Although the prevalence of smoking has decreased, it remains the most prevalent behavioural risk factor for disease and premature death. Tobacco smoking is responsible for the premature death of approximately 16,000 Australians each year. Daily smoking is reported by 17.4% of the population, approximately one in six; and a number of groups within the community such as indigenous Australians, those from specific ethnic groups, those with a mental health problem, and those with other drug use problems have much higher rates. Nearly three-quarters of smokers report that they want to stop smoking but the success rate of unaided quit attempts is low.

How can GPs help smokers to quit?

There is clear evidence that brief advice from general practitioners to quit has a small effect; 2–3% extra quitters 1 year later. Cessation advice can also be effective when provided by other health professionals such as nurses, pharmacists, psychologists and dentists. The size of the effect can be increased by combining brief advice with other evidence based strategies such as pharmacotherapy, active follow up, and referral to Quitline. Figure 1 provides a menu of strategies to help patients quit based on the 5As approach.

The 5As approach

Ask
Reliably identifying and documenting tobacco use and providing brief advice to stop has a small effect on quit rates. Being aware of who the smokers are in the practice is also important for effective management of chronic diseases. About one in three smokers attending their GP have not been correctly identified, patients may have tried to quit but have relapsed to smoking and their GP may not be aware of their relapse.

Assess
Assessment of interest in quitting is helpful in tailoring relevant advice to help motivate a quit attempt. Stage of change remains
a useful framework for assessment, although recent evidence shows that people do not necessarily progress in a sequential way through the stages of the model to a planned quit attempt. In fact, unplanned quit attempts are as likely (or even more likely) to be as successful as planned attempts.10

Nicotine dependence can be rapidly assessed by asking about time to first cigarette after waking and the number of cigarettes smoked per day.11 Approximately 70–80% of smokers are nicotine dependent and will experience withdrawal symptoms such as cravings and irritability upon quitting. These symptoms can be prevented or reduced by the use of smoking cessation pharmacotherapy.

Advise

Brief assessment and advice to quit, often taking as little as 3 minutes, acts as a prompt to quit attempts and has a measurable effect on quit rates.7 Providing brief interventions with a larger proportion of patients who smoke can have a bigger impact than spending considerable time with only a small proportion of smokers in the practice, the so called ‘reality pyramid’ (Figure 2).7

Assist

All smokers interested in quitting should be offered counselling and support. At the practice level, support can be provided by a GP or a suitably trained practice nurse. Written information such as a ‘quit kit’ should also be provided. Referral to Quitline is another option. The range of services provided by Quitline is described in Table 1.

Assistance also involves recommending the use of smoking cessation pharmacotherapy to smokers with evidence of nicotine dependence. This is discussed in detail below.

Arrange

Tobacco use is typically a chronic disorder. Relapse following a quit attempt is common. Follow up has been shown to increase the likelihood of successful long term abstinence.12,13 Timing of follow up visits will depend on a number of factors including the need to review and prescribe pharmacotherapy. Approximately 1 week and 1 month after quit day is a suggested schedule.11

Smoking cessation pharmacotherapy

A number of medicines have been shown to assist smoking cessation in meta-analyses of randomised clinical trials.14–17 However, no form of pharmacotherapy is a substitute for motivation and should be given in combination with counselling support from a health professional or a support service.

First line pharmacotherapy

First line pharmacotherapy options are medicines that have been shown to be effective and are licensed for smoking cessation
Combination therapy (e.g. patch and gum) should be recommended to smokers who are not able to quit or experience cravings when using one form of therapy. Nicotine replacement therapy can also help smokers unwilling or unable to stop smoking to reduce their cigarette consumption and a proportion of these smokers will subsequently go on to make a quit attempt.

Based on recent evidence, there have been a number of changes to the indications listed for NRT products:

- more than one form of NRT such as patch and gum can be used concurrently
- NRT can be used by pregnant and lactating women (although nonpharmacological methods are preferred)
- all forms of NRT can be used by patients with cardiovascular disease
- all forms of NRT can be used by smokers aged 12–17 years.

**Varenicline**

Varenicline, specifically developed for smoking cessation, is a partial agonist of the alpha4beta2 nicotinic acetylcholine receptor where it acts to alleviate symptoms of craving and withdrawal. At the same time it blocks nicotine from binding to the alpha4beta2 receptor, reducing the intensity of the rewarding effects of smoking. In two clinical trials, a 12 week course of varenicline produced a continuous abstinence rate of approximately 23% at 12 months, significantly more effective than both bupropion and placebo. The main adverse effects were nausea (30%), although less than 3% discontinued treatment due to nausea, and abnormal dreams (13%). Long term use of varenicline can slightly reduce rates of relapse.

**Nicotine replacement therapy**

The evidence available shows that all forms of NRT (transdermal patch, nasal spray, inhaler, lozenge, sublingual tablet and gum) are effective in aiding cessation, nearly doubling the cessation rate at 12 months compared to placebo. In people smoking more than 20 cigarettes per day, 4 mg gum or lozenge are more effective than 2 mg.

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**Table 1. Quitline services**

<table>
<thead>
<tr>
<th>The national Quitline number is 13 QUIT (137 848) for the cost of a local call (about $0.25; mobile phones extra). A faxed referral can be made to the Quitline in every Australian state and territory using the form in the Smoking cessation guidelines for Australian general practice handbook. This form is also available as a template in Medical Director. Quitline provides access to trained quit smoking advisors/counsellors who can provide reactive or proactive counselling. In the latter, the patient is telephoned by a Quitline counsellor on an agreed number of occasions for proactive support. Other Quitline products and services include:</th>
</tr>
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<tbody>
<tr>
<td>• Quitline adviser/course leader/coach</td>
</tr>
<tr>
<td>• Self help books: <a href="http://www.quitbecauseyoucan.org.au">www.quitbecauseyoucan.org.au</a></td>
</tr>
<tr>
<td>• Online Quit coach support through <a href="http://www.quit.org">www.quit.org</a></td>
</tr>
</tbody>
</table>
**Bupropion**

Bupropion doubles the cessation rate at 12 months compared to placebo. It has also been shown to improve short term abstinence rates for people with schizophrenia. However, as bupropion is not as effective as varenicline, it now has a smaller role. Rational use: if varenicline is contraindicated, or in populations where varenicline has yet to be trialled.

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**Figure 3. Pharmacotherapy options for smoking cessation**

**Assessment for need for pharmacotherapy**

- Nicotine dependence can be briefly assessed by asking:
  - minutes after waking to first cigarette
  - number of cigarettes per day
  - cravings or withdrawal symptoms in previous quit attempts

**Indication of nicotine dependence:**
- smoking within 30 minutes of waking
- smoking more than 15 cigarettes per day
- history of withdrawal symptoms in previous quit attempts

**Consider patient’s previous experience and views on pharmacotherapy**

**Nicotine dependent – pharmacotherapy**
- Recommend use of pharmacotherapy to increase chance of successful cessation
- Explain options for pharmacotherapy (NRT, varenicline, bupropion)
- Specify therapy based on clinical suitability and patient preference
- Explain that medicines can reduce felt needs to smoke but do not eliminate them, they are only aids to quitting

**Nicotine dependent – non-pharmacological support**
- Support quit attempt with non-pharmacological strategies:
  - counselling
  - cognitive and behavioural coping strategies: delay, deep breathing, drink water, do something else
- Offer written information (eg. quit kit)
- Offer Quitline referral or other assistance
- Arrange follow up visit if appropriate

**Not nicotine dependent**

**Not willing to use pharmacotherapy**

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**Nicotine replacement therapy**

**Clinical suitability**
Can be used in all smokers including children and adolescents, pregnant and lactating women, and patients with cardiovascular disease (check PI)

**Patient choice**
Reasons to prefer:
- over-the-counter availability
- concerns about side effects of varenicline and bupropion
- can be used in pregnancy

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**Varenicline**

**Clinical suitability**
Not recommended in pregnancy, childhood or those with significant intercurrent psychological/psychiatric disease. Nausea in 30% of patients. Reduce dose in severe renal impairment (check PI)

**Patient choice**
Reasons to prefer:
- on current evidence varenicline is the most effective pharmacotherapy
- PBS subsidy
- lack of serious adverse effects and interactions

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**Bupropion sustained release**

**Clinical suitability**
Absence of contraindications such as current or past seizures, concurrent monoamine oxidase inhibitors, pregnancy. Caution with other conditions or drugs that lower seizure threshold (check PI)

**Patient choice**
Reasons to prefer:
- PBS subsidy
- oral non-nicotine preparation
- relapse in past using NRT
- evidence of benefit in chronic disease and depression
Other options

Nortriptyline

The tricyclic antidepressant nortriptyline is not registered for smoking cessation but a 12 week course has been shown to approximately double cessation rates compared to placebo.17,27 The efficacy of nortriptyline does not appear to be affected by a past history of depression. It is however limited in its application by its potential for serious side effects, including dry mouth, constipation, nausea, sedation and headache, and a risk of arrhythmia in patients with cardiovascular disease. It can be dangerous in overdose. Detailed information on prescribing is contained in the recently published New Zealand smoking cessation guidelines.28

Alternative methods

Acupuncture and hypnotherapy are both used as aids to smoking cessation. There are only a small number of experimental studies testing these approaches. When tested in controlled trials, active acupuncture does not increase quit rates over sham acupuncture.29 No benefit was found from hypnotherapy on 6 month quit rates in a meta-analysis of six studies.30 There are no randomised studies of the Allen Carr Easyway Clinic method.31

Special groups

These are a number of priority groups for smoking cessation either because of higher prevalence or higher risk of adverse health effects. High prevalence groups include Indigenous Australians (56% of men and 52% of women); some ethnic communities such as those from Vietnam, Laos and Cambodia (~50% in men but low in women); those with mental health problems; and those with other substance use disorders. Groups with higher risk of health problems include those with pre-existing tobacco related disease and pregnancy.

Conclusion

Smoking cessation has major health benefits and is the single most important thing a patient who smokes can do to improve their health. Cessation can be supported in general practice by: identifying smokers, assessing interest in quitting and nicotine dependence, offering support to quit in the practice or through Quitline referral, pharmacotherapy, and follow up.

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References