



# Dentistry's role in tobacco control

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Use of tobacco has a devastating effect on the health and well-being of the public. More than 400,000 Americans die each year as a direct result of cigarette smoking, making it the nation's leading preventable cause of premature mortality.<sup>1</sup> The direct medical care costs for smoking-attributable disease in this country exceeds \$72 billion per year.<sup>2</sup> Worldwide, the picture is even more bleak; with current smoking patterns, about 500 million people alive today will eventually be killed by

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tobacco use.<sup>3</sup> By 2030, tobacco is expected to be the single biggest cause of death worldwide, accounting for about 10 million deaths per year. One-half of these deaths will occur among people 35 to 69 years of age, losing an average of 20 to 25 years of life.

The effects of tobacco use on the public's oral health also are alarming. All forms of tobacco—including cigarettes, cigars, pipes and smokeless tobacco—have been established as causal for oral and pharyngeal cancer and are responsible for more than 75 percent of deaths caused by these malignancies in the United States.<sup>4</sup> The evidence is sufficient to consider smoking a causal factor for adult periodontitis,<sup>5</sup> and one-half of the cases in this country

may be attributable to cigarette smoking.<sup>6</sup> Tobacco use substantially worsens the prognosis of periodontal therapy and dental implants, impairs oral wound healing and increases the risk of the patient's experiencing a wide range of oral soft tissue changes.<sup>7</sup>

Unfortunately, tobacco use remains highly prevalent in the United States. Nearly one in four adults smoke cigarettes,<sup>8</sup> and almost 10 percent of men smoked at

**Background.** Cigarette smoking remains the nation's leading preventable cause of premature mortality. Tobacco use also is responsible for 75 percent of deaths resulting from oral and pharyngeal cancer, more than one-half of the cases of periodontitis and numerous other oral health effects.

**Methods.** The author summarized the prevalence of tobacco use in the United States, evaluated recent literature on the status of tobacco control activities in dental schools and dental practice, and reviewed new guidelines on clinical and community-based interventions for tobacco use.

**Results.** Nearly 25 percent of adults and 35 percent of high-school students smoke cigarettes, and many use other forms of tobacco. More than one-half of adult smokers and nearly three-fourths of adolescents see a dentist each year. However, more than 40 percent of dentists do not routinely ask about tobacco use, and 60 percent do not routinely advise tobacco users to quit. Meanwhile, less than one-half of dental schools and dental hygiene programs provide clinical tobacco intervention services.

**Conclusions.** At least 50 dental organizations have adopted policy statements about tobacco use, but much work needs to be done in translating those policy statements into action. Tobacco use remains prevalent in the United States, and dentistry has not yet maximized its efforts to reduce it.

**Practice Implications.** The recently issued U.S. Public Health Service guidelines on treating tobacco use and dependence provides evidence-based, practical methods for dentists and other primary care providers to incorporate into their practice. Because dentists and dental hygienists can be effective in treating tobacco use and dependence, the identification, documentation and treatment of every tobacco user they see need to become a routine practice in every dental office and clinic.

least one cigar in the past month.<sup>9</sup> Among high-school students in 1999, nearly 35 percent overall said they smoked cigarettes, more than 25 percent of boys and 10 percent of girls said they smoked cigars, and more than 14 percent of boys in high school said they used snuff or chewing tobacco.<sup>10</sup>

These statistics provide a compelling case for a concerted effort by organized dentistry and individual dentists to help reduce tobacco consumption. There is some evidence that dentistry is moving in that direction; at least 50 dental organizations have adopted policy statements about tobacco use. But much work needs to be done to translate those policy statements into action. The American Dental Association's 1997 Survey of Current Issues in Dentistry: Tobacco Use Cessation Efforts Among Dentists<sup>11</sup> reported that more than four of 10 dentists do not routinely ask about tobacco use (which was virtually unchanged from 1994), and six of 10 dentists do not routinely advise tobacco users to quit. Disappointingly, just 24 percent of smokers who had seen a dentist in the past year reported that their dentist had advised them to quit, and only 18 percent of smokeless tobacco users reported that their dentist ever had advised them to quit.<sup>12</sup> Slightly more than one-half of dental schools include didactic training in counseling tobacco users to quit,<sup>13</sup> and less than one-half of dental schools and dental hygiene programs provide clinical tobacco intervention services to any significant extent.<sup>14</sup> As many as 25 percent of dental schools use health history forms that do not even ask about tobacco use, and another 25 percent ask about it with just a single question.<sup>15</sup>

### **OPPORTUNITIES FOR CHANGE**

The dental office provides an excellent venue for providing tobacco intervention services, as more than one-half of adult smokers and nearly three-fourths of all adolescents see a dentist each year.<sup>12,16</sup> Dental patients are particularly receptive to health messages at periodic checkups, and oral effects of tobacco use provide visible evidence and a strong motivation for tobacco users to quit. The recently issued U.S. Public Health Service, or PHS, guidelines on treating tobacco use and dependence provide evidence-based, practical methods for dentists and other primary care

providers to incorporate into their practices.<sup>17</sup> Because dentists and dental hygienists can be effective in treating tobacco use and dependence, the identification, documentation and treatment of every tobacco user they see need to become a routine practice in every dental office and clinic. Tobacco intervention must be viewed as an integral part of quality dental care.

Many tobacco users visit a dental office every year, so it is important that dentists and dental hygienists be prepared to intervene with those who are willing to quit. The five major steps (the "5 As") to intervention in the primary care setting are listed in Table 1. It is important for the dental care provider to ask the patient if he or she uses tobacco, advise him or her to quit, assess willingness to make a quit attempt, assist the patient in making a quit attempt and arrange for follow-up contacts to prevent relapse. The strategies are designed to be brief, requiring three minutes or

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less of direct clinician time. Office systems that institutionalize tobacco use assessment and intervention will greatly foster the adoption of these strategies.

The first step in the process is to identify patients who use tobacco and to characterize their patterns of consumption and tobacco use history. An officewide system should be implemented to ensure that tobacco-use status is queried and documented at every patient visit. In a clear, strong and personalized manner, dental care providers should urge every tobacco user to quit. Dentists and dental hygienists should assist their patients who want to quit using tobacco by helping them with a quit plan, providing practical counseling, offering social support, helping them identify external sources of social support, and recommending or prescribing the use of nicotine replacement therapy or bupropion SR (sustained-release bupropion). Bupropion SR is the first nonnicotine medication shown to be effective for smoking cessation and approved by the U.S. Food and Drug Administration for that purpose.

For patients who use tobacco but are not ready to make a quit attempt, dental professionals should provide a brief intervention designed to promote the motivation to quit. Patients unwilling to make a quit attempt may lack information about tobacco's harmful effects, may lack adequate financial resources, may have fears or concerns about quitting or may be demoralized by

**TABLE 1**

STRATEGIES FOR HELPING PATIENTS QUIT USING TOBACCO.		
STRATEGY	ACTION	IMPLEMENTATION STRATEGIES
<b>Ask: systematically identify all tobacco users at every visit</b>	Ask patients about their tobacco-use status and document answers	<ul style="list-style-type: none"> <li>■ Use tobacco-use status stickers on patient charts</li> <li>■ Indicate tobacco-use status using electronic medical records or computer reminder systems</li> </ul>
<b>Advise: strongly urge all tobacco users to quit</b>	In a clear, strong and personalized manner, urge every tobacco user to quit	<p>Advice should be</p> <ul style="list-style-type: none"> <li>■ clear: provide an unambiguous message to quit</li> <li>■ strong: stress importance of quitting</li> <li>■ personalized: tie tobacco use to current oral or other health problems; social, familial and economic costs; and motivation level or readiness to quit</li> </ul>
<b>Assess: determine willingness to make a quit attempt</b>	Ask if tobacco user is willing to make a quit attempt within the next 30 days	<p>Assess patient's willingness to quit:</p> <ul style="list-style-type: none"> <li>■ if willing to make an attempt, provide help</li> <li>■ if willing to participate in intensive treatment, deliver treatment or refer patient to an intensive intervention</li> <li>■ if unwilling, provide a motivational intervention (Table 2)</li> <li>■ if the patient is a member of a special population—adolescent, pregnant, racial or ethnic minority—consider providing additional information</li> </ul>
<b>Assist: aid the patient in quitting</b>	<ul style="list-style-type: none"> <li>■ Help the patient with a quit plan</li> </ul>	<ul style="list-style-type: none"> <li>■ Set a quit date, ideally within two weeks</li> <li>■ Have patient tell family, friends and co-workers and ask for understanding and support</li> <li>■ Anticipate challenges such as nicotine withdrawal symptoms, particularly during the critical first weeks</li> <li>■ Remove tobacco products from environment</li> <li>■ Before they quit, have patients avoid smoking where they spend a lot of time—work, home or car</li> </ul>
	<ul style="list-style-type: none"> <li>■ Provide practical counseling, problem solving and skills training</li> </ul>	<ul style="list-style-type: none"> <li>■ Total abstinence is essential</li> <li>■ Identify what helped and hurt in previous quit attempts</li> <li>■ Anticipate and discuss triggers or challenges in the upcoming attempt and how the patient will successfully overcome them</li> <li>■ Since alcohol can cause relapse, the patient should consider limiting or abstaining from alcohol while quitting</li> <li>■ Quitting is more difficult when there is another smoker in the household; patients should encourage housemates to quit with them or to avoid smoking in their presence</li> </ul>
	<ul style="list-style-type: none"> <li>■ Provide intra-treatment social support</li> </ul>	<ul style="list-style-type: none"> <li>■ Provide a supportive clinical environment while encouraging patients in their quit attempts</li> </ul>
	<ul style="list-style-type: none"> <li>■ Help patient obtain extratreatment social support</li> </ul>	<ul style="list-style-type: none"> <li>■ Help patients develop social support for their quit attempts in their environments outside of treatment</li> </ul>
	<ul style="list-style-type: none"> <li>■ Recommend the use of approved pharmacotherapy, except in special circumstances</li> </ul>	<ul style="list-style-type: none"> <li>■ Explain how medications—including bupropion SR, nicotine gum, nicotine inhaler, nicotine nasal spray and nicotine patch—increase smoking cessation success and reduce withdrawal symptoms</li> <li>■ Special circumstances include some cardiovascular diseases, pregnancy or history of side effects</li> <li>■ Contraindications for bupropion SR include history of seizure and eating disorders, use of other forms of bupropion SR or use of monoamine oxidase inhibitors within 14 days</li> </ul>
	<ul style="list-style-type: none"> <li>■ Provide supplementary materials</li> </ul>	<ul style="list-style-type: none"> <li>■ Obtain materials from federal agencies, nonprofit health departments, or local or state health departments</li> <li>■ Ensure that materials are culturally, racially, educationally and age-appropriate for the patient</li> <li>■ Make materials available in every dental operatory</li> </ul>
<b>Arrange: schedule follow-up contact</b>	Schedule follow-up contact, either in person or by telephone	<ul style="list-style-type: none"> <li>■ Follow up soon after the quit date, preferably during the first week; make a second follow-up contact within the first month; schedule further follow-up contacts as indicated</li> <li>■ Congratulate success; if tobacco use has occurred, review circumstances</li> <li>■ Elicit recommitment to total abstinence</li> <li>■ Remind patient that a lapse can be a learning experience</li> <li>■ Identify problems already encountered and anticipate challenges in the immediate future</li> <li>■ Assess pharmacotherapy use and problems</li> <li>■ Consider use of or referral to more intensive treatment</li> </ul>

**TABLE 2**

THE "5 Rs" OF ENHANCING MOTIVATION TO QUIT TOBACCO USE.	
<b>Relevance</b>	Encourage the patient to indicate why quitting is personally relevant, being as specific as possible. Motivational information has the greatest impact if it is relevant to a patient's disease status or risk, family or social situation (for example, having children in the home), health concerns, age, sex and other important patient characteristics (for example, previous quitting experience, personal barriers to cessation).
<b>Risks</b>	Ask the patient to identify potential negative consequences of tobacco use and suggest and highlight those that seem most relevant to the patient. Emphasize that smoking low-tar/low-nicotine cigarettes or use of other forms of tobacco (for example, smokeless tobacco, cigars and pipes) will not eliminate these risks.
<b>Rewards</b>	Ask the patient to identify the potential rewards of stopping tobacco use. Suggest and highlight those that seem most relevant to the patient. Examples of rewards are <ul style="list-style-type: none"> <li>■ improved health;</li> <li>■ improved taste of food;</li> <li>■ improved sense of smell;</li> <li>■ saving of money;</li> <li>■ feeling better about self;</li> <li>■ improved smell of home, car, clothing and breath;</li> <li>■ ability to stop worrying about quitting;</li> <li>■ setting a good example for children;</li> <li>■ having healthier babies and children;</li> <li>■ not worrying about exposing others to smoke;</li> <li>■ feeling better physically;</li> <li>■ performing better in physical activities;</li> <li>■ reduced wrinkling/aging of skin.</li> </ul>
<b>Roadblocks</b>	Ask the patient to identify barriers to quitting and note elements of treatment (problem solving, pharmacotherapy) that could address barriers. Typical barriers include <ul style="list-style-type: none"> <li>■ withdrawal symptoms;</li> <li>■ fear of failure;</li> <li>■ weight gain;</li> <li>■ lack of support;</li> <li>■ depression;</li> <li>■ enjoyment of tobacco.</li> </ul>
<b>Repetition</b>	Repeat motivational intervention every time an unmotivated patient visits the dental office. Tell tobacco users who have failed in previous quit attempts that most people make repeated quit attempts before they are successful.

previous relapses. These patients may respond to a motivational intervention built around the "5 Rs": relevance, risks, rewards, roadblocks and repetition (Table 2). Dental professionals can encourage their patients to identify reasons why quitting is personally relevant. Patients can be educated on the oral health risks of tobacco use, and dental care providers often can point out clinical changes in patients' mouths. Dentists and dental hygienists can highlight rewards that patients can experience from quitting and can help the patient identify roadblocks to quitting. For a detailed description of the components of an effective tobacco intervention treatment plan and a review of the evidence supporting those recommendations, readers should consult the U.S. PHS guidelines.<sup>17</sup>

Relative to other reimbursed treatments, treatment of tobacco use and dependence is a highly cost-effective intervention,<sup>17</sup> and dentists should be fairly compensated for this service. Organized dentistry needs to take an active role in promoting reimbursement by dental care plans to dentists for tobacco-dependence treatments.

In addition to helping current users quit, dental offices may provide an excellent setting for delivering tobacco prevention messages to young people.<sup>18-21</sup> Adolescents substantially underestimate their personal risk of disease or death from the use of tobacco<sup>19,20</sup> and overestimate the ease of quitting.<sup>21</sup> Health care providers can play an important role in educating their patients (including nonusers) on the risks of using tobacco. One unique aspect of dentistry is that some of the

adverse health effects of tobacco use are clinically apparent in the oral cavity in even relatively early stages of use.<sup>22,23</sup> Oral manifestations can help personalize the interventions and increase their effectiveness, particularly among young users in the early stages of tobacco initiation.<sup>24,25</sup>

To help achieve individual behavioral change, whole communities must change the way tobacco products are marketed, sold and used.<sup>25</sup> At the community level, local dental societies and dentists can become involved in local tobacco control coalitions, which function to mobilize and empower the community to make the changes that support nonuse of tobacco. Community-based programs have included activities such as educating the public on the health hazards of environmental tobacco smoke, promoting smoke-free restaurants, and encouraging policies and programs that support prevention and cessation of tobacco use.

Dental schools need to incorporate into their curricula not just didactic instruction on the oral health impact of tobacco use, but practical training in clinical intervention (for example, role-playing discussions between dentists and patients). The next generation of dentists and dental hygienists should graduate with competency in assessing and treating tobacco use.

## CONCLUSION

We are at a unique point in time in the history of attempting to reduce tobacco use. There is potentially more money available than ever for the full range of tobacco control activities, and the majority of Americans favor reduction of societal tobacco use and decreased exposure to environmental tobacco smoke. A great deal has been learned about what is effective in communities and clinical settings. The few states that have implemented comprehensive tobacco control programs have seen significant reductions in the prevalence of smoking, particularly among young people.<sup>26</sup>

Dental practice in the 21st century will increasingly move from a restorative orientation to one of broader promotion of health and well-being. It is unconscionable to not include aggressive tobacco intervention in that new paradigm. To paraphrase the Massachusetts Tobacco Control Program, it's time we made tobacco history.<sup>27</sup> ■

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