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New Zealand smoking cessation guidelines

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Abstract

Aims To summarise the key recommendations made in the 2007 New Zealand Smoking Cessation Guidelines.

Methods A comprehensive literature review of smoking cessation interventions was undertaken in November 2006. Recommendations were formulated from the findings of the literature review in line with the methods recommended by the New Zealand Guidelines Group.

Results The Guidelines have been structured around a new memory aid (ABC) which incorporates and replaces the 5A's (ask, advise, assess, assist, arrange). ABC prompts healthcare professionals to *ask* about smoking status; give *brief* advice to stop smoking to all smokers; and provide evidence-based Cessation support for those who wish to stop smoking. Healthcare professionals should briefly advise all people who smoke to stop smoking, regardless of whether they say they are ready to stop smoking or not. They should then offer smoking cessation support which includes both behavioural (e.g. telephone and face-to-face support) and pharmacological (e.g. nicotine replacement therapy, nortriptyline, bupropion, or varenicline) interventions. Recommendations were also formulated for priority populations of smokers: Māori, Pacific, pregnant women, and people with mental illness and other addictions.

Conclusions These guidelines will assist healthcare professionals in providing evidence-based smoking cessation support to people who smoke. To be effective, the ABC model needs to be integrated into routine practice.

Stopping smoking reduces smoking related disease and premature death and is a key health improvement objective in many countries, including New Zealand.[1] Smoking cessation guidelines contribute to achieving this high-priority objective.

The New Zealand Guidelines for Smoking Cessation were first published in 1999 and later revised in 2002.[2] A 2003 survey of guidelines users undertaken by the New Zealand Guidelines Group (NZGG) found that the 2002 guidelines needed to be updated.[3] Considerable change has occurred even since 2002, with the emergence of new evidence, pharmacotherapies and other treatments, as well as further amendments to smokefree legislation.

This paper summarises the 2007 guidelines,[4] including a description and summary of the evidence base for the main recommendations, the evidence base, and contains information about their application to priority population groups, such as pregnant women, people who use mental health and addiction services.

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Method

Guidelines development process—The guidelines were commissioned by the Ministry of Health in mid-2006 and developed by a guidelines development group with expertise in smoking cessation and specialist advisory groups comprising academics, researchers, community, medical and nursing practitioners, and providers and trainers with representation also from members of priority population groups.

The process followed as closely as possible the steps recommended in the internationally recognised Appraisal of Guidelines for Research & Evaluation (AGREE) tool.[5] Underpinning the guidelines was an updated literature review, undertaken from 2002 (the date of the previous literature review) to March 2006. The key sources of data were relevant systematic reviews published by the Cochrane Collaboration and a systematic review undertaken by the US Department of Health and Human Services to inform the US Treating Tobacco Use Guidelines.[6] These were supplemented with findings from other systematic reviews and randomised controlled trials (RCTs). The quality of all the reviews and trials was assessed using standard appraisal methods.[7]

Analysis—Recommendations were then formulated from the findings of the literature review. Each recommendation was assigned a grade based on the level of empirical evidence from the literature review, using the New Zealand Guidelines Group (NZGG) system as follows: **A:** The recommendation is supported by good (strong) evidence. **B:** The recommendation is supported by fair (reasonable) evidence, but there may be minimal inconsistency or uncertainty. **C:** The recommendation is supported by expert opinion (published) only. **I:** There is insufficient evidence to make a recommendation. ✓ Good practice point (in the opinion of the guideline development group). More detailed explanation of this grading system can be found in the NZGG Guidelines Handbook.[8]

Findings

Key changes from previous guidelines—Two key changes from previous guidelines are noted in the 2007 smoking cessation guidelines. First, reference to the 'Stages of Change' model[9] has been removed. The usefulness of this widely used model for smoking cessation treatment has recently been challenged.[10] Although many practitioners may continue to use the model, we considered this insufficiently supported by evidence to include in the guidelines. Second, we have structured the guidelines around a new, simplified memory aid to guide practitioners, that incorporates and replaces the widely used '5As' (ask, advise, assess, assist, arrange).[2] 'ABC' is a far simpler and thus more easily remembered mnemonic that prompts healthcare professionals (HCPs) to **A**sk about smoking status; give **B**rief advice to stop smoking to all smokers and offer evidence-based **C**essation support. The key recommendations are listed in Table 1.

Ask about smoking status—All people attending any healthcare service should be asked if they smoke tobacco, and their smoking status should be recorded in their clinical records. The records of anyone who smokes, or has recently quit, should be updated regularly—ideally, once a year.

Brief advice to stop smoking—Brief advice to stop smoking can be provided in as little as 30 seconds.[11] When given by a doctor brief advice increases long-term abstinence by approximately 2.5% compared to no advice at all.[12] Despite few studies investigating the effect of brief advice delivered by other HCPs,[13-15] it is highly likely to be beneficial.

Brief advice appears to work by triggering people to make a quit attempt rather than by increasing the chances of success of a quit attempt.[16] It also seems to have its greatest effect on less dependent smokers.[12] For more dependent smokers (such as

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those whose time to the first cigarette of the day is within 30 minutes of waking), it is important that brief advice is followed by an offer of cessation support.

Table 1. Key recommendations

- The full set of recommendations can be found in the NZ Smoking Cessation Guidelines (www.moh.govt.nz)
- See text for explanation of grading (A, B, C, I, ✓)

ASKING ABOUT SMOKING STATUS
Ask about and document smoking status for all patients. For people who smoke or have recently stopped smoking, the smoking status should be checked and updated on a regular basis. Systems should be in place in all healthcare settings (medical centres, clinics, hospitals, etc.) to ensure that smoking status is accurately documented on a regular basis. [A]

BRIEF ADVICE TO STOP SMOKING
All doctors should provide brief advice to quit smoking at least once a year to all patients who smoke. [A]
All other HCPs should also provide brief advice to quit smoking at least once a year to all patients who smoke. [B]
Record the provision of brief advice in patient records. [C]
HCPs should seek appropriate training to enable them to provide brief advice. This training should include providing the healthcare worker with information on available evidence-based smoking cessation treatments. [B]

CESSATION SUPPORT
Telephone support
Offer telephone counselling as an effective method of stopping smoking. People who smoke can be directed to Quitline (tollfree: 0800 778 778). [A]

Face-to-face support
Providing face-to-face smoking cessation support either to individual patients or to groups of smokers is an effective method of stopping smoking. [A]
Aim to see people for at least four cessation support sessions. [A]
HCPs providing evidence-based cessation support (that is, more than just brief advice) should seek appropriate training. [C]
HCPs trained as smoking cessation providers require dedicated time to provide cessation support. [C]

Pharmacotherapy
Nicotine replacement therapy (NRT), bupropion, nortriptyline and varenicline can be routinely offered as effective medications for people who want to stop smoking. [A]
The choice of product should be guided by the person's preference and any contraindications and precautions for use. [✓]
Combining two NRT products increases abstinence rates. [A]
NRT can be used to encourage reduction prior to quitting. [B]
People who need NRT for longer than 8 weeks (for example, people who are highly dependent) can continue to use NRT. [C]
NRT can be provided to people with cardiovascular disease. However, where people have suffered a serious cardiovascular event (for example, people who have had a myocardial infarction or stroke) in the past 2 weeks or have a poorly controlled disease, treatment should be discussed with a physician. Oral NRT products are recommended (rather than longer-acting patches) for such patients. [B]

SPECIAL POPULATIONS

Smoking cessation interventions for Māori

Offer Māori who smoke cessation support that incorporates known effective components (such as medication). [✓]

Where available, offer culturally appropriate cessation services to Māori. [C]

HCPs should be familiar with the cessation support services for Māori that are available in their area (such as local Aukati Kai Paipa providers) and nationally (such as Quitline) so they can refer appropriately. [✓]

HCPs providing cessation support to Māori should seek training in how to deliver smoking cessation treatment to Māori. [✓]

Smoking cessation interventions for Pacific and Asian people

People who smoke should be offered smoking cessation interventions that incorporate known effective components. [✓]

Offer culturally appropriate services where available. [C]

HCPs providing cessation support to Pacific and Asian people should seek training in how to deliver smoking cessation treatment appropriately to these groups. [✓]

Smoking cessation interventions for pregnant women

Offer all pregnant and breastfeeding women who smoke multi-session behavioural smoking cessation interventions from a specialist/dedicated cessation service. [A]

All HCPs should briefly advise pregnant and breastfeeding women who smoke to stop smoking. [A]

NRT can be used in pregnancy and during breastfeeding following a risk-benefit assessment. If NRT is used, oral NRT products (for example, gum, inhalers, microtabs and lozenges) are preferable to nicotine patches. [C]

Smoking cessation interventions for young people

Offer smoking cessation interventions that incorporate known effective components (such as those identified in the previous sections) to young people who smoke. [✓]

NRT can be used by young people (12–18 year olds) who are dependent on nicotine (that is, NRT is not recommended for use by occasional smokers) if it is believed that NRT may aid the quit attempt. [C]

Smoking cessation interventions for people who are hospitalised or awaiting surgery

All hospitals should have systems set up for helping patients to stop smoking. This includes routinely providing advice to stop smoking and either providing a dedicated smoking cessation service within the hospital or arranging for smoking cessation treatment to be provided by an external service. [B]

Cessation support should include multi-session treatment and medication ongoing for at least 1 month after discharge. [A]

Advise parents and family members of hospitalised children to stop smoking and offer support to help them. [✓]

Smoking cessation interventions for people with mental health illness and people who use addiction services

Offer smoking cessation interventions that incorporate known effective components (such as those identified in the previous sections) to people with mental health disorders who smoke. [✓]

People with mental health disorders who stop smoking while taking medications for their illness should be monitored to determine if dosage reductions in their medication are necessary. [A]

Smoking cessation interventions for people who have been unsuccessful in quitting in the past

Offer smoking cessation interventions that incorporate known effective components (such as those identified in the previous sections) to people making another quit attempt. [A]

Services should be able to offer support to people who have relapsed as soon as they request support. [✓]

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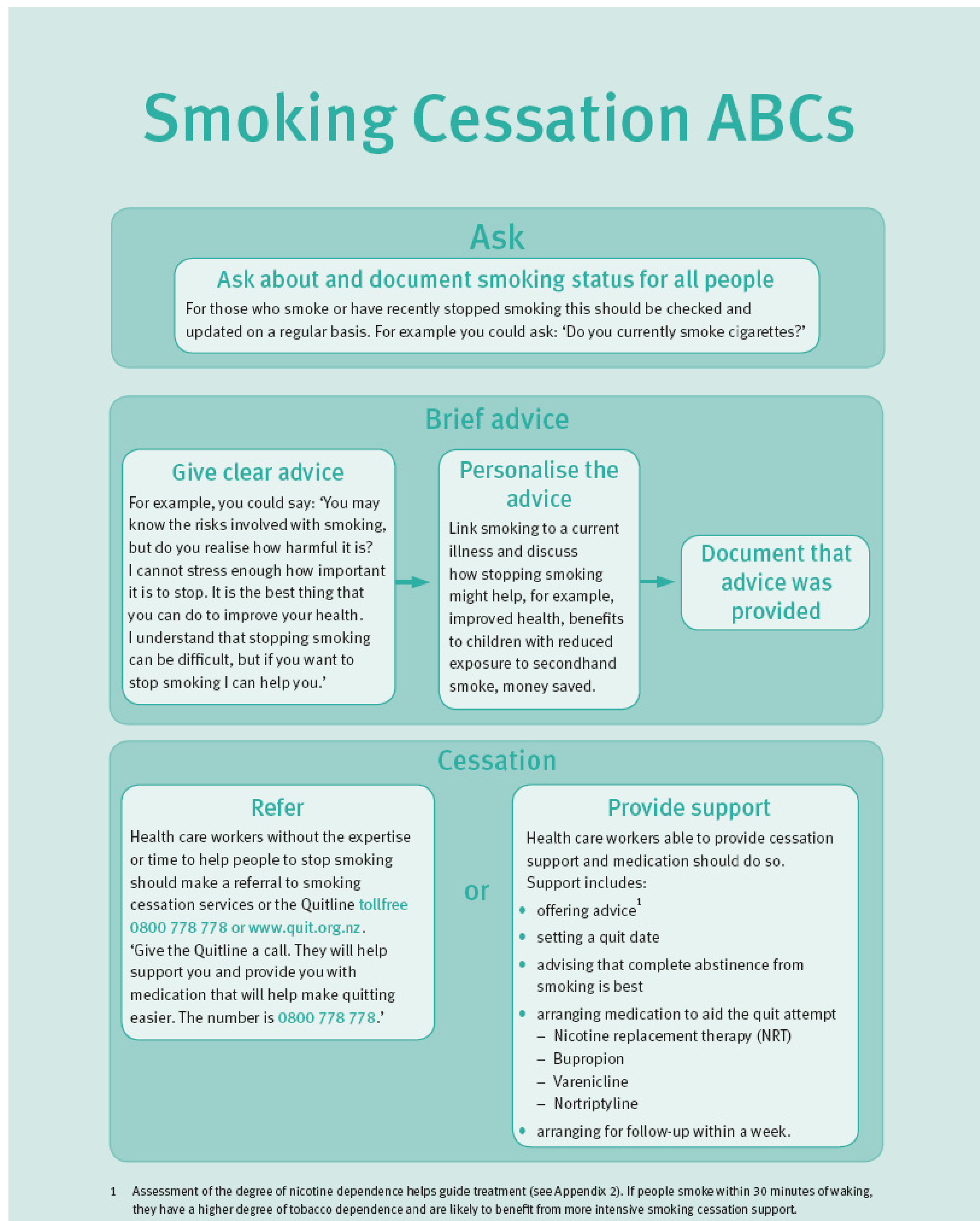
Figure 1



Source: New Zealand Smoking Cessation Guidelines Liftout. Ministry of Health, August 2007. http://www.moh.govt.nz/moh.nsf/pagesmh/6663/$File/nz-smoking-cessation-guidelines-insert.pdf

Advice can be strengthened if it can be linked to a smoker's existing smoking related medical condition or to protecting children and young people from exposure to secondhand smoke.[17] An example of how to give brief advice to stop smoking is shown in Figure 1.

Cessation support—There are many different ways of providing cessation support. However, the two key components that have been shown to be most effective are multi-session support and pharmacotherapy.[6] The support that individual HCPs can offer will depend upon their smoking cessation knowledge, skills and available time. For those who have little time to spare referral to services that provide effective interventions (e.g. Aukati Kai Paipa or the Quitline) should be made.

Proactive *telephone support* for smoking cessation increases long-term abstinence rates compared to brief advice.[18] Adding telephone support to medication increases short-[19] and long-term[20] abstinence rates over that of medication alone. There is no advantage in adding telephone support to face-to-face support.[18] However, when the intensity of face-to-face counselling is low, such as providing a single counselling session for hospital in-patients, additional follow-up with telephone counselling has been shown to have a positive effect.[21]

Face-to-face cessation support, delivered individually or in a group setting, has been shown to be more effective than brief advice.[6,22,23] There is no evidence that any one effective behaviour change method (e.g. cognitive behavioural therapy, motivational interviewing, withdrawal-oriented treatment) is superior to another. More intensive support (relating to the frequency and duration of contacts with smokers) is generally associated with higher abstinence rates.[6,24,25] The professional background of the HCP does not appear to influence smoking cessation outcome.[6] Cessation rates are generally higher when medication is used in combination with face-to-face support.

Nicotine replacement therapy (NRT) approximately doubles the chances of long-term abstinence compared with placebo.[26] It appears to be as effective as bupropion and nortriptyline, but as yet there are no published studies comparing NRT to the recently registered smoking medication, varenicline. NRT's main mechanism of action is to reduce the severity of withdrawal symptoms associated with smoking cessation.

There are six different NRT products (patches, gum, sublingual tablets, inhalers, lozenges, and nasal spray) that deliver nicotine in different ways but they appear to be equally effective. At the time of writing, only the first four products are available in New Zealand and only patches and gum are currently subsidised in New Zealand via the *Quit Card* NRT exchange card system. Product selection can be guided by client preference, however more dependent smokers benefit from higher dose products.

NRT products should be used for 8 to 12 weeks, but a small number of smokers may need to use it for longer.[27] There is a moderate advantage to using a combination of NRT products over just a single product.[26] There are no safety concerns with long-term or combination NRT use and NRT is safe to use by people with cardiovascular disease (CVD).[28] There is a small potential risk to the fetus when using NRT in pregnancy however this risk is many times less than continued smoking.[29]

Oral NRT products (e.g. gum, inhaler, microtab, and lozenge) are preferable to patches in pregnancy and in people with unstable CVD.[28 29] There is insufficient evidence that the use of NRT by young people who smoke improves continuous 6-

month abstinence rates. Nevertheless, expert opinion is that NRT may be considered for use by dependent adolescents who want to stop smoking.[30]

Bupropion (Zyban™) is an antidepressant medication that doubles the chances of long-term abstinence compared with placebo.[31] Bupropion acts to reduce the severity of withdrawal symptoms, but it may also have other actions that help people stop.[32] It appears to be as effective as NRT and nortriptyline, but is less effective than varenicline.[33,34] There is insufficient evidence to recommend combining bupropion with any other smoking cessation medications, to recommend its use by pregnant women and adolescents who smoke, or its use in preventing smoking relapse. Bupropion has a number of contraindications and cautions for use but can be used by those with stable cardiovascular and respiratory disease.[31]

Nortriptyline is a tricyclic antidepressant that is also effective in aiding smoking cessation. Like NRT and bupropion, nortriptyline approximately doubles the chances of long-term abstinence compared to placebo.[31] The main advantage is its low cost. Nortriptyline is currently regarded as a second-line therapy by some smoking cessation guidelines[6] and is not mentioned at all by others, partly due to higher side effect profile compared to other smoking cessation medicines.[35] There are a number of contraindications and cautions for use that are well documented elsewhere.[36]

Varenicline (Champix™) is a partial agonist of the nicotinic acetylcholine receptor and reduces the severity of tobacco withdrawal symptoms whilst simultaneously reducing the rewarding effects of nicotine. It approximately triples the chances of long-term abstinence compared to placebo.[37] To date, Varenicline has demonstrated a good safety profile, with transient nausea being the most commonly reported side effect. There are no known clinically significant drug interactions.

Smoking cessation interventions for specific groups—*Māori* have a high smoking prevalence (46%) with particular sub-groups such as Māori women of childbearing age (15–39 years) having smoking rates of up to 61%.[38] Interventions that work in the general population (for example, support and medication) appear to be at least as effective for Māori.[39]

Aukati Kai Paipa, a smoking cessation approach developed by Māori for Māori is predominantly delivered by Māori health organisations as well as other hospital and community-based clinics. It is whānau-focused, operates in a Māori setting utilising strong local ties, and adopts a holistic approach to health. Smoking cessation components typically combine NRT with support, a Māori health approach addressing all elements of wellbeing, and regular follow-up. An evaluation of this service showed positive results.[39]

An evaluation of the Quitline services also showed telephone support to be effective for Māori who want help in stopping smoking.[40] Finally, these evaluations are supported by a RCT that showed bupropion to be effective in assisting Māori to stop smoking.[41]

Smoking cessation is also a priority in *Pacific people* (39% of males and 33% of females are current smokers[38]). There are limited data regarding the efficacy of smoking cessation interventions in Pacific populations, although there is no reason to expect that interventions known to work in the general population would be any less efficacious for them. However, such interventions need to be tailored to be maximally

effective, and culturally appropriate models of delivery may increase acceptance of treatment. This also applies to people from other ethnic groups who smoke.

Pregnant women who smoke should be encouraged to stop at anytime throughout a pregnancy, although the greatest benefits are gained from early cessation (within the first trimester).[42] There is modest evidence for the effectiveness of intensive smoking cessation support delivered to pregnant women.[43] The evidence for the effectiveness of NRT in helping pregnant women stop smoking is limited. However, expert opinion is that NRT can be used in pregnancy [intermittent dosing forms (e.g. gum, inhaler, microtab] are recommended over patch) if an assessment of the various risks and benefits to the mother, pregnancy, and baby is favourable.[29]

HCPs should balance the significant risks of continued smoking against the risks of providing NRT to help a pregnant woman stop smoking (more information on these risks can be found in the guidelines document).

Young people (15–29 years) have high rates of smoking relative to other age groups.[38] There is insufficient evidence to confirm the effectiveness of cessation interventions specifically aimed at helping young people stop smoking, or to recommend that any particular models be integrated into standard practice.[44] Given the lack of clear evidence on specific interventions for young people, it is recommended that interventions be based on those that are known to be effective in helping adults.

The *hospital* and *preoperative* environment offers an opportunity for HCPs to help people stop smoking. Admission to hospital with a smoking related illness provides a "teachable moment" and may be a particularly effective time to intervene. However, all smokers regardless of reason for admission should be advised to quit and offered cessation support. Preoperative smoking cessation decreases the risks of wound infection, delayed wound healing, and postoperative pulmonary and cardiac complications[45] and so should be recommended to people awaiting surgery.[46] To be effective smoking cessation interventions provided in hospital need to include at least 1 month of out-patient follow-up contact.[47]

Smoking is common in people with *mental illnesses* and they are typically also highly dependent.[48–51] More intensive smoking cessation interventions appear to be beneficial in this group. Such interventions should include multi-session support and medication. Most people with mental health disorders do not experience a worsening in the symptoms of their illness when they stop smoking.[52] Smoking cessation can precipitate a relapse of depression in some people, but this is rare[53] and is does not justify not supporting them to stop smoking. Rather, it warrants closer monitoring of their mental health status. Smoking cessation can affect the metabolism of some medications, including those used to treat mental illness,[54] so dosage adjustments may occasionally be required.[55]

In New Zealand, approximately 56% of non-institutionalised people with *substance use disorders* smoke tobacco.[56] The evidence shows that smoking cessation interventions increase short-term quit rates in these people,[57,58] but there is currently insufficient evidence supporting long-term effectiveness. Smoking cessation rarely precipitates a relapse of a substance use disorder.[59,60] However, this should not be seen as a justification for not encouraging quitting, but rather for monitoring closely and providing more intensive support.

Relapse prevention and repeat quit attempts—There is insufficient evidence to support any particular approach to relapse prevention.[61] The majority of attempts to stop smoking are unsuccessful, and people who do not succeed should be encouraged to try again. There is insufficient evidence to recommend a minimum time between attempts and so people should be offered cessation support whenever they want it.[62,63] Treatment choice should be guided by learning from prior cessation attempts and individual preference. It is likely that a more intensive treatment is required on a subsequent attempt.

Other treatments and interventions—Many other smoking cessation treatments and interventions are available. However, these lack sufficient evidence of any impact on long-term abstinence and cannot therefore be recommended. These include hypnosis,[64] acupuncture,[65] anxiolytics,[31] incentives or competitions,[66] Nicobrevin,[67] NicoBloc,[68] St John's wort,[69,70] lobeline,[71] and quit and win contests.[72]

Some interventions show promise (e.g. exercise,[73] cytisine[74] and glucose tablets[75]) but need further investigation before they can be recommended. There is evidence that clonidine is helpful for smoking cessation however, due to its adverse effect profile, it is not recommended for routine use.

Conclusions

The 2007 NZ Smoking Cessation Guidelines[4] provide up-to-date evidence-based recommendations on how to help people stop smoking. Importantly, they provide a simple model (ABC) that should facilitate the integration of the key elements of smoking cessation provision into everyday practice.

There is a strong case for systematic smoking cessation advice from HCPs and that smoking cessation interventions are some of the most cost-effective therapeutic interventions available. Therefore it is imperative that every person that has contact with the healthcare system should be asked at least annually if they smoke and their response documented. People who smoke should be given brief advice to stop, and an offer of support to help them stop smoking. This can include referral to local or national smoking cessation services, or provision of effective pharmacotherapy and/or behavioural support.

Furthermore, clinical managers have a responsibility to ensure that systems are in place to enable the effective implementation and delivery of the ABCs of smoking cessation within their healthcare setting. Both HCPs and healthcare managers should refer to the Guidelines[4] for detail of their application to clinical practice. From time-to-time as new evidence becomes available these Guidelines will need to be updated.

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