^2\)

# Adverse effects

<table>
<thead>
<tr>
<th>All ¹</th>
<th>Nicotine patch</th>
<th>Oral nicotine products</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Nausea, vomiting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Headache, dizziness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Palpitations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Insomnia, vivid dreams (24-hour patch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Itchy rash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hiccups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Coughing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sore mouth and throat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Dry mouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Upset stomach, nausea</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Varenicline

- Single most effective monotherapy \(^1\)
- 1 tablet twice daily for 12-24 weeks (PBS)
- Delayed onset: takes 1-2 weeks to work
- No drug interactions
- Nausea; disturbed sleep, vivid dreams
- No significant increase in neuropsychiatric events compared to nicotine patch, bupropion or placebo \(^2\)
- Can be used in stable mental illness \(^3\)

Drug interactions with smoking

- Smokers metabolise some drugs much faster (CYP1A2)
- Drug levels rise within days of quitting
- Certain drug doses may need to be reduced

Warfarin

• Smokers require a 13% higher dose because of faster metabolism \(^1\)
• Levels may rise after quitting and dose reduction may be required
• Monitor INR closely after any change in smoking status
• Also heparin

Nathisuwan S. Assessing evidence of interaction between smoking and warfarin - a systematic review and meta-analysis. Chest 2011
Clozapine, olanzapine

- Average reduction of clozapine by 50% and olanzapine by 30% after cessation
- Within several days of quitting
- Monitor for increased side effects
  - Sedation, hypersalivation, hypotension, seizures, akasthesia, prolonged QTc interval

Caffeine

• Smoking induces caffeine metabolism
• Caffeine levels rise after quitting \(^1\)
• Caffeine toxicity - confused with nicotine withdrawal
  – anxiety, difficulty concentrating, impatience, insomnia, restlessness
• Reduce caffeine by half when quitting

1. Faber MS. Clinical Pharmacology and Therapeutics 2004
<table>
<thead>
<tr>
<th>Drug</th>
<th>Effect of smoking cessation</th>
<th>Impact on dosage required when client stops smoking</th>
<th>Clinical Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepines</td>
<td>Possible increased sedation due to loss of CNS stimulation by nicotine.</td>
<td>May need lower dose.</td>
<td>+</td>
</tr>
<tr>
<td>Beta blockers</td>
<td>Serum levels rise and effects enhanced.</td>
<td>May need lower dose.</td>
<td>+</td>
</tr>
</tbody>
</table>
| Caffeine and alcohol | Caffeine levels rise  
 Alcohol levels rise                                             | Reduce caffeine and alcohol levels by half within a week | +++                 |
| Chlorpromazine  | Serum levels rise                                                                            | May need lower dose.                               | +                   |
| Clopidogrel     | Effectiveness is significantly reduced when smoker stops smoking                            | Prasugrel or ticagrelor may be better choices for non-smokers | +++                 |
| Clozapine       | Serum levels rise significantly                                                             | An average 50% dose reduction may be required       | +++                 |
| Flecaïnide      | Serum levels rise                                                                            | May need lower dose.                               | +                   |
| Fluvoxamine     | Serum levels rise                                                                            | May need lower dose.                               | ++                  |
| Haloperidol     | Serum levels rise                                                                            | May need lower dose.                               | +                   |
| Heparin         | Serum levels rise                                                                            | May need lower dose.                               | +                   |
| Imipramine      | Serum levels may rise – monitor for side effects                                            | May need lower dose.                               | +                   |
| Insulin         | Increased subcutaneous absorption due to vasoilation after quitting                         | May need lower dose.                               | ++                  |
| Olanzapine      | Serum levels rise significantly                                                             | An average 30% dose reduction may be required       | +++                 |
| Theophylline    | Serum levels rise                                                                            | May need lower dose.                               | ++                  |
| Warfarin        | Serum levels increase by 15% on average                                                     | May need lower dose. Close monitoring of INR advised. | +++                 |

Acknowledgement: Dr Colin Mendelsohn, Tobacco Treatment Specialist and Associate Professor Renee Bitton, for their expert advice and assistance in compiling this information.
Electronic cigarettes
What are e-cigarettes?

Simulates smoking
1. Nicotine
2. Habit
Tobacco Harm Reduction

- A less harmful alternative
- For adult smokers unable or unwilling to quit
- Focus is to prevent harm from smoke not necessarily cease nicotine
- ‘People smoke for nicotine but die from tar’¹
- Some will go on to stop vaping
- Other harm reduction strategies
  - Methadone
  - Needle exchange
  - MSIR

The evidence

- An effective quitting aid
- Not risk-free but far less harmful than smoking (95%)
- Harm to bystanders is negligible
- Regular use by children and non-smokers is rare
- Legal with nicotine prescription from doctor

2. UK Centre for Tobacco and Alcohol Studies report. 2016  
4. Clearing the Air Monograph. Uni Victoria Canada BC 2017
Take-home messages

• Best results from counselling + pharmacotherapy
• Counselling  Smoking triggers and barriers to quitting
  The ‘stress paradox’
  Quitline 137 848
• NRT  Combination NRT for most NRT users
  Give clear instructions on *oral* NRT
  Ensure adequate dose to control symptoms
  Discuss nicotine safety
• Drug interactions: warfarin, clozapine, olanzapine, caffeine
• E-cigarettes for those who can’t or won’t quit nicotine