Smokeless tobacco is a proven human carcinogen. As early as 1761, the British physician John Hill described cases of cancer in snuff users. Hill wrote "No man should venture upon snuff who is not sure that he is not liable to cancer, and no man can be sure of that." (In eighteenth century Britain, snuff was taken intranasally and caused cancer of the nasal cavity. Today, a pinch of snuff is typically tucked into place between the lip and the gum.)

More recently, it has been confirmed that snuff is a major cause of oral cancer in this country, and a fourfold increase in risk of cancer of the mouth and pharynx has been reported among women who regularly used snuff. Among women who had used snuff for 50 years or more, the risk of cancer of the gingival and buccal mucosa was elevated 47-fold above background. These risks were independent of cigarette smoking.

Laboratory confirmation of the carcinogenicity of smokeless tobacco has been provided by identification of N-nitrosonornicotine and other carcinogenic nitrosamines in extremely high concentrations in both snuff and chewing tobacco. Levels of these carcinogens in smokeless tobacco far exceed levels in other tobacco products, apparently as a result of curing and fermentation.

In addition to cancer, regular use of smokeless tobacco has been reported to cause dental diseases including foul-smelling breath, periodontal disease, erosion of the teeth, and tooth loss. Furthermore, it has been reported that users of smokeless tobacco absorb substantial quantities of nicotine; therefore, smokeless tobacco has high potential for creating nicotine addiction. The possibly toxic effects of smokeless tobacco on the cardiovascular system are only beginning to be assessed.

Widespread and carefully targeted advertising campaigns promote the mistaken notion that smokeless tobacco is safe. Although 21 states restrict the sale of smokeless tobacco to minors, no federal restrictions govern its sale. Smokeless tobacco is advertised frequently during sports events, such as the Olympic Games, and prominent athletes, musicians, and other heroes of youth are involved in its promotion. Smokeless tobacco has been distributed free of charge to youngsters at sports events and rock concerts. No warning about health hazards appears on smokeless tobacco products or on their advertising. Most likely as a consequence of this extensive advertising, sales of snuff have increased by 52% since 1978 and sales of chewing tobacco have increased slightly. Once a regional product sold mainly in the rural South, smokeless tobacco has become a national phenomenon.

A significant portion of sales of smokeless tobacco is to children and adolescents. In a recent survey in Massachusetts, 28.2% of male high school students reported use of smokeless tobacco in the preceding year; 12% reported frequent use. In rural Colorado, 25% (53 of 213) of male students attending public high school reported regular use of smokeless tobacco; the mean age of "users" was 16.7 years. In Eugene, Oregon, 9% of seventh grade boys, 19% of ninth grade boys, and 23% of tenth grade boys reported daily use of smokeless tobacco. A survey among athletes at a Texas college suggested that up to one third of football and basketball players were using smokeless tobacco on a regular basis; several members of this group re-
ported that they had started use of smokeless tobacco while they were in elementary school. To combat the increasing use of smokeless tobacco, two states—Massachusetts and New York—have recently introduced regulation and legislation that restricts advertising of smokeless tobacco, requires warning labels, and prohibits free giveaways.

CONCLUSION

Smokeless tobacco represents a serious health hazard to children, adolescents, and young adults of this nation. Smokeless tobacco is a proven human carcinogen. It has been recognized as carcinogenic since 1751. Recent studies conducted by the National Cancer Institute have shown unequivocally that the use of smokeless tobacco is associated with an increased risk of death from cancer of the oral cavity. Additionally, smokeless tobacco has been shown to be addictive and to cause periodontal disease, foul-smelling breath, and other dental diseases. Smokeless tobacco may cause cardiovascular disease.

For the protection of the present and future health of the children of this nation, the selling and advertising of all forms of smokeless tobacco must be controlled without delay.

RECOMMENDATIONS

To prevent the further spread of the use of smokeless tobacco among children and adolescents across the United States, the Academy makes the following recommendations:

1. Practicing pediatricians and Academy chapters are encouraged to take action in their cities and states to (a) require placement of strong health warnings on all smokeless tobacco products sold in their localities, (b) ban all advertising of smokeless tobacco, and (c) ban free giveaways of smokeless tobacco products. Such actions have already been taken in Massachusetts and in New York. Contact persons for information on these state-based actions are as follows: Gregory N. Connolly, DMD, MPH, Director, Division of Dental Health, Massachusetts Department of Public Health, 150 Tremont St, Boston, MA 02111, (617) 727-0732; and The Honorable Stephen Mindell, and The Honorable Rachel Kretser, Assistant Attorney General, State of New York, Department of Law, Two World Trade Center, New York, NY 10047, (212) 488-7473/(518) 474-7311. Pediatricians should encourage action to ban sales of all smokeless tobacco products in the hospitals and other facilities in which they work.

2. The Federal Trade Commission and Congress should take the necessary regulatory and legislative actions to: (a) require placement of strong health warnings on all packages for all smokeless tobacco products, (b) ban all advertising of all smokeless tobacco products.

3. The Federal Trade Commission should sponsor counter-advertisements, particularly on television, that accurately inform the public of the danger of smokeless tobacco.

4. Congress should empower the Food and Drug Administration (FA) to set limits for nitrosamines in smokeless tobacco products, as the FDA has done previously for beverages and medical products.

5. Congress should reinstate the federal excise tax on smokeless tobacco, which was repealed in 1965. This tax should be set at a sufficiently high level to deter youngsters from purchasing smokeless tobacco products.

6. The players' associations of the major professional sports should discourage their member athletes from appearing in smokeless tobacco advertising.

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Liaison Representatives
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AAP Section Liaison
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*Pediatrics* 1985;76;1009

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