



## Questions and Answers

The following discussions all relate to preventive medicine. Those on tobacco and health (chosen from among many received) were referred to Alan Blum, MD, who has written frequently on this subject.

### Smoking Guidelines for Hospitals

**Q** A recent COMMENTARY in THE JOURNAL (243:739-740, 1980) suggested that physicians should be active in the prevention of smoking-related problems. Are there specific guidelines for a rational smoking policy for hospitals? For example, should smoking be allowed in patients' rooms? Should visitors be allowed to smoke? Your help would be appreciated.

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**A** "60 Flee Fire at VA Hospital; Smoking Blamed" reads a headline in the May 6, 1980, issue of the *Chicago Tribune*. Unfortunately, such headlines are all too common. It is essential to remember that in the hospital setting, smoking is as much a fire problem as a health problem. According to the Joint Commission on Accreditation of Hospitals (JCAH)<sup>1</sup> smoking is responsible for approximately 60% of the estimated 1,500 annual reported hospital fires. (The next leading cause, faulty electrical wiring, is responsible for 20%.) Moreover, fires present a greater danger in health care facilities than in other environments because of the number of incapacitated patients who are unable to escape.

Although the JCAH suggests that all hospitals adopt and enforce a strong set of smoking regulations, their publications on the subject (eg, *1980 Accreditation Manual for Hospitals*, p 45) are almost entirely concerned with containing rather than preventing fires. Only seven specific recommendations are made regarding smoking, such as the following: "Patients who are confined to bed should be discouraged from smoking," and "Ashtrays shall be noncombustible."<sup>\*</sup>

A review of the medicolegal aspects of hospital fires noted that "fire in a hospital is one of those potential disasters about which the hospital is obliged to be constantly on guard."<sup>2</sup> Failure to adhere to "reasonable standards," as a result of which a patient is burned in a fire for which he was not responsible, probably would make the hospital liable without further proof of negligence.

If a hospital prohibits smoking in all but a few specially designated areas, it should advise its insurance companies, so that fire insurance premiums can be lowered accordingly.

Bolstered by the increasing evidence of the adverse effects of secondhand smoke, a few hospitals, eg, Central Middlesex Hospital, London (*Postgrad Med J* 49:682-683,

<sup>\*</sup>The JCAH welcomes discussion on this issue. Address correspondence to Helen Johnston, MD, Joint Commission for Accreditation of Hospitals, 875 N Michigan Ave, Chicago, IL 60611.—ED.

Every letter must contain the writer's name and address, but these will be omitted on request. Submitted questions are published as space permits and at the discretion of the editor. All inquiries receive a direct mail reply.

1973), and several US hospitals, have established no-smoking wards and have tried to encourage more exemplary educational roles for health professionals. The overriding principle in the newer policies is that nonsmoking should be the rule in all public areas of the hospital unless otherwise specifically indicated.<sup>3,4</sup> The following guidelines patterned after those proposed by the Public Citizen's Health Research Group<sup>5</sup> could serve as a model: Ban the sale of cigarettes, cigars, and pipe tobacco in hospitals and on hospital grounds. Ask all patients before admission about their preference for a smoke-free ward and guarantee that preference. Ban smoking from all corridors and elevators. Restrict smoking of tobacco in the hospital to specifically designated rooms. Require the hospital to put its smoking policy in writing and send to all employees and prospective employees.

Administrators and chiefs of staff can develop positive incentives for the perpetuation of such a policy. These can include the posting of nonthreatening signs at all entrances and in corridors, as well as publishing the policy throughout the community at large. Enforcement should be assumed equally by administration, health professionals, and employees, the underlying philosophy being that a hospital is not just another place of work, but, rather, a place dedicated to health.

Above all, a strong nonsmoking policy in hospitals can add significantly to cost containment. More and more companies have found that even after doling out cash bonuses to those employees who choose not to smoke, an overall saving is created by lowered levels of absenteeism, sick leave, and medical insurance premiums.

ALAN BLUM, MD  
Morris Fishbein Fellow, 1979-1980

1. JCAH Fire Safety Requirements Explained. *Perspectives on Accreditation*, March-April, 1980. Chicago, Joint Commission on Accreditation of Hospitals.
2. Holder AR: Hospital fires. *JAMA* 231:281-282, 1975.
3. Ball K, Stevenson A: Hospital action on smoking. *Br Med J* 2:777-778, 1979.
4. Brosseau BLP: Hospitals must stop pushing tobacco. *Dimens Health Serv* 54:5, 1977.
5. Fishman L: More rights for airline passengers than for hospital patients: A report on smoking policies in metropolitan Washington, DC, hospitals. *Hosp Admin Curr* 21:24, 1977.

### 'Single-Day' Treatment for Smoking Cessation

**Q** Dr Neil Solomon, in a syndicated newspaper column, wrote that he injects a solution of vitamins, minerals, and procaine on each ear and alongside the nose of patients who want to stop smoking. He claims that the effect is immediate after four injections of this solution. What is your opinion about this so-called single-day treatment for smoking cessation? Is there any proof that it works?

BARRY A. CLOTHIER, MD  
Scottsdale, Ariz

Among others inquiring about this treatment were Thomas P. Kennerly, MD, Houston; Jim J. Chow, MD, Manistique, Mich; and J. C. Mowrer, Jr, MD, Rochester, NY.

**A** In 1979 the Internal Revenue Service (IRS) denied an individual the right to deduct the cost of a smoking-cessation course—a correct ruling but for the wrong reason. The IRS did not note (and may not have known) that no single method of smoking cessation has an especially high or long-lasting success rate. (Most methods show less than a 25% success rate after six months.) Rather, the tax collectors did not want to define

cigarette dependence as a disease by approving a deduction for the expense of treating it.

The technique described by the columnist also goes by the name of "nicotine neutralization," the premise being that the procaine solution somehow serves as an antidote to the addictive nicotine. The preparation originated in Paris 40 years ago as an injectable solution for the joints of patients with arthritis. Its application to smoking cessation came about in recent years, after a number of patients reported that the treatment seemed to decrease the desire to smoke. The choice of nose and ear in the present utilization corresponds to acupuncture sites even though acupuncture is an unproved method of smoking cessation.

Ideally, validity of such a smoking-cessation method should rest on the performance of a controlled, double-blind study in which there is a follow-up of at least six months' duration (preferably much longer) of all subjects who started out. Only one controlled study, as yet unreported, has been undertaken with nicotine neutralization.

Nor is the technique truly new. Schwartz<sup>1</sup> included mention of local anesthetics in his comprehensive catalogue of tried but unproved remedies. Other chemicals have been used, including lobeline (the most common nicotine substitute, found in such preparations as Nikoban), amphetamines, silver acetate, quinine sulfate, hydroxyzine, diazepam, meprobamate, anticholinergics, extract of oats, placebos, and nicotine itself in gum or lozenge form.

Despite insufficient medical evidence to back up their claims, expensive commercial smoking-cessation clinics and gimmicks are proliferating. The methods include hypnotherapy, rapid smoking, aversive conditioning with electric shocks, diets, special filters, vivid films on cigarette-related disease—even a live-in stop smoking program! Attacking the profit motive may be unfair, however, since having to pay a high fee for a smoking-cessation technique may well be the single most motivating factor. (The cost of nicotine neutralization is \$310, with an additional charge of \$100 if a booster is needed.)

Like so many other therapies, the "single-day" method zeroes in solely on the nicotine component to cigarette smoking and ignores other factors such as the individual's personality, the brand smoked, and the image evoked by that brand's advertising. Ironically, the most successful method is what Schwartz<sup>1</sup> describes as self-care, that is, doing it on one's own, often with the advice and support of the physician. In fact, if asked to name one important factor that helped them succeed, many if not most exsmokers will cite their physician's influence. Even a few concerned—and well-rehearsed—words from the physician have been shown to enhance significantly the rate of smoking cessation.<sup>3</sup> Of course, former smokers might not be consciously aware of 15 years' worth of counter-cigarette efforts and other subtle social pressures that reinforced their decision.

In my opinion, future generations will regard current smoking-cessation methods with the same amusement that we have for a Rube Goldberg invention or a corset ad in an old Sears Roebuck catalogue. I believe that through social reinforcement (as well as continued mass media publicity) smoking will gradually become more and more

unfashionable. A key element in such a successful public health effort will have been the personal commitment on the part of physicians.

ALAN BLUM, MD

1. Schwartz JL: A critical review and evaluation of smoking control methods. *Public Health Rep* 84:483-506, 1969.
2. Schwartz JL: Review and evaluation of methods of smoking cessation, 1969-77. *Public Health Rep* 94:558-563, 1979.
3. Russell MAH, Wilson C, Taylor C, et al: Effect of general practitioner's advice against smoking. *Br Med J* 2:231-235, 1979.

### 'Smokeless' Tobacco

**Q** During the 1980 Olympic Games at Lake Placid, NY, television advertisements showed professional athletes recommending the use of so-called smokeless tobacco, whose manufacturer was noted to be an official Olympic sponsor. On March 30, 1980, the *Atlanta Journal and Constitution* carried an article headlined "A Little Plug for Chewing Tobacco," which extolled "America's most-misunderstood indulgence." Is it true that using snuff or chewing tobacco is much less harmful than smoking cigarettes?

MD, Georgia

**A** Snuff-dipping, the placing of a pinch of powdered, flavored tobacco in the cavity between gum and cheek and sucking on the "quid," is reported to be increasing among youths of Southern states, including grade-schoolers.<sup>1</sup> In addition, the US Department of Agriculture says there is a recent 6% increase in the consumption of chewing tobacco, the use of which involves a golf-ball size "chaw" that is held in the inner cheek area.<sup>2</sup>

Such a phenomenon comes at the heels of television and printed media advertising by the United States Tobacco Co that features the testimonials of well-known athletes and country-rock stars for various brands of snuff and by the P. Lorillard Co for its Beech-Nut chewing tobacco. Advertising research by the industry has resulted in these campaigns being directed at the youth market. The role models are portrayed as intelligent and "with-it," partly because they have switched to smokeless tobacco out of concern for their health.

However, based on the current medical evidence, their long-term health would be far better if they did not use tobacco at all. Because snuff still is not as widely used as other forms of tobacco and because it is not inhaled as smoke, it does not present as great a danger to health as cigarettes. But such a risk is purely relative, for snuff seems to be even more injurious to the oral cavity than cigarettes. Snuff can appreciably accelerate a litany of destructive changes, including gingival recession, tooth abrasion, and periodontal bone destruction.<sup>3</sup> Leukoplakia (also dubbed snuff-dipper's keratosis), a nonspecific white patch involving the nonkeratinized epithelium of the oral mucosa, is most often attributed to the use of tobacco. Upwards of one in 20 cases of leukoplakia will undergo malignant transformation into an epidermoid carcinoma.<sup>3</sup> A nitrosamine, N-nitrosornicotine, which can be isolated from snuff, has been shown to be tumorigenic in experimental animals.<sup>4</sup>

The case against chewing tobacco may prove to be even more damning. In an analysis of 2,005 patients in India with oral, pharyngeal, and esophageal cancers (and an equal number of control subjects comparable in age, sex, and religion), Jayant et al<sup>5</sup> quantified the relative etiologic

fraction—the proportion of cases of a disease attributable to a particular factor—from chewing and smoking tobacco for these cancers. Overall, chewing or smoking, or both, accounted for 70% of cancers of the oral cavity, 84% of cancers of the oropharynx, 75% of cancers of the hypopharynx and larynx, and 50% of cancers of the esophagus.

Chewing and smoking act synergistically in varying degrees, Jayant et al<sup>5</sup> noted. For instance, chewing alone has a sixfold higher risk of cancer of the oral cavity relative to the nonchewer, nonsmoker, while smoking alone has “only” a threefold increase. Both chewing and smoking increases the risk tenfold.

Despite the evidence attributing serious health problems to smokeless tobacco, Frankel<sup>6</sup> points out that there is no warning required on packages or advertisements for these products. Nor have professional health organizations, publishers, or broadcasting corporations taken any significant steps to counteract an advertising onslaught aimed at young people.

ALAN BLUM, MD

1. Christen AG: Tobacco chewing and snuff dipping. *N Engl J Med* 302:818, 1980.
2. Christen AG, McDaniel RK, Doran JE: Snuff dipping and tobacco chewing in a group of Texas college athletes. *Tex Dent J* 97:6-10, 1979.
3. Christen AG, Armstrong WR, McDaniel RK: Intraoral leukoplakia, periodontal breakdown, and tooth loss in a snuff dipper. *J Am Dent Assoc* 98:584-586, 1979.
4. Goldsmith DF, Winn DM: Hazards with snuff. *Lancet* 1:825, 1980.
5. Jayant K, Balakrishnan V, Sanghvi LD, et al: Quantification of the role of smoking and chewing tobacco in oral, pharyngeal, and oesophageal cancers. *Br J Cancer* 35:232-235, 1977.
6. Frankel HH: Another cowboy selling cancer. *West J Med* 130:270-271, 1979.

### Do Cigarette Smokers Need Vitamin C Supplementation?

**Q** I have been swamped with questions from patients about advertisements for vitamin supplements, particularly those relating to lower serum vitamin C levels found in cigarette smokers. I can find no evidence that cigarette smoking significantly decreases vitamin levels, yet many medical journals accept advertising that seems to imply such a relationship. Will you please discuss the validity of this concept?

RICK RICHARDS, MD  
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**A** Although the Committee on Dietary Allowances of the Food and Nutrition Board has recently increased the Recommended Dietary Allowance (RDA) of ascorbic acid for adults to 60 mg/day,<sup>1</sup> it is important to remember that this amount can be obtained from a single juice orange. A good diet, which is not hard to achieve, avoids the need for vitamin supplementation.

In a nationwide study of 4,672 Canadians, Pelletier<sup>2</sup> demonstrated that cigarette smokers have lower serum vitamin C levels than nonsmokers. The greater the number of cigarettes smoked, the lower the vitamin C level, with an average reduction of 40% for smokers of greater than a pack a day. Ritzel and Bruppacher,<sup>3</sup> in a study of 4,053 Swiss workers, also found the proportion of vitamin C insufficiency to be greater in smokers. But among those who smoked a pack or more a day, only 5% could be classified as being at high risk for reduced bioavailability of vitamin C (0.2 mg/mL is the level of serum vitamin C below which, if prolonged over four to six months, can result in the clinical picture of scurvy).

Both reports, moreover, found that lowered vitamin C levels in serum can be overcome by higher dietary vitamin C intake (100 mg/day). In other words, while there is little doubt that cigarette smoking can somehow reduce vitamin C in the body, vitamin C stores can be replenished through the diet. Whether vitamin C supplements need to be prescribed for smokers remains to be established. There may even be a potential problem for smokers ingesting excessive vitamin C. Since nicotine is excreted more rapidly in an acidic urine, Schachter<sup>4</sup> suggests that acidification of urine, such as by vitamin C (ascorbic acid) intake, can lead to an increase in the number of cigarettes smoked! Presumably, then, in having to replenish a depleting supply of nicotine, the cigarette smoker may be reinforcing the smoking addiction—and its insidious consequences to health—by consuming vitamin C supplements.

Thus, on the basis of current medical evidence, the need for vitamin C supplementation in smokers who consume an adequate diet is ill defined at best.

ALAN BLUM, MD

1. *Recommended Dietary Allowances*, ed 9. National Academy of Sciences, 1980, p 75.
2. Pelletier O: Vitamin C and tobacco. *Int J Vitam Nutr Res* 47(suppl 16):147-169, 1977.
3. Ritzel G, Bruppacher R: Vitamin C and tobacco. *Int J Vitam Nutr Res* 47(suppl 16):171-183, 1977.
4. Schachter S: Pharmacological and psychological determinants of smoking. *Ann Intern Med* 88:104-114, 1978.

### The Finland Project to Reduce Cardiovascular Mortality

**Q** Several years ago a project was started in rural Finland to test the value of a low-fat-low-cholesterol diet in reducing the high incidence of coronary disease in that region. Have the results of that study been published?

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**A** In 1970 a project was begun in rural Finland to reduce the high cardiovascular death rate by a community approach to changing multiple risk factors, including the modifications of fats in dietary products available in the region. The results of the North Karelia Project have been published in the *British Medical Journal* (2:1173-1183, 1979).

Specifically, cholesterol levels, which might be expected to respond to dietary manipulation, were determined on a sample of the population at the beginning and end of the study period. In men the cholesterol levels were found to be approximately 4% lower when compared with those of a control population. Cardiovascular mortality in North Karelia declined by approximately 13% in men during the same period. There was, however, a similar decline in mortality in the control population; so the actual impact of the intervention program is uncertain. The overall result documenting a reduction in mortality in two areas of Finland is important, since it appears that Finland may now be experiencing a decline in cardiovascular mortality similar to that occurring in the United States in the last decade.

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