Update on
SMOKING CESSATION

Supporting the PHO Performance Programme

Key concepts

- The rate of smoking among New Zealanders is slowly reducing, however more work needs to be done to further reduce this number
- Brief advice about quitting smoking from a health professional increases the likelihood that someone who smokes will successfully quit and remain a non-smoker 12 months later
- There is no set manner in which the brief advice to quit needs to be given, although it should be personally relevant to the patient and describe the benefits to be gained from smoking cessation
- The main groups of pharmacological interventions for smoking cessation are nicotine replacement therapy, bupropion, nortriptyline and varenicline

Advice from primary care helps people who smoke to quit

Smoking has been identified as the major cause of preventable death in OECD countries.[1] One of the Ministry of Health targets for 2010/11 is: "Better help for smokers to quit".

The results of the 2009 New Zealand Tobacco Use Survey showed an encouraging reduction in the number of people smoking compared to statistics from previous years. At the time of the survey, 22% of people aged 15–64 years were current cigarette smokers. When results were first collected in 1986, this proportion was 30% (Figure 1). Although this is only an improvement of 8% over more than twenty years, it is estimated that each 1% reduction in the population aged 15–64 years who smoke, represents about 30,000 fewer smokers.[2]

PHO performance programme goals for smoking cessation

The smoking cessation indicators for the PHO Performance Programme (PPP) are:

- % of the enrolled practice population who have had their smoking status recorded
- % of the enrolled practice population whose most recent smoking status is recorded as "current smoker"
- % of current smokers who have been given brief advice in the last 12 months
- % of current smokers who have been given or referred to cessation support services in the last 12 months

The Programme has identified two data sets that will enable collection and analysis of data for these indicators:

1. Recording of smoking status
2. Recording the delivery of brief advice and cessation support

Smoking status and, if relevant, smoking cessation advice should be recorded for each patient in their computerised medical record, using an appropriate code.

Nicotine withdrawal

Nicotine use creates a chemical dependency, therefore tobacco users can usually expect to experience withdrawal symptoms when quitting smoking.

Withdrawal symptoms may include:

- Headache, fatigue, restlessness
- Anxiety, irritability, sleep disturbance, mood swings
- Sweating, dizziness
- Increased appetite,* nausea, stomach cramps
- A craving for more tobacco

* On average, people may expect to gain between four to five kilograms in the first year of abstinence.[4] Patients should be advised to concentrate on achieving and maintaining abstinence from smoking, before managing any weight gain.

Primary care is well placed to help identify smokers and offer smoking cessation advice and referral to smoking cessation services. There is evidence that brief advice about quitting smoking from a doctor increases the likelihood that someone who smokes will successfully quit and remain a non-smoker 12 months later.[3]

Ask, Brief advice, Cessation support

Ask, Brief advice, Cessation support (ABC) has become the standard of care for helping people to quit smoking. The ABC format can be easily integrated into everyday practice of all health care professionals, so that smokers are presented with every opportunity to quit.

A – Ask whether the patient smokes

B – Give brief advice to quit

C – Offer evidence based cessation support

There is no set manner in which the brief advice to quit needs to be given. Most clinicians would agree that the brief advice should be personally relevant to the patient and describe the benefits to be gained from smoking cessation.

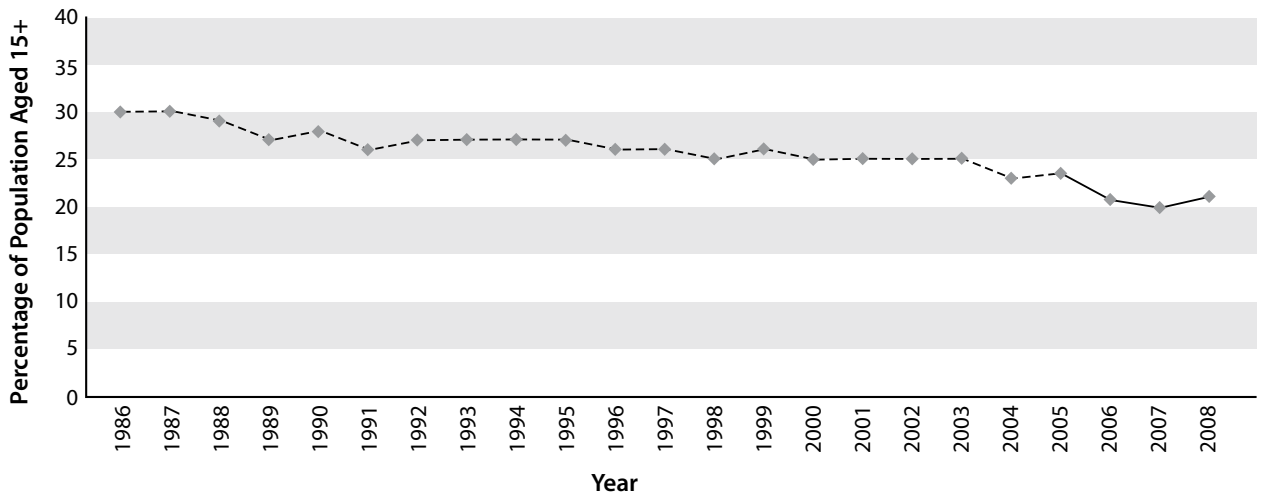

Figure 1: Prevalence of cigarette smoking in New Zealanders aged 15 years and over, 1986–2008 (Adapted from Ministry of Social Development, 2010)[1]

For younger patients it can be helpful to use the incentive that those who quit before the age of 35 years will have a normal life expectancy. For older patients it can be helpful to remind them that quitting increases life expectancy by reducing the risk of diseases such as lung cancer, cardiovascular disease and chronic obstructive pulmonary disease.[5]

Pharmacological interventions to aid smoking cessation

Many people who want to quit smoking will try to do so without any assistance, however, for most smokers quitting is a difficult process. Smoking cessation advice includes encouragement to quit as well as information about the different pharmacological treatments available to help.

The main groups of pharmacological interventions available include:

- Nicotine replacement therapy
- Nortriptyline
- Bupropion (Zyban)
- Varenicline (Champix)

Nicotine replacement therapy

To get the most out of NRT:

1. Explain what results may be achieved with NRT
2. Reassure that NRT is safe
3. Use enough NRT
4. Use NRT for a long enough time
5. Use NRT in a way that best suits the needs of the individual patient

Nicotine replacement therapy (NRT) is safe and cost effective. It can help people quit smoking by reducing the cravings that are linked with nicotine withdrawal and reduce relapse. It doubles the chances of long-term abstinence regardless of the amount of additional support provided. Despite this, initiation of NRT remains low and even when

"Ask about the elephant" smoking cessation e-learning tool

The "Ask about the elephant" programme uses the elephant metaphor to represent that smoking is something that should not be ignored or go unaddressed.

The tool:

- Provides practical information about ABC and nicotine replacement therapy
- Is endorsed by RNZCGP, awarding CME points
- Allows health professionals to print a certificate as evidence of professional development
- Allows non-prescribing health professionals to register as a Quit Card provider
- Takes 20 – 40 minutes to complete

It can be completed online at:
www.smokingcessationabc.org.nz

it is prescribed, insufficient duration of treatment and insufficient dosages are common. Poor utilisation rates may result from commonly held misperceptions about the safety and efficacy of nicotine and NRT. Correct usage is more likely when smokers' knowledge about the role of nicotine and the safety and efficacy of NRT is more accurate.[6]

From September 2009 NRT became available fully funded on prescription (in addition to the Quit card scheme). Different forms of NRT products are considered equally effective.[4]

The NRT products currently available in New Zealand are:

- Patches (7 mg*, 14 mg*, 21 mg* per 24 hours and 5 mg, 10 mg, 15 mg per 16 hours)
- Lozenges (1 mg*, 2 mg*)
- Gum (2 mg*, 4 mg*)
- NRT inhaler
- NRT nasal spray
- NRT sublingual tablets (2 mg)

*currently subsidised

Practice points for NRT use[4]

- There is a moderate advantage to using a combination of NRT products over just a single product. There are no safety concerns with combining NRT products.
- NRT should be used for 8 to 12 weeks, but a small number of smokers may need to use it for longer (5% may continue to use it for up to a year). There are no safety concerns with long-term NRT use.
- NRT is safe to use repeatedly with other attempts to stop smoking by people who have tried to stop but have not succeeded in the past.
- NRT can be used for "cutting down", to encourage reduction in cigarettes prior to quitting. Therefore it is safe to continue smoking while being treated with NRT, initially.
- International evidence shows that NRT is mainly effective in people who smoke ten or more cigarettes per day. However, it is the person's degree of dependency (anticipated difficulty in stopping smoking based on their degree of nicotine dependence, e.g. smoking within thirty minutes of waking) rather than the number of cigarettes they smoke that should be used to determine whether NRT is likely to be helpful.
- Contrary to product information, the New Zealand Smoking Cessation Guidelines state that it is appropriate for pregnant women to use NRT.[4] The use of NRT in pregnancy carries a small potential risk to the foetus, but NRT is safer than smoking. Intermittent NRT, e.g. gum or lozenges, should be used in preference to patches. Where the use of a patch is judged appropriate, the 16-hour patch is preferable.
- Some product information advises patients to wean off NRT patches, however there is no evidence that this is necessary. People can stop from a full-strength patch straight away, although some people may prefer to slowly reduce their dose.[6]
- There is insufficient evidence that the use of NRT by young people who smoke improves continuous six-month abstinence rates. However, expert opinion is that NRT may be used safely by young people (12–18 year of age) who are dependent on nicotine. N.B. NRT is not recommended for use in young people who occasionally smoke, such as those who smoke in social situations only.
- NRT can be safely used by people with cardiovascular disease, however, where people have suffered a serious cardiovascular event, e.g. myocardial infarction or stroke, in the past two weeks or have a poorly controlled disease, treatment should be discussed with a specialist. Oral NRT products are recommended, rather than longer-acting patches, for such patients.

NRT patches

Most smokers should start on a full-strength patch (21 mg), with the lower dose patches used for weaning-off (although this is not always necessary). Use of full-strength doses of both 16- and 24-hour patches, for at least eight weeks, have been found to be more effective than lower strength preparations for people who smoke more than 10 cigarettes per day.[4]

Patients should be advised to use a new site each day to apply the patch. Some common problems with the patches include skin reactions, patches falling off, headache or dizziness and sleeping disturbances such as vivid dreams or insomnia.[6]

NRT gum

To increase compliance with using NRT gum, it is important to carefully explain its use. NRT gum should not be referred to as chewing gum. The gum should be slowly chewed to release the nicotine, resulting in a hot peppery taste. The gum should then be parked between the cheek and gums so that the nicotine can be absorbed. After a few minutes, the gum can be chewed again and then parked (usually in a different area) and the process repeated for 20–30 minutes (although the gum can be chewed longer than this if desired). NRT gum takes approximately 20 minutes to reach peak concentration. Ten to 15 pieces of gum per day can be used, hourly if needed. Use is recommended for eight weeks.

Adverse effects reported with the use of the nicotine gum include sore throat, ears and jaw from chewing.[6] It is a good idea to prepare patients for the fact that oral NRT products may be unpleasant initially but will become more tolerable overtime.

NRT gum is available in 2 mg and 4 mg strengths. In practice, it is usually more effective to use the higher dose. Gum may also be used in combination with NRT patches.

N.B: Incorrect use, e.g, chewing NRT gum too vigorously, usually results in more nicotine being swallowed, which may cause irritation to the throat and mouth and hiccoughs.

NRT lozenges

NRT lozenges are sucked and slowly dissolved in the mouth. Nicotine reaches peak plasma concentration in approximately 20–30 minutes. Twelve to 15 lozenges can be used per day, as required.

NRT lozenges are available in 1 mg and 2 mg strengths. As with NRT gum, the higher dose would usually be prescribed. Lozenges can be used in combination with NRT patches.

NRT inhaler, nasal spray and microtabs

N.B. These products are not currently subsidised.

The NRT inhaler may be used for up to 10–20 minutes every hour. Ten puffs is equivalent to one puff from a cigarette. Each inhaler cartridge is equivalent to four cigarettes. Patients should aim to use six cartridges per day, although they may use less than this if their cigarette use prior to quitting was at a lower level. In cold weather, it is advisable to keep the inhaler warm to help the nicotine vapour be released from the cartridge.

The NRT nasal spray can be used up to hourly, with one spray per nostril.

Microtabs are placed under the tongue and slowly dissolve over approximately 30 minutes. It takes approximately 20 minutes for the nicotine to reach peak concentration. Hourly use is recommended to achieve the best effect, but the tablets can be used more frequently if desired. Up to 40 microtabs can be used per day.

See “Getting the most out of nicotine replacement therapy” BPJ 20 (Apr, 2009) for further information about prescribing NRT.

Bupropion

Bupropion is a dopamine-noradrenaline reuptake inhibitor which became available, fully subsidised, on the Pharmaceutical Schedule in July 2009. It approximately doubles the chances of long-term abstinence from smoking.[4]

Seizure risk with bupropion

The recommended dose of bupropion must not be exceeded, as it is associated with a dose-related risk of seizure. The incidence of seizure at doses up to 300 mg/day is approximately 0.1% (1 in 1000).

A maximum dose of 150 mg daily should be considered for the duration of treatment in patients with pre-disposing risk factors to a possible lowered seizure threshold, including:[7]

- Concomitant administration of other medicines known to lower the seizure threshold, e.g. antipsychotics, antidepressants, antimalarials, tramadol, theophylline, systemic steroids, quinolones and sedating antihistamines
- Excessive use of alcohol or sedatives (also see contraindications)
- History of head trauma
- Diabetes treated with hypoglycaemics or insulin (If the diabetes is poorly controlled use NRT instead)
- Use of stimulants or anorectic products

Bupropion dosing

A quit date should be set for one to two weeks after commencing bupropion. The patient may smoke as normal up to their quit date and then should stop completely on this date.

- Days 1, 2 and 3: one tablet (150 mg) daily
- Day 4 onwards: one tablet (150 mg) twice a day, with at least eight hours between each dose
- A maximum daily dose of 150 mg is recommended for older people, people with renal or hepatic dysfunction and people with lowered seizure threshold (see sidebar)

A total course of 120 tablets can be prescribed, but it may be sensible to prescribe a smaller quantity initially so there is no wastage if the person experiences adverse events or does not manage to achieve abstinence. Patients should be treated for at least seven weeks but discontinuation should be considered earlier if the patient has not made significant progress towards abstinence by the seventh week of therapy, since it is unlikely that they will stop smoking during that attempt.[8]

Contraindications to bupropion use include: seizure disorders (or history of), CNS tumour, abrupt alcohol or sedative withdrawal, bulimia, anorexia nervosa (or history of), monoamine oxidase inhibitors use within 14 days, lactation.

Insomnia is a very common adverse effect associated with bupropion. Insomnia may be reduced by avoiding dosing at bedtime (provided there is at least eight hours between doses if an earlier dose is used) or, if clinically indicated, dose reduction.[8]

Practice points for bupropion use[4,8]

- There is insufficient evidence to recommend combining bupropion with any other smoking cessation medications
- Bupropion is considered safe and effective for use in people with stable cardiovascular disease

- Bupropion should be used with extreme caution in patients with severe hepatic cirrhosis – the dose should not exceed 150 mg on alternate days
- There is insufficient evidence to recommend the use of bupropion to women who are pregnant or breastfeeding, who smoke
- There is insufficient evidence to recommend the use of bupropion to young people aged under 18 years who smoke
- There is insufficient evidence to recommend the use of bupropion in preventing smoking relapse, i.e. long-term use is not recommended

Nortriptyline

Nortriptyline is a tricyclic antidepressant that has been shown to be as effective as bupropion and NRT in aiding smoking cessation.[4] However, adverse effects associated with nortriptyline may not be well tolerated in some patients, e.g. anticholinergic effects (dry mouth, blurred vision) and sedation/drowsiness. The action of nortriptyline in helping people to stop smoking is independent of its antidepressant effects, therefore it is not restricted to people with a history of depressive symptoms during smoking cessation.

Nortriptyline dosing

Nortripyline should be commenced while the patient is smoking, with a quit date set for ten to 28 days later. The initial dose is 25 mg/day, increased gradually to 75–100 mg/day over ten days to five weeks. The maximum dose can be continued for eight to 12 weeks and tapered down at the end to avoid withdrawal symptoms that may occur if it is stopped abruptly. There is limited evidence of any benefit of extending treatment past three months.

Practice points for nortriptyline use [4]

- There is insufficient evidence to recommend combining norptriptyline with any other smoking cessation medication
- People with cardiovascular disease should use nortriptyline with caution, as cardiac conductivity can be affected. Tricyclic antidepressants are contraindicated in the immediate recovery period after myocardial infarction (MI) and in arrthymias (particularly heart block).
- There is insufficient evidence to recommend the use of nortriptyline by pregnant women or young people aged under 18 years who smoke
- There is insufficient evidence to recommend using nortriptyline to prevent smoking relapse, i.e. long-term use is not recommended

Varenicline

Varenicline is now funded with Special Authority, with the following criteria:

- The patient has not used varenicline in the past 12 months AND:
- The patient has had two or more unsuccessful quit attempts using NRT, at least one of which involved comprehensive advice about the use of NRT

OR

- The patient has had an unsuccessful quit attempt using bupropion or nortripyline

Special Authority is also subject to the patient enrolling in a support and counselling programme for smoking cessation, including monitoring.

Unsubsidised use of varenicline for a 12-week course costs approximately $700.

Varenicline (Champix) works by binding to nicotine receptors in the brain to reduce the severity of tobacco withdrawal symptoms, while simultaneously reducing the rewarding effects of nicotine. It approximately doubles to triples the chances of long-term abstinence (up to 12 months).[4]

The most commonly reported adverse event is nausea (experienced by approximately 30% of people). In the majority of cases, nausea occurs early in the treatment period, is mild to moderate in severity, lessens over time and seldom results in discontinuation of the medication. Varenicline can also cause temporary sleep disturbance and constipation.[4]

Varenicline has been associated with adverse psychiatric effects. Patients and their families should be advised to monitor for neuropsychiatric symptoms including changes in behaviour or thinking, anxiety, psychosis, mood swings, agitation, aggression, depressed mood, suicidal ideation and suicidal behaviour or worsening of pre-existing psychiatric illness. If any of these symptoms occur, varenicline should be ceased immediately.[8]

The safety and efficacy of varenicline in people with serious psychiatric illness such as schizophrenia, bipolar disorder and major depressive disorder has not been established.[8]

Varenicline dosing

Varenicline is commenced while the patient is still smoking, with a quit date set for one to two weeks later.

- Days 1–3: 0.5 mg, once daily
- Days 4–7: 0.5 mg, twice daily
- Day 8 to end of treatment (12 weeks): 1 mg, twice daily

Patients who cannot tolerate the adverse effects of varenicline may have the dose lowered temporarily or permanently to 0.5 mg, twice daily.

For patients who have successfully stopped smoking at the end of 12 weeks, an additional course of 12 weeks treatment with varenicline at 1 mg twice daily may be considered. N.B. this additional treatment would not be funded (unless 12 months had elapsed since starting the first 12-week course).

Practice points for varenicline use

- There is insufficient evidence to recommend combining varenicline with any other smoking cessation medication
- Varenicline is contraindicated in young people aged under 18 years and in women who are pregnant or breastfeeding
- Dose adjustment is not required for older people or people with mild to moderate renal or hepatic impairment. In people with severe renal impairment, the dose can be reduced to a maximum of 1 mg daily.
- Varenicline has no known clinically meaningful drug interactions

Further reading: Best Practice Journal, available from: **www.bpac.org.nz** keyword: smoking cessation

Patient resources:
Quitline: Ph: 0800 778 778 Website: **www.quit.org.nz**

Aukati Kai Paipa: Ph: (09) 638 5800 Website: **www.tehotumanawa.org.nz**

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