Review Article

Smoking Cessation in Cardiovascular Patients

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Cigarette smoking acutely increases the rate-pressure product and myocardial blood flow at rest, decreases myocardial flow reserve, impairs endothelium-dependent vasodilation, and impedes endogenous fibrinolysis.[1-3] It is associated with endothelial dysfunction in healthy young adults, suggesting that it contributes to the early development of coronary atherosclerosis.[4] This association might not be a result of the effects of smoking *per se*, but instead of behaviours that are prevalent among smokers. Passive exposure to environmental tobacco smoke causes endothelial dysfunction in healthy young adults with no history of active smoking[5-7] and increases coronary atherosclerosis in animal models.[8] Smoking increases the risk of incident coronary heart disease (CHD) especially along with other risk factors such as diabetes.[9,10] It accelerates the angiographic progression of existing coronary atherosclerosis and promotes the formation of new atherosclerotic lesions.[11,12] It can trigger transient myocardial infarction in patients with established coronary disease[12] and is a risk factor for sudden cardiac death.[13-16] The risks are higher in women than men, especially in younger cohorts. Women who smoke have twice as high a risk of myocardial infarction and lung cancer as do men. The risk of myocardial infarction and stroke is further exacerbated in women on oral contraceptives.[15,17,19] Smoking cessation substantially reduces these risks.[20-21]

The adverse cardiovascular effects of smoking are reversible, at least to some extent. A recent meta-analysis[22] of 20 studies reported that, among patients with CHD, those who quit smoking have a 36% reduction in the relative risk of mortality compared with patients who continue smoking. The size of this beneficial effect is similar across subgroups defined by sex, age, type of cardiac event at index, and other factors. Furthermore, the patient who has recently developed a clinical illness is very motivated to change, and several studies have shown that intervention in this "teachable moment" can be very effective. Thus, the provision of smoking cessation advice is associated with a 50% long-term (more than 1 year) smoking cessation rate in patients who have been hospitalised with a coronary event, and even modest telephone-based counselling can increase this percentage to ≥70% in a particularly cost-effective manner.[23,24] In Greece specifically, 45% of the population are estimated to be current smokers.

A total ban in smoking in enclosed public places has come into force in England, Ireland, and France, while Germany, the Netherlands, Austria, Italy and Spain have all made provision, in some shape or form, for smoking in pubs and hospitality outlets. Separate smoking areas are provided in Belgium, Cyprus, the Czech Republic, Estonia, France, Latvia, Lithuania, Slovenia, Italy, Malta and Sweden. In Greece smoking areas have been available in public

places, although the air ventilation in most places is poor and non-smokers are often exposed to environmental smoke.[7] Passing laws to ban smoking in public places is a vital step towards a smoke-free Europe. The decision by the members of the European parliament to scrap laws to make their workplace smoke-free creates great concern about the implementation of these much needed measures in Europe, and especially in Greece, which is the country stigmatised as Europe's reigning champion in adult-smoking prevalence. Smoke-free environments in Greece are scarce. Despite existing legislation[25] that forbids smoking in all educational institutes, environmental tobacco smoke is evident in establishments from primary schools to university campuses, mainly because of the non-compliance of teachers, staff, and students. Even healthcare services are not always smoke-free, despite being declared to be so since 2002. Medical doctors and nursing staff can be noticed smoking in rest rooms and corridors, posing an obvious threat to their patients' fragile health; some pharmacists provide medication over the counter while puffing on cigarettes. One need not ponder over compliance in designated smoke-free areas in hospitality venues, since, as stated previously, compliance with such legislation in Greece is completely non-existent. Passing laws banning smoking in public places is one thing, but as painfully seen in Greece, enforcing them is another.[26]

There are still people who do not believe that cigarette smoking is an addictive disorder. Although it should be obvious to cardiologists that a combination of pharmacotherapy and counselling is the best way to help their patients stop smoking, survey data indicate that many of these practitioners might not be intervening effectively in this pernicious addiction. A European study[27] indicated that cardiovascular specialists are reluctant to take the time to intervene in tobacco dependence, and are less likely than lung physicians to advise their patients to stop smoking and to prescribe medications to treat tobacco dependence. Like other specialists, many cardiologists lack confidence in their smoking cessation counselling and pharmacotherapy skills, and this is associated with a decreased likelihood of intervention.[28]

The disease model

The disease model seems to provide a rational framework for understanding the compulsive use of nicotine, the difficulty of quitting smoking, the difficulty of maintaining cessation and the danger of relapse after quitting, as well as the necessity for comprehensive and intensive treatment for smokers. One way to evaluate whether or not chronic nicotine use is an addictive disorder is to use the diagnostic criteria of DSM-IV for substance dependence[29] (Tables 1 & 2). These

Table 1. Addiction (termed *substance dependence* by the American Psychiatric Association) is defined as a maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring any time in the same 12-month period. (Modified from Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association, 2000.)

Diagnostic criteria for substance dependence
1. Tolerance, as defined by either of the following:
(a) A need for markedly increased amounts of the substance to achieve intoxication or the desired effect
or
(b) Markedly diminished effect with continued use of the same amount of the substance.
2. Withdrawal, as manifested by either of the following:
(a) The characteristic withdrawal syndrome for the substance
or
(b) The same (or closely related) substance is taken to relieve or avoid withdrawal symptoms.
3. The substance is often taken in larger amounts or over a longer period than intended.
4. There is a persistent desire or unsuccessful efforts to cut down or control substance use.
5. A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects.
6. Important social, occupational, or recreational activities are given up or reduced because of substance use.
7. The substance use is continued despite knowledge of having a persistent physical or psychological problem that is likely to have been caused or exacerbated by the substance (for example, current cocaine use despite recognition of cocaine-induced depression or continued drinking despite recognition that an ulcer was made worse by alcohol consumption).

Table 2. Diagnostic criteria for nicotine withdrawal. (Modified from American Psychiatric Association, 2000.)

A. Daily use of nicotine for at least several weeks.
B. Abrupt cessation of nicotine use, or reduction in the amount of nicotine used, followed within 24 hours by four (or more) of the following signs:
   (1) dysphoric or depressed mood
   (2) insomnia
   (3) irritability, frustration or anger
   (4) anxiety
   (5) difficulty concentrating
   (6) restlessness
   (7) decreased heart rate
   (8) increased appetite or weight gain
C. The symptoms in B cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
D. The symptoms are not due to a general medical condition and are not better accounted for by another mental disorder.

criteria apply to all addictive substances (e.g. alcohol, opioids, cannabis, amphetamines) and can be grouped into four categories that conveniently begin with the letter C (Table 3):

1. Compulsion: the intensity with which the desire to use a chemical overwhelms the patient's thoughts, feelings and judgment.
2. Control: the degree to which patients can (or cannot) control their chemical use once they have started using.
3. Cutting down: the effects of reducing chemical intake; withdrawal symptoms.
4. Consequences: denial or acceptance of the damage caused by the chemical.

Nicotine use shares much in common with other drugs of abuse in terms of initiation of use, cessation and relapse and response to behavioural and pharmacological treatment. However, there are some special features of nicotine use that make it especially dangerous: 1) nicotine products are legal and as such they are legally accessible and socially sanctioned; 2) in contrast to other legal drugs (alcohol or prescription drugs), impairment from the intoxication syndrome resulting from use of nicotine products is typically mild and very short-lived (usually confined to the very beginning); 3) they may be used openly in designated areas—the restrictions that are placed on smokers follow mainly from concerns about harm to others and not the impairment of the user (a primary concern attached to other substances); 4) smokers

Table 3. Assessing nicotine dependence with interview (modified from Miller, Nicotine addiction as a disease, 1991).

Assessing nicotine addiction using the "four Cs"
Compulsion:
Do you ever smoke more than you intend?
Have you ever neglected a responsibility because you were smoking, or so you could smoke?
Control:
Have you felt the need to control how much you smoke but were unable to do so easily?
Have you ever promised that you would quit smoking and bought a pack of cigarettes that same day?
Cutting down (and withdrawal symptoms):
Have you ever tried to stop smoking? How many times? For how long?
Have you ever had any of the following symptoms when you went for a while without a cigarette: agitation, difficulty concentrating, irritability, mood swings? If so, did the symptom go away after you smoked a cigarette?
Consequences:
How long have you known that smoking was hurting your body? If you continue to smoke, how long do you expect to live? If you were able to quit smoking today and never start again, how long do you think you might live?

can carry their cigarettes with them, so the nicotine habit becomes associated with places, situations and emotional states and it is difficult to control its use.

Assessment

Proper assessment is an integral step in the development of an individualised treatment plan. Patterns of use and behaviour indicative of a dependence syndrome, degree of dependence, severity of withdrawal symptoms, attitudes about smoking, psychiatric history, intellectual functioning, substance abuse history, may be more important than the simple fact of the subject's smoking or not at the time of assessment. For example, if a person with a history of CHD who suffers from depression[30] and has been unsuccessful in prior attempts at treatment is not fully assessed and treated accordingly, a treatment failure would be almost certain, even though he/she might be given the same education on nicotine use as other patients with a similar history. The goals of assessment are: a) to gather information so as to develop an individualised treatment plan; b) to match patients to appropriate treatments; c) to monitor the progress and effectiveness of treatment. The five-step model proposed by Allen and Mattson[31] for psychoactive substance use disorder, which is applicable for nicotine use as well and applies to children, adolescent and adults, involves:

1) ***Screening*****,** so as to determine in a time- and cost-efficient manner if a potential problem exists and requires further evaluation. This stage can be completed by the clinician, who has to assess both smoking status and motivation to quit. Physicians[32] who feel comfortable discussing psychological issues with their patients may prefer this approach, which documents a DSM-IV based diagnosis of nicotine dependence (Table 2).[33] An example of a more formal and extensive psychometric screening tool is the Cigarette Dependence Scale,[34] according to ICD-10, DSM-III-R, and DSM-IV diagnostic tools (Table 4, not standardised for the Greek population). A word of caution: by their nature, self-report measures allow respondents to strategically alter their true responses to suit their particular self-presentation motives. Under most circumstances, respondents wish to present themselves in a socially desirable way and, therefore, might alter their true responses to appear more "normal" or acceptable to the clinician. Researchers or clinicians who administer a questionnaire to a particular group of respondents might have certain expectations (sometimes based on social stereotypes) about that group and how it should respond to the measures, so they tend to interpret a person's responses falsely. Good training is essential. In addition to paper and pencil techniques and screening via interview, biological screening can also be used. It must be pointed out that biological testing for nicotine use can specify only if use has occurred within a certain time frame, i.e. that the substance was used recently. The role of biological testing in tobacco use is limited to verifying abstinence for research in which treatment interventions are validated. Nicotine use can be detected in expired air, saliva, hair, urine and blood.[35] It usually involves the sample analysis for the presence of carbon monoxide, thiocyanate and cotinine,[36] with a preference towards urine testing as larger samples are easier to collect.

2) ***Diagnosis***, to determine if the criteria for a disorder are met according to a diagnostic system.[29] Three diagnostic categories can be found in the DSM-IV concerning nicotine-related disorder: nicotine dependence, nicotine withdrawal, and nicotine-related disorder not otherwise specified. Diagnosis can be given through the semi-structured interview of a clinician with knowledge of the diagnostic criteria (Table 3). Remission categories are classified into four subtypes, (1) full, (2) early partial, (3) sustained, and (4) sustained partial, on the basis of whether any of the criteria for abuse or dependence have been met and in what time frame. Assessment of nicotine withdrawal is also important for a number of reasons: the presence of a withdrawal symptom in response to declining levels of nicotine in the body is evidence of physical dependence, aversive withdrawal symptoms provide obstacles to quit attempts, smokers who have quitted often attribute relapse to the experience of negative withdrawal symptoms.

3) ***Triage***, in order to decide the appropriate setting and intensity of treatment (e.g. counselling while inpatient, or pharmacological treatment). Treatment of nicotine dependence is conducted almost exclusively on an outpatient basis. The most important triage decision to be made is that regarding treatment intensity. Smokers who are less nicotine dependent, do not have comorbid psychiatric or substance use disorders, and have a supportive family or social environment, are appropriate candidates for less intensive treatment options. Smokers with a lifetime quit attempt of at least 1 year's duration and with a most recent quit attempt of at least 5 to 14 days of abstinence may be suited for less inten-

Table 4. The Cigarette Dependence Scale (modified from Etter J, Le Houezec J, Perneger, Neuropsychopharmacology 2003).

Questions	Response options	Recoding
*1.Please rate your addiction to cigarettes on a scale of 0-100: I am NOT addicted to cigarettes at all=0 I am extremely addicted to cigarettes=100	Addiction	0-20=1 21-40=2 41-60=3 61-80=4 81-100=5
*2. On average, how many cigarettes do you smoke per day?	Cigarette/day	0-5=1 6-10=2 11-20=3 21-29=4 30+=5
*3. Usually, how soon after waking up do you smoke your first cigarette?	Minutes	0-5=5 6-15=4 16-30=3 31-60=2 61+=1
*4. For you, quitting smoking for good would be:	Impossible Very difficult Fairly difficult Fairly easy Very easy	=5 =4 =3 =2 =1
Please indicate whether you agree with each of the following statements:		
*5. After a few hours without smoking, I feel an irresistible urge to smoke.	Totally disagree Somewhat disagree Neither agree nor disagree Somewhat agree Fully agree	=1 =2 =3 =4 =5
6. The idea of not having any cigarettes causes me stress.	As item no. 5	
7. Before going out, I always make sure that I have cigarettes with me.	As item no. 5	
8. I am a prisoner of cigarettes.	As item no. 5	
9. I smoke too much.	As item no. 5	
10. Sometimes I drop everything to go out and buy cigarettes.	As item no. 5	
11. I smoke all the time.	As item no. 5	
12. I smoke despite the risks to my health.	As item no. 5	
CDS-12		Sum of items 1-12
CDS-5 (items marked*)		Sum of items 1-5

sive treatment. Smokers not quite ready for a quit attempt should still receive treatment in an attempt to move them towards readiness to change. Treatment intensity should be a shared project between patient and clinician.

4) ***Treatment planning***, to establish individualised treatment goals and interventions directed to identified problem areas. Some factors that may be expected to affect treatment response are attitudes, outcome expectancies, stages of change, intellectual functioning, medical history, psychiatric status, treatment history, presence of a learning disability and substance use history.[35] The first three concepts, although distinct, refer primarily to cognitive structures and evaluative processes that relate to decisions and behaviours (for example, stop smoking). Attitudes refer to the favourable or unfavourable appraisal or evaluation of some behaviour (for example, 'smoking is bad, but there is no rush to quit'). Outcome expectancies are probability ratings of consequences of specific behaviours (for example, "when I am angry, a cigarette can calm me down"). The stages of change are usually: a) pre-contemplation—smokers not thinking about stopping; b) contemplation—need for change exists but there is no plan; c) preparation—decision already taken but there is no action taken (they have already tried to stop once in the last year);

d) action – quitting for less than six months; e) maintenance – abstinence from smoking for at least six months. If resumption occurs the smoker is re-entering the cycle at an earlier stage. To enhance success in quitting, for smokers in the first two stages the goal should be to move them to the next stages rather than to attempt behaviour change immediately. It has to be noted that motivation for change is seen as a dynamic state open to alteration, not a static trait. The goal of intervention is to collaborate with the patient, to engage him/her at their own internal level of motivation and to enhance his/her internal desire to change behaviour, not to challenge aggressively and attempt directly to convince the patient to change behaviour. This client-centred style of treatment aims at maximising patient involvement in treatment and minimising attrition. Smokers do not proceed linearly from stage (a) to stage (e). In their motivation system consciousness raising may be followed by the belief in one's ability to change. The awareness of the smoker's feelings about smoking, along with the impact of their behaviour on the environment, the use of helping relationships so as to avoid the stimuli associated with smoking and substitute healthier behaviours (e.g. exercising when feeling stressed) might lead to the self-reinforced management of quitting. Treatment interventions are not aimed at broad personality change but are goal-specific (stop smoking). The fact that no single treatment is so superior as to obviate all other intervention reflects the multi-determined nature of smoking behaviour.

Counselling

Counselling interventions include strategies derived from learning paradigms, social support schemes, and referral considerations. Intervention strategies based on learning principles can be divided into aversive and non-aversive techniques. In aversive treatment methods an aversive stimulus is paired with smoking behaviour, for example, rapid smoking, in the form of intense, rapid smoking trials, until discomfort is evident for the smoker. Medical screening is necessary for this technique.[36] Reduced aversion techniques include focused smoking, smoke holding and rapid puffing. The smoker is experiencing smoking in a regulated fashion, with a conscious emphasis on negative sensations that may be experienced during the process. Covert sensitisation is another procedure that uses an unpleasant mental representation (e.g. image, thought) as a correlate of smoking (nausea, dizziness, health consequences). These kind of techniques require highly motivated participants. Non-aversive techniques are stimulus control and cue exposure. Other techniques are contingency management, nicotine fading and use of cognitive strategies.

Stimulus control is based on the premise of the Pavlovian conditioning in which cues signal the presence of unconditional stimuli, thereby creating an expectancy. Smoking, as a legal substance, creates a number of different cues, which become signals that create an expectancy to smoke. With stimulus control, suggestions are made to avoid the cue of nicotine and reduce the threat of urges to use it, by reducing pro-smoking stimulation from external sources. Stimulus control is used as a preparation strategy prior to the quit attempt.[37] A complete assessment of the person's habits and associations with smoking has to be made so as to suggest the elimination of the situations that act as stimuli (e.g. avoiding certain places or use of other substances). Smoking could take place at predetermined times regardless of the individual's desire to smoke. The goal of stimulus control interventions is to attempt to narrow down the range of cues that are associated with smoking prior to the quit attempt. When this has been achieved, there should be no cue-induced cravings during the quit attempt. Cue exposure techniques[38] are based on more active processes of purposeful exposure to cues and response prevention, for example, choosing the highest ranked risk situation for smoking, exploring its intensity at different phases, and suggesting cognitive behavioural strategies. There are no health risks with this technique and exercises can be practiced at home.

5) ***Contingency management:*** outcome monitoring, which addresses response to treatment and whether the patient requires further or different treatment.

One of the major advances in our understanding of the pathophysiology of the addiction is recognising that nicotine and other components in tobacco smoke profoundly alter brain function to produce a state of dependency. In addition to providing us with new therapeutic targets, our understanding of these nicotine-induced changes can help explain the tolerance, withdrawal, compulsive use, and relapse-prone features of tobacco addiction. One should not, however, overestimate the biological and genetic underpinnings of nicotine dependence. The physician must embrace a biopsychosocial approach that recognises lapses and relapses as part of the natural history of the disorder,

and understand that the optimum treatment combines effective pharmacotherapy with counselling.

Pharmacotherapy

The development of new medications to treat tobacco dependence has garnered much attention and excitement of late. Five *first-line* pharmacotherapies have been identified that reliably increase long-term smoking abstinence rates:

i. Bupropion SR
ii. Nicotine gum
iii. Nicotine inhaler
iv. Nicotine nasal spray
v. Nicotine patch

Two *second-line* pharmacotherapies have been identified as efficacious and may be considered by clinicians if first-line pharmacotherapies are not effective:

vi. Clonidine
vii. Nortriptyline

Varenicline tartrate (Champix® [Europe], Chantix® [US], Pfizer, New York, NY) is the first non-nicotine medication to be approved for smoking cessation in over a decade. Varenicline offers a two-pronged approach to treating the addiction; as a partial agonist of the nicotinic α4β2 receptor, this drug reduces the symptoms and signs of nicotine withdrawal, while simultaneously blocking some of its reinforcing effects. In a randomised clinical trial of smokers motivated to quit, varenicline was found to be superior to both placebo and sustained-release bupropion in initiating smoking abstinence.[39] Another study found that, for patients who stopped smoking during the initial 12-week course of treatment, an additional 12 weeks of varenicline helped reduce relapse to smoking.[40] This medication is generally well-tolerated with dose-related gastrointestinal and sleep-related side effects most commonly reported.

Rimonabant (Acomplia®, Sanofi-Aventis, Paris, France) is another promising new medication. This agent is approved for use in weight management and obesity, but not smoking cessation, in Europe, and is not currently licensed in the US. The first of the cannabinoid type 1 receptor blockers to be approved, rimonabant is believed to stabilise overactivation of the endocannabinoid system caused by obesity and, perhaps, chronic nicotine intake.[41] Although the results of studies are inconsistent, a randomised, multicenter trial demonstrated that rimonabant (20 mg/day) significantly improved smoking quit rates compared with placebo.[42] It is of note that rimonabant has also been found to increase high density lipoprotein cholesterol, improve insulin sensitivity, and reduce the incidence of the metabolic syndrome in overweight, or obese patients, and in those with diabetes.[43] This medication could have a role in the treatment of multi-risk patients who smoke and are obese or diabetic—a hypothesis yet to be formally tested.

In addition to the newly approved agent varenicline, there are six formulations of nicotine replacement therapy (gum, patch, lozenge, spray, inhaler, sublingual tablet) and sustained-release bupropion available as aids to smoking cessation. The risk of nicotine replacement must be weighed against the risk of continued smoking. There is a strong argument against its use: like other substance-dependent people who are not yet in recovery, smokers are in denial when they think they can stop for good by gradually cutting back on (tapering off) nicotine. Tapering off such a highly addictive substance as nicotine is an essential and prominently-promoted supposed advantage of the nicotine replacement therapy approach. For what highly addictive drug other than nicotine might we think it is okay for people away from residential treatment to taper off? The answer is "none". Nicotine replacement therapy promotes that unhealthy view. Those products subtly but powerfully promote health risk denial.

Transdermal nicotine has been shown to be safe even for patients with known CHD.[44] Nicotine replacement should be used cautiously, if indicated, in patients within 4 weeks of myocardial infarction, with serious arrhythmias, and with severe or unstable angina. In patients with stable cardiovascular disease, nicotine replacement therapy is generally safe.[44] There is little evidence available concerning the value of nicotine replacement therapy in light smokers (<15 cigarettes per day). In these patients, assessment of nicotine dependency (time to first cigarette, difficulty abstaining when smoking is not permitted, length of longest prior abstinence period) may be of value, and beginning therapy with a lower dose is appropriate. Furthermore, there is an unfounded tendency on the part of providers not to treat women who have cardiovascular disease with nicotine replacement therapies.[45]

While meagre in number compared with the myriad medications approved for the other classical risk factors, these therapeutic options, when combined

Table 5. Recommendations for smoking cessation based on concepts of dependence.

- Encourage patients to set a stop date, to stick with it, and to make a contract with someone if needed.
- Provide information on the use of medications to relieve the symptoms of withdrawal and the desire for tobacco.
- Explain that the craving will not magically disappear. The dependence includes physical and psychological components, so the decrease in craving takes time.
- Encourage patients to quit for "one day at a time." Thinking about being tobacco-free forever can be overwhelming after years of use.
- Suggest that patients find and use some type of support (e.g. friends, family, a support group, a local smoking cessation program).
- Remind patients that full dependence can be triggered by just one cigarette, even years after quitting.
- Tell patients that if relapse occurs, it is important to get back in touch with a healthcare provider and try again.

with cost-effective psychosocial interventions such as quit-lines, give physicians the largest ever armoury of efficacious and safe tools to fight this deadly addiction (Table 5). Still the therapeutic community has not answered the question as to which mode of treatment prevents long term relapse.

Conclusions

Tobacco dependence is a chronic condition that often requires repeated intervention. However, effective treatments exist that can produce long-term or even permanent abstinence. Because effective tobacco dependence treatments are available, every patient who uses tobacco should be offered at least one of these treatments. Patients *willing* to try to quit tobacco use should be provided with treatments identified as effective in this guideline. Patients *unwilling* to try to quit tobacco use should be provided with a brief intervention designed to increase their motivation to quit. It is essential that clinicians and healthcare delivery systems (including administrators, insurers, and purchasers) institutionalise the consistent identification, documentation, and treatment of every tobacco user seen in a healthcare setting. Brief tobacco dependence treatment is effective, and every patient who uses tobacco should be offered at least brief treatment. There is a strong dose-response relation between the intensity of tobacco dependence counselling and its effectiveness. Treatments involving person-to-person contact (via individual, group, or proactive telephone counselling) are consistently effective, and their effectiveness increases with treatment intensity (e.g. minutes of contact). Three types of counselling and behavioural therapies have been found to be especially effective and should be used with all patients who are attempting tobacco cessation: 1) provision of practical counselling (problem solving/skills training); 2) provision of social support as part of treatment (intra-treatment social support); and 3) help in securing social support outside of treatment (extra-treatment social support). Numerous effective pharmacotherapies for smoking cessation now exist. Except in the presence of contraindications, these should be used with all patients attempting to quit smoking. Finally, there is increasing evidence that the success of any tobacco dependence treatment strategy or effort cannot be divorced from the healthcare system in which it is embedded. Data strongly indicate that effective tobacco interventions require *coordinated interventions*. Just as the clinician must intervene with his or her patient, so must the health care administrator, insurer, and purchaser foster and support tobacco intervention as an integral element of health care delivery. Health care administrators and insurers should ensure that clinicians have the training and support, and receive the reimbursement necessary to achieve consistent, effective intervention with tobacco users.

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