



Smoking Cessation

**Smoking Cessation
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These guidelines should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific clinical procedure or treatment must be made by the physician in light of the circumstances presented by the patient.

Patient population: Adult smokers

Objectives: Provide a framework for care providers to assist patients in smoking cessation. Systematic efforts include the following: 1) Assess and document smoking status of every patient. 2) Provide smoking cessation intervention to all smokers. 3) Treat behavioral/psychological aspects of cigarette addiction with advice and counseling. 4) Treat biologic aspects of cigarette addiction with pharmacological therapies.

Key Points

- **Assessment.** **ASK** all patients about smoking status and assess smoker’s readiness to quit. Smoking status should be documented in the medical record.
- **Treatment.**
 - **ADVISE** all smokers to seriously consider making a quit attempt using a clear and personalized message. Advice as brief as 3 minutes is effective [C*].
 - Offer motivational intervention to those not yet ready to quit using the 4 “R’s” - relevance, risks, rewards, repetition.
 - **ASSIST** those ready to make a quit attempt:
 - Set a quit date. Quit date abstinence is a strong predictor of long term success [C*].
 - Give advice on quitting and provide supplementary materials.
 - Refer to more intensified counseling as appropriate.
 - Prescribe pharmacologic therapy as appropriate. Nicotine replacement therapies and bupropion hydrochloride have both been proven effective [A*].
 - **ARRANGE** follow-up either with phone call or office visit.
 - Prevent relapse by congratulating successes and reinforcing reasons for quitting.
 - Assess any difficulties with pharmacologic therapy.

* Levels of evidence reflect the best available literature in support of an intervention or test:
A=randomized controlled trials; B=controlled trials, no randomization; C=observational trials; D=opinion of expert panel.

Clinical Background

**Clinical Problem
and Clinical Dilemma**

Smoking-related deaths account for a fourth of all deaths in this country. Estimated annual cost of smoking-related medical care was \$50 billion in 1993. Approximately 25% of American men and women continue to smoke. Of these, approximately 70% see a physician each year. A great majority of smokers report a desire to quit smoking and cite physician advice as an important motivator for making a quit attempt [C*].

Only about half of smokers report ever having been asked about smoking or advised to quit. Lack of time, lack of knowledge about counseling and lack of familiarity with current pharmacologic therapies may all contribute to inadequate intervention being done by clinicians. It is therefore imperative that every clinician become comfortable and knowledgeable in an approach to assist patients with smoking cessation.

Rationale for Recommendations

Assessment

All patients should be **asked** about their smoking status and assessed for their willingness to quit. If a patient smokes, this should be documented in the medical record so that intervention can be offered. Techniques to remind physician of a patient’s smoking status include smoking status stickers, listing tobacco use on active problem list or tobacco status as part of vital signs.

Treatment - Counseling

Several factors make health care centers ideal settings for delivery of smoking cessation interventions. As stated above, at least 70% of smokers see a physician each year. As many as 70% of these smokers report a desire to quit and have made at least one serious quit attempt. Smokers also report that advice from a clinician is an important motivator to quit.

(Continued on page 5)

Figure 1. Clinician's Actions to Help Patients Quit Smoking

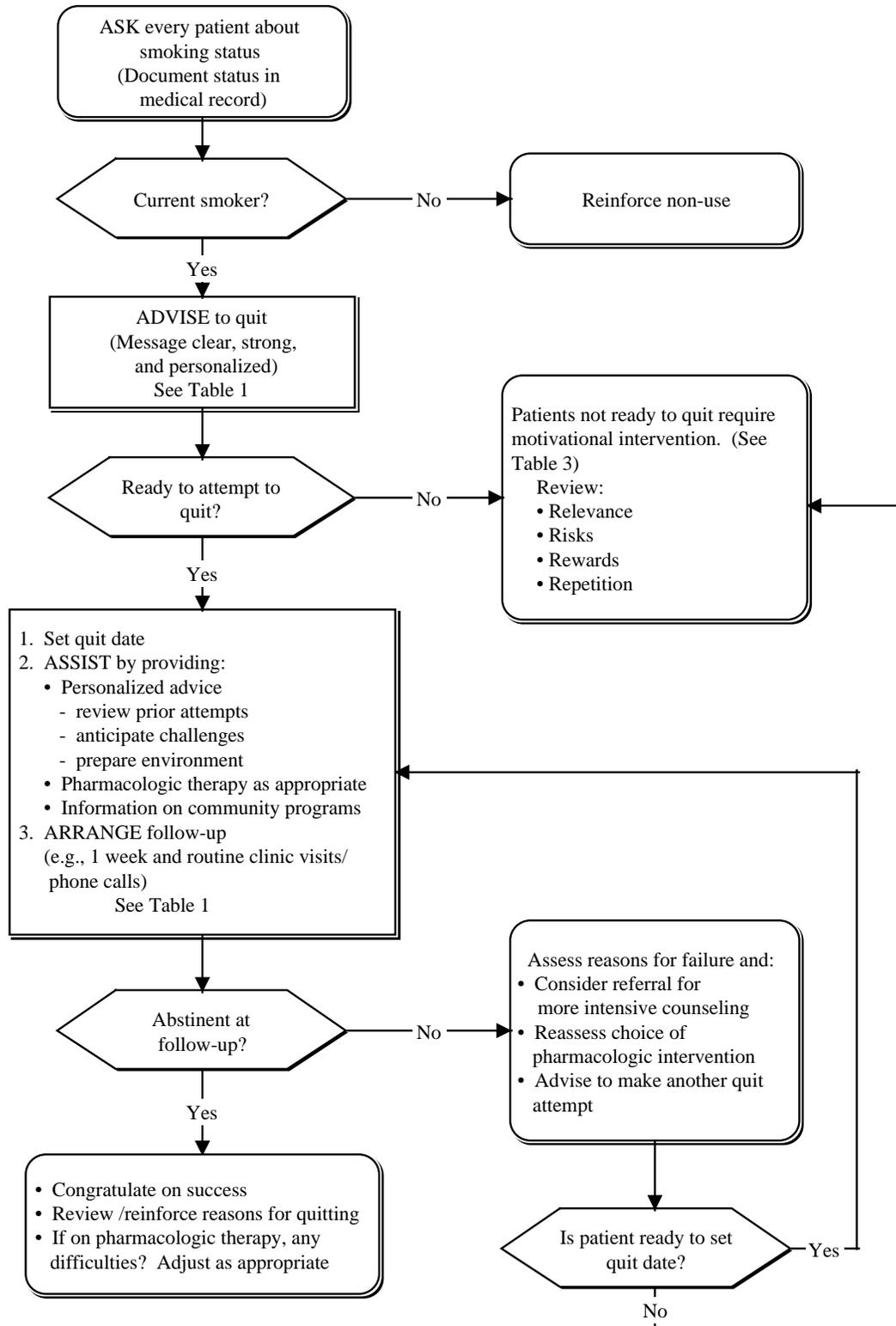


Table 1. Counseling Interventions for Smoking Cessation

<p>ADVISE Advise the patient.</p>	<p>ASSIST Aid the patient in quitting.</p>	<p>ARRANGE Arrange follow-up at the same visit patient sets quit date.</p>
<p>Brief clinician intervention.</p> <p>Advice should be:</p> <ul style="list-style-type: none"> • Clear - “I think it is important for you to quit smoking now, and I will help you.” • Strong - “As your clinician, I need you to know that quitting smoking is the most important thing you can do to protect your current and future health.” • Personalized - Tie smoking to current health/illness, and/or social and economic costs of tobacco, and/or impact on children or others in household. “The frequency of your child’s ear infections is certainly related to your smoking habit.” 	<p>1. Help the patient with a quit plan.</p> <ul style="list-style-type: none"> • Set a quit date and record this on patient’s chart. Ask the patient to mark this on his/her calendar. Quit date abstinence is a strong predictor of long-term success [C*]. • Patient should inform family, friends, co-workers of quit plan and request support. • Have patient remove cigarettes from home, car and workplace environments. • Review previous quit attempts. • Anticipate challenges, particularly during the first critical few weeks, i.e., nicotine withdrawal symptoms. <p>2. Consider referral to intensive counseling (multi-session, group or individual). Referral considerations include:</p> <ul style="list-style-type: none"> • Multiple, unsuccessful quit attempts initiated by brief intervention. • Increased need for skill building (coping strategies/problem solving), social support and relapse prevention. • Psychiatric co-factor, such as depression, eating disorder, anxiety disorder, attention deficit disorder, or alcohol abuse. <p>3. Encourage pharmacologic therapies as appropriate. See Pharmacologic Therapies section and Table 2</p> <p>4. Give key advice on successful quitting.</p> <ul style="list-style-type: none"> • Abstinence. Total abstinence is essential [D*], not even a single puff after quit date. • Alcohol. Drinking alcohol is strongly associated with relapse[C*]. • Other smokers in the household. The presence of other smokers in the household, particularly a spouse, is associated with lower success rates [C*]. Patient should consider quitting with significant other, or develop specific plan to stay quit in a household where others still smoke. <p>5. Provide supplementary educational materials</p> <ul style="list-style-type: none"> • UMHS patient Education materials: <ul style="list-style-type: none"> - "How to use your nicotine product" - "Tips for quitting smoking" • National Cancer Institute pamphlet - “Clearing the Air” 	<p>1. Schedule follow-up. Contact either in person or by telephone. If the patient is scheduled to return for a clinic appointment, follow-up cessation counseling should be done at that time. Other follow-up may be done over the telephone.</p> <p>2. Timing. Follow-up contact should occur soon after the quit date, preferably during the first week [C*]. Extending treatment contacts over a number of weeks appears to increase cessation rates [D*]. Further follow-up as needed.</p> <p>3. Actions during follow-up:</p> <ul style="list-style-type: none"> • If abstinent: <ul style="list-style-type: none"> – Congratulate success and stress importance of remaining abstinent. – Review benefits to be derived from quitting. – Inquire regarding problems encountered and offer possible solutions to maintaining abstinence. • If smoking: <ul style="list-style-type: none"> – Review circumstances and elicit re-commitment to total abstinence. – Remind patients that a lapse can be used as a learning experience. – Identify problems, suggest alternative behaviors and anticipate challenges in the immediate future. – Re-assess choice of pharmacologic intervention as needed. – Consider referral to a more intense or specialized program.

Table 2. Dosing and Administration Of Nicotine Replacement Therapy and Bupropion

Agent	Available Dosages/Cost	Dosing	Duration	Instructions	Side Effects
<p>Transdermal nicotine patch</p> <p>Continuous delivery of nicotine provides constant blood levels. Requires 2-3 days to achieve maximal serum levels.</p>	<p>Over-the-Counter</p> <p>Nicoderm CQ 21, 14, 7 mg/ 24 hr All: \$27 / 7</p> <p>Nicotrol 15mg/16 hr \$27 / 7</p> <p>Other Generic Nicotine Transdermal Patches 7, 14, 21 mg - \$27 / 7</p>	<p>>10 cigs per day, start with highest dose of given brand.</p> <p>5 - 10 cigs per day, use mid-range dose [D*].</p>	<p>8 weeks. No increase in cessation with longer duration [A*]</p> <p>Suggest:</p> <ul style="list-style-type: none"> • Weeks 1-4: highest dose of given brand • Weeks 4-6: next lowest dose of brand • Weeks 6-8: lowest dose <p>Taper recommended for psychological reasons, but does not increase efficacy [A*].</p>	<p>No smoking while on patch, rotate to new hairless skin site each day, remove before bed if insomnia. May consider supplement with 2 mg gum first 48 hrs while plasma levels building [D*].</p>	<p>Skin reactions including pruritus, edema, rash; sleep disturbance.</p>
<p>Nicotine Gum (polacrilex):</p> <p>Maximum nicotine levels achieved within 20-30 minutes of chewing.</p>	<p>Over-the-Counter</p> <p>Nicorette - 2 and 4 mg sticks</p> <p>2 mg - \$47 / 108 pack 4 mg - \$53 / 108 pack</p> <p>Generic nicotine polacrilex (Watson) 2 mg - \$40 / 108 4 mg - \$45 / 108</p>	<p>≥ 20 cigs per day, use 4 mg stick q one hour [A*].</p> <p>< 20 cigs per day, use 2 mg stick q one hour.</p>	<p>2-3 months [D*].</p>	<p>Chew until spicy flavor begins, then “park” between cheek and gum for absorption. Remove after 1/2 hour. Acidic beverages decrease absorption.</p>	<p>Jaw fatigue, hiccups, belching, nausea.</p>
<p>Nicotine Nasal Spray</p> <p>Maximum levels of nicotine reached within 5 - 10 minutes. Levels begin to fall within 30 minutes of dose. Most closely mimics nicotine delivery pattern of cigarette.</p>	<p>Prescription</p> <p>Nicotrol NS 1 mg = 1 spray each nostril = 1 dose</p> <p>1-10 ml spray - \$43</p>	<p>Spray q 30-60 minutes prn craving. Maximum 40 doses/day.</p>	<p>2-3 months [D*].</p>	<p>Careful instruction on spray technique (see patient education handout).</p>	<p>Nasal irritation / rhinorrhea (98% of pts), sneeze, cough.</p> <p>Decreased severity of effects after first week.</p>
<p>Nicotine Inhaler</p> <p>Nicotine absorbed through mouth and throat (not lungs) when smoker “puffs” on cylinder delivering nicotine and menthol. Peak nicotine levels in 20 minutes.</p>	<p>Prescription</p> <p>Each inhaler cartridge with 10 mg nicotine</p> <p>Nicotrol inhaler: 42 cartridge / 1 mouthpiece - \$43</p>	<p>80 puffs =1 mg Requires 3-4 puffs /minute for 20-30 minutes. Use prn or q 1 hour. Each cartridge good for approx. 20 minutes of continuous puffing.</p>	<p>2-3 months [D*].</p>	<p>Must puff more frequently than cigarettes.</p>	<p>Cough, mouth and throat irritation.</p>
<p>Bupropion hydrochloride SR (Zyban®)</p>	<p>Prescription</p> <p>150 mg SR \$22/week or \$157/7 weeks at BID dose</p>	<p>150 mg/day for 3 days, then 150 mg BID</p>	<p>7 weeks</p>	<p>Start 1 week before quit date</p>	<p>Insomnia and dry mouth.</p> <p>Contraindications: Seizure disorder, major head trauma, eating disorder, or on Wellbutrin® or MAO inhibitors.</p>

January 2001 Average wholesale price (AWP) drug costs rounded to the nearest dollar.

* Levels of evidence reflect the best available literature in support of an intervention or test:

A = randomized controlled trials; B = controlled trials, no randomization; C = observational trials; D = opinion of expert panel.

**Table 3. "4 R's" of Motivational Intervention
For Patients Not Yet Ready to Make a Quit Attempt**

Relevance

Tie smoking to current health/illness, and/or social and economic costs of tobacco use, motivation level/readiness to quit, and/or the impact of smoking on children and others in the household. For example, "Your child's asthma flare is certainly related to your smoking habit. It would be in your child's best interest for you to set a quit date in the near future."

Risks

Ask patient to identify potential negative consequences of smoking:

- Acute risks - shortness of breath, exacerbation of asthma, impotence, infertility
- Long term risks - heart attacks, strokes, lung and other cancers, COPD
- Environmental risks - increased risk of lung cancer in spouse and children; higher rates of smoking by children; increased risk for SIDS, asthma, middle ear disease and respiratory infection in children

Rewards

Ask patient to identify 1) any positive benefits they currently derive from smoking. Discuss alternative methods for filling the potential void after cessation. 2) the potential rewards of smoking cessation including improved health, improved taste, money saved, healthier children, freedom from addiction.

Repetition

Repeat above strategies every time an unmotivated patient has a visit.

Treatment - Counseling (continued)

The brief clinic intervention is known as the "4-A" model: Ask, Advise, Assist, Arrange. Asking is the key component of the initial assessment and encourages consistent and accurate identification of all smokers (see Assessment, page 1). Once it is established that a patient smokes, clinician advice as brief as 3 minutes is effective in smoking cessation [C*]. The physician then assesses patient readiness to quit. Assisting with the actual quit plan and Arranging follow-up contact then ensue for those patients ready to quit. See Table 1 for specific counseling techniques under the 4-A plan.

Results of the Public Health Service guideline panel meta-analysis showed that brief intervention increases long-term quit rates. In addition, there is a strong dose response relationship between the intensity of person-to-person contact and successful outcomes [A*]. When providing counseling, health care providers should be aware that barriers to smoking cessation include, but are not limited to, severe withdrawal during previous quit attempts, the presence of other smokers in the home or workplace, stressful life circumstances, psychiatric co-morbidities (i.e. depression, alcoholism), and low motivation. Identifying these barriers during initial assessment will help to provide a tailored approach during counseling. In addition to clinician counseling in the office, intensive counseling (frequently defined as a minimum of weekly meetings for the first 4 - 7 weeks of cessation) significantly enhances cessation rates. However, participation in intensive

counseling is based largely on patients' motivation to quit and ability to pay [C*].

Typically, only a minority of smokers are willing to quit at any point in time, and many clinicians will spend more time promoting the motivation to quit than assisting in quit attempts. See Table 3 for the 4 R's of Motivational Intervention.

Treatment - Pharmacologic Therapies

Both nicotine replacement therapy (NRT) and bupropion hydrochloride (Zyban®) have been shown to significantly improve cessation rates [A*]. Therefore, pharmacologic therapy should be recommended to all patients except in the presence of special circumstances (see Special Populations). To date, bupropion hydrochloride is the only non-nicotine product with FDA approval for smoking cessation. Non-FDA approved agents with potential benefit in smoking cessation include nortriptyline and clonidine. The following sections discuss choosing among the various forms of NRT, bupropion, and other agents.

Nicotine replacement therapies (NRT). NRT has been used for many years, but alternative methods of delivery continue to be developed and new combinations are being tried.

Pharmacologic properties of nicotine. A smoker absorbs 1-3 mg of nicotine per cigarette regardless of nicotine-yield ratings on the box. Nicotine results in increased release of catecholamines, vasopressin,

endorphins, cortisol and ACTH. These biochemical changes lead to addiction as smokers experience pleasure, increased arousal, decreased anxiety, and decreased hunger with increased metabolic rate. Within hours of cessation of cigarettes, smokers begin to experience the nicotine withdrawal syndrome that peaks at 48 hours. Symptoms of nicotine withdrawal include: craving, anxiety, restlessness, irritability, depressed mood, increased appetite and difficulty concentrating.

Demonstration of efficacy. The various nicotine replacement therapies (NRT) significantly decrease symptoms of the withdrawal syndrome as smokers abruptly stop smoking [A*]. The different formulations of NRT provide alternate methods for delivery and have slightly different onset of action and duration. In meta-analyses, cessation rates with transdermal nicotine range from 15-31 per hundred with a trend toward decreased efficacy in the most highly dependent smokers (≥ 32 cigarettes / day or Fagerstrom nicotine dependence score > 6) [A*]. Nicotine gum studies demonstrate a similar range of cessation rates with greatest efficacy seen with the 4mg gum in highly dependent smokers [A*]. Nasal spray cessation rates range from 26-28 per hundred, also with greatest efficacy in the most dependent smokers [A*]. Inhaler studies report cessation rates similar to that of the nasal spray [A*].

Only the patch has proven efficacy with minimal counseling, although efficacy is improved with intensive counseling. All nasal spray and inhaler studies have been performed with concomitant intensive counseling.

Level of dependence and dosing. In very highly dependent smokers, 4 mg gum is superior to 2 mg and most effective with counseling [A*]. High dose patch therapy (i.e., 44 mg/24hr = two patches) is safe and decreases withdrawal symptoms in highly dependent smokers, but does not increase long term cessation rates [A*]. Those smoking 5 or fewer cigarettes per day have been shown to have few symptoms of nicotine withdrawal when they quit [C*] and may not require nicotine replacement therapy [D*].

For those using nicotine gum, spray or inhaler, it is important that they are instructed in technique and dosing frequency so that underdosing does not occur. See Table 2 for dosing and administration recommendations. You may also provide the patient with the attached educational handout, "How to Use Your Nicotine Product".

Choosing among various nicotine replacement therapies. A single randomized study comparing the 4 nicotine replacement therapies showed similar abstinence rates at 12 weeks despite the fact that the nasal spray and inhaler groups had lower compliance with prescribed methods of use. Therefore, choice of NRT may be tailored to patients' preferences, side effects and previous attempts. The transdermal patch offers convenience, minimal instruction and minimal side effects. The continuous transdermal release of nicotine from the patch does not produce the peaks and troughs that are similar to cigarette smoking. Alternatively, gum, spray or inhaler therapy may allow for a "quick fix" when cravings occur; this more

closely simulates the nicotine peaks of actual cigarette smoking. (It is of note that the reinforcing effects of a bolus of nicotine have been suggested to contribute to the habitual effects of nicotine. Eight to 25% of gum users, 10-43% of spray users, and 16% of inhaler users who quit smoking were still using the nicotine replacement therapy beyond 6 months [A*].)

Combining nicotine replacement therapies. At least 3 randomized, controlled trials have now examined the efficacy of combining either patch plus gum, patch plus inhaler or patch plus nasal spray. While all show significantly improved early (6 week) abstinence rates, only the patch plus spray showed improved effectiveness over the patch alone at one year (27 per 100 versus 11 per 100.) One-third of those abstainers at one year were still using the nasal spray [A*]. Given the additional cost of dual therapies and limited benefit, this approach is best reserved for highly addicted smokers with several previous failed quit attempts [D*].

Patients with cardiovascular disease. The patch and nasal spray have demonstrated safety in patients with stable coronary artery disease. [A] These agents have not been evaluated in patients with unstable angina, recent myocardial infarction, uncontrolled congestive heart failure or unstable arrhythmia. While patients should be reminded not to smoke while using these products, studies have shown no increase in cardiac event rates when patients smoke while wearing the patch [C*]. Nicotine gum and inhaler have not been specifically studied in this population.

Bupropion hydrochloride (Zyban®, Wellbutrin®). Bupropion was initially developed and marketed as an anti-depressant medication (Wellbutrin®). The mechanism by which bupropion aids smoking cessation is unknown, but is believed to effect central dopaminergic and noradrenergic pathways involved in nicotine addiction and withdrawal. In the single placebo-controlled trial published to date, cessation rates at one year were 23 per hundred smokers.

Dosing and administration. The manufacturer recommends initiation of drug therapy 1 week prior to quit date. The recommended dosage schedule includes a starting dose of 150 mg per day for three days, then increasing to twice per day. However, initial studies revealed no significant differences in smoking cessation among patients receiving total daily doses of 150 or 300 mg at 6 or 12 months [A*]. Therefore, patients who cannot afford or tolerate 300 mg/day may achieve successful results on 150 mg/day. The appropriate total duration of bupropion has not been studied. In the single published study, smokers took bupropion for 7 weeks. The cost of one month of Zyban® therapy is approximately \$118 (January 2001 Average Wholesale Price rounded to the nearest dollar).

Contraindications. Bupropion hydrochloride (Zyban®) is contraindicated in patients with seizure disorder, past or present eating disorder, and in patients being treated with Wellbutrin® or MAO inhibitors. To reduce seizure risk, the manufacturer recommends not exceeding maximum

daily dose of 300 mg or single dose of 150 mg. Doses should be taken at least 8 hours apart. It should be used with caution in patients with predisposition to seizure (i.e., head trauma, alcohol withdrawal, concomitant use with other medications that lower seizure threshold - antipsychotics, antidepressants, theophylline.)

Choosing between bupropion hydrochloride or nicotine replacement. A single trial sponsored by the manufacturer of Zyban, compared bupropion, bupropion/nicotine patch combination, nicotine patch and placebo. At 1 year, bupropion and combination therapy had higher rates of smoking cessation than either the patch alone or placebo. (30 per hundred smokers with bupropion; 16 per hundred smokers with the nicotine patch.) There was no significant benefit of combination therapy over bupropion alone. The study suffered from an intervention discontinuation rate of 35%.

This single study suggests that bupropion may be superior to nicotine patch therapy [A*]. No conclusions may be drawn about the superiority of bupropion over other nicotine products. Given this single study, it remains reasonable to consider patient preferences, previous quit attempt experiences and cost when choosing among pharmacologic therapies [D*].

Other pharmacologic therapies. A meta-analysis of 6 placebo-controlled trials of clonidine revealed a pooled odds ratio for benefit over placebo of 1.89.(CI 1.30-2.74) In only one of the 6 trials did clonidine show a statistically significant effect. Dry mouth and sedation were common side effects. A single placebo-controlled study of nortriptyline has shown 6 month cessation rates of 14 per hundred with use of nortriptyline at a targeted dose of 75mg. (Dose achieved by 85% of subjects.) Sixty-four percent of subjects using nortriptyline complained of dry mouth.

To date, neither drug has FDA approval as an aid in smoking cessation. Given the single nortriptyline study and marginal effectiveness of clonidine, these drugs may best be used as second-line agents when patients cannot take or do not wish to take either NRT or bupropion [D*].

Effect of smoking cessation on other drugs. Properties of smoke other than nicotine (benzopyrenes) increase metabolism of other drugs. In particular, theophylline half-life will increase within one week after smoking cessation. In addition, plasma caffeine concentrations increase greatly with cessation. Patients should be made aware that baseline caffeine intake may have greater physiologic effect and may be misinterpreted as nicotine withdrawal.

Weight Gain

Most smokers who quit will gain weight, but the majority will gain less than 10 pounds [C*]. The physician should acknowledge this and encourage patients to adopt a healthy lifestyle that includes moderate exercise and healthy diet. However, very restrictive dieting at the same time may be counterproductive [C*]. A reminder to the patient to work

on one issue at a time and that you will assist the patient with any weight gain issues as needed may be helpful [D*].

Although bupropion hydrochloride at a dose of 300mg/day had a lower percentage weight gain after 7 weeks of therapy as compared to placebo, this effect was not sustained at 6 months and therefore is not likely to be any better than NRT for prevention of post-cessation weight gain [A*]. Nicotine gum may delay post-cessation weight gain, but the weight is usually gained once gum use ceases [C*].

Special Populations

Pregnant patients. Intensive counseling interventions increase quit rates during pregnancy [A*]. If intensive counseling is not possible, brief in-office counseling still has a beneficial effect and should be offered. No studies have addressed the safety of nicotine replacement therapy or bupropion hydrochloride in pregnancy. FDA pregnancy risk categories are: Zyban® - category B, nicotine transdermal, spray and inhaler - category D, nicotine gum - category C.

Adolescents. The above treatment strategies will apply to most adolescents who smoke. Clinicians should personalize the encounter to the individual adolescent's situation. Nicotine replacement therapy may be considered. Bupropion has been studied only in adults.

Racial and Ethnic Minorities. Smoking cessation treatment has been shown to be effective across both racial and ethnic minorities [A*]. Little research has examined intervention specifically designed for a particular ethnic or racial group; however, it is recommended that, when possible, smoking cessation treatment should be tailored to the specific ethnic or racial population with which they are used [C*]. It is essential that counseling or self-help materials be conveyed in a language understood by the smoker.

Psychiatric co-factors. If presence of psychiatric co-factors, such as depression, eating disorder, anxiety disorder, attention deficit disorder, or alcohol abuse, strongly consider referral to intensive counseling [B*]. Treatment of co-factors must be undertaken in preparation for smoking cessation.

Non-cigarette tobacco users. Spit tobacco users should be identified and strongly urged to quit tobacco use, using the same counseling interventions recommended for smokers [A*]. The clinicians should provide a clear message that the use of spit tobacco is not a safe alternative to smoking. However, several studies have found that use of nicotine gum and nicotine patch have not increased the abstinence rates in spit tobacco users.

Users of cigars, pipes, and other non-cigarette combustible forms of tobacco should be identified, strongly urged to quit, and offered the same counseling interventions recommended for smokers [C*].

Gender concerns. Smoking cessation treatments are shown to benefit both women and men [B*]. Two studies

suggest that some treatments are less efficacious in women than in men. Women may face different stressors and barriers to quitting (e.g., greater likelihood of depression, greater weight control concerns, and hormonal cycles). This research suggests cessation programs that address these issues would be more effective in treating women [D*]. Few studies have examined programs targeted to one gender.

Older Smokers. Smoking cessation treatments have been shown to be effective for older adults and should be provided [A*]. Smokers over the age of 65 can both quit and benefit from abstinence. Due to particular concerns of this population (e.g., mobility issues) the use of proactive telephone counseling appears to be promising as a treatment modality.

Hospitalized Smokers. A few studies comparing augmented smoking cessation with usual care of hospitalized patients suggest smoking cessation treatment to be effective [B*]. Additional treatment included self-help brochures or audio/video tapes, chart prompts reminding physicians to advise for cessation, pharmacological therapy, hospital counseling, and post-discharge counseling telephone calls. Hospitalization should be used as a springboard to promote smoking cessation.

Controversial Areas

Other cessation aids. There is currently insufficient evidence to recommend the use of additional modalities such as hypnosis or laser as aids to smoking cessation. A meta-analysis of trials of acupuncture for smoking cessation failed to show any benefit over sham acupuncture at 12 months [A*].

Information the Patient Needs to Know

Supplementary Information Materials

The UMHS produces two useful patient education handouts:

- "How to use your nicotine product"
- "Tips for quitting smoking"

Additionally, the National Cancer institute produces the pamphlet, "Clearing the air" (NIH Pub. 94-1647). You may obtain 20 free copies at a time by calling 1 800-4-CANCER (1-800-422-6237).

Preparation and Effects

Review with patients the following additional information about preparing for quitting and related factors.

- **Review handout(s).** The handout(s) provide many useful tips to help you with your quit attempt. Read these and make plans before your quit attempt.
- **NRT - if applicable.** Nicotine replacement therapies are most effective when used correctly. If you have any uncertainties about proper use, this should be clarified.

- **Caffeine.** You are likely to perceive greater effects from your usual caffeine consumption after you quit smoking and may need to decrease your intake.
- **Theophylline.** If you take theophylline, levels should be checked approximately 2 weeks after you quit smoking.

Organizing a Health Care Site to Support Smoking Cessation Efforts

Successful intervention programs require coordinated efforts at a health care site. Several clinic personnel may be involved in the operational steps of "Asking, Advising, Assisting, and Arranging". Clinicians should help their clinics develop a coordinated plan of tasks and who will perform them. Some specific areas for planning include:

- **Record smoking status.** Institute an office system to identify all smokers:
 - Identify where smoking status will be recorded. Options include making smoking status part of vital signs, placing smoking status stickers on charts, or including smoking status on a section of the Problem Summary List.
 - Determine who will routinely ask and record the information.
 - Instruct staff regarding their roles in documentation.
 - Reinforce the value of the documentation.
- **Smoking cessation follow-up.** Develop a system and assigned role(s) at the health care site to:
 - Ensure the availability of patient education materials on smoking cessation.
 - Establish procedures for clinicians to provide a designated follow-up person with information on patients who are setting quit dates. Coordinate follow-up phone calls in conjunction with quit dates.
 - Provide follow-up cessation counseling as needed at subsequent clinic visits.
 - Refer patients to more intensive counseling programs for smoking cessation, as needed.

Strategy for Literature Search

The literature search for this project was conducted prospectively.

The development of the initial UMHS Smoking Cessation Guideline began with a literature search performed by the Agency for Health Care Policy and Research and reported in Smoking Cessation, Clinical Practice Guideline Number 18 (AHCPR Publication No. 96-0692, 1996) reviewed literature from 1975 - 1994. The guideline team then updated the AHCPR literature search through a Medline search of literature 1995 - 1997. This search used the major keywords of: smoking/[prevention & control], smoking cessation, tobacco use disorder/[prevention & control, rehabilitation]. The search was restricted to literature that was also referenced as either guidelines or controlled trials,

as studies of humans, and as published in English. The search was conducted in components each keyed to a specific causal link in a formal problem structure (available upon request). The search was a single cycle.

In 2000 the US Public Health Service published *Treating Tobacco Use and Dependence* (<http://www.surgeongeneral.gov/tobacco/smokesum.htm>), an update of the 1996 AHCPR Smoking Cessation Clinical Practice Guideline. The PHS 2000 document reviewed literature from 1995 through 1998. The current update of the UMHS Smoking Cessation Guideline began with the literature search performed by PHS for its update. This literature was supplemented with more recent publications known to the authors.

Conclusions were based on prospective randomized clinical trials (RCTs) if available, to the exclusion of other data. If RCTs were not available, observational studies were admitted to consideration. If no such data were available for a given link in the problem formulation, expert opinion was used to estimate effect size.

Disclosures

The University of Michigan Health System endorses the Guidelines of the Association of American Medical Colleges and the Standards of the Accreditation Council for Continuing Medical Education that the individuals who present educational activities disclose significant relationships with commercial companies whose products or services are discussed. Disclosure of a relationship is not intended to suggest bias in the information presented, but is made to provide readers with information that might be of potential importance to their evaluation of the information.

None of the members of the Smoking Cessation Guideline Team nor the consultant have relationships with commercial companies whose products are discussed in this guideline. (The members of these teams are listed on the front page of this guideline.)

Annotated References

Clinical Practice Guideline: Treating Tobacco Use and Dependence. Washington, D.C.: US Public Health Service, 2000, Gov. Publication No. AHRZ 00-0032 (Internet: <http://www.surgeongeneral.gov/tobacco/smokesum.htm>)

This 108 page guideline is an updated version of the 1996 Smoking Cessation Clinical Practice sponsored by the Agency for Health Care Policy and Research (now the Agency for Healthcare Research and Quality [AHRQ]), U.S. Department of Health and Human Services. The original guideline reflected the extant scientific research literature published between 1975 and 1994. The updated guideline adds literature published between 1995 and 1998. Findings include: multiple efficacious treatments exist, these treatments can double or triple the likelihood of long-term cessation, many cessation treatments are appropriate for primary care settings, and the use and impact of cessation treatments can be increased by supportive health system policies. Sections address screening and assessment, treatment structure and intensity, treatment elements, and special populations and special topics. This is the single most comprehensive practical reference currently available on the topic of smoking cessation.