

MINUTES OF THE HOUSE COMMITTEE ON Federal and State Affairs

The meeting was called to order by Representative Robert H. Miller at
Chairperson

1:30 a.m./p.m. on January 26, 1984 in room 526S of the Capitol.

All members were present except:

Representative Ediger

Committee staff present:

Russ Mills, Research Department
Mary Torrence, Revisor of Statute's Office

Conferees appearing before the committee:

Senator Elwaine Pomeroy
John McCabe, National Conference of Commissioners on Uniform State Laws
Representative Ed Rolfs
Jon Jossierand, Secretary of State's Office
Representative Baker
Dr. Scott Kennedy

The meeting was called to order by Chairman Miller

SB 89 - Uniform law on Notarial Acts

Senator Elwaine Pomeroy gave testimony in support of the bill which was sponsored by the National Conference of Commissioners on Uniform State Laws. Senator Pomeroy introduced John McCabe, Legislative Director of the National Conference of Commissioners on Uniform State Laws.

John McCabe explained that this bill was a modernization and combination of the Kansas Acknowledgements Act and the Uniform Recognition of Acknowledgements Act.

There was discussion concerning the short form described in New Sec. 8.

Representative Ed Rolfs asked the committee to either amend SB89 or to introduce a separate bill as they felt appropriate. Representative Rolf's amendment would raise the bond for a notary from \$2,500 to \$7,500. See attachment A.

A copy of a letter from Western Surety Company and Marsh & McLennan were distributed by Representative Rolfs. See attachments B & C. Both of these letters explained there would be no increase in cost for the increase in bond.

Jon Jossierand, Secretary of State's Office, gave testimony in support of this bill and the proposed amendments. He also suggested that personal sureties be done away with.

When asked how many notaries there were in Kansas, Mr. Jossierand said approximately 42,000. There is a \$10.00 filing fee and the Notary purchases his own seal or stamp.

Hearings on SB89 were concluded.

HB2598 - Relating to the sale of smokeless tobacco products

Representative Baker, sponsor of the bill, gave testimony in support of it. Representative Baker stated that it is imperative to recognize that it is no longer a question of "if" a person will suffer the effects of mouth cancer contracted from smokeless tobacco, but a question of "when". See attachment D.

CONTINUATION SHEET

Minutes of the F&SA Committee on January 26, 19 84

Representative Baker distributed a statement on "Oral Tissue Alterations Associated with the Teenage use of Smokeless Tobacco" from the University of Colorado School of Denistry. See attachment E.

Representative Baker distributed five pictures showing the effect of years of using smokeless tobacco.

Dr. Scott Kennedy, a General practicing dentist in Topeka, gave testimony in support of the bill and explained some of the effects of using smokeless tobacco. He also identified the pictures and explained the extent of the damage.

Each committee member was given a copy of a written statement from Reverend Richard Taylor in opposition to HB2598. Attach F.

Hearings were concluded on HB2598.

Representative Peterson made a motion, seconded by Representative Vancrum, to approve the minutes of the January 26 meeting. The motion carried.

The meeting was adjourned.

PROPOSED AMENDMENT TO SB 89

Add a new section to read as follows:

"Sec. 16. K.S.A. 53-102 is hereby amended to read as follows: 53-102. Every person, before entering upon the duties of a notary public, shall file with the secretary of state an application for appointment as a notary public, which shall also include an oath of office and a good and sufficient bond to the state of Kansas in the sum of ~~two-thousand-five-hundred-dollars~~ ~~(\$2,500)~~ \$7,500, with one or more sureties to be approved by the secretary of state. The bond shall be conditioned upon the faithful performance of all notarial acts in accordance with this act law. Every ~~notary--public~~ person, before receiving the appointment as a notary public, shall also file with the secretary of state the official signature and an impression of the seal to be used by the notary public."

And amend the title and repealer accordingly.

Atch A

Western Surety Company

Office of General Counsel

January 13, 1984

Representative Ed Rolfs
State Capitol
State of Kansas
Topeka, KS 66612

Dear Representative Rolfs:

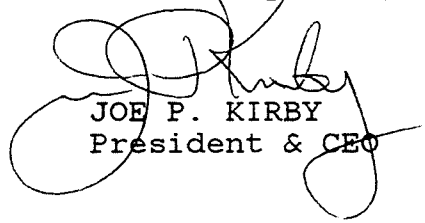
Re: Special File 1979 - Kansas - Notary Public Bonds

We are advised that the penalty of Kansas Notary Public Bonds may soon be increased. The purpose of this letter is to certify the intention of Western Surety Company to write any and all Kansas Notary Public Bonds as follows:

<u>PENALTY</u>	<u>TERM</u>	<u>PREMIUM</u>
\$ 5,000	4 yr.	\$30
7,500	4 yr.	30
10,000	4 yr.	40

This assumes that there are no other changes in the relevant statutes which would alter existing surety liability. It is our further intention that this premium charge will not be increased at any time during the next five years.

Yours very truly,


JOE P. KIRBY
President & CEO

JPK:klo

Attch. B

c

Marsh & McLennan

Marsh & McLennan, Incorporated
Two Townsite Plaza
Topeka, Kansas 66603
Telephone 913 354-8446
Telex 437071 MARSHMAC-TPK

January 24, 1984

Representative Ed Rolfs
State House
Topeka, KS 66612

Re: Notary Bonds

Dear Representative Rolfs:

In order to better understand the policy of the surety industry concerning the captioned subject, I have contacted several bond underwriters with companies that our agency is licensed to do business with to determine what their thoughts are. I have found much in agreement with these different companies.

The companies employees advised they did not think there would be an increase in premium if Kansas increases the notary bond from \$2,500 to \$5,000 or even \$10,000. Losses under these bonds are few but the nature of the losses that several underwriters talked about are very similar. Briefly, the losses involve the notary being told that the signature they are witnessing is that of a person who previously signed but is not present. In some other cases, it was someone appearing before the notary and preporting to be someone else and then signing the document. The similarity in these cases is that the notary never checked the identification of the person signing the document notarized.

It would seem proper that notaries be made to be aware of their duty to identify and also that they will be accountable to a surety if that surety makes a payment under the bond, as well as to an injured innocent party to any fraud situation the notary although unaware of at the time, becomes involved in.

Atch. c

Page 2

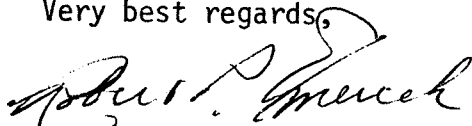
The bond amount is not a detriment to persons of dubious character or ability to become notaries. The surety does not spend any time in qualifying bond applicants. The fee the State would charge-it is \$10.00 now could be increased in order to be a small barrier to incompetency if it was raised considerably to \$25.00 or larger. Other states such Nebraska charges a \$20.00 fee for notary application.

The bond requires "faithful performance" of the duties of the office, but does the notary know what these duties are. Is the applicant for a notary license given anything to determine what the law is they are to "faithfully" perform? Nebraska and Missouri print booklets for notaries which include the law, the application and the bond form. Perhaps Kansas does do this but I don't know for sure, I have not seen one.

To a bond company notary bonds are administratively costly to handle. They only charge a \$30.00 premium, but they are reluctant to increase the premium for the bond. It is expensive to seek a rate increase. The loss experience does not enter into the premium structure as it would if this was an insurance coverage. At best for the surety, notary bonds serve as training for new underwriters who are usually assigned the supervision of this class of bond.

Companies I have contacted to learn of their feelings concerning the premium increase and their thoughts and experience concerning claims, include Trinity, The Travelers, Fidelity & Deposit Company, Fireman's Fund and Universal Surety Company. I hope this letter can be of some assistance to you and I am sorry I can not be more directly involved.

Very best regards,


Robert P. Emerick

RPE:dm

D

To: House Committee on Federal and State Affairs
From: Representative Elizabeth Baker
Re: House Bill 2598
Objective: To prevail upon the committee to pass favorably the amendment to KSA 79-3386 in recognition of the inherent dangers in all tobacco products.

Last summer I received a call from an irate mother in my district who was attempting to influence positively her son's attitudes towards smokeless tobacco consumption. She had confronted him with what she believed was overwhelming evidence to support her position concerning the damage it would do to his health. His response was typical of many teen-agers in that he felt if it wasn't illegal, it wasn't harmful. He was aware of the fact that the purchase and sale of cigarettes to minors was prohibited, but believed there were no health problems associated with the use of smokeless tobacco and that was the reason there were no laws governing it.

The Legislature recognizes the importance of protecting our youth from physically and mentally damaging influences, e.g. legislation governing drinking ages, cigarette sales to minors, etc. Moreover, the Legislature has not confronted this issue in the past for two fundamental reasons:

1. the negligible number of minors who used smokeless tobacco,
2. the lack of information as to the hazards of smokeless tobacco.

In reviewing the first reason, it must be noted that the number of teen-age and even elementary children that are involved in tobacco consumption are rapidly increasing. This increasing consumption is primarily in the area of smokeless tobacco and can probably be directly attributable to young people's attempts to emulate popular sports figures that they view with regularity "chewing and spitting" on television. It is a socially accepted habit that has permeated the behavioral patterns of our youth.

In consideration of the second reason, the available evidence indicates that the use of smokeless tobacco has increased to such an extent that some form of rational regulation is required. The Kansas Dental Society was contacted and they provided the following information: The clinical findings of the University of Colorado School of Dentistry, "Oral Tissue Alterations Associated with Teenage Use of Smokeless Tobacco". This extensive report indicates conclusively that oral disease is prevalent in teenage users. In this study, it is reported that 47.4% of smokeless tobacco users have clinically detectable signs of oral sequelae (disease). This figure is frightening when considered in relation to the brevity of use.

It is imperative to recognize that it is no longer a question of "if" a person will suffer the effects of mouth cancer contracted from smokeless tobacco, but a question of "when". In order to protect our youth from permanent residual disability and disfigurement and even in some cases death, it is essential for the Kansas Legislature to enact legislation that will announce unequivocally our recognition of the cancerous effects of tobacco consumption.

FEARIN E

ORAL TISSUE ALTERATIONS ASSOCIATED WITH THE
TEENAGE USE OF SMOKELESS TOBACCO

PART I - CLINICAL FINDINGS

Robert O. Greer, Jr., D.D.S., Sc.D.*

Todd C. Poulson, D.D.S.**

UNIVERSITY OF COLORADO

SCHOOL OF DENTISTRY

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Supported in part by NIH grants DE-06313 and CA-21098 and grants from the Colorado Division of the American Cancer Society and the Sands House Association.

ALCH. E

ABSTRACT

The practice of placing a small amount of chewing tobacco in the oral cavity and leaving it there for extended periods of time is known as "snuff dipping". Smokeless tobacco use appears to be finding its way onto middle, high school and college campuses as a socially acceptable, and vastly popular habit. Numerous reports have appeared in the literature that have described the oral changes that appear to be associated with the use of smokeless tobacco in adults. Such information is unavailable in the childhood age group. A study was therefore undertaken to determine the prevalence and frequency of oral hard and soft tissue alterations associated with the use of chewing tobacco in a teenage population. High school students in grades 9-12 were evaluated on a random basis. From a total sample size of 1,119 students 117 users of smokeless tobacco were identified. Four distinct lesions associated with smokeless tobacco use were identified clinically: (1) Hyperkeratotic or erythroplakic lesions of the oral mucous membranes; (2) gingival or periodontal inflammation; (3) a combination of oral soft tissue lesions and periodontal inflammation, and (4) cervical erosion of the teeth. Among the smokeless tobacco users, 113 were males and 4 were females. Fifty-seven, or 48.7 percent of the users had soft tissue lesions and/or periodontal inflammation, or erosion of dental hard tissues. Ninety-nine of the 117 users were Caucasian, 6 were Hispanic, 1 was black, 1 was Asian, 1 was American Indian and 6 failed to identify ethnic origin. Use ranged from 1 to 20 "dips" per day with an average time per dip of 30 minutes. Most users had been dipping for an average of 2 years and 12 different tobacco brands were identified.

REVIEW OF THE LITERATURE

Tobacco has been smoked, chewed and inhaled in various forms for over 500 years.^{1,2} Christen in a 1982 review of the literature concerning the social history of smokeless tobacco use traced the historical development and folklore surrounding the use of smokeless tobacco to the time of the first voyage by Columbus to the Americas.¹ The use of smokeless tobacco has been, and remains, a world wide phenomenon. Its use in the United States has been well documented since the period of the Revolutionary War.¹ During the 1800's, three forms of smokeless tobacco became quite popular in the United States: dipping moist snuff, chewing loose-leaf chewing tobacco, and chewing block or plug tobacco.¹ In the 19th century the use of smokeless tobacco fell into disfavor largely because of the work of Koch, Pasteur, Lister, Ehrlick and others who popularized the "germ theory of infection", and characterized the tobacco chewing habit as unsanitary. A resurgence in the use of all forms of smokeless tobacco in the United States appeared in the 1970's. The sales of smokeless tobacco have increased about 11 percent annually since 1974 so that it is presently estimated that there are 22 million users in the United States alone.³ Documentation of smokeless tobacco as an adult habit associated with lesions of the oral mucosa has been well delineated in the literature. However, in the decade of the 1980's smokeless tobacco appears to be finding its way onto middle school, high school, and college campuses as a socially acceptable and vastly popular habit that reflects a machco image. The revival of tobacco dipping and chewing as a popular social habit among adolescents has aroused renewed interest in the health controversy surrounding its use. ²

Smokeless tobacco is popularly used in one of two forms; either as dipping tobacco (snuff) or as rough cut chewing tobacco. Snuff dipping consists of placing a pinch of powdered tobacco between the cheek and gum, whereas using chewing tobacco consists of placing leaf tobacco or a plug of tobacco in the oral mucosa near the inner cheek. A "chaw" is a golf-ball-sized quid of leaf or plug tobacco on which the chewer sucks. ³ A "quid" is a small portion of any smokeless tobacco that is held in the mouth for dipping or chewing.

Well recognized oral mucosal reactions have been documented in individuals who use smokeless tobacco in any of its forms. The relationship of the clinical picture of adult snuff dipper's lesions to their histopathologic appearance has been thoroughly studied in Scandinavia,⁴⁻⁶ the United States,^{7,8} and South Africa.⁹ These studies are all largely confirmatory in that they show that oral leukoplakic patches appear in the anatomic region where the smokeless tobacco is most commonly placed. Christen¹ has reported that smokeless tobacco can produce significant effects on the hard tissues of the oral cavity in adults including discolored teeth and fillings and abrasion of the incisal and occlusal surfaces of the teeth. He also reported decreased ability to taste and smell, gingival recession, and advanced periodontal disease.

The question of the potential carcinogenicity of smokeless tobacco has received considerable attention in the medical and dental literature, and numerous investigators have examined the possible association of smokeless tobacco with oral cancer, especially verrucous carcinoma.⁵⁻¹⁶ Christen² suggests that there is a supportable link between the use of smokeless tobacco and oral cancer and he further speculates that over 600 cases of oral, pharyngeal or laryngeal cancer can be directly traced to smokeless tobacco use.

Other investigators, however, have found no premalignant or malignant changes related to the use of snuff or chewing tobacco.^{6,17,18} Numerous scientists, however, have suggested that there may be a substantial link between the use of smokeless tobacco and oral epithelial dysplasia.^{3,4} Sundström and associates¹¹ recently reviewed the clinical and histological characteristics of 23 oral carcinomas in the anterior vestibule of snuff dipping Swedish males who were an average age of 76 years. Examples of verrucous carcinomas as well as ulcerating, infiltrative squamous cell carcinomas were encountered in their study. Widespread oral leukoplakia, dysplasia and second primary carcinomas were also recorded.

Axéll and associates, in 1976 were responsible for establishing standardized clinical guidelines for grading the mucosal changes seen in adult snuff dippers.¹⁸ More recently Hirsch and co-workers⁴ reviewed the clinical, histomorphologic and histochemical features of snuff induced lesions in 50 habitual adult snuff dippers. They graded the lesions according to the four point scale developed by Axéll, and found that all of the lesions that they characterized were hyperkeratotic to some degree with colors ranging from white to yellow or brown and surface textures that showed variations from slight wrinkling to deeply furrowed or leathery. These investigators indicated that the presence of dysplastic changes could not be predicted by means of the parameters which characterized the snuff habit clinically. Nonetheless, they were able to document nine instances of dysplasia in their study of 50 adult patients.

Although there has been considerable scientific investigation of the clinical and histomorphologic changes associated with the use of smokeless tobacco in adults there is no such information available for children and adolescents. This paucity of information concerning the oral hard and soft

tissue changes associated with the use of smokeless tobacco in a teenage population coupled with the current resurgence in the use of all forms of smokeless tobacco in the United States precipitated the present investigation.

MATERIALS AND METHODS

One thousand-one-hundred and nineteen teenagers in the metropolitan Denver public schools in grades 9-12 were examined to determine the incidence and frequency of oral tissue alterations associated with the use of smokeless tobacco. The students completed a questionnaire with eight specifically selected questions designed to identify the number of years with the habit, daily exposure, brand of tobacco used, site of application, smoking and drinking habits, subjective symptoms, and frequency of dental care (Table 1).

Two examiners previously trained in the diagnosis and indexing of oral lesions associated with the use of smokeless tobacco products performed oral hard and soft tissue examinations. All examiners performed the examinations without seeing the questionnaire completed by the students so as not to institute examiner bias.

The clinical appearance of smokeless tobacco induced lesions was graded using a modified method of that developed by Axéll and associates.¹⁸ An exhaustive evaluation of the histomorphologic alterations, electron microscopic findings, and histochemical changes seen in the mucosa of teenage smokeless tobacco users is the subject of an ongoing scientific investigation, which will be presented as a second stage of this study.

RESULTS

Age, Sex and Clinical Appearance

The total sample of 1,119 patients included 522 males and 597 females. One-hundred-seventeen individuals (10.45% of the total sample) admitted to

using smokeless tobacco. One-hundred-thirteen users were male and four were female. Table 2 reflects the age and sex distribution of smokeless tobacco users. Fifty-seven (48.7%) of smokeless tobacco users had lesions of the oral hard or soft tissues. The lesions were easily clinically detectable and were graded using a modified method of that established by Axéll and associates¹⁸ in the following manner:

Degree 1: a superficial lesion with color similar to surrounding mucosa with slight wrinkling and no obvious thickening.

Degree 2: a superficial whitish or reddish lesion with moderate wrinkling and no obvious thickening.

Degree 3: a red or white lesion with intervening furrows of normal mucosal color, obvious thickening and wrinkling.

Fifty individuals had oral mucosal lesions that could be categorized as degree 1, degree 2, or degree 3 (Table 3). Examples of each of the various grades of mucosal lesions are seen in figures 1, 2, and 3.

In addition to evaluating the clinical appearance of snuff induced lesions all lesions were classified according to their texture, contour and color. These mucosal alterations are described in Table 4. The vast majority of the lesions were white, corrugated and raised. We found no evidence of black, brown or yellow lesions in any of the patients.

In addition to oral soft tissue alterations, involvement of the periodontium was evaluated. Tobacco associated periodontal degeneration was defined as tobacco-site-specific gingival recession with apical migration of the gingiva to or beyond the cemento-enamel junction with or without evidence of inflammation clinically. Seven individuals had periodontal lesions alone, while 23 individuals were identified to have a combination of mucosal lesions and periodontal involvement. (Fig 4) One case of cervical erosion

was identified. (Fig. 5)

Anatomic Location

Table 5 shows a regional block scattergram identifying the most prominent anatomic locations of the lesions identified in teenage smokeless tobacco users. All lesions arose directly in the area of quid placement; the vast majority of the lesions were found in the anterior mandibular muccobuccal fold extending from cuspid to cuspid.

Symptomatology, Ethnicity and Social Habits

Six of the 117 of smokeless tobacco users had symptoms. Symptoms were broadly defined as an awareness of mucosal changes or gingival recession on the part of the patient. None of these individuals had pain or discomfort, although one subject discontinued use of snuff due to "irritation" of his mucosa that was unrelieved by moving the tobacco quid to different locations in the oral cavity.

The ethnicity of the smokeless tobacco users is tabulated in Table 6. Ninety-nine users were Caucasian, six were Hispanic, one was black, one was Asian, and one was American Indian. Six individuals failed to identify their ethnic origin. Chewers used 12 different brands of smokeless tobacco. Ninety-six of the total of 117 users identified the brand of smokeless tobacco they used; 52.8% of these used one brand of smokeless tobacco. The majority of the smokeless tobacco users (79.17%) indicated that they used one of two specific brands of tobacco. More than half of the patients (62%) admitted to occasional use of alcohol, although it was difficult to quantitate the amount of alcohol that was used. Only three individuals who were smokeless tobacco users also smoked cigarettes. Eighteen individuals gave a positive history for alcohol use, cigarette smoking and the use of smokeless tobacco. No significant differences with regard to clinical grading of lesions could be found either between patients with multiple

habits (dipping, smoking and drinking) and those who only used smokeless tobacco or between patients who used different brands of smokeless tobacco and those who used one brand only. Over 69% of the smokeless tobacco users had had a full mouth dental examination in the past year. The level of dental care recorded for smokeless tobacco users is shown in Table 7.

EXPOSURE

The average exposure among users of smokeless tobacco with oral sequelae was determined to be 170 minutes per day. In individuals who chewed or dipped but had no oral signs or sequelae an average exposure time of 59.3 minutes per day was calculated. The duration of use among each of these groups is shown in Table 8.

DISCUSSION

The patients examined during this investigation represented quite a different population from those who have traditionally been studied. Most had been smokeless tobacco users for a short duration (average use 3.3 years) when compared with the studies of Roed-Petersen and Pindborg (average use 22 years) and Axéll and associates (average use 23.8 years) in adults.^{5,18} We were unable to duplicate the findings of Axéll and others,¹⁸ or Hirsch and others⁴ who established four degrees of oral mucosal alteration associated with smokeless tobacco use, the most severe change being a white to yellowish-brown, heavily wrinkled lesion with intervening deepened red furrows and/or heavy thickening. The reason for this failure is unquestionably related to the fact that nearly all previous authors have evaluated adult populations where the tobacco users have had a snuff dipping habit ranging from 16 to 20 years. The three degrees of mucosal change that were noted in our study represent a new classification which we feel should be applied to individuals who have used tobacco four years or less.

Hirsch and associates reported that the individuals in their recent study of snuff induced lesions in adult Scandinavians kept the tobacco quid in their mouth 8.5 ± 4.9 hours.⁴ Individuals in our study admitted to an average daily exposure of less than three hours. Although we were unable to determine a daily consumption in terms of the number of grams of tobacco used we expect that the consumption in the teenage population studied in no way approached the total consumption of 14 grams per day reported by Axell and others,¹⁸ or Hirsch and co-workers⁴ in adult users.

The present study documents that the use of smokeless tobacco among teenagers is overwhelmingly a male habit. Roed-Peterson and Pindborg⁵ reviewed a sample of 450 adult Danish patients with oral leukoplakia, 32 of whom had snuff related lesions and demonstrated that the habit was predominately seen in a males as well. However, an abundance of reports in the American literature indicate that the habit is widespread among adult females.^{12,15} Seventy-five percent of 15,000 American snuff users surveyed by Smith and others were females⁷. We suspect that this reported female predilection probably represents to some extent regional population sample bias.

Christen and others³ reported a high prevalence of abrasion on the occlusal and incisal surfaces of teeth among adult tobacco chewers and snuff dippers in the United States. These investigators also reported a high frequency of gingival recession and periodontal destruction associated with the use of smokeless tobacco. van Wyk⁹ demonstrated similar findings in South African patients who were confirmed snuff dippers. We found no evidence of occlusal or incisal abrasion of the teeth in any of the 117 teenagers who admitted to using smokeless tobacco. Although we were able to document tobacco associated periodontal deterioration, the advanced periodontal destruction and loss of teeth that have been reported adjacent to regions

where the tobacco quid is held in long-term smokeless tobacco users^{12,19} was not demonstrated. It appears that such severe hard and soft tissue changes are related to long-term use of the tobacco product and are features classically seen in an adult population.

Although we did document one instance of cervical erosion in the study it was deemed an aberrant finding. We could not specifically relate the cervical erosion to excessive use of smokeless tobacco by the patient or to a specific brand of tobacco although we favor this as the cause in what was an otherwise healthy oral cavity since it was identified in the anatomic site where the tobacco quid was routinely placed.

We found no evidence of tobacco associated dental caries. It has been speculated that the relative paucity of caries seen in heavy tobacco chewers may largely be due to the accelerated salivary flow that the tobacco stimulates. It is postulated that the accelerated flow causes a physical cleansing action and mild buffering action that inhibits plaque and cariogenic material aggregation. Christen² has further suggested that many smokeless tobacco products contain fluoride in levels ranging from .91 ppm to 2.01 ppm. The fluoride may also be instrumental in suppressing dental caries in smokeless tobacco users. There is, however, no universal agreement among investigators that smokeless tobacco is innocuous with regard to caries formation. Sitzes²⁰ reported that several patients who chewed sweetened smokeless tobacco had evidence of cervical caries.

The present study demonstrates a marked predominance of white male chewers. This ethnic distribution was quite striking and we consider it unrelated to an ethnic sample bias since 83% of the participants in the study were from the Denver Public school system, a school system that has had mandatory busing since 1973 with a resultant racial balance among the

majority of high school student bodies.

In various parts of the world smokeless tobacco has different constituents, thus the abrasive quality, tobacco content, chemical components, and manufacturing process may vary widely.⁵ In Scandinavia, wet snuff, which is highly alkaline (pH 8-9) is used almost exclusively. The dry tobacco used in the United States is not nearly as alkaline. It has been suggested that epithelial changes found in Swedish and Danish snuff users represent direct tissue damage probably related to the high alkaline reaction of Scandinavian wet snuff.¹⁸ Pindborg and colleagues¹⁰ accept the theory that the vacuolated cells seen in the histopathologic material from Swedish and Danish snuff users may be the result of the highly alkaline product, however, the development of characteristic chevron-like keratinized spikes which they have suggested are histologically characteristic and specific for mucosal damage from pipes, snuff and hooklis must have a different etiology since they are found in cigarette smokers as well as smokeless tobacco users. We also suspect that these chevron-like keratinized spikes appear as a function of tobacco exposure over time and very likely may be absent in individuals such as teenagers, who have used tobacco for only a short duration.

Pindborg and associates¹⁰ have described a characteristic pumice-like keratinization of the oral mucosa in individuals who are long-term smokeless tobacco users. This pumice-like change has been characterized clinically by a homogenous white patch with elevated keratinized striae. The pumice pattern has been seen solely on parts of the oral mucosa which normally are nonkeratinized. In none of our 50 patients who had discernable oral mucosal lesions that were related to the use of smokeless tobacco were we able to demonstrate this characteristic pumice type of appearance. In 13.5 percent of the smokeless tobacco users we were able to detect a granular texture to

the mucosa which is perhaps similar to what Pindborg has defined as a pumice-like quality. However, in those patients who had a granular quality to the mucosa none had the deep furrowing that is characteristic of the pumice pattern described by Pindborg and associates.

Hirsch and associates⁴ recently attempted to correlate snuff habits with the clinical severity of oral lesions as well as with certain superficial and deeply located cell changes in the epithelium and connective tissue. They found that the incidence of keratinized lesions, sialadenitis and mild dysplasia were higher than previously reported in the literature. These investigators emphasized, however, that the presence of dysplastic changes could not be predicted by means of the parameters which characterize the snuff habit or from the clinical grading of the lesion. The authors noted that the mild dysplasia seen in their study did not necessarily mean that the lesions were precancerous since similar dysplastic epithelial change may be found in noncancerous lesions according to the World Health Organization's collaborative study on oral precancerous lesions.²¹ However, in a retrospective study of snuff dipper's mucosal alterations, Axéll and others,²² demonstrated a clear correlation between snuff dipping and oral cancer in Sweden, a finding supported in earlier studies in various other countries.^{11,13,15}

Christen, perhaps more than any single investigator, has adamantly maintained that smokeless tobacco causes oral cancer. He supports the concept that verrucous carcinoma is associated with the use of smokeless tobacco by noting that nitrosonornicotine (NNN) the first organic carcinogen isolated from unburned tobacco is found in smoking tobacco, chewing tobacco and snuff in high concentrations, between .03 and 90ug/g of dry tobacco.^{2,23} The suggestion that nitrosonornicotine may be the carcinogen responsible for

verrucous carcinoma development in smokeless tobacco users, and the suggestion by Pindborg¹⁰ that smokeless tobacco induced oral epithelial changes may be predicted on the basis of histologic findings all deserve further study. Thermal irritation has been implicated as one of the possible etiologic factors associated with dysplastic changes in the mucosa of hookli smokers;^{2,10} however, thermal irritation alone cannot be the sole explanation for the oral changes since similar lesions are seen in tobacco chewers and snuff dippers.

The early clinical changes that have been noted in the present study are thought largely to be the result of mucosal irritation from the topically applied tobacco product. Bernstein and Carlsh reported similar diffuse, filmy, white lesions of the oral mucosa in several patients with histories of excessive use of Listerine mouthwash.²⁴ In their studies remission of the lesions occurred two weeks after the product was discontinued. They developed a control animal model in hamsters to study the effects of prolonged oral contact with Listerine and found that after 42 days of application every animal had developed clinical evidence of diffuse, filmy, white, corrugated lesions of the oral mucosa. The authors postulated that the response was purely one related to physical contact of the product with the mucosa.

Half of the patients in our study who admitted to smokeless tobacco use had no oral lesions. We were able to elicit from thorough history taking that two of the individuals in our study who had used smokeless tobacco were aware of a "white callous" that disappeared when they discontinued using the product which suggests that the mucosal lesions are reversible.

From the response to our question concerning the level of dental care afforded the patients in this study it was apparent that the vast majority of the patients (69.3%) had had access to dental care in the form of a routine

full mouth examination during the previous year. We were unable to determine whether tobacco related mucosal lesions were evident in any of the patients during those examinations. The degree of difficulty present in recognizing Degree 1 lesions can be extreme even among examiners well versed in recognizing such subtle mucosal alterations. An educational campaign to advise dentists of these early mucosal changes may prove quite beneficial.

Although this study documents that oral tissue changes are unquestionably associated with the use of smokeless tobacco in teenagers, additional studies are deemed necessary to study the histomorphologic, electron microscopic and histochemical changes evident in oral mucosa associated with the precipitant increase in smokeless tobacco use among American teenagers. Pursuant to that goal, a second phase of this study has been designed to investigate these varied parameters and compare them with previously published information concerning similar changes seen in adult patients.

SUMMARY

The practice of placing a small amount of chewing tobacco or snuff in the oral cavity and leaving it there for extended periods of time appears to be finding its way onto middle school, high school and college campuses as a socially acceptable and vastly popular habit. Numerous reports have appeared in the literature that describe the oral changes that are associated with the use of smokeless tobacco in adults. Such information has previously been unavailable in adolescents and teenagers. A study was undertaken to determine the prevalence and frequency of oral tissue alterations associated with the use of chewing tobacco in a teenage population as well as to determine the relative exposure to the tobacco in terms of minutes per day, the specific brands of tobacco used, the common anatomic sites for placing of

the tobacco quid, smoking and drinking habits, and subjective symptoms. From a total sample size of 1,119 students 117 users of smokeless tobacco were identified and 57 individuals with oral lesions were identified.

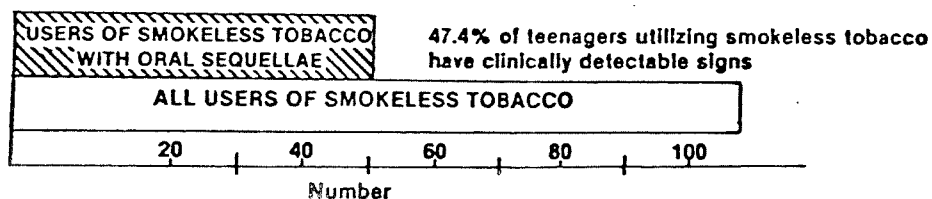
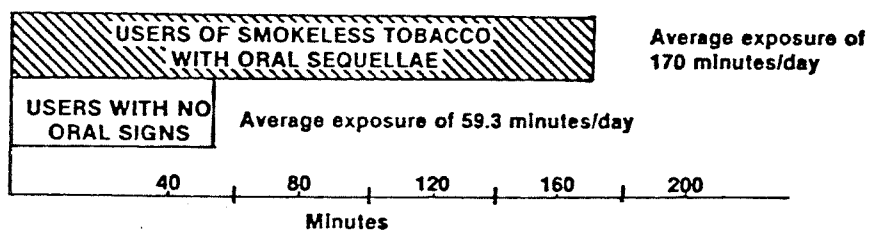
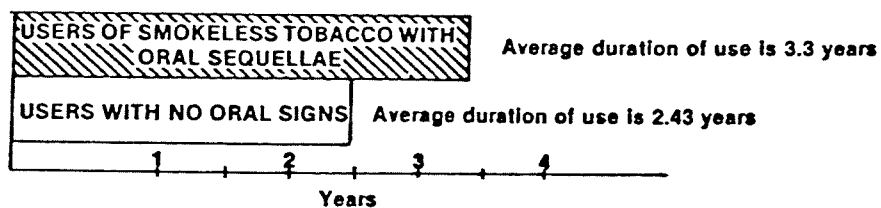
LEVEL OF DENTAL CARE

(How recently the subject had received
a full-mouth examination by a dentist)

less than 6 months	55
6 months to 1 year	24
1 to 2 years	22
2-4 years	3
5 or more years	10

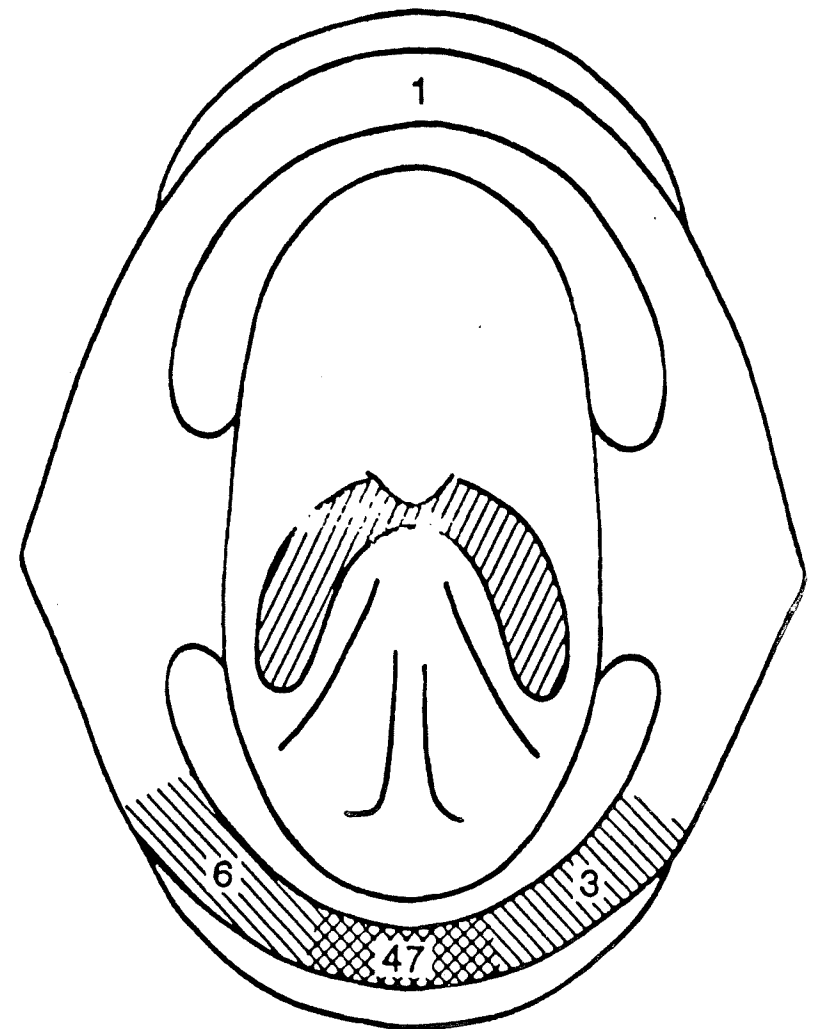
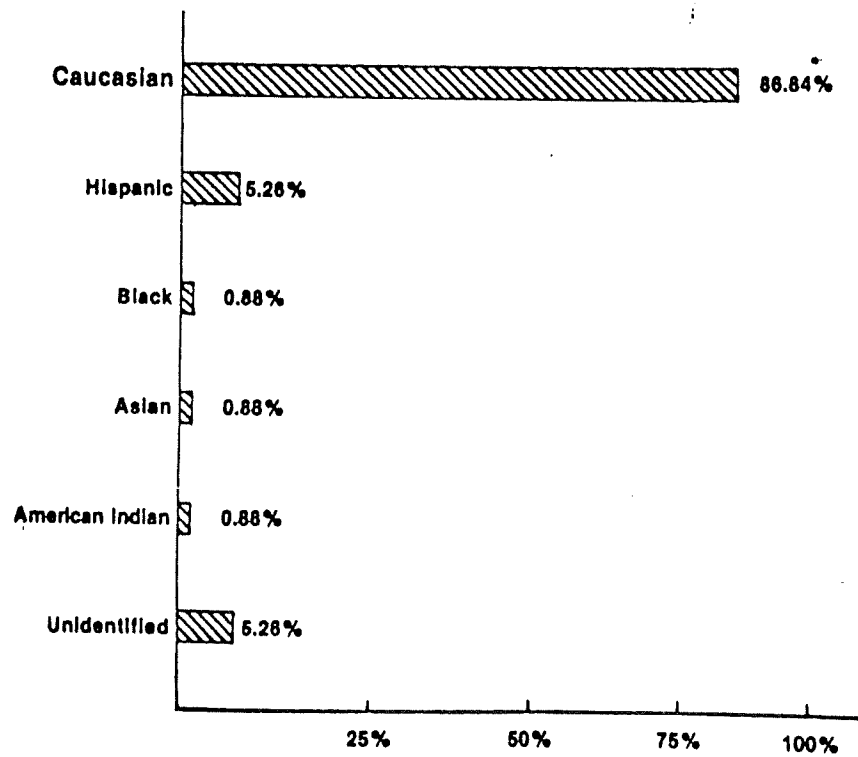
Among teenage users of smokeless tobacco,
69.3% had been to a Dentist in the last year

Daily exposure and
oral sequelae



Anatomic Locations of Periodontal and Mucous Membrane Lesions in Smokeless Tobacco Users

RACIAL DISTRIBUTION AMONG TEENAGE USERS OF SMOKELESS TOBACCO



**Classification of lesions in fifty patients
with mucosal alterations only
(excluding periodontal involvement)**

	<u>Number</u>	<u>Percentage</u>
Degree I	25	50%
Degree II	18	36%
Degree III	$\frac{7}{50}$	$\frac{14\%}{100\%}$

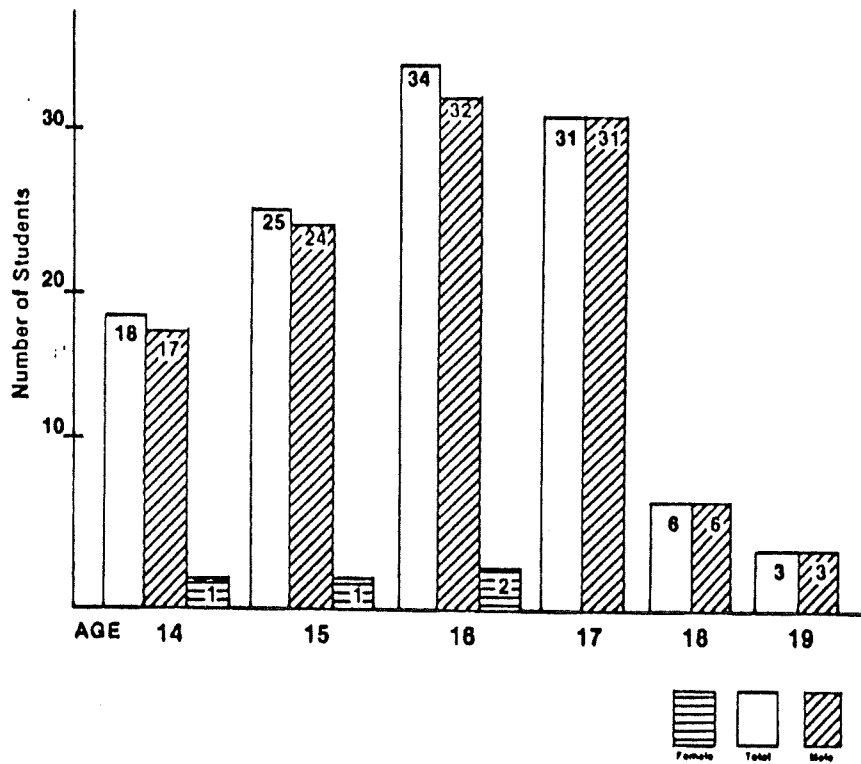
**CHARACTERISTICS OF MUCOSAL ALTERATIONS
ASSOCIATED WITH THE USE OF SMOKELESS TOBACCO**

TEXTURE: 48% smooth
13.5% granular
38.5% corrugated

COLOR: 81% white
9.5% red
9.5% red and white
none were brown or black

CONTOUR: 52% raised
44% flat
4% cratered

**SEX AND AGE DISTRIBUTION AMONG 117
TEENAGE USERS OF SMOKELESS TOBACCO**



QUESTIONNAIRE

Name: _____ last _____ first _____ in _____ Name of Site _____
 Address: _____ Sex (circle one) Male Female
 _____ Ethnic Origin _____ Caucasian
 Telephone _____ _____ Asian _____ American Indian _____ Hispanic
 Patient Age _____ _____ Black

PLEASE ANSWER THE FOLLOWING QUESTIONS (This information will remain confidential)

- When was the last time you had a full-mouth examination by a dentist?
 less than 6 mos ago
 6 mos. to one year ago
 1-2 years ago
 2-4 years ago
 5 or more years ago
- Do you ever use chewing tobacco (snuff)?
 Yes
 No. If "No", you need not answer any more questions. PLEASE TAKE THIS FORM TO THE EXAMINER.
 If "Yes", please continue with the questionnaire.
- When did you first start using chewing tobacco?
- How many times a day do you "chew"?
- a. How long do you keep each chew in your mouth?
 b. On the average, what is the total length of time you have tobacco in your mouth per day?
- a. What brand of chewing tobacco do you use?
 b. Do you use this brand all the time? Yes No
 c. What other brands have you used?
- Do you ever drink alcohol? Yes No
 If "Yes", what do you drink, _____ Wine _____ times per day _____ times per week
 _____ Beer _____ times per day _____ times per week
 _____ Hard Liquor _____ times per day _____ times per week
- Do you ever smoke cigarettes? Yes No
 If "Yes", how many cigarettes do you smoke per day? _____ just a few
 _____ 1/2 pack
 _____ one pack
 _____ more than a pack

Thank you. The dental examiners will complete the remainder. Please remember that the exam you are about to receive is only a screening and is not a complete dental examination.

I. PERIODONTAL CONDITION	Treatment indicated but not urgent.	Treatment needed immediately.
No overt signs of disease evident.		
II. DENTAL DECAY	Treatment indicated but not urgent.	Treatment needed immediately.
No overt signs of disease evident.		
No gross decay or suspicious areas.	Incipient decay -defective fillings	
III. ORAL PATHOLOGY	Area of suspicion is evident requiring further evaluation.	
No areas of obvious suspicion upon visual screening exam.		

COLOR
 White
 Red
 Combination (mixed)
 Brown or Black

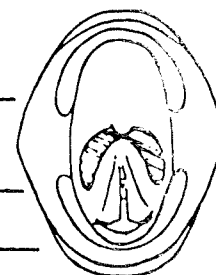
CONTOUR
 Raised
 Flat
 Cratered

TEXTURE
 Smooth
 Granular
 Corrugated

Size _____

Location _____

Number _____



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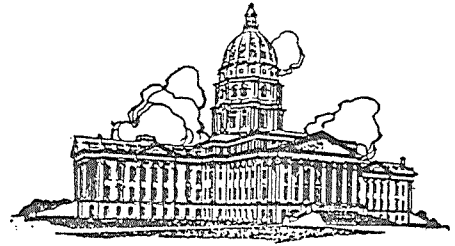
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KANSANS FOR LIFE AT ITS BEST!

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(3 Blocks South of Statehouse)



A Proud Land

HB 2598 Hearing January 26, 1984
House Federal and State Affairs Committee

Persons who make a lot of money selling items which have a negative effect on public health and well being always claim that law is not the answer. That is a half-truth. Law is not the answer to safer highways, to murder, to shoplifting, to drug abuse.

Law is never THE answer. Law is always PART of the answer. I remember little of what preachers said in the pulpit when as a little boy, Mom and Dad took me to church. But I'll never forget the pastor one Sunday telling about a bum who came to the parsonage asking for a handout. Waiting as his wife fixed food for the stranger, the pastor invited the bum into the living room and they sat there visiting.

The preacher said the bum was chewing and after some time needed to spit. "Where can I spit?" the bum asked. "In your pocket," the preacher replied. "Put that stuff in my pocket?" the bum exclaimed. "Wouldn't put something in my mouth I wouldn't put in my pocket," the preacher replied.

A healthy body is important. As you vote for HB 2598, let law be part of the answer in helping young people grow up with freedom from the filth and slop of chewing tobacco. We must encourage Kansas youth to realize that maturity is something quite different from a round can buldging noticeably in a well-worn pocket.

As a life-long non-smoker who has lost a vocal chord to cancer, I realize non-use of tobacco products does not totally prevent cancer. Non-use of tobacco products greatly reduces the risk of cancer.

Respectfully submitted,

Richard Taylor

"Of our political revolution of 1776 we are all justly proud," said Abraham Lincoln on Washington's birthday in 1842. He went on to say "how proud the title of that land" where persons declare their freedom from alcoholic beverages because they "shall find a stronger bondage broken, a viler slavery manumitted, a greater tyrant deposed. . . perfect liberty!" With per-person consumption at nearly half the national average, thousands of Kansans enjoy that perfect liberty. Concerned users and non-users are united in this R-E-A-L effort to prevent alcoholism, highway tragedy, and other suffering caused by our most abused recreational drug.

Rehabilitation — Help alcohol-dependent persons adjust to life without the drug.

Education — Inform children, youth & adults of effect of alcohol on mind & body.

Amount — Encourage persons to be non-users and encourage users to use less.

Law — Pass and enforce laws that reduce consumption and suffering.