

# Helping smokers to stop: advice for pharmacists in England

*Hayden McRobbie and Andy McEwen*

This publication was commissioned by the Health Development Agency (HDA) in collaboration with the Royal Pharmaceutical Society of Great Britain and PharmacyHealthLink, but published after the HDA's functions were transferred to NICE on 1 April 2005. The document aims to support pharmacists and their teams to deliver smoking cessation treatments. The publication does not represent NICE guidance.

ISBN 1-84629-035-X

© National Institute for Health and Clinical Excellence, Royal Pharmaceutical Society of Great Britain and PharmacyHealthLink 2005

# Contents

<b>Introduction – the role of pharmacists in helping people to stop smoking</b>	<b>3</b>
Aims of the document	3
<b>Section 1 Helping smokers to stop</b>	<b>5</b>
Background	5
Brief advice	5
NHS smoking cessation treatment	7
Providing smoking cessation treatment	8
Pharmacotherapies	11
<b>Section 2: Useful information</b>	<b>18</b>
Smoking patterns and prevalence	18
Health risks of smoking	19
Benefits of stopping smoking	21
Why cutting down doesn't work	22
Resources	23
References and bibliography	24

## Introduction – the role of pharmacists in helping people to stop smoking

Pharmacists are ideally placed to advise people on how to stop smoking and to provide information on the supply of medication. Many will also be able to provide treatment for smokers who want to stop. The contribution pharmacists can make to improving the health of the population has been recognised in *A vision for pharmacy in the new NHS* (DH, 2003). It is reflected in *The new contractual framework for community pharmacy* (DH, 2004; see Box 1) and is outlined in *Choosing health through pharmacy: a programme for pharmaceutical public health 2005–2015* (DH, 2005).

Community pharmacists see some six million people a day in the UK, and are freely accessible to communities (PSNC, 2004). There are opportunities to intervene with both well and ill visitors to the pharmacy, and therefore to provide both preventive advice and treatment. Smoking cessation fits neatly within this role: all pharmacists will have the opportunity to advise smokers to stop and some pharmacists with specialist training will be able to provide them with treatment.

Hospital pharmacists are an integral part of the clinical team, and have specialist clinical roles that include assessing the implementation of the (then) National Institute for Clinical Excellence guidelines on smoking cessation medications (NICE, 2002). Hospital pharmacists have contact with the majority of inpatients, so they are ideally positioned to provide brief smoking cessation advice to smokers. They can also receive training to provide specialist support, for example to NHS staff and long-stay patients.

Other pharmacists work in areas where they come into direct contact with the public, such as GP surgeries, care homes and private healthcare facilities. All pharmacists who have direct contact with the public, patients, relatives and carers have a role to play in helping people to quit smoking.

### ***Aims of the document***<sup>1</sup>

This document aims to provide pharmacists with the basic information needed to help smokers to stop.

- Pharmacists who have already received specialist training in smoking cessation and regularly provide treatment for smokers as part of their routine work will find this document useful as it will reinforce that training and experience.
- For all other pharmacists, this document will provide information and skills to enhance the brief stop smoking advice already delivered to smokers.

The document is divided into two sections:

- Section 1: 'Helping smokers to stop' covers giving brief advice, providing behavioural support and using nicotine replacement therapy (NRT) and bupropion
- Section 2: 'Useful information' gives some detail on smoking patterns, health risks and the benefits of stopping smoking, and sources of further information.

---

<sup>1</sup>Although this publication is primarily for pharmacists in England, the advice provided should be equally applicable to pharmacists in other parts of the UK.

This document is not a substitute for receiving specialist training and building up experience of treating smokers. If you want to help smokers to stop, or if you have any questions or worries about smoking cessation advice or treatment, you should direct them to the local stop smoking service (page 23).

**Box 1: *The new contractual framework for community pharmacy* (DH, 2004)**

The new pharmacy contract brings together the skills and expertise of pharmacists and their staff to deliver a number of services to the community. There are eight essential services that all community pharmacists are expected to provide, plus optional advanced and enhanced services. Smoking cessation falls into three key areas, as follows.

(1) Essential service 4: Promotion of healthy lifestyles (public health)

'The provision of opportunistic advice on lifestyle and public health issues to patients receiving prescriptions and pro-active participation in national/local campaigns, to promote public health messages to general pharmacy visitors during specific targeted campaign periods.' (DH, 2004)

(2) Essential service 5: Signposting

'The provision of information to people visiting the pharmacy who require further support, advice or treatment.' (DH, 2004)

(3) Enhanced services

These services will be commissioned locally. Many pharmacists already provide community-based smoking cessation treatment as part of the local NHS stop smoking service.

# Section 1 Helping smokers to stop

## Background

The primary reason that many smokers find it difficult to stop is their dependence on nicotine. Nicotine is a psychoactive drug that is very addictive, and regular smokers soon become used to the presence of nicotine in their system (RCP, 2000). Stopping smoking usually brings on a withdrawal syndrome comprising a range of symptoms (Box 2). These symptoms, especially urges to smoke, can lead to relapse early in a quit attempt (West *et al.*, 1989a). Most withdrawal symptoms last no longer than two to four weeks (Hughes, 1992; West *et al.*, 1989b), so assisting smokers through the first four weeks is important.

### Box 2: Tobacco withdrawal symptoms

Symptom	Average duration
Depressed mood	<4 weeks
Sleep disturbance	<2 weeks
Irritability	<4 weeks
Difficulty concentrating	<2 weeks
Restlessness	<4 weeks
Increased appetite and increased weight	>10 weeks
Constipation	>4 weeks
Mouth ulcers	>4 weeks
Light-headedness	<2 days
Urges to smoke	>10 weeks

Sources: West *et al.* (1989); Hughes (1992); Hajek *et al.* (2003); Ussher *et al.* (2003); McRobbie *et al.* (2004)

Evidence-based NHS stop smoking services were introduced as a national programme in 2000 in an effort to reduce the burden of smoking-related diseases in the UK (DH, 1999). These services are now run by primary care trusts. Many follow a similar structure: a pre-quit appointment for preparation; a quit date after which 'not even one puff' on a cigarette is prescribed; and up to four weekly appointments to four weeks after the quit date. Services encourage the use of NRT and bupropion (Zyban). They generally have two types of intervention: group (clinic) treatment and individual (community) treatment.

## Brief advice

Smoking cessation guidelines recommend that all health professionals should check on the smoking status of their patients/clients at least once a year and advise smokers to stop smoking (Fiore *et al.*, 2000; West *et al.*, 2000a). This brief advice from a health professional should be delivered opportunistically during routine consultation with

smokers, whether or not they are seeking help with stopping smoking. Pharmacists have unique opportunities to give brief advice (Box 3).

**Box 3: Opportunities for community pharmacists to give brief advice**

- **Prescription service:** the dispensing of many types of medication can be linked with smoking cessation advice, for example medication for respiratory disease and cardiovascular disease, and women using oral contraceptives. There is also an opportunity to ask clients with a prescription for smoking cessation medication if they are receiving additional support.
- **Minor ailment service:** pharmacies are often the first port of call for minor ailments, for example a person presenting with a cough can be asked whether they smoke.
- **Purchase of over-the-counter medicines:** it is appropriate to ask a customer purchasing, for example, a cold remedy whether they smoke. Smokers buying NRT over the counter can be informed about additional treatment options available locally.
- **Involvement in local or national campaigns:** No Smoking Day and Quit campaigns (eg at Ramadan) are examples where pharmacists can be involved.

The key elements of brief smoking cessation advice are:

- 1 Ask if the person smokes
- 2 Advise them to quit
- 3 If they would like to quit, assist them in doing so by referring them to the NHS stop smoking service or, if they do not want to attend the service, provide an alternative (see Box 4).

#### Box 4: An example of giving brief advice

Scenario: A client presents a prescription for glyceryl trinitrate (GTN) spray following a recent heart attack. You want to bring up the subject of smoking in a sensitive way, which means asking questions in a clear, empathic manner.

ASK *'I'd just like to ask you about smoking – do you smoke at all?'*

NO



Congratulate. Positive reinforcement is usually welcome, although not always required

YES



ADVISE *'You probably already know the risks involved with smoking, but I cannot stress enough how important it is to stop. It is the best thing that you can do to improve your health.'*

*'Quitting smoking will substantially decrease the risk of you having another heart attack. You could also save a lot of money – a 20-a-day smoker will save at least £1,500 a year.'*

*'If you would like to give up smoking I can help you.'*

*'The NHS provides free and effective treatment for smokers like yourself. In fact you are up to four times more likely to quit using this help than quitting by yourself.'*

*'You will receive advice and support together with medications such as NRT and Zyban.'*

ASSIST



REFER

If you don't provide smoking cessation treatment yourself, or if the client needs more intensive treatment.

*'Here is a referral card, just give our smoking cessation team a call. They are specialists and are trained to make a difference.'*

OR



PROVIDE

- Smoking cessation treatment (if you have been trained to specialist level)
- Advice on smoking cessation medication
- A supply of medication.

### **NHS smoking cessation treatment**

Many specialist smoking cessation services use withdrawal-oriented therapy (Hajek, 1989). This treatment model focuses on preventing relapse in the early stages of a quit attempt by providing intensive support when withdrawal symptoms are at their worst, supervising medication use closely, and emphasising the importance of complete abstinence. Treatment is delivered by specialist advisers over six or seven sessions at weekly intervals, in groups or one-to-one. Both formats are shown to increase long-

term success compared with minimal interventions (Stead and Lancaster, 2000; Lancaster and Stead, 2002; Sutherland, 2003), although data from the NHS stop smoking services show that group treatment is associated with slightly better success rates (Bauld *et al.*, 2003).

Community advisers (typically community pharmacists, practice nurses and health visitors) deliver treatment to individuals on a part-time or sessional basis, and provide an alternative to clinic (group) treatment. Evidence suggests that structured smoking cessation interventions provided by trained pharmacists can increase smoking cessation rates (Sinclair *et al.*, 2004). The HDA *Standard for training in smoking cessation treatments* (HDA, 2003a) requires that community advisers attend a minimum of two days' training, covering smoking demographics, the health risks of smoking and the benefits of stopping, smoking cessation treatments and their outcomes, assessment, pharmacotherapy, the delivery of behavioural support, and monitoring treatment.

## ***Providing smoking cessation treatment***

This document is not a substitute for smoking cessation training, and pharmacists who are interested in providing treatment should contact their local stop smoking service. Instead, it offers an *aide memoire* to the important steps that should be included when providing smoking cessation treatment.

### **Preparing to quit**

#### **1 Explain the treatment you offer**

- Evidence-based treatment combining support/advice and medication.
- Five further sessions on a weekly basis.

#### **2 Make sure your client is motivated to quit at this time**

- Ask 'Are you ready to make a serious attempt to stop smoking?'
- Check that they can attend all the treatment sessions.
- Advise that if they are not 100% sure at this time, they can come back and see you at any time in the future.

#### **3 Set a quit date**

- Explain the importance of choosing a day to quit smoking.
- Arrange an appropriate date to quit.
- Advise the client to smoke as normal up to the quit date.
- Advise that cutting down does not work (page 22).
- Explain that the goal from the quit date onwards is 'not to have a single puff'.

#### **4 Explain the withdrawal syndrome**

- Explain that many smokers experience a range of different symptoms when they stop (Box 2).
- Reassure the client that most symptoms last, on average, between two and four weeks, and will become less severe and less frequent the longer they go without a single puff.
- Explain that medication (NRT or bupropion) will help reduce the severity of withdrawal symptoms.

#### **5 Assess the level of tobacco dependence**

See Box 5.

#### **6 Measure the carbon monoxide level in expired breath**

- Explain that carbon monoxide is one of the many harmful elements of cigarettes.

- Explain that the carbon monoxide level gives an indication of cigarette use.
- Use the carbon monoxide reading to provide motivation (the level will drop within a week of the client stopping smoking).

## **7 Discuss medication and arrange a supply**

- Explain the two different types of medication available and how they work (there are no magic cures, but medication does reduce the severity of withdrawal symptoms and roughly doubles the chance of success).
- If **bupropion** is the product of choice, they need to start this a week before quitting.
- If **NRT** is the product of choice, discuss the six different types and offer advice on which product might be most suitable. Explain that the client will start NRT on the quit date, and show them how to use it.
- Arrange for a supply of medication (Box 6).

## **8 Offer advice on preparing to stop**

- Suggest that, by the quit date, all cigarettes, lighters and ashtrays are cleared out of the house.
- Ask the client to consider which cigarettes are going to be missed most (eg first one in the morning) and how they might be able to deal with these.
- Offer strategies on how to cope with urges to smoke.
- Suggest that they tell all their friends, family and colleagues (especially those who smoke) about their quit attempt, and ask for their support.

### **Box 5: Assessing the dependence of a smoker**

The level of nicotine dependence should be assessed to enable appropriate treatment to be provided. The number of cigarettes smoked per day is not a strong indicator of how dependent a smoker is. Smokers can compensate for smoking fewer cigarettes a day (see page 22). A simple and reliable way to measure dependence is to ask: 'How soon after waking do you smoke the first cigarette of the day?' If a person smokes within 30 minutes of waking, they are a highly dependent smoker and would benefit from more intensive smoking cessation treatment and a higher dose of medication.

### **Box 6: Supplying medication**

Most local NHS stop smoking services have a mechanism for supplying medication to clients. This may involve a voucher scheme or a patient group direction (PGD), or may rely on a prescription from the client's GP. A PGD is one of the best ways for pharmacists to supply smoking cessation medications on the NHS. A template PGD is available for NRT and bupropion on the PharmacyHealthLink website ([www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf](http://www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf)).

## **The quit date**

- Ask how the client feels about quitting.
- Provide reassurance if they are worried, and reinforce the benefits of quitting (page 21).
- Measure carbon monoxide in expired breath.
- Discuss medication issues.
- Bupropion:
  - ◇ check usage and answer any questions
  - ◇ summarise again how it will help (reducing withdrawal)
  - ◇ enquire about any side effects.

- NRT:
  - ◇ provide the rationale for using NRT (reduces withdrawal, increases success)
  - ◇ ask the client to start using it, and advise on correct use and dosage
  - ◇ reassure about initial unpleasant effects (they will get used to the taste), and any safety concerns (it does not cause cancer; provides less nicotine than cigarettes).
- Explain the importance of complete abstinence: having just a puff will put them right back to the beginning, stopping completely will make it easier and they will get through the withdrawal phase more quickly.
- Advise on coping: suggest techniques such as distraction, avoiding difficult situations, exercise and using medication.
- Suggest where the client can obtain additional support (see page 23).
- Summarise:
  - ◇ not a single puff
  - ◇ take it step by step
  - ◇ it will get easier over time
  - ◇ importance of making a good start.

### **Each week after the quit date**

- Discuss how the week went.
- If they have been abstinent:
  - ◇ congratulate and give praise
  - ◇ reinforce the importance of 'not a single puff'.
- If they had a few slips:
  - ◇ acknowledge the effort made, but reinforce the rationale of complete abstinence
  - ◇ each slip puts them back to the quit date
  - ◇ having the odd cigarette makes the withdrawal worse
  - ◇ they will find it much easier to stop smoking altogether.
- If they have cut down:
  - ◇ acknowledge that cutting down might seem a good idea, but explain why it does not work (see page 22)
  - ◇ explain the ability for smokers to compensate
  - ◇ explain that they will eventually go back to smoking more
  - ◇ explain that they are making it harder on themselves
  - ◇ suggest setting a new quit date and reinforce the rationale of complete abstinence.
- Check for withdrawal discomfort: reassure the client that most of the withdrawal symptoms are short-lived (Box 2).
- Measure carbon monoxide to confirm abstinence and provide some motivation (Box 7).
- Check on medication use:
  - ◇ enquire about dosage and any problems with use
  - ◇ reassure the client that they will become used to the unpleasant taste/sensation.

### **Staying stopped**

At the end of treatment, it is important to give advice on preventing a relapse. There is limited evidence for any effective interventions, but a number of basic strategies can be communicated.

- Medication use:
  - ◇ advise bupropion users to complete the course of 120 tablets (approximately nine weeks)
  - ◇ advise NRT users that they should continue for up to 12 weeks
  - ◇ oral NRT or nasal spray can still be used opportunistically.

- Discuss potential relapse situations, eg:
  - ◊ stress
  - ◊ where people are smoking and cigarettes are available
  - ◊ bereavement
  - ◊ under the influence of alcohol
  - ◊ holidays.
- Discuss possible coping strategies, eg:
  - ◊ NRT use
  - ◊ distraction.
- Discuss any ongoing support, eg:
  - ◊ returning for continued supply of NRT
  - ◊ local stop smoking services may offer ongoing support.
- Suggest sources of additional support (see page 23).

#### **Box 7: Carbon monoxide monitors**

A carbon monoxide monitor is an important piece of equipment to have if you are treating smokers. It not only verifies that clients are not smoking, but is also a useful motivational tool. Clients like to see the change in carbon monoxide level when they stop smoking, and this is one of few initial health benefits that they can see evidence of. A non-smoker should have a reading of fewer than 10 parts per million (ppm).

Note: the carbon monoxide reading is rarely zero, as the body produces small amounts and there is carbon monoxide in the atmosphere. The level will not continue to fall week by week – clients should aim to keep it below 10 ppm. Inhaling other people's cigarette smoke does not push the reading over 10 ppm if the client is not smoking.

## ***Pharmacotherapies***

The only evidence-based treatments available in the UK at present are NRT and bupropion (Zyban) (NICE, 2002). Other methods, including hypnotherapy and acupuncture, have not been demonstrated to be effective in helping people stop smoking.

National and international guidelines recommend that NRT or bupropion should be offered to all smokers who want to quit (Fiore *et al.*, 2000; West *et al.*, 2000a; NICE, 2002). Both types of medication are effective and safe to use. In the UK all medicines licensed for smoking cessation are available on NHS prescription. NRT is also available over the counter, with some products on general sale. The most effective treatment involves medication and behavioural support.

## **Nicotine replacement therapy**

### **Rationale for using NRT**

For many smokers, it is the withdrawal symptoms that lead to a failed quit attempt. Nicotine replacement therapy acts by providing a 'clean' alternative source of nicotine that the smoker would have otherwise received from tobacco. Nicotine delivered from NRT is not satisfying, as it is absorbed more slowly and generally in a lesser amount. But it is sufficient to reduce the severity of withdrawal symptoms and so can assist in maintaining abstinence.

## **Evidence for effectiveness**

There is now a large body of evidence to show that NRT is extremely effective in helping smokers to quit. The most recent systematic review of NRT studies (Silagy *et al.*, 2004) concludes that NRT approximately doubles the chance of long-term abstinence compared with a placebo. The odds of quitting are possibly even higher when more intensive support is provided (Sutherland, 2003). In its appraisal of NRT and bupropion, NICE concluded that both should be recommended for use with smokers as they are very cost-effective treatments (NICE, 2002).

## **NRT products**

All NRT products provide a clean source of nicotine. There is no difference in the efficacy of the various NRT products, and little evidence for matching products to individual smokers. Therefore it is generally agreed that choice of product can be guided by patient preference. However, smokers with higher dependency benefit more from a higher-dose product such as 4 mg gum, 4 mg lozenge or nasal spray (West and Shiffman, 2004). It is recommended that all products should be used for 8–12 weeks.

### ***Nicotine transdermal patch***

The nicotine patch is one of the most commonly used NRT products. Patches are available in 16- and 24-hour preparations, both releasing approximately 1 mg nicotine per hour. Current evidence shows no difference in efficacy between the two, which means the choice of patch can be guided by patient preference. Patches are also available in lower strengths designed for 'weaning off', although there is no evidence to suggest that this is absolutely necessary.

The advantage of patches is that they are very simple to use, and there is generally good adherence to treatment. They are applied to a clean, dry, hairless area of skin and removed at the end of the day (16 hours) or the next day (24 hours). A possible disadvantage of the patch is the slow nicotine delivery. Time taken to reach plateau concentrations varies between two and eight hours depending on the brand. Skin irritation is the most common side effect. The 24-hour patch may cause sleep disturbance.

### ***Oral products***

Nicotine absorption from oral NRT products, including the inhalator, is via the buccal mucosa. Peak plasma concentration is reached in 20–30 minutes. Oral products should be used on a regular basis to maintain blood nicotine levels and to have the best effect. Additional use can be helpful at times when urges to smoke are more intense or more frequent.

An initial unpleasant taste is common to all these products, and this can be a barrier to correct use. Smokers should be reassured that they will become tolerant of this after a short period (usually a couple of days). Incorrect use of oral products, for example chewing gum too vigorously, usually results in more nicotine being swallowed. This is not hazardous, but means that less nicotine is absorbed, and may cause local irritation and hiccups.

### ***Nicotine chewing gum***

Nicotine gum comes in two strengths, 2 and 4 mg; more highly dependent smokers should use the latter. The bio-availability is not 100%: the 2 mg gum typically yields only about 0.9 mg of nicotine, whereas the 4 mg gum yields about 1.2 mg. Users should aim to use between 10 and 15 pieces of gum a day. Instructing smokers to use a piece an hour is a convenient way to encourage the correct dosage. There is a

specific technique for using the gum. Each piece should be chewed slowly to release the nicotine, and a hot peppery taste will be experienced. 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, then parked and repeated, for 20–30 minutes.

### ***Nicotine sublingual tablets***

These small 2 mg tablets are made to dissolve under the tongue, although the nicotine is absorbed through any part of the oral mucosa. Hourly use should be recommended to achieve the best effect, but the tablets can be used more frequently if desired. After 30 minutes the residual tablet can be removed.

### ***Nicotine inhalator***

The inhalator consists of a small plastic tube containing a replaceable nicotine cartridge. This method may provide more behavioural replacement than the other products (some people miss the hand-to-mouth action of smoking when they quit), but there is no strong evidence for this. Despite its name, nicotine from this device is not inhaled into the lungs, but is deposited on the oral mucosa through which it is absorbed. To achieve sufficient blood nicotine levels the user should puff on the inhalator for 20 minutes each hour. After three 20-minute puffing sessions, the cartridge should be changed. The average smoker should aim to use six cartridges a day. In cold weather it is advisable to keep the inhalator warm so that the nicotine vapour can be released from the cartridge.

### ***Nicotine lozenge***

The lozenge is available in three different strengths: 1 or 2 mg for smokers with lower dependency and 4 mg for those with higher dependency. The lozenge should be dissolved in the mouth and moved around intermittently. It can be removed after 30 minutes' use. To achieve the greatest benefit lozenges should be used regularly, approximately one lozenge per hour.

### ***Nicotine nasal spray***

The nasal spray delivers a fine spray of nicotine to the nasal mucosa. It is very quickly absorbed and provides peak plasma concentrations in approximately 10 minutes. With its rapid onset of action, the nasal spray is particularly helpful for highly dependent smokers and those who want quick relief from withdrawal symptoms. However, smokers may be deterred from using this method because of its initial adverse effects, including sneezing and a burning sensation in the nose. Smokers need to be warned about these unpleasant effects, but should also be reassured that the nasal spray does not cause any damage to their nose, and that they will become used to it after a day or two of use. The recommended dose is one squirt (0.5 mg) to each nostril each hour, with additional doses as required.

### **Restarting with NRT**

There is a good chance that smokers may have tried NRT in the past and found it unhelpful. When using these products without advice, smokers may have had unrealistic expectations about how NRT works, have disliked the initial taste, or have failed to use them correctly or for long enough. Providing information on correct usage will help mitigate these problems. Smokers can be reassured that, even if they have used NRT before and failed, this is not an obstacle to future success (Shiffman *et al.*, 2004).

## **Long-term use**

Nicotine replacement therapy is generally used for up to three months (BMA/RPS, 2002; NICE, 2002). Most users will not need it for longer, although a small number do. It has been reported that, among those who stop smoking using nicotine gum purchased over the counter, 3% continue to use it for 12 months or more (Shiffman *et al.*, 2003). It appears that more dependent smokers use NRT for longer (West, *et al.*, 2000b), and if treatment is stopped too soon these smokers might relapse. There are no safety concerns regarding long-term use of NRT; deciding factors are more likely to be financial, or the client's worries about using it long term.

## **Combining nicotine products**

Combining two NRT products to gain better control of withdrawal symptoms is a logical approach. An example would be to use a patch to provide a steady delivery of nicotine combined with nicotine gum to give relief from breakthrough urges. However, product licensing still warns that NRT products should not be used together. This not only acts as a barrier to combination use, but also contributes to fear of medicinal nicotine among smokers and healthcare professionals. The current evidence suggests that combination treatment can provide a small but significant increase in abstinence rates compared with a single product (odds ratio = 1.42, 95% confidence interval 1.14–1.76; Silagy *et al.*, 2004) and – above all else – that it is safe (Fiore *et al.*, 2000; West *et al.*, 2000a; Sweeney *et al.*, 2001; NICE, 2002; Silagy *et al.*, 2004). A PGD can be used to supply NRT in combination; see the template PGD for NRT at [www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf](http://www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf).

## **Safety of NRT**

Product licences contain a number of warnings on use, contributing to the reluctance of some smokers to use NRT and of some healthcare professionals to recommend it. Although nicotine is not completely without risk, it is undoubtedly safer than continued smoking. Despite this, there is still a tendency to overestimate the risks of medicinal nicotine and to underestimate the risks of smoking.

In its 2002 publication *Guidance on the use of nicotine replacement therapy (NRT) and bupropion for smoking cessation*, NICE made it clear that, when considering the use of NRT in smokers with certain conditions (including smokers who are pregnant or breastfeeding and those with cardiovascular disease), the healthcare professional should 'take into account the significant harm associated with continuing to smoke and that it can be expected that NRT will deliver less nicotine (and none of the other potentially disease-causing agents) that would be obtained from cigarettes' (NICE, 2002).

## **Adolescent smokers**

Evidence confirms that many young smokers show signs of nicotine dependence (McNeill, 1991). Although there is little published data demonstrating the efficacy of NRT in young smokers, there is no logical reason why it should not help as long as it is used correctly and the smoker is determined to give up. A number of NRT products are now licensed for use, on medical advice, by smokers under 18. Ultimately the decision to use NRT should be based on the smoker's determination to quit, and on their level of dependence (as opposed to age). Given that NRT is less harmful than smoking, safety concerns should not be a barrier to use.

There are special challenges in treating young smokers – they may be best directed towards the local stop smoking service where they can receive peer support. This is a decision for individual pharmacists.

## ***Cardiovascular disease***

Although nicotine has some acute effects on the cardiovascular system, unlike tobacco smoke it is not a significant risk factor for cardiovascular disease or acute cardiac events (Benowitz, and Gourlay, 1997; Benowitz, 2003). Nicotine replacement therapy provides less nicotine, less rapidly than cigarette smoking, without substances such as carbon monoxide (which is known to have adverse effects on the cardiovascular system). On this basis, experts agree that all NRT products can be safely used by smokers with stable cardiovascular disease (McRobbie and Hajek, 2001; Molyneux, 2004). It is recommended that the risks and benefits of using NRT should be assessed for smokers with unstable cardiovascular disease, or who have suffered an acute event in the past four weeks. If the only other option for this group is continued smoking, a risk–benefit assessment invariably leads to recommending NRT. When using NRT for smokers with unstable cardiovascular disease, it is advisable to use the shorter-acting oral products which can be discontinued immediately in the event of any problems. Nicotine patches, even once removed, leave a small reservoir of nicotine under the skin.

## ***Pregnant and breastfeeding women***

Smoking during pregnancy is associated with large risks to both mother and foetus, and later to the newborn and growing infant (Slotkin, 1998; Dempsey and Benowitz, 2001; Benowitz and Dempsey, 2004). Although nicotine may be implicated in some of the adverse effects of smoking (eg low birth weight and behavioural problems in infants), NRT delivers much less nicotine than cigarettes without the other harmful ingredients of tobacco smoke. It is better for pregnant women to be both nicotine- and tobacco-free. But for many this is extremely difficult, and NRT in combination with structured support and advice may be needed to help achieve abstinence. Product licences are changing slowly, and some now suggest that NRT use may be considered for pregnant women who are unable to give up without the use of NRT. This is in line with international guidance and expert opinion (Benowitz and Dempsey, 2004). When considering NRT use, it is prudent to document any discussion of risks and benefits, and oral products should be recommended initially as these will provide less nicotine to the foetus than a patch. If oral products are not tolerated a patch may be recommended, but this must be removed before going to bed. Treatment should be provided as early in pregnancy as possible, with the aim of being smoke-free and nicotine-free by the third trimester.

Use of NRT while breastfeeding is associated with very few risks to the child. Nicotine does accumulate in breast milk but relatively little is absorbed from the infant's gut, and this then undergoes first pass metabolism resulting in a low plasma concentration (Dempsey and Benowitz, 2001). Any small risk to the child from this low level of nicotine is preferable to the risk of the pregnant woman continuing to smoke.

Smoking can cause great harm to the mother, the unborn child and the newborn infant, and would-be parents should be advised of these risks. Treating pregnant smokers involves specific challenges (eg the immediacy of the need to stop; the mother's fear of being judged), and clients may be best supported by a specialist smoking and pregnancy advisory service, where these exist. Pharmacists will need to discuss local treatment options carefully with pregnant women and help them decide which service is likely to be the most appropriate for their needs.

## **Bupropion**

Bupropion (Zyban) is the only non-nicotine pharmacotherapy licensed for smoking cessation. It has a number of actions that are thought to contribute to its ability to help smokers quit. These include inhibition of neuronal reuptake of dopamine and

noradrenaline, non-competitive inhibition of the nicotinic acetylcholine receptor, and effects on serotonin reuptake (Richmond and Zwar, 2003). From a clinical perspective, bupropion helps smokers by reducing the severity of withdrawal symptoms, including urges to smoke, making the quit attempt easier and success more likely.

There are now over 20 randomised controlled trials looking at the efficacy of bupropion in a large number of smokers of various ages, ethnic backgrounds and states of health. Combining the results of these studies shows that, compared with a placebo, bupropion approximately doubles the chances of remaining abstinent for a year (Hughes *et al.*, 2004). Currently there is not enough evidence to suggest that combining bupropion with NRT is better than using bupropion alone.

Bupropion is a safe medication when prescribed appropriately. It is available only on prescription, so smokers who wish to use it will need to see their GP. Pharmacists should be familiar with the contraindications and cautions for using this drug (Box 8). A PGD for bupropion has been developed that would allow pharmacists to make available a supply of this medication for smokers who wish to, and can, use it. A template PGD is available for bupropion on the PharmacyHealthLink website at [www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf](http://www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf)

The smoker needs to start bupropion about a week before quitting to allow time for a steady-state concentration to be reached. During this time the client smokes as normal. Although the prescriber may discuss dosage and side effects, it is good practice for the pharmacist to reinforce these with the smoker.

Bupropion has some common side effects that include a dry mouth, insomnia and sometimes a rash. In common with other antidepressants, there is a rare risk of seizure (reported to be fewer than one in 1,000).

#### **Box 8: Bupropion (Zyban) prescribing information**

**(Amfebutamone)**

**Additional information:** interactions (Bupropion)

**Indications:** adjunct to smoking cessation in combination with motivational support

**Cautions:** elderly; hepatic impairment (Appendix 2, avoid in severe hepatic cirrhosis), renal impairment (Appendix 3); predisposition to seizures (see CSM advice above); measure blood pressure before and during treatment (monitor weekly if used with nicotine products); **interactions: Appendix 1** (bupropion)

**Driving:** May impair performance of skilled tasks (eg driving)

**Contra-indications:** history of seizures, of eating disorders (see CSM advice) and of bipolar disorder; pregnancy (Appendix 4); breastfeeding (Appendix 5)

**Side effects:** dry mouth, gastro-intestinal disturbances, insomnia (reduced by avoiding dose at bedtime), tremor, impaired concentration, headache, dizziness, depression, agitation, anxiety, rash, pruritus, sweating, hypersensitivity reactions (may resemble serum sickness), fever, taste disturbances; less commonly chest pain, asthenia, tachycardia, hypertension, flushing, anorexia, tinnitus, visual disturbances; rarely palpitations, postural hypotension, vasodilation, hallucinations, depersonalisation, seizures, abnormal dreams, memory impairment, paraesthesia, incoordination, urinary retention, urinary frequency, Stevens-Johnson syndrome, jaundice, hepatitis, blood-glucose disturbances, exacerbation of psoriasis

**Dose:** start 1–2 weeks before target date, initially 150 mg daily for 6 days then 150 mg twice daily (max. single dose 150 mg, max. daily dose 300 mg; minimum 8 hours between doses); max. period of treatment 7–9 weeks; discontinue if abstinence not achieved at 7 weeks; consider max. 150 mg daily in patients with seizures (see CSM advice above); ELDERLY max. 150 mg daily; CHILD and ADOLESCENT under 18 years not recommended

(Source: Printed from: Joint Formulary Committee. 49 ed. London: British Medical Association and Royal pharmaceutical Society of Great Britain, 2005. Copyright © British Medical Association and Royal Pharmaceutical Society of Great Britain, 2005 ). For current information, prescribers should refer to the *British National Formulary* and Summary of Product Characteristics for each drug.

#### **Box 9: Bupropion is a safe and effective medication**

In 2001 several ‘scare stories’ appeared in the UK media suggesting that bupropion was associated with a number of deaths. On analysis of the post-marketing surveillance data, the Committee on Safety of Medicines stated that bupropion was not implicated as a cause of these deaths (Committee on Safety of Medicines/Medicines Control Agency, 2001). Many of these fatalities were a consequence of a smoking-related disease – it is smoking that kills, not stopping smoking.

#### **Box 10: Current and forthcoming NICE publications on smoking**

NICE (2002) *Guidance on the use of nicotine replacement therapy (NRT) and bupropion for smoking cessation (TAG 39)*. London: National Institute for Clinical Excellence.

NICE (2005) *Research to explore training programmes in smoking cessation for pharmacists and pharmacy assistants*. London: National Institute for Health and Clinical Excellence.

NICE (forthcoming) ‘Intervention guidance on brief interventions and referral for smoking cessation.’ London: National Institute for Health and Clinical Excellence, to be published March 2006.

NICE (forthcoming) ‘Programme guidance on smoking cessation.’ London: National Institute for Health and Clinical Excellence, to be published late 2006/early 2007.

NICE (forthcoming) ‘The effectiveness of smoking cessation interventions that address inequalities, with specific reference to manual workers: a rapid review of the evidence.’ London: National Institute for Health and Clinical Excellence.

Taylor, L., Wohlgemuth, C., Warm, D., Taske, N., Naidoo, B. and Millward, L. (2005) ‘Public health interventions for the prevention and reduction of exposure to second-hand smoke: a review of reviews. Evidence Briefing.’ London: National Institute for Health and Clinical Excellence.

## Section 2: Useful information

### *Smoking patterns and prevalence*

Since the 1970s there has been a steady decline in smoking in the UK. This levelled off during the 1990s, and is currently falling by 0.4% per year (Figure 1). In 2003, 26% of the UK adult population smoked cigarettes: approximately 12.5 million people (NatCen, 2004). Within the UK there is considerable variation in smoking prevalence according to gender, age, socio-economic status and ethnicity.

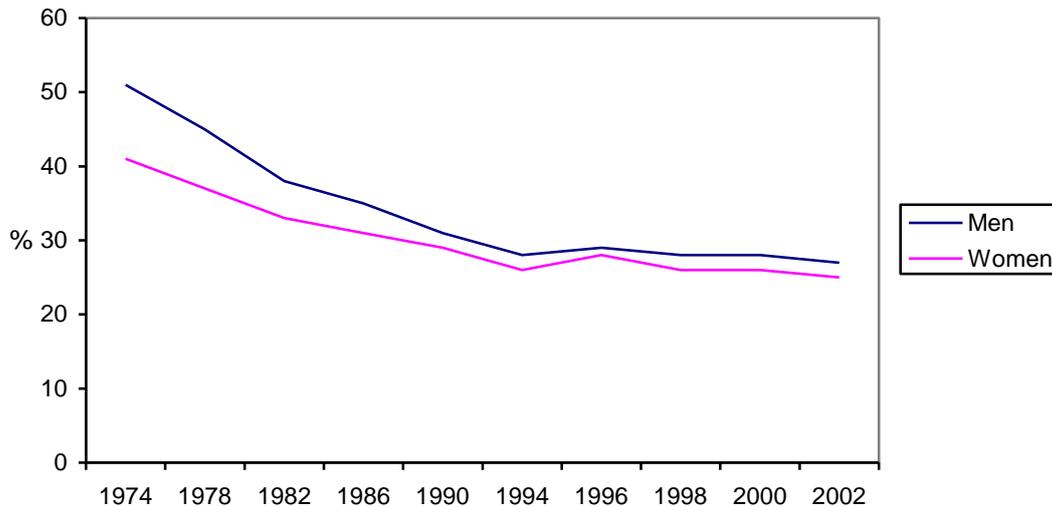


Figure 1 Smoking prevalence in the UK since 1974 (source: ONS, 2004)

**Gender:** 27% of men and 24% of women smoked cigarettes in 2003. Males smoke an average of 14.5 cigarettes a day, compared with 13.3 smoked by women (NatCen, 2004).

**Age:** levels of smoking are highest among young people and decline with advancing age. Among 16–24 year olds, 33% of men and 31% of women smoke. Among 25–34 year olds, 38% of men and 29% of women reported smoking.

**Socio-economic status and smoking:** the prevalence of cigarette smoking is higher among the socio-economically disadvantaged: among men, 20% of those in managerial and professional households smoke compared with 35% in households with semi-routine and routine occupations. For women, the equivalent figures are 18 and 32% (NatCen, 2004).

**Ethnicity:** there is generally a lower level of cigarette smoking among minority ethnic groups than among the UK population as a whole. But the analysis by gender shows a different picture (Figure 2), and prevalence among younger smokers is higher, reflecting a similar pattern to that for smokers among the UK population as a whole.

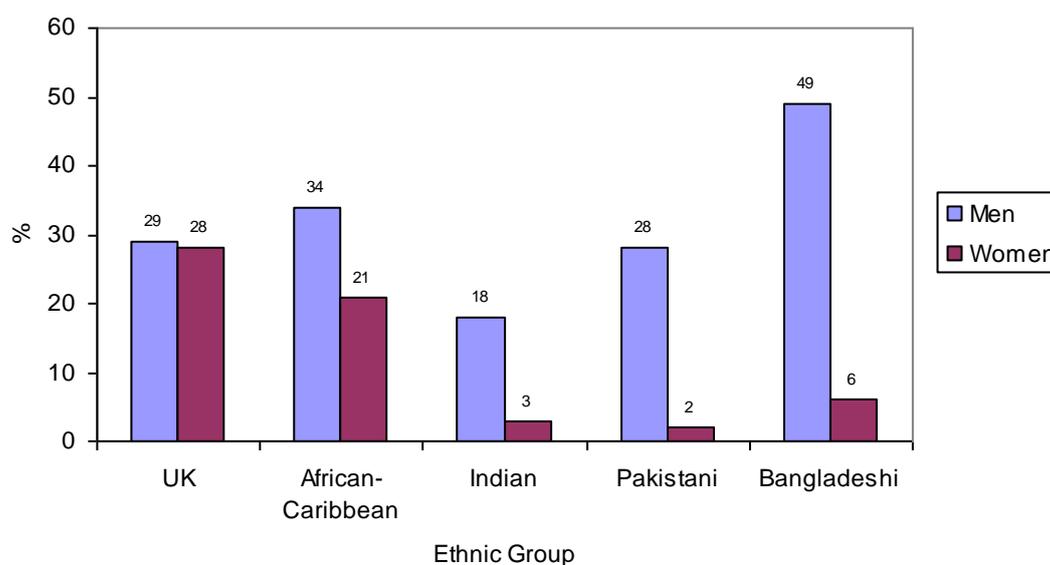


Figure 2 Regular smokers by gender in different ethnic groups, UK 1996 (source: McEwen and West, 1999)

#### Box 11: Hand-rolled cigarettes

Over the past 10 years in the UK there has been an increasing trend towards smoking hand-rolled cigarettes. In 2003, 30% of male smokers and 11% of female smokers reported smoking hand-rolled cigarettes (NatCen, 2004).

### Health risks of smoking

About 4,000 chemical compounds have been identified in cigarette smoke, of which over 40 are known to cause cancer. The three important components of cigarette smoke are:

- Nicotine – the drug in cigarettes which is addictive (this is what keeps smokers smoking). It does not cause cancer, and has only limited links with conditions affecting veins and arteries
- Tar – one of the substances produced when tobacco is burned. It is linked to cancers, lung disease and heart disease
- Carbon monoxide – a gas inhaled by smokers from cigarettes. It is linked to heart disease and has adverse effects in pregnancy.

### Deaths from smoking

In the UK, cigarette smoking is responsible for approximately 106,000 deaths per year – more than 2,000 per week, 300 per day, 12 per hour (Twigg *et al.*, 2004). On an individual level this means that long-term regular smokers can expect to lose an average of 10 years' life expectancy (Doll *et al.*, 2004). About half to two-thirds of all long-term smokers die prematurely because of their smoking, on average 16 years earlier than if they did not smoke (Doll *et al.*, 2004).

The main causes of death attributable to cigarette smoking are cancers, diseases of the heart and circulation, and lung disease (Table 1).

**Table 1 Deaths attributable to smoking as a percentage of all deaths from that disease: England (1998–2002)**

Cause of death	Percentages of deaths attributable to smoking	
	Men	Women
<i>Cancers</i>		
Lung	90	80
Throat and mouth (Callum, 1992)	77	58
Oesophagus	70	72
Bladder	49	23
Kidney	42	7
Stomach	35	12
Pancreas	26	31
Leukaemia	19	12
<i>Heart and circulation</i>		
Ischaemic heart disease	21	12
Aortic aneurysm	64	65
Myocardial degeneration	26	18
Atherosclerosis	22	17
Stroke	10	8
<i>Lung diseases</i>		
Bronchitis and emphysema	87	84
Pneumonia	26	17

*Source: adapted from Twigg et al. (2004).*

## Smoking and illness

Approximately one-third of lifelong smokers avoid premature death resulting from their cigarette smoking (Peto *et al.*, 2004), but no-one escapes the ill-health effects of smoking. Smoking causes long-term disability in both those smokers who are killed by smoking cigarettes and those who ultimately die from some other cause. Lifelong chronic smokers can also expect to experience diseases of old age earlier than non-smokers.

**Box 12: Non-life-threatening physical diseases linked to smoking (ACSH, 1997)**

- Age-related hearing loss
- Chronic back and neck pain
- Cataracts
- Cold injuries (tissue damage caused by exposure to cold environment)
- Crohn's disease
- Diabetes (type 2, non-insulin-dependent)
- Erectile dysfunction
- Gum disease
- Macular degeneration (causing blindness)
- Osteoarthritis
- Osteoporosis
- Rheumatoid arthritis
- Skin wrinkling

There is an association between smoking and mental health problems, although the exact nature of the association is unclear. People suffering with depression are more likely to smoke and find it harder to quit than people who are not depressed. Low mood is also a withdrawal symptom, and cases of major depression have been reported following smoking cessation (Glassman, 1993).

**Box 13: Environmental tobacco smoke**

Exposure to cigarette smoke is not uncommon among non-smokers, who are at risk at home, at work, when socialising and in public places. Parental smoking is linked to an increased risk of childhood respiratory diseases (Cook and Strachan, 1997) and to ear infections (DH, 1999). Partner and occupational exposure to tobacco smoke increases the risk of respiratory illness, lung cancer and coronary heart disease (DH, 1999). It is estimated that over 11,000 people die each year in the UK as a result of passive smoking at home and at work (Jamrozik, 2005).

***Benefits of stopping smoking***

The health benefits of stopping smoking are substantial (USDHHS, 1990). The greatest benefit is achieved in smokers with no smoking-related disease who stop smoking before they reach 35 years of age – they can have a normal life expectancy. However, smokers who stop later in life, even into their 70s, can expect significantly to reduce their risk of premature death.

<b>Table 2 Beneficial health changes on stopping smoking</b>	
<b>Time since quitting</b>	<b>Beneficial health changes</b>
20 minutes	Blood pressure and pulse rate return to normal
8 hours	Nicotine and carbon monoxide levels in blood reduce by half, oxygen levels return to normal
24 hours	There is no nicotine left in the body. Lungs start to clear out mucus and other smoking debris
48 hours	Carbon monoxide is eliminated from the body. Ability to taste and smell is greatly improved
72 hours	Breathing becomes easier. Bronchial tubes begin to relax and energy levels increase
2–12 weeks	Circulation improves
3–9 months	Coughs, wheezing and breathing problems improve as lung function is increased by up to 10%
1 year	Risk of a heart attack falls to about half that of a smoker
10 years	Risk of lung cancer falls to half that of a smoker
15 years	Risk of heart attack falls to the same as someone who has never smoked
<i>Source: adapted from ASH (2001).</i>	

Stopping smoking doesn't just add years to life – it adds life to years. Ex-smokers can expect not only a longer life than those who continue to smoke, but also a healthier life (Fiore *et al.*, 2000). Former smokers experience fewer days of illness than current smokers, are fitter and feel much healthier (USDHHS, 1988).

### ***Why cutting down doesn't work***

A large majority of health professionals advise smokers to cut down if they think they are unwilling or unable to stop completely (McEwen and West, 2001). About half of smokers each year try to reduce the number of cigarettes they smoke (West *et al.*, 2001). Unfortunately, cutting down the number of cigarettes smoked is unlikely to bring significant health benefits. Because smokers are used to regular doses of nicotine, they subconsciously ensure they receive similar amounts of nicotine from the reduced number of cigarettes they are now smoking, so they also get similar amounts of tar, carbon monoxide, etc. Smokers compensate for the reduced number of cigarettes by smoking each cigarette more intensively (Benowitz *et al.*, 1986), and almost invariably resume their previous level of consumption quickly.

Similarly, many smokers believe that switching to lower-tar cigarettes is a healthier option. But this is not the case – compensatory smoking occurs in this situation as well,

with smokers smoking their cigarettes more efficiently, resulting in equivalent levels of health risk.

There is a danger that any advice to cut down or switch to lighter cigarettes is counterproductive, as it could alleviate the pressure to stop. For this reason, smoking cessation guidelines focus exclusively on stopping rather than cutting down.

## **Resources**

Action on Smoking and Health (ASH): [www.ash.org.uk](http://www.ash.org.uk)

Carbon monoxide monitors from Bedfont Ltd: [www.bedfont.com](http://www.bedfont.com)

Cochrane Library (for systematic reviews of smoking cessation interventions):  
[www.cochrane.org](http://www.cochrane.org)

Globalink discussion forum (for smoking cessation and tobacco control):  
[www.globalink.org](http://www.globalink.org)

NHS Stop smoking service: [www.givingupsmoking.co.uk](http://www.givingupsmoking.co.uk)

NHS Stop smoking local services: [www.givingupsmoking.co.uk/nhs\\_sss/find/](http://www.givingupsmoking.co.uk/nhs_sss/find/)

No Smoking Day: [www.nosmokingday.org.uk](http://www.nosmokingday.org.uk)

Pharmacy contract: [www.dh.gov.uk/assetRoot/04/09/18/69/04091869.pdf](http://www.dh.gov.uk/assetRoot/04/09/18/69/04091869.pdf)

PharmacyHealthLink (for PGDs for NRT and bupropion):  
[www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf](http://www.pharmacyhealthlink.org.uk/pdf/pgd/Smoking-Cessation.pdf)

Royal Pharmaceutical Society of Great Britain: [www.rpsgb.org.uk](http://www.rpsgb.org.uk)

Stop smoking websites:

[www.quit.org.uk](http://www.quit.org.uk)

[www.Click2Quit.com](http://www.Click2Quit.com)

[www.givingupsmoking.co.uk](http://www.givingupsmoking.co.uk)

[www.thetimeisright.co.uk](http://www.thetimeisright.co.uk)

[www.nicotinell.com](http://www.nicotinell.com)

[www.nicorette.co.uk](http://www.nicorette.co.uk)

Treat Tobacco (for evidence-based smoking cessation information):  
[www.treattobacco.net](http://www.treattobacco.net)

UK National Smoking Cessation Conference (June 2005): [www.uknsc.org](http://www.uknsc.org)

## **References and bibliography**

ACSH (1997) *Cigarettes: what the warning label doesn't tell you*. New York, USA: American Council on Science & Health.

ASH (2001) *What happens when you stop smoking?* Fact sheet no. 11. London: Action on Smoking and Health. [www.ash.org.uk/html/factsheets/html/fact11.html](http://www.ash.org.uk/html/factsheets/html/fact11.html)

Bauld, L., Chesterman, J., Judge, K., Pound, E. and Coleman, T. (2003) Impact of UK National Health Service smoking cessation services: variations in outcomes in England. *Tobacco Control* 12(3): 296-301.

Benowitz, N.L. (2003) Cigarette smoking and cardiovascular disease: pathophysiology and implications for treatment. *Progress in Cardiovascular Disease* 46(1): 91-111.

Benowitz, N. and Dempsey, D. (2004) Pharmacotherapy for smoking cessation during pregnancy. *Nicotine & Tobacco Research* 6(2): S189-202.

Benowitz, N.L. and Gourlay, S.G. (1997) Cardiovascular toxicity of nicotine: implications for nicotine replacement therapy. *Journal of the American College of Cardiology* 29(7): 1422-31.

Benowitz, N., Jacob, P., Kozlowski, L. and Yu, L. (1986) Influence of smoking fewer cigarettes on exposure to tar, nicotine, and carbon monoxide. *New England Journal of Medicine* 315(21): 1310-13.

BMA/RPS (2002) *British national formulary*. London: British Medical Association and Royal Pharmaceutical Society of Great Britain.

Bull, J., Mulvihill, C. and Quigley, R. (2003) *Prevention of low birth weight: assessing effectiveness of smoking cessation and nutritional intervention. Evidence briefing*. London: Health Development Agency.

Callum, C. (1992) UK deaths from smoking. *Lancet* 339(8807): 1484.

Committee on Safety of Medicines/Medicines Control Agency (2001) Zyban [bupropion (amfebutamone)] – safety reminder. *Current Problems in Pharmacovigilance* 27.

Cook, D.G. and Strachan, D.P. (1997) Health effects of passive smoking. 3. Parental smoking and prevalence of respiratory symptoms and asthma in school age children. *Thorax* 52(12): 1081-94.

Dempsey, D.A. and Benowitz, N.L. (2001) Risks and benefits of nicotine to aid smoking cessation in pregnancy. *Drug Safety* 24(4): 277-322.

DH (1999) *Smoking kills: A white paper on tobacco*. London: Stationery Office.

DH (2003) *A vision for pharmacy in the new NHS*. London: Department of Health. [www.dh.gov.uk/assetRoot/04/06/83/56/04068356.pdf](http://www.dh.gov.uk/assetRoot/04/06/83/56/04068356.pdf)

DH (2004) *The new contractual framework for community pharmacy*. London: Department of Health. [www.dh.gov.uk/assetRoot/04/09/18/69/04091869.pdf](http://www.dh.gov.uk/assetRoot/04/09/18/69/04091869.pdf)

DH (2005) *Choosing health through pharmacy: a programme for pharmaceutical public health 2005–2015*. London: Department of Health. [www.dh.gov.uk/assetRoot/04/10/74/96/04107496.pdf](http://www.dh.gov.uk/assetRoot/04/10/74/96/04107496.pdf)

- Doll, R., Peto, R., Boreham, J. and Sutherland, I. (2004) Mortality in relation to smoking: 50 years' observations on male British doctors. *British Medical Journal* 328(7455): 1519.
- Fiore, M.C., Bailey, W.C., Cohen, S.J., Dorfman, S.F., Goldstein, M.G., Gritz, E., *et al.* (2000) *Treating tobacco use and dependence. Clinical practice guideline*. Rockville, MD: US Department of Health and Human Services, Public Health Service.
- Glassman, A.H. (1993) Cigarette smoking: implications for psychiatric illness. *American Journal of Psychiatry* 150(4): 546-53.
- GlaxoSmithKline (2001) Zyban (bupropion hydrochloride). Summary of product characteristics. Research Triangle Park, NC, USA: GlaxoSmithKline.
- Hajek, P. (1989) Withdrawal-oriented therapy for smokers. *British Journal of Addiction* 84(6): 591-8.
- Hajek, P., Gillison, F. and McRobbie, H. (2003) Stopping smoking can cause constipation. *Addiction* 98(11): 1563-7.
- HDA (2003a) *Standard for training in smoking cessation treatments*. London: Health Development Agency. [www.hda.nhs.uk/documents/smoking\\_cessation\\_treatments.pdf](http://www.hda.nhs.uk/documents/smoking_cessation_treatments.pdf)
- HDA (2003b) *Meeting Department of Health smoking cessation targets: Recommendations for primary care trusts*. London: Health Development Agency.
- HDA (2003c) *Meeting Department of Health smoking cessation targets: Recommendations for service providers*. London: Health Development Agency.
- HDA (2004a) *Helping smokers stop: A guide for the dental team*. London: Health Development Agency.
- HDA (2004b) *Smoking cessation training survey: Report on findings*. London: Health development Agency.
- HDA (2005) *Tobacco and oral health: A survey of dental education and training in tobacco issues*. London: Health Development Agency.
- Hughes, J.R. (1992) Tobacco withdrawal in self-quitters. *Journal of Consulting and Clinical Psychology* 60(5): 689-97.
- Hughes, J.R., Stead, L.F. and Lancaster, T. (2004) Antidepressants for smoking cessation. *Cochrane Database of Systematic Reviews* 4: CD000031.
- Jamrozik, K. (2005) Estimate of deaths attributable to passive smoking among UK adults: database analysis. *British Medical Journal* online publication 2 March, doi: 10.1136/bmj.38370.496632.8F
- Lancaster, T. and Stead, L.F. (2002) Individual behavioural counselling for smoking cessation. *Cochrane Database of Systematic Reviews* 3: CD001292.
- McEwen, A. and West, R. (1999) Tobacco use amongst black and minority ethnic groups in England. In: *Black and minority ethnic groups and tobacco use in England. A practical resource for health professionals*. London: Health Education Agency.
- McEwen, A. and West, R. (2001) Smoking cessation activities by general practitioners and practice nurses. *Tobacco Control* 10(1): 27-32.

- McNeill, A.D. (1991) The development of dependence on smoking in children. *British Journal of Addiction* 86(5): 589-92.
- McRobbie, H. and Hajek, P. (2001) Nicotine replacement therapy in patients with cardiovascular disease: guidelines for health professionals. *Addiction* 96(11): 1547-51.
- McRobbie, H., Hajek, P. and Gillison, F. (2004) The relationship between smoking cessation and mouth ulcers. *Nicotine and Tobacco Research* 6(4): 655-9.
- Molyneux, A. (2004) Nicotine replacement therapy. *British Medical Journal* 328(7437): 454-6.
- Naidoo, B., Quigley, R., Taylor, L. and Warm, D. (2004) *Public health interventions to reduce smoking initiation and/or further uptake of smoking, and to increase smoking cessation: a review of reviews. Evidence briefing.* London: Health Development Agency.
- NatGen (2004) *Health Survey for England 2003 – latest trends.* London: National Centre for Social Research. [www.dh.gov.uk/assetRoot/04/09/89/14/04098914.pdf](http://www.dh.gov.uk/assetRoot/04/09/89/14/04098914.pdf)
- NICE (2002) *Guidance on the use of nicotine replacement therapy (NRT) and bupropion for smoking cessation.* London: National Institute for Clinical Excellence.
- NICE (2005) *Research to explore training programmes in smoking cessation for pharmacists and pharmacy assistants.* London: National Institute for Health and Clinical Excellence.
- NICE (forthcoming) *Smoking cessation training resource for the dental team.* London: National Institute for Health and Clinical Excellence.
- ONS (2004) *Living in Britain – the 2002 General Household Survey.* London: Office for National Statistics.
- Peto, R., Lopez, A., Boreham, J. and Thun, M. (2004) *Mortality from smoking in developed countries 1950–2000*, 2nd edn. Oxford: Oxford University Press.
- PSNC (2004) *Ten facts about community pharmacists.* Aylesbury, Buckinghamshire: Pharmaceutical Services Negotiating Committee. [www.psn.org.uk/uploaded\\_txt/Ten%20Facts%20about%20Community%20Pharmacy%20-%20April%2004.pdf](http://www.psn.org.uk/uploaded_txt/Ten%20Facts%20about%20Community%20Pharmacy%20-%20April%2004.pdf)
- RCP (2000) *Nicotine addiction in Britain. A report of the tobacco advisory group of the Royal College of Physicians.* London: Royal College of Physicians.
- Richmond, R. and Zwar, N. (2003) Review of bupropion for smoking cessation. *Drug and Alcohol Review* 22(2): 203-20.
- Shiffman, S., Hughes, J.R., Pillitteri, J.L. and Burton, S.L. (2003) Persistent use of nicotine replacement therapy: an analysis of actual purchase patterns in a population based sample. *Tobacco Control* 12(3): 310-6.
- Shiffman, S., Dresler, C.M. and Rohay, J.M. (2004) Successful treatment with a nicotine lozenge of smokers with prior failure in pharmacological therapy. *Addiction* 99(1): 83-92.
- Silagy, C., Lancaster, T., Stead, L., Mant, D. and Fowler, G. (2004) Nicotine replacement therapy for smoking cessation. *Cochrane Database of Systematic Reviews* 3: CD000146.

- Sinclair, H.K., Bond, C.M. and Stead, L.F. (2004) Community pharmacy personnel interventions for smoking cessation. *Cochrane Database of Systematic Reviews* 1: CD003698.
- Slotkin, T.A. (1998) Fetal nicotine or cocaine exposure: which one is worse? *Journal of Pharmacology and Experimental Therapeutics* 285(3): 931-45.
- Stead, L.F. and Lancaster, T. (2000) Group behaviour therapy programmes for smoking cessation. *Cochrane Database of Systematic Reviews* 2: CD001007.
- Sutherland, G. (2003) Evidence for counseling effectiveness for smoking cessation. *Journal of Clinical Psychiatry Monograph* 18(1): 22-34.
- Sweeney, C.T., Fant, R.V., Fagerstrom, K., McGovern, J. and Henningfield, J. (2001) Combination nicotine replacement therapy for smoking cessation: rationale, efficacy and tolerability. *CNS Drugs* 15(6): 453-67.
- Twigg, L., Moon, G. and Walker, S. (2004) *The smoking epidemic in England*. London, Health Development Agency. [www.hda-online.org.uk/Documents/smoking\\_epidemic.pdf](http://www.hda-online.org.uk/Documents/smoking_epidemic.pdf)
- USDHHS (1988) *The health consequences of smoking: nicotine addiction. A report of the Surgeon General*. Rockville, MD, USA: US Department of Health and Human Services.
- USDHHS (1990) *The health benefits of smoking cessation: a report of the Surgeon General*. Rockville, MD, USA: US Department of Health and Human Services.
- Ussher, M., West, R., Steptoe, A. and McEwen, A. (2003) Increase in common cold symptoms and mouth ulcers following smoking cessation. *Tobacco Control* 12(1): 86-8.
- West, R. and Shiffman, S. (2004) *Smoking cessation. Fast facts: indispensable guides to clinical practice*. Oxford: Health Press, pp. 63-5.
- West, R.J., Hajek, P. and Belcher, M. (1989a) Severity of withdrawal symptoms as a predictor of outcome of an attempt to quit smoking. *Psychological Medicine* 19(4): 981-5.
- West, R., Hajek, P. and Belcher, M. (1989b) Time course of cigarette withdrawal symptoms while using nicotine gum. *Psychopharmacology (Berlin)* 99(1): 143-5.
- West, R., McNeill, A. and Raw, M. (2000a) Smoking cessation guidelines for health professionals: an update. *Thorax* 55(12): 987-99.
- West, R., Hajek, P., Foulds, J., Nilsson, F., May, S. and Meadows, A. (2000b) A comparison of the abuse liability and dependence potential of nicotine patch, gum, spray and inhaler. *Psychopharmacology* 149(3): 198-202.
- West, R., McEwen, A. and Bolling, K. (2001) Smoking cessation and harm minimisation strategies in the general population. *Addiction* 96: 891-902.