

30 October 2002

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Dr Sam Sample  
5 Sample Street  
SAMPLEVILLE NSW 0000

Dear Dr Sample,

Despite the enormous impact of smoking on health, many smokers enter the health care system every day without receiving advice about the risks of smoking. An estimated 11% of Australian smokers filled a prescription for bupropion in 2001 following its listing on the Pharmaceutical Benefits Scheme. This highlights a willingness amongst a large number of smokers to attempt smoking cessation.

Modifying people's behaviour is often perceived as 'too hard'. Yet evidence shows that facilitating smoking cessation is not as difficult for health professionals as you might think. This *Prescribing Practice Review (PPR)* encourages you to take an active role in promoting smoking cessation.

Attempts to modify behaviour are unlikely to succeed unless the individual is at the stage where they are prepared to change.

**Assess the person's motivation to quit and match your intervention to this stage of change.** This has been shown to most effectively achieve sustainable smoking cessation and is acceptable to the individual.

**Raising the subject of smoking and discussing it for as little as 3-5 minutes** can move the smoker through the various stages of change toward wanting to quit, trying to quit, and finally (hopefully) staying an ex-smoker.

Using support networks and identifying situations that lead to smoking and adopting alternative approaches to deal with them are essential in all smoking cessation attempts.

**Drug therapy must always be combined with behavioural and psychosocial support.** The results seen in smoking cessation trials of nicotine replacement therapy or bupropion were achieved with accompanying support systems. However only around one in five people who attempt to quit smoking actually succeed long-term even with drug therapy.

**Use nicotine replacement therapy as first-line drug therapy unless contra-indicated.** Nicotine replacement therapy has a more favourable benefit/risk profile than bupropion.

Yours sincerely,



Dr Stephen Phillips  
Chair, NPS Board

## No. 20 Smoking cessation

## Smoking cessation

### Key messages

- Match your smoking cessation intervention to the patient's stage of change
  - this is most effective and acceptable to the patient
- Raising the subject of smoking and discussing it for as little as 3–5 minutes effectively promotes cessation
- Drug therapy should always be combined with behavioural and psychosocial support
- Use nicotine replacement therapy as first-line drug therapy unless contra-indicated

### Understanding the quitting process

**Establish the patient's motivation to stop smoking and match your intervention to this stage of change**

**Relapse can be considered as part of the learning process that ultimately leads to successful abstinence**

**Follow-up is vital to encourage maintained abstinence**

Tobacco dependence is a chronic condition prone to relapse. Behavioural theory suggests smokers move through five stages of change as they progress to being an ex-smoker: precontemplation, contemplation, preparation, action and maintenance.

The most effective means of achieving smoking cessation (and the most acceptable to the patient) is to tailor your intervention to be consistent with the patient's motivation at that time, that is, their stage of change (see Table 1 over).

People may move either forward or backward through different stages of change. Most smokers will require several attempts at quitting before being successful.

A lapse back into smoking should be seen as a learning experience. It is an opportunity for patients to refine their coping and behavioural strategies to anticipate and deal with trigger situations and maintain abstinence.<sup>1</sup>



**Table 1: Stages of change in smoking cessation<sup>2,3</sup>**

Stage	Behaviour	Intervention	Questions
<b>Precontemplation</b>	Not considering stopping smoking in next 6 months.	Discuss negative consequences of smoking; provide understanding rather than being judgmental.	<ul style="list-style-type: none"> <li>Are you thinking of quitting in the near future?</li> </ul>
<b>Contemplation</b>	Considering quitting in next 6 months but no action taken yet.	Raise patient's consciousness of smoking through information; give emotional support and assist in identifying people who will be supportive (e.g. offer Quit Kit literature).	<ul style="list-style-type: none"> <li>Why do you want to quit?</li> <li>What things have stopped you from trying to quit?</li> <li>How confident are you that you can quit?</li> <li>Who can you ask to support you during this time?</li> </ul>
<b>Preparation</b>	Have decided to stop smoking in the next 30 days.	Praise patient's readiness to quit; help in planning and setting goals; ask if others are providing support; offer Quit Kit.	<ul style="list-style-type: none"> <li>Have you set a quit date?</li> <li>Do you have a quitting plan?</li> <li>Have you elicited support from anybody?</li> <li>Have you identified triggers to smoking and how you will avoid these?</li> </ul>
<b>Action</b>	Attempt made to quit smoking within the past 6 months.	Provide emotional support and encouragement; help identify triggers for smoking and promote new behaviours to take the place of smoking.	<ul style="list-style-type: none"> <li>Are you confident you can continue not smoking?</li> <li>What situations make you feel like smoking?</li> <li>How do you deal with these situations?</li> </ul>
<b>Maintenance</b>	Has not smoked for at least 6 months; the person is adjusting to change and working to prevent relapse.	Continue supportive approach; discuss possible problems that may lead to relapse.	<ul style="list-style-type: none"> <li>Do you see yourself as a non-smoker?</li> <li>What do you do when you feel like smoking?</li> </ul>

## Non-drug therapy in those ready to quit

Spending as little as 3–5 minutes encouraging smokers to attempt to quit can substantially increase cessation success<sup>4–6</sup>

Brief interventions by health professionals can effectively promote smoking cessation in 1–3% of patients.<sup>4</sup> This is interesting as these patients are usually unselected (i.e. both motivated and unmotivated to quit) compared to those motivated patients involved in trials of nicotine replacement therapy or bupropion.<sup>7</sup>

Counselling can be delivered one-to-one, in groups, in person or by telephone; the efficacy of this increases as the amount of time with the patient increases.<sup>5,6</sup>

Quitline (tel: 131 848) can provide useful resources to health professionals and counselling to people eager to quit smoking.

## Drug therapy as adjunct to behavioural modification

Drug therapy should always be combined with behavioural and psychosocial support

Drug therapy is not essential to achieve smoking cessation—10% of placebo-treated patients in trials of nicotine replacement therapy successfully quit smoking for at least six months.<sup>8</sup> Drug therapy is not generally recommended in low-dependent smokers (< 10 cigarettes/day).

All trials of nicotine replacement therapy or bupropion included additional support to the smoker—the effects seen with drug therapy need to be viewed in this context.

## Nicotine replacement therapy (NRT)<sup>8</sup>

All forms of nicotine replacement therapy are effective

- All forms of NRT are effective
  - a pooled analysis of all NRT trials found that 14 people needed to be treated with NRT for one person to stop smoking for six months—a number-needed-to-treat (NNT) of 14.
- There is insufficient evidence to identify one form of NRT as more effective than another (including the new lozenge formulation).
- NRT should be commenced the day after smoking has stopped.
- Eight weeks of NRT patch therapy is as effective as longer courses.
- Patches applied during waking hours only (16 hours/day) are as effective as patches worn for 24 hours/day.
- There is no evidence that tapering therapy at the end of the NRT course is better than abrupt withdrawal.

Use the level of nicotine dependence to guide NRT dose

NRT is often under-dosed, inadequately maintaining nicotine concentrations throughout the day.<sup>9</sup> Under-dosing is not only ineffective but the person may confuse the effects of nicotine withdrawal as adverse effects of the NRT.

A Cochrane Review<sup>8</sup> found the 4 mg gum to be significantly more effective than 2 mg in *highly-dependent* smokers.

Similarly, the 21 mg/24 hours strength patches are more effective than their lower dose counterparts in *medium to heavy smokers*;<sup>4</sup> the highest-strength formulation should be used in all except those of smaller physique (e.g. < 45 kg)<sup>10</sup>.

## A guide to the level of nicotine dependence:<sup>11,12</sup>

High dependence	More than 30 cigarettes per day Smoking within 5 minutes of waking
Moderate dependence	21–30 cigarettes per day Smoking within 30 minutes of waking
Low-moderate dependence	11–20 cigarettes per day Smoking within 60 minutes of waking
Low dependence	Up to 10 cigarettes per day Not smoking within 60 minutes of waking

## Bupropion

**Bupropion should be commenced 1–2 weeks before the target quit day**

Following 9-weeks' treatment, bupropion 300 mg/day achieved a continuous abstinence rate at 12 months of 18.4% compared to 9.8% with an NRT patch;<sup>13</sup> this is an NNT of almost 12 people being treated with bupropion for one person to stop smoking.

Quit rates in trials of bupropion often suggest it is more effective than NRT. However, these need to be viewed with caution as there is a greater volume of evidence (both experimental and clinical) for the effectiveness of NRT<sup>7</sup> and NRT 'under performed' in the comparative trial with bupropion relative to the effect size seen in other studies of NRT.

## NRT or bupropion?

**NRT is preferred as first-line drug therapy unless contra-indicated<sup>17,12,14</sup>**

There is insufficient evidence to recommend one treatment over the other based on efficacy.<sup>14</sup> However, more extensive clinical experience with NRT and its superior safety profile make it the preferred first choice.

**NRT has a more favourable benefit/risk profile than bupropion**

Adverse effects with NRT are usually transient and minor, such as hiccups, jaw pain, or gastro-intestinal disturbances (with the gum) or skin irritation (with the patch).

In contrast, bupropion is associated with serious adverse effects, including seizures and hypersensitivity reactions.<sup>15</sup> Bupropion should not be used in patients with predisposing risk factors for lowering the seizure threshold.<sup>16</sup> Furthermore, bupropion may interact with a number of drugs, particularly antidepressants, which adds to the risk of seizures.

## What about combination drug therapy?

**A small benefit has been observed in trials combining different forms of NRT**

More information is required before combining different forms of NRT (e.g. patch with 'as needed' use of gum) can be recommended. The increased cost to the patient may be an additional barrier.

**Combining NRT with bupropion is best left to specialised smoking cessation clinics until further evidence becomes available**

In the only trial combining bupropion with an NRT patch, there was no significant improvement in the continuous abstinence rate at 12 months compared with bupropion alone. However, caution is advised as the combined therapy group had a greater incidence of hypertension.<sup>13</sup>

## Costs

Smoking cessation products and their approximate cost per day

Type	Brand	Cigarettes per day	Dose	Approximate cost per day#
Cigarettes	—	10–20	—	\$4.30–9.80
Nicotine gum	Nicorette, QuitX	10–20	2 mg (8–12/day)	\$2.12–3.41
		> 20	4 mg (6–10/day)	\$1.90–3.50
Nicotine inhaler	Nicorette	> 10	10 mg (6–12/day)	\$5.62–11.24
Nicotine lozenge	NicabateCQ	10–20	2 mg (9–15/day)	\$3.80–6.33
		> 20	4 mg (9–15/day)	\$3.80–6.33
Nicotine patch	QuitX	10–20	14 mg/24 hours	\$3.25
	Nicorette	> 10	15 mg/16 hours	\$3.86
	NicabateCQ, QuitX	> 20	21 mg/24 hours	\$3.53–4.57
Bupropion tablets	Zyban®	> 10	150 mg twice daily*	\$0.37^

# Cost based on: price of the largest pack-size available, averaged from a sample of pharmacies; usage in initial treatment period so does not include lowest-strength patches or dose-tapering regimens.

\* Bupropion maintenance dose following initial 3-day dose titration.

^ Note this is cost to patient; absolute cost is \$1.49 per day, subsidised by the PBS.



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*Medicines Line* is a national consumer information service, providing Australians with access to independent, accurate and up-to-date information about medicines including prescription medicines, over-the-counter medicines, herbal and natural therapies.

Consumers calling *Medicines Line* can ask a drug information pharmacist questions they may have about their medicines. All callers will be encouraged to discuss the information they receive with their own GP or community pharmacist.

When the caller gives permission, a copy of the information provided to them will also be forwarded to their GP or community pharmacist.

*Medicines Line* is operated for the NPS by the Pharmaceutical Society of Australia (PSA), and the Mater Pharmacy Services (Mater Health Services, South Brisbane).

For brochures for your patients or more information, phone us on (02) 9699 4499, or visit our web site [www.medicinesline.com.au](http://www.medicinesline.com.au).



For health professionals requiring information about therapeutic drugs, call the NPS Therapeutic Advice and Information Service (TAIS): 1300 138 677.

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*The information contained in this material is derived from a critical analysis of a wide range of authoritative evidence. Any treatment decisions based on this information should be made in the context of the individual clinical circumstances of each patient.*



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