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This research project historically reviews literature relating to dental hygiene practice, more specifically dental hygiene independent practice movements. From the early days of dental hygiene to current legislative actions, material applicable to dental hygienists practicing independently is presented. Information relating to the public's perception of this field, dental hygiene's professional standing, alternative practice settings for qualified hygienists, legal provisions for dental hygienists within each state, and dental hygiene education programs and accreditation standards are important considerations of this issue. All of these components contribute to the dental hygienists' struggle for autonomy and the researcher considers each in her attempt to create a solution for this problem facing the dental hygiene profession.

Challenges facing dental hygienists desiring to practice independently relate to complex issues which are
met with much opposition. When change is pursued by one organization, it seems inevitable that another group is affected. This assumption appears to hold true for hygienists and dentists in regard to dental hygiene independent practice; therefore, points of view are presented from both professional groups.
Historical Analysis of Dental Hygiene Independent Practice and its Prospective Future: 1965 to Present

by

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HISTORICAL ANALYSIS OF DENTAL HYGIENE INDEPENDENT PRACTICE
AND ITS PROSPECTIVE FUTURE: 1965 TO PRESENT

Chapter 1  Introduction

Dental Hygiene has been used by comedians and rhetoricians as the archetypal, boring women’s vocation, less prestigious and glamorous than secretarial work, more menial than waitressing and less sanitary than housekeeping. A popular misconception is that the dental hygienist is a mindless grunt who knows only how to clean teeth and lecture you about your failure to floss as she gets you ready to see the dentist. Miami Herald, February 16, 1985

The profession of dental hygiene is facing new challenges as this field rapidly progresses, one of which is combating a public perception problem. A distinct contrast exists between what a hygienist is and how the public views this professional. Since the 1950’s there has been a vast increase in dental personnel, with the most dramatic surge being among dental hygienists, yet the public remains unaware of this profession.  

Perceptions of the duties and responsibilities of a dental hygienist, of the educational background of hygienists, and of types of care received from dental hygienists indicate lack of knowledge. If asked what a dental hygienist does, the general public would likely respond that tasks primarily consist of cleaning teeth, giving fluoride treatments and providing instruction regarding brushing and flossing. Reconstruction of this narrow conception is required.

The 1986 State of Oregon Dental Practice Act defines
"'Dental hygiene' as that portion of dentistry that includes the rendering of educational, preventive and therapeutic dental services in general, but specifically, scaling, root planing, curettage and any related intraoral or extraoral procedure required in the performance of such services." "'Dental hygienist' means a person who, under the supervision of a dentist, practices dental hygiene." 3

This definition of dental hygiene may seem to "fit the mold" of what the public perceives; however 'prevention' and 'therapy' are broad terms that warrant a variety of services. In addition to those traditional functions mentioned above, a dental hygienist may perform the following functions under the general supervision of a licensed dentist:

1. Apply topical anesthetic and desensitizing agents;
2. Make preliminary intraoral and extraoral examinations and record findings;
3. Place or remove periodontal dressings;
4. Remove matrixes;
5. Train and instruct individuals in techniques of oral hygiene and preventive procedures; and
6. Upon presenting evidence of meeting State Board requirements, may perform all functions delegable to dental assistants and expanded function dental assistants.

Further extension of the practice of dental hygiene becomes available to those who are expanded function dental hygienists. As indicated by the name, "Expanded Function Dental Hygienist" means a dental hygienist who has met the clinical and didactic training requirements established by the Board to perform certain functions which the Board has
defined as expanded functions for dental hygienists.\textsuperscript{5}

Upon successful completion of a Board-approved course, an expanded function dental hygienist may perform the following services under the general supervision of a licensed dentist:

(1) Apply pit and fissure sealants; and
(2) Administer local anesthetic agents.

Also upon successful completion of a Board-approved course, an expanded function dental hygienist may administer nitrous oxide, in compliance with the Board’s anesthesia rules and under the indirect supervision of a licensed dentist.\textsuperscript{6}

Another alternative for the dental hygiene practitioner involves treatment of “limited access patients”—those who, due to age, infirmity, or handicap are unable to receive regular dental hygiene treatment in a dental office.\textsuperscript{7} Upon successful completion of a Board-approved course, an expanded function dental hygienist may perform the following expanded functions on a limited access patient under general supervision of a licensed dentist who has personally examined the patient and diagnosed the need for service:

(1) Application of soft lines to dentures; and
(2) Placement of temporary restorations.\textsuperscript{8}

Although functions delegable to a dental hygienist with proper training vary within each state, it appears that the public perception of the dental hygiene profession requires remodeling. Dental hygiene should be viewed as a diverse field with much to offer society. It is the researcher’s
intent to present material which will aid the reader in forming a new perspective.

Along with the rapid growth of the dental hygienist's professional duties, many hygienists now desire to enter into the business world and deliver preventive care simultaneously, through either independent contracting or independent practice. Although the two are similar in services rendered, they have very different meaning and supervision authorization. Independent contracting requires the hygienist to establish a contract with a dentist specifying the nature of the arrangement, to work under the supervision of that dentist, and to be responsible for every aspect of the business arrangement with the dentist. Dental hygiene independent practice, on the other hand, is presently illegal in all of the states but Colorado. The independently practicing hygienist would perform only those services considered legal under each state's Dental Practice Act, but would do so under no dentist's supervision.

Dental hygienists are traditionally trained for employment in private practice, but the situation has changed due to the decrease in opportunities for private practice, changes in state dental practice acts and an increase in dental hygiene graduates. It appears the profession of dental hygiene has the opportunity to increase utilization of the dental care delivery system while concurrently opening up new employment, especially if independent dental hygiene practice becomes acceptable. Literature evaluating
dental health care proposes that, at most, only 50% of the American population seeks dental care. Results from a 1977 survey conducted to determine reasons why people visit a dental office suggest that only 13% sought prophylaxis and other preventive treatment, while 16% sought dental exams and X-rays and 1.6% sought periodontal treatment. It has been documented that preventive dental care such as sealants, topical fluoride treatment, prophylaxis, and instruction on diet and brushing is the least expensive and most effective pathway to oral health.

Preventive dental care procedures, such as those mentioned above, are the hallmark of a dental hygienist’s training. The dental hygienist’s struggle for autonomy can most directly be related to providing nearly 90 years of these prevention-oriented services. Dental hygienists have been working in school settings for over 50 years with little, if any, supervision and with no harm to the public they serve. A change in work setting should cause no change in the performance of "traditional" dental hygiene functions; therefore, dental hygienist’s practicing under no dentist supervision should cause no alteration of services rendered. Neither the employer, work setting nor supervision dictate the quality of dental hygiene care.

Changing concepts of women’s roles and the related movement for women’s rights, along with the natural growth of the profession, have influenced dental hygienists to be more assertive in their quest for additional responsibilities in
the oral health care of patients. Restrictions on the way licensed dental hygienists practice are determined by individual state dental practice acts, which in turn are governed by the State Board of Dental Examiners. Unlike dental hygiene, most health care professionals have their own State Boards and Practice Acts which they control and mandate. Licensed professionals such as dentists, physicians, nurses, physical therapists, optometrists, and chiropractors are granted authority to practice with no restrictions or fewer restrictions than dental hygienists.12

Legal provisions granted to a dental hygienist vary by state. As mentioned earlier, Colorado is the first and only state in the U.S. to allow the independent practice of dental hygiene. As of July 1, 1986, hygienists practicing in Colorado are allowed to own and operate a place of business where dental hygiene preventive care procedures can be performed. Colorado's example will likely create a positive movement for the future of dental hygiene independent practice in other states.

Throughout the last two decades, various states have proposed legislation that would allow the independent practice of dental hygiene; however, all related bills have been defeated. California and Washington are two states that have recently initiated a movement for independent dental hygiene practice. Data from the California Department of Health Services indicates that there is a tremendous unmet need for dental care. Approximately 95% of all
Californians suffer from some sort of dental disease. "There is a 75 million unfilled cavity 'gap' and periodontal disease affects 4 of 5 young adults." (A 75 million unfilled cavity gap can be interpreted as meaning that there are 75 million cavities in Californians that are untreated.) The following best summarizes the Department of Consumer Affairs Health Career Ladder Project conducted in California:

Numerous empirical and secondary literature research projects have conclusively demonstrated that expanding the capacity for dental auxiliaries to perform functions traditionally reserved to dentists is the most cost-effective means of expanding the availability of dental care services without any diminution in quality of dental care services delivered. Estimates of training costs for these categories of auxiliaries indicate that due to the shorter total training time needed to perform limited functions, appropriate delegation of functions can result in greater economics in dental care delivery service.

"Dental hygienists fighting to get out from under dentists' thumbs" headlined the February 20th, 1983 edition of the Olympia Herald. The article, written by Peter Callaghan, was one of many surfacing during this time in the state of Washington, all related to a bill being proposed to the Washington State Legislature by dental hygienists. According to the article, what the hygienists hoped to gain from their work was passage of a measure (House Bill 293) "that would allow them to work without the direct supervision of a dentist on such chores as cleaning teeth and taking X-rays. They are also seeking control over the board that tests and disciplines them, a board now comprised
only of dentists." John Hamer, an editorial writer for the Seattle Times, had this to say after discussing the issue with his dental hygienist:

If you want to start an argument in your dentist's office these days, just mention hygienists' liberation. These people usually concentrate on mouths, but this issue finds them at each other's throats.

This attempt for independent dental hygiene practice failed, but efforts by the Washington State Dental Hygienists Association should not be discounted. This movement in 1983 focused much attention on the profession of dental hygiene and paved the road for independent practice legislation currently being proposed in the state.

STATEMENT OF THE PROBLEM

When any change is pursued by one organization, it seems inevitable that another group is affected. This assumption holds true for hygienists and dentists in regard to dental hygiene independent practice, and a resultant "battle" has arisen. In response to the law in Colorado approving independent practice, a suit was filed on July 2, 1986 by the American Dental Associations' Commission on Dental Accreditation (ADA CODA). Specifically, the suit charged that:

As a consequence of the limited training that hygienists have received they were anticipated to work under the supervision of dentists, they are not trained to diagnose dental disease, they are not trained to monitor patients
who need special care, they are not trained to use dental X-rays without supervision, they are not trained to prescribe drugs or understand drug interactions, and they are not trained to react to medical emergencies which may arise during the course of dental treatment.

This summary tends to correspond with a Fact Sheet circulated in conjunction with House Bill 293 and written in response to allegations made by the Washington State Dental Association (WSDA). The Fact Sheet, dated March 1, 1983, contained the following statements:

1) WSDA says that hygienists will not be able to provide services cheaper than dentists.

2) WSDA says that hygienists are not trained for medical emergencies.

3) WSDA says that dental hygienists are not educated for independent dental hygiene practice.

4) WSDA says that independent practice by dental hygienists will cause fragmentation.

The general consensus is that practicing dentists are opposed to the prospect of independent dental hygiene practitioners. (It is important to remember that not all dentists are opposed to dental hygiene independent practice, just as not all hygienists are in favor of independence.)

In the opposite corner of this fight stands the dental hygienist. In response to the suit filed by the ADA CODA regarding Senate Bill 2, the attorney for the Colorado
Dental Hygienists' Association (CDHA) filed a brief. Bruce Sattler, of the Denver firm of Holland and Hart, maintained that the public is better served by broad access to dental hygienists' preventive services, that dental hygienists are adequately trained to practice without supervision, and that, since 1979, unsupervised dental hygienists have practiced in alternative settings with no ill consequences.

Challenges facing dental hygienists desiring to practice independently relate to complex issues which arouse much opposition. This research will entail a historical analysis of independent dental hygiene practice and its prospective future. As first envisioned by Dr. Alfred C. Fones in the early 1900's, a dental hygienist would be responsible for preventive dentistry. From the early days of dental hygiene to current legislative actions, material applicable to independent dental hygiene practice is presented. Information relating to dental hygiene's professional standing, alternative practice settings for qualified hygienists, legal provisions for dental hygienists within each state, the public's perception of this field and dental hygiene education programs and accreditation standards are important considerations of this issue. All of these components contribute to the dental hygienists' struggle for independence, and the researcher correspondingly considers each in her attempt to create a solution for this problem facing the dental hygiene profession.
JUSTIFICATION OF THE PROBLEM

The prime purpose in choosing to research the prospect of dental hygiene independent practice lies in the fact that little is known about this controversial issue, and little information is available. Dental hygiene has been recognized as an emerging field within the dental profession, and as an active registered dental hygienist the researcher is interested in the changing role of her profession. Professional advancement is a key to career satisfaction and growth, and independent practice offers this necessary progress. Alternative practice settings for health care professionals are vital components to career complacency. Personal fulfillment in one's profession will undoubtedly be beneficial to all concerned. A happy provider (of health care services) makes for a happy providee.
REFERENCES


2) ibid. p.22

3) Oregon Board of Dentistry, "Oregon Dental Practice Act," May 1986, 125

4) ibid. Division 35 p.2

5) ibid. Division 35 p.1

6) ibid. Division 35 p.2

7) ibid. Division 35 p.1

8) ibid. Division 35 p.2


12) ibid. p.568

13) Department of Consumer Affairs, California Health Personnel Licensure Policy: Career Mobility in the Dental Professions, June 1979, 7-8

14) ibid. p.10


16) ibid. p.485

17) B. Kendall, Opportunities in Dental Care, VGM Career Horizons-National Textbook Co., 1983, 56
Chapter 2  Literature Review

Literature relating specifically to the concept of dental hygiene independent practice is scarce; however, literature is available regarding the practice of dental hygiene. The purpose of this Literature Review is to establish component parts relevant to dental hygiene practice and to describe the orderly progression of dental hygiene practice from the early days to the present. The chapter is divided into three parts, each with appropriate subsections.

Part I--BACKGROUND

History of Dental Hygiene

The history of dental hygiene gives insight into the early intent of this profession, as well as providing a chronological calendar of dental hygiene's emergence. This information is relevant in establishing dental hygienists as preventive care specialists, which was the original plan of the founding members.

In 1844, a writer in the first American dental periodicle observed that "hygiene of the mouth was an almost totally neglected aspect of dental care." It was not until sixty years later, at the turn of the century, that a backlog of needed dental services created legislation that established, in the words of one physician, "a new vocation, open to woman kind, and second to none in desireability."
In retrospect, it seems that the founders of dental hygiene foresaw a vocation which would satisfy and appeal to women interested in becoming oral hygiene specialists.

Prior to the twentieth century, the dentist was primarily interested in restorative dentistry, but with the oral health care movement preventive dentistry became a major concern. Dr. Thaddeus P. Hyatt, known as the "Father of Preventive Dentistry," was one of the first dentists to encourage acceptance of the dental hygienist, for he believed "that dentistry should not only repair teeth but should help avoid the need for repair." 21

As a separate function of dentistry, dental hygiene is approximately 80 years old. In 1906, in Bridgeport Connecticut, Dr. Alfred Civilion Fones, most often cited as the "Father of Dental Hygiene", became one of the first dentists to employ a hygienist. He trained Mrs. Irene Newman in both oral cleaning and dental health education and is responsible for coining the term "dental hygienist." According to Wilma E. Motley, Dr. Fones did not want the term "dental nurse" to be adopted because he felt it would be associated with disease. However, Dr. Fones did desire to give the name a proper description and proposed the following definition: "A hygienist is one who is versed in the science of health and prevention of disease." 23

In 1907, Connecticut modified its state law to allow personnel other than dentists to perform oral prophylaxis, and thus began the practice of dental hygiene. 24 By
1913, Bridgeport appropriated $5,000 to start a dental hygiene education program in city schools and granted this undertaking to Dr. Fones. The first formal training of dental hygienists was established in a school next to Dr. Fones' office and consisted of 51 lectures and an eight-month practical course. Courses included information in Anatomy and Physiology, Bacteriology and Sterilization, Pyorrhea Alveolaris, Oral Secretions, Malocclusion, Posture and Fresh Air. Faculty members were dentists from the community, and the first class entered thirty-three women into the program in September 1913.

The first graduating class of Fones' school entered the working world in 1914, and ten of these graduates were employed by the city of Bridgeport to work in the public school system. They provided dental health education to children and parents, performed cleanings and oral examinations for elementary school children, kept dental records for kids and excavated and filled carious lesions in permanent first molars. By providing these services and collecting data, these hygienists developed the first dental public health program in this field.

In 1916, the state of New York enacted legislation to legalize the practice of dental hygiene, and three schools were opened to fill the immediate demand. Between 1913 and 1946 only 14 more dental hygiene education programs were mandated. However, since 1946 this number has dramatically increased and currently, in 1987, there are
approximately 200 training facilities nationwide. In 1946, the American Dental Association established a committee to set requirements for existing hygiene schools. In addition to common requirements, each school was allowed to vary its program in accord with the institution's educational philosophy. By 1947, the ADA, upon recommendation for further standardization of training and education by the American Dental Hygienists' Association, proposed adoption of a two-year academic program at the college level. This minimal criterion of two-year dental hygiene programs was initiated in all schools by 1950. Regulations established by 1951 in all states required dental hygienists to be licensed by a governing board. (Point of interest: most hygienists were women, but in the late 1950's the first man was licensed in Oregon.)

Legislation regarding dental hygiene grew in specificity and restrictiveness over the next 35 years. These issues will be covered in Part III of this research project.

In summary, the original intent of the practice of dental hygiene can best be described by the profession's founding members. These persons knew that using a dental hygienist would "free the dentist up to see more patients and had the doubling effect of delivering more dental care as well as increasing profits. Time in the dental office is money and, if a time-consuming service can be delegated to trained personnel, compensated on a commission basis, the
dentist profits.  

The Public's Perception of the Dental Hygiene Profession

As mentioned in the Introduction, the profession of dental hygiene faces a public perception problem. Consumer's understanding of what a dental hygienist does and what "it took to get there" (in terms of education) often reflect a misconception. This poor public image of dental hygiene cannot be comforting to those in the field; therefore, efforts must be concentrated to eradicate these misconceived ideas.

A National Survey conducted for the ADHA by the Survey Research Laboratory of the University of Illinois, found that 82.47% of the respondents had never heard of a dental hygienist, and 13% of those who had heard of a dental hygienist did not know the nature of the hygienist's responsibilities. (Respondents were contacted by telephone between March 27 and April 25, 1982. The researchers asked questions of the person who initially answered the telephone and then asked to speak with the person in the household with the most knowledge regarding dentistry.)

Analysis of the survey can be summarized as follows:

1) Perceived duties of dental hygienists included teeth cleaning, advice of dental hygiene, check-up/exam, assisting dentist, and taking X-rays.
2) Care received from dental hygienists during the previous year included cleaning teeth, taking X-rays, check-up/exam, and advise on dental hygiene.
3) Almost one half of the respondents expressed no provider preference regarding teeth cleaning. (Among those who did express a preference, the choice was
"overwhelmingly" for a dental hygienist.) A similar pattern was observed regarding instruction and fluoride treatment. Almost all respondents preferred a dentist to fill cavities and a large majority expressed no preference regarding who takes X-rays.

4) Acceptance of an independent practicing dental hygienist was greatest among respondents who preferred the functions to be performed by a dental hygienist or who expressed no preference. Age and education are the two most useful predictors of acceptance of an independent dental hygienist, with acceptance being greatest among respondents who were relatively younger and had more of an educational background.

In a study reported by Feldman and Newcomb, in which college freshmen ranked major fields with respect to the intellectual ability of students, dental hygiene was perceived as requiring a low degree of intellectual ability. Other health fields, such as nursing and medical technology, were perceived as requiring medium or high degrees of intellectual ability.

Another significant dilemma confronting the dental hygiene profession relates to other health professionals' perception of the field. A study by Parker and Chan was conducted to determine the prestige of thirteen allied health professions (AHP), including dental hygiene. The researchers chose members from four health care professional groups to rate the occupational prestige of the thirteen AHP according to the following factors: training, education, knowledge requirements, monetary rewards, responsibilities and authority. Raters included physical therapists, occupational therapists, nurses, and physicians. Most of the physical therapists, occupational therapists and nurses were female (96%), whereas 89% of the
physicians were male.\textsuperscript{39}

Resultant prestige scores for dental hygiene placed the field among "nonprofessionals". The scale range is from 0 to 100 points, with 100 representing the highest prestige occupation. The following chart indicates various occupations' prestige scores; therefore, an assumption regarding dental hygiene can be made:

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96=Supreme Court Judge & 90=Accountant & 86=Public School Teacher \\
Low 80's=Accountant & 75=Public School Teacher & Mid 70's=Radio Announcer and Labor Union Official \\
Low 70's=Newspaper Reporter and Machinist & Mid 60's=Plumber and Auto Repairman & 50's=Store Clerk, Truck Driver and Cook \textsuperscript{40} \\
\hline
\end{tabular}
\end{center}

Of the thirteen allied health professions rated, dental hygiene was ranked with occupations requiring "less formal education and perhaps involving less complex skills."\textsuperscript{41} A chart showing how each health care professional group ranked dental hygiene, as well as the occupational prestige score given to the field follows:

\begin{center}
\begin{tabular}{lrr}
\hline
Rank & Prestige Score \\
\hline
Physical Therapists & 10th & 65.3 \\
Occupational Therapists & 13th & 60.9 \\
Nurses & 11th & 63.2 \\
Physicians & 10th & 66.2 \\
\hline
\end{tabular}
\end{center}

Physical Therapists ranked dental hygiene tenth out of thirteen allied health professions and assigned an occupational prestige score comparable to that of plumbers and auto repairman.

\textbf{The Professionalism of Dental Hygiene}

Questions often cited in the literature challenge the notion that dental hygiene is a profession. Infor-
mation presented in this subsection establishes criterion of a profession and compares dental hygiene with the nursing field. The two associations are often paralleled in the literature; therefore, a comparison seems appropriate. The nursing profession had a great impact on dental hygiene independent practice movements, and dental hygienists desiring to practice solo can learn a great deal from the nursing profession's history of independence. The importance of establishing dental hygiene as a "true" profession is vital to the independent practice movement. Dental hygienists must advocate their field as a profession and must be willing to support such endeavors.

An article written by Walsh and Oppedahl confronts the dental hygiene predicament by proposing the following: "Is dental hygiene a profession or merely a technical vocation?" The authors suggest, in their attempt to clarify the problem, the hallmarks of a profession: 1) a unique body of knowledge and a systematically organized, required educational curriculum; 2) a specialized language idiosyncratic to the profession; 3) stringent procedures such as licensure requirement and accreditation regulations to maintain acceptable programs; 4) standards of practice; and 5) a self-governing professional organization which allows the profession to be autonomous. 42

In an address to the ADHA House of Delegates at an annual meeting in Chicago, June 1982, Ralph Nader provided four criteria as essential in evaluating a profession.
These criteria can best be summarized as follows:

1) The obligation of profession is to provide information about what they are doing and how consumers can benefit their health by following the professions advice.

2) The professional is instrumental in preventing the very problem which they are skilled to diagnose and treat.

3) Every profession must allow a reasonable degree of competition. It cannot be a closed guild setting rules which favor the established members of the profession against those who are parts of the profession (who may be younger) or parts of subprofessional categories and various specialties.

4) Standards set by the profession must be real and not ones written by the profession itself.

Nader went on to conclude that

As long as there are adequate educational standards and qualifying standards and continuing education and review for dental hygienists, what is the reason for not allowing them to engage in alternative practice, particularly if they’re still under some sort of general supervision? What is the reason for restricting their ability to do what most dentists don’t want to do, or their ability to go into areas and institutions where dentists are not willing to go, because the dentists are back in their office with their own practice?

The researcher feels it is a fair assumption to delineate medicine and law as true professions and disregard mechanics and cosmetology. The literature tends to support this idea and further categorizes nursing, dental hygiene, social work and education as "borderline" professions.

Walsh and Oppedahl suggest that the shorter duration of required academic preparation, the fact that these careers are mainly occupied by women and the unlikelihood of malpractice suits being filed against persons in these fields charac-
terize them as "borderline" professions. They also recognize "lack of autonomy" as a feature of dental hygiene and one which is not characteristic of other borderline professions. Registered nurses are allowed to engage in private duty, teachers participate in individual tutoring and social workers operate private clinical practices.

As mentioned earlier, the movement for dental hygiene independent practice was greatly influenced by the emergence of nurse practitioners. The nursing profession itself had gained a greater degree of independence before the freedom of nurse practitioners in the late 1960's and early 1970's. In comparing dental hygiene with the nursing profession, one immediately conjures up thoughts of women working in a male-dominated field. However, the similarities terminate with this point. Nursing has a much longer tradition than dental hygiene, as well as a much larger and politically stronger national organization. Nursing is a well-established, licensed profession that has successfully extricated itself from the dominance of the medical profession. Nurses have their own nursing practice acts and their own State Boards of Nursing; they accredit their own programs and license their own members.

To further strengthen nursing’s claim of professionalism, this group of persons recognized that, in order to be considered sound, educated professionals, development of their preparation must be conducted in four-year university and college environments. In 1978, the American Nurses’
Association's House of Delegates stated that by 1985, the minimum preparation for entering into professional nursing practice would be the baccalaureate degree in nursing. Additional credibility is established when considering the numbers of nursing facilities which offer baccalaureate, masters and doctoral programs. As of 1975, 314 institutions offered a bachelor degree, 89 offered a masters degree and 9 offered a doctoral degree in nursing. (In 1964 these numbers were 188, 48 and 4 respectively.)

As in every discipline, a profession's status and its contributions to society are based upon a quality foundation of knowledge and upon the productivity of the field's personnel. The opportunity to achieve personal and economic freedom, as well as to build an independent reputation for quality, skill and professional judgment is vital not only to the professional but also to the consumer. Dental hygiene should be viewed as a profession since the only "criterion" lacking is autonomy; however, not as a result of lack of effort.

Alternative Practice Settings for the Dental Hygienist

Alternative practice is beneficial to both the dental hygiene practitioner and the patient. The repetitive nature of a dental hygienists' work often leads to discontent; therefore, offering an option of how the hygienist practices is vital to career satisfaction. As a result of
a gratified health care provider, the patient benefits by being served quality care. A variety of alternative practice settings are available to the qualified dental hygienist; however, variances exist within each state. It is the intent of this subsection to provide a brief outline of alternative practice in other countries, to outline various practice settings, and to document a few cases involving dental hygienists practicing in alternative sites.

The idea of a non-dentist performing dental procedures arose from the New Zealand dental nurse program which began in 1921 in response to increased dental disease and decreased manpower. These nurses, still being utilized today, are employed by the government to perform complete dental services for children up to age 15 in school-based dental clinics. Their list of duties includes providing oral exams, oral prophylaxis, fluoride application, and patient education. In addition, they are trained to prepare (cut) and restore deciduous and permanent teeth, polish amalgam restorations, perform pulp capping, extract deciduous teeth, and refer patients to a dental office for further treatment. The New Zealand dental nurse is allowed to diagnose and establish treatment plans, a concept inconceivable in the United States.

Dental auxiliaries in other countries have been trained in a variety of settings as well. In Saskatchewan, these additionally trained auxiliaries have proven that a workable approach to dental care delivery is possible. "Internal and
external evaluations have found the auxiliaries' work to be of high quality and patient acceptance has seldom, if ever, been a problem. Major cost savings are achieved and care is delivered to populations otherwise unserved." In Great Britain, the dental hygienist has been working independently since 1957.

Donald Blanford, project officer from the Health Resources and Services Administration, noted that the dental hygiene profession had a long history of service to special populations, going back to the Fones School of Dental Hygiene where its first graduates worked with school children in Bridgeport, Connecticut. They also worked at New Haven Hospital, an industrial clinic in Stanford, and provided dental hygiene services to WWI draftees and national guardsmen. Preventive dental care delivered in alternative settings is as old as the profession of dental hygiene.

Auxiliaries' duties in other countries cover a wide range of functions, and a resultant reduction in health care costs, in conjunction with increased utilization, has been documented. In the United States, dental health care is in need of such expansion to underserved populations; therefore, it seems dental hygienists offer this opportunity. Dental hygiene auxiliaries need to be fully utilized in the services for which they were trained, and establishment of these increased responsibilities is a crucial element to dental hygiene independent practice.

Alternative practice means "the authority, granted by state statute, for dental hygienists to practice outside of
the traditional dental private practice setting." This could mean practicing in hospitals, government agencies, schools, nursing homes, community centers, group homes, senior citizen centers, homebound service agencies, prisons and large private corporations. The vast majority of dental hygienists working in non-traditional settings said that personal satisfaction, comparable salaries, more challenging positions, increased job flexibility and good job benefits were reasons they went into this unusual line of work.

A survey conducted for the sole purpose of analyzing in which non-traditional settings hygienists choose to work netted the following results:

- 35.9% work in a dental school or dental hygiene school
- 22.7% work in government-supported clinics
- 16.5% work in non-government clinics
- 15.7% work in a day care, nursery or school health care facility
- 9.3% work in a hospital
- 6.5% work in a long-term care facility
- 1.8% work in a retail store/retail dental clinic
- .8% work in patients personal homes
- .4% work in other settings (not classified by authors)

Only 10% of the respondents reported practicing in more than one non-traditional setting.

The concept of alternative practice settings and independent practice is not new. In 1923, Robin Adair, MD, DDS, presented this forecast:

Certainly it is not difficult to foretell that, in no distant future, the hygienist will be considered an independent practitioner controlled by laws of her own making, her association having its own board of control.
Previous studies support the advantages to the public and the dental profession that result from expanding the availability of preventive dental care traditionally provided by dental hygienists. Dolan and Milgrom suggest that the scientific data are persuasive enough to support the following claim: "If dental hygienists are made available to the public frequently, conveniently, and inexpensively, there is a real possibility that caries and periodontal disease could be substantially reduced among a large portion of our population."  

As seems to be the case with any alteration of the norm, not all states conform to the same principles. Factors exist which tend to limit or prohibit alternative sites for dental hygiene practice. As an example, some state practices acts do not allow the hygienist to practice in nursing homes without direct supervision. Equipment is lacking, administrations are indifferent, funding is inadequate and interest is lacking on the part of everyone involved (dentist, hygienist and consumer).  

As mentioned in the Introduction on page 4, some dental hygienists desire to become involved in the business aspect of preventive dental care, and two opportunities cited as means of possibly accomplishing this goal were independent contracting and independent practice. To the dental hygienist, these terms represent supervision of performance by a dentist or complete independence. An overview follows.
Independent contracting by a dental hygienist is a practice model which is allowed in only a few states. A consultant-type relationship, this alternative requires a written contract specifying the exact nature of the arrangement between the supervising dentist and the contracting hygienist. The hygienist can only treat those patients who have been referred by their contracting dentist and who have had their treatment plan prescribed by the same dentist. (No other dentist can legally refer unless there is an established contract between the two professionals.) The contracting hygienist is allowed to rent operatory equipment and the operatory room from the dentist, can purchase all necessary supplies for the practice, can establish working hours, can set appropriate fees for their services and can extend credit to consumers at their choosing. Basically, they have sole responsibility for issuing patient bills, paying their share of utilities, and making sure they are adequately insured. Employing dental assistants and a receptionist is an option to aid in the efficiency of the practice.\textsuperscript{62}

According to lawyer Suzanne X. Conger, independent contracting hygienists must adhere to the following guidelines:

The names of each and every dentist to whom she provides services must be placed on the door leading to the reception room. Names of any other dentist to be added must be provided to Board of Dental Examiners at least 45 days before rendering service. Dentists must provide proper supervision of services rendered and exercise Jurisdiction.\textsuperscript{63}
Independent practice would allow the hygienist to open a private practice designed to provide certain limited dental hygiene functions, primarily those related to preventive oral health care. This alternative practice site, as mentioned earlier, is currently only legal in the state of Colorado. Hygienists allowed to work in this type of setting would establish their own practice apart from a dentist's office and assume complete responsibility for all aspects of their business. They are legally bound to perform only those functions considered allowable by individual state Dental Practice Acts. In the case of the hygienist needing to refer a patient for dental treatment, or the dentist needing to refer patients to the hygienist for appropriate services, an agreement may be established between the two professionals.  

The November/December 1986 issue of RDH contained a twelve-question survey evaluating dental hygienists' feelings about their "right to practice independently." According to the authors, "thousands of you answered the questionnaire." Results from the survey can be summarized as follows:

1) 83% feel independent practice should be legal in Colorado.
2) 63% would want to practice independently if it became legal in their state.
3) 83% would support Registered Dental Hygienists who want independence.
4) 22% think a patient's oral health would be jeopardized if a hygienist treats the patient without the supervision of a dentist.
5) 87% feel more people would seek dental care if they could go to an independent dental hygiene practice.
6) 91% of the hygienists responding to the survey who wanted more independence do not "really just want
to be dentists".
7) 54% of the respondents feel that 4 years should be the required educational background for independent dental hygiene practice.
8) 29% of the respondents had completed 4 years of education. (It should be noted that the percentages were very close for 2, 3, 4, and 4 plus years of education.)
9) 19% of the respondents employers (dentists) agreed with legalizing dental hygiene independent practice.
10) 73% of the respondents are currently practicing dental hygiene as salaried employees.
11) 53% of respondents are satisfied with their present position. (33% are somewhat and 16% are not.)

In rural, remote areas where no dentist is available, a dental hygiene office could provide necessary access for patients who are dentally neglected. This speculation is the reason various hygienists have practiced as either independent contractors or as "illegal" independent practitioners. Alice Delancy, a dental hygienist from North Carolina, offered dental hygiene services from her "Smile Clinic" located in her condominium. Efforts by the North Carolina State Board of Dental Examiners to revoke Delancy's license prompted her to file a suit in U.S. District Court challenging supervision requirements by the state. Delancy's whole argument contended that her due process and equal protection rights under the 14th Amendment of the Constitution were violated because the direct supervision requirement has no "rational relation to any legitimate goal."66-67 In August 1982, Delancy lost her challenge to the constitutionality of the North Carolina Dental Hygiene Act.

In Pennsylvania, Susan Edwards operated as an indepen-
dent practitioner for nearly 3 years in direct violation of the State's dental practice act. Her license was revoked in 1981 by the State's Dental Council and Examining Board. She appealed the action and lost. Linda Krol, independent contracting dental hygienist in California, used a separate office door from that of her contracting dentist in violation of the State's dental practice act. She was mandated to modify the situation before further providing dental hygiene services.

These landmark cases may not represent every hygienist's purpose in desiring independent practice; however, they do depict the struggle which exists for dental hygiene autonomy.

Legal Provisions of Dental Hygienists Within Each State

Functions delegable to dental auxiliaries vary by state and are established in each State's Dental Practice Act. The relevance of this subsection is to provide support for the delegation and utilization of dental auxiliaries, as well as to present tables which summarize each states legal provisions for dental hygienists. Use of auxiliaries has been reviewed repeatedly, and evidence indicates that functions provided by dental auxiliary personnel are of quality which is equal to, if not higher than, that of dentists. The main issue addressed here is that auxiliaries are beneficial components to the dental health care system and dental hygienists allowed to practice in-
dependently will likely perform quality work of delegable functions.

Interest in further increasing dentist productivity by expanding the functions of dental auxiliaries emerged in the 1960s. In 1966, the ADA encouraged practitioners to proceed quickly with studies, decisions and legislative action to help meet the manpower needs of the public. In 1972, the ADA Council on Dental Education recommended that the dental hygienist be taught to perform services in addition to the traditional ones, because "research had demonstrated that auxiliaries could be taught to perform certain functions with competence and without loss of quality in the delivery of dental care." By the mid 1970s, most states had included expanded functions in the rules and regulations of their dental practice acts.

According to lawyer Suzanne X. Conger, dental practice acts are enacted in all states and generally provide for the eligibility for licensure and grounds for suspension or revocation of a license, as well as control of assignments of duties to auxiliary personnel. However, the ultimate power of delegation lies with the supervising dentist. Auxiliaries are often asked to perform "illegal" functions by their dentist/employer. Regardless of whether the doctor lacks full knowledge of the state dental practice act, or whether it is a conscious disregard, it is the dental hygienist's professional responsibility to know what functions are legal. Ignorance of the law or "he/she told
me to do it" is not a valid excuse. "The law assumes licensed professionals do know what they should know and act as such."74

Scheffler and Kushman, using data from 29,000 solo general dental practices in 1968, indicated that dental hygienists were underutilized,75 yet the services provided by auxiliaries have been reviewed repeatedly and shown to meet the standards expected by dentists.76 In a ten-study review of the quality of service delivered by EFDAs, Douglass and Cole found that no difference between the quality of auxiliaries' services and dentists' services was apparent. Three studies showed a slightly higher quality delivered by auxiliaries.77

Although research studies have shown that delegation of expanded functions is feasible, opposition to delegation has been noted by the dental profession. According to Rich and Smorang, "The current dental literature reflects varying opinions in the dental community concerning the delegation of expanded functions for auxiliaries."78 They went on to say that this circumstance is reflected in the characteristics of the dentist/employer. Results from their survey evaluating this notion can be summarized as follows:

1) Younger, more recent dental graduates are more likely to delegate than their older counterparts.
2) Dentists who employed auxiliary were found to have more positive attitudes toward delegation.
3) Members of dental faculties, salaried dentists and specialists delegated more frequently.
4) Periodontists delegated the most since their practice required more of these services.79
In the spring of 1985, each office of the State Board of Dentistry received a questionnaire from the Division of Educational Measurements of the American Dental Association concerning the legal provisions operative in its licensing jurisdiction permitting the delegating of functions to dental hygienists and assistants. Three jurisdictions did not respond to the survey: Indiana declined to respond, and Maine and Rhode Island were in the process of revising their statutes.

The results of the survey indicate that in 1985 no licensing jurisdiction had a Practice Act which permitted dentists to delegate at their discretion the performance of any and all functions to dental assistants and/or dental hygienists. The report compiled by the ADA contains the analysis of the questionnaires, as well as numerous tables depicting whether the specified function is permitted in each state. If the function is allowed, the next column indicates whether additional education is required beyond graduation from an accredited dental hygiene program. The last column of the table specifies what supervision by a dentist is mandated. For reasons of simplification, the researcher condensed material applicable to her project into the succeeding tables. A brief explanation of each table is given.

Table 1 provides a list of functions available to qualified dental hygienists. The first column indicates how many states allow the function to be performed. The number
48 is the assumed denominator since 48 states responded to the survey. (Example: 48 states allow the dental hygienist to perform prophylaxis.) The last four columns categorize supervision requirements for the function under examination. (Example: Of the 48 states allowing a dental hygienist to perform prophylaxis, 8 require direct supervision, 17 require indirect supervision, 22 allow general supervision and 1 submits personal supervision as a requirement.) The following abbreviations are defined: S=states; D=direct; I=indirect; G=general; and P=personal.

Table 2 displays, according to each state responding to the survey, how many of the 21 functions (excluding performing prophylaxis) are delegable to a dental hygienist practicing in that state. (Example: Alabama allows 16 of the 21 functions to be performed by a qualified hygienist practicing in their state.)

Table 3 lists specific functions which may or may not be allowed in certain states. The researcher extracted these particular functions from the original 21 because she feels there is inconsistency which requires correction. The first four columns categorize functions which are often cited as preventive services and should therefore be rendered legal in all states. The remaining columns show the inconsistency in delegating related tasks. (Example: Dental hygienists in Oregon are allowed to place temporary restorations, however they are prohibited from removing temporary restorations.)
Reference for all tables compiled by the researcher is from "Legal Provisions for Delegating Functions to Dental Hygienists and Dental Assistants", 1985, ADA Division of Educational Measurements.
TABLE 1
SUPERVISION REQUIREMENTS OF STATES ALLOWING EXPANDED
FUNCTIONS FOR DENTAL HYGIENISTS

<p>| | | | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Performing prophylaxis</td>
<td>48</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>Taking Impressions for Study Casts</td>
<td>45</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>Exposing Radiographs</td>
<td>47</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Applying Topical Anticariogenic Agents</td>
<td>47</td>
<td>8</td>
<td>17</td>
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<tr>
<td>5</td>
<td>Removing Sutures</td>
<td>44</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>6</td>
<td>Placing Periodontal Dressings</td>
<td>40</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td>Removing Periodontal &amp; other Surgical Dressings</td>
<td>45</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>Administer Local Anesthetic Agents</td>
<td>15</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Placing Rubber Dams</td>
<td>46</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>10</td>
<td>Removing Rubber Dams</td>
<td>46</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>11</td>
<td>Placing Matrices</td>
<td>38</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>12</td>
<td>Removing Matrices</td>
<td>34</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>13</td>
<td>Placing Temporary Restorations</td>
<td>35</td>
<td>8</td>
<td>14</td>
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<tr>
<td>14</td>
<td>Removing Temporary Restorations</td>
<td>27</td>
<td>6</td>
<td>11</td>
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<tr>
<td>15</td>
<td>Placing Amalgam Restorations</td>
<td>11</td>
<td>4</td>
<td>2</td>
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<tr>
<td>16</td>
<td>Carving Amalgam Restorations</td>
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<td>2</td>
<td>4</td>
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<td>17</td>
<td>Polishing Amalgam Restorations</td>
<td>44</td>
<td>14</td>
<td>14</td>
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<tr>
<td>18</td>
<td>Polishing &amp; Finishing Composit Resin or Silicate Cement Restorations</td>
<td>9</td>
<td>4</td>
<td>3</td>
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<tr>
<td>19</td>
<td>Applying Pit &amp; Fissure Sealants</td>
<td>42</td>
<td>15</td>
<td>14</td>
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<tr>
<td>20</td>
<td>Applying Cavity Liners &amp; Bases</td>
<td>17</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>21</td>
<td>Root Planing</td>
<td>41</td>
<td>12</td>
<td>14</td>
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<tr>
<td>22</td>
<td>Closed Soft Tissue Curettage</td>
<td>30</td>
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<td>10</td>
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</table>

Note: A "CHART OF PERMITTED FUNCTIONS SHOWING SUPERVISION REQUIREMENTS AND EDUCATIONAL TRAINING REQUIREMENTS" was provided to the researcher from the ADHA and categorized 2 additional functions relating to nitrous oxide. Fifty states were included in this analysis, with the exclusion being the District of Columbia. The same abbreviations are applied except for one category: P=personal is replaced by O=other. (No bibliographic information was provided by the ADHA, however the pages were numbered 37-41.)

23) Assist in Administration of Nitrous Oxide (N2O) | 18 | 9 | 4 | 2 | 3 |
24) Administer Nitrous Oxide | 13 | 9 | 2 | 0 | 2 |
<table>
<thead>
<tr>
<th>State</th>
<th># of allowed expanded functions</th>
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<td>Colorado</td>
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<td>Connecticut</td>
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<tr>
<td>Delaware</td>
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<tr>
<td>District of Columbia</td>
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<td>Florida</td>
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<td>Georgia</td>
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<td>Wyoming</td>
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<td>TABLE 3</td>
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<tr>
<td>STATE DELEGATION OF SPECIFIC EXPANDED FUNCTIONS</td>
<td>Anesthesia</td>
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<td>Alabama</td>
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The purpose of this subsection is to provide insight into dental hygienists on State Dental Examining Boards and to familiarize the reader with the variance of dental hygiene representation within each state.

Dental hygienists' representation on State Dental Examining Boards is under scrutiny in many states. Analysis of the literature reveals a substantial increase in the number of hygienists allowed to "sit" on examining boards since the early part of this decade. According to Dolan and Milgrom, dental hygienists "are limited in their voting power. But dentists vote on everything, not just the matters affecting them." Although dental hygienists' voting powers are restricted within various jurisdictions, currently only the state of Texas does not allow a hygienist on the board. In addition, Washington has a Dental Hygiene Examination Committee and the state of Oregon's Dental Examining Board President is the dental hygiene board member.

Information provided from the ADHA depicting "DENTAL HYGIENISTS ON STATE DENTAL BOARDS" is summarized and compiled into Table 4. The first column shows each state and the number of dental hygienists represented on the board. (Example: Alabama has one dental hygiene representative.) The second column displays the voting power and/or restrictions to which the dental hygienist must adhere. To
clarify, unless stated otherwise, the dental hygienist is allowed to vote on all matters which the board addresses.
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REFERENCES


19) ibid. p.127


21) ibid. p.22

22) B. Kendall, p.7-8


25) B. Kendall, p.8


27) B. Kendall, p.8


30) B. Kendall, p.8

31) ibid. p.8


33) B. Kendall, p.9

34) W.A. Hamilton and P.R. Hamilton, p.24


36) F.J. Kviz, p.23
37) ibid. p.23-26


40) ibid. p.120

41) ibid. p.120


43) R. Nader, Address to ADHA House of Delegates, Dental Hygiene, August 1982, Vol. 56, 17

44) ibid. p.19

45) H.B. Waldman, Dental Hygiene, August 1984, 369


49) ibid. p.218


51) Dept. of Consumer Affairs, California Health Personnel Licensure Policy, p.86

52) I.R. Woodall, p.10

53) D.O. Born, p. 89

54) B. Kendall, p.51
55) D. Rzeszewski, Government Currents, "Dental Hygienists in Non-Traditional Settings," Dental Hygiene, December 1986, Vol. 60, 538


57) D. Rzeszewski, p. 542


61) D. Rzeszewski, p. 567


64) B.S. Golden and B.L. Douglas, p.280


66) S.X. Conger, p.17


68) H.R. Combs, "Independent Hygiene Practice...An Issue Still Being Weighed," Dental Economics, November 1983, 64

69) S.X. Conger, p.17


72) S.K. Rich and J. Smorang, p.22

73) S.X. Conger, p.14

74) B. Granger, "Legal Aspects of Dental Hygiene Practice," Dental Hygiene, July 1980, Vol. 54, 337


77) Ibid. p.558

78) S.K. Rich and J. Smorang, p.23

79) Ibid. p.23

80) ADA Division of Educational Measurements, "Legal Provisions for Delegating Functions to Dental Hygienists and Dental Assistants," 1985, i

81) A.K. Dolan and P. Milgrom, p.33

82) ADHA, "Dental Hygienists on State Dental Boards," ADHA information sheet
Part II--DENTAL HYGIENE EDUCATION

Dental Hygiene Programs Accreditation Standards

Accreditation standards are established for the purpose of regulating and ensuring competence. The prime purpose of this subsection is to summarize curricular content and faculty accreditation standards for dental hygiene education programs. The point to be made is that the ADA establishes standards and accredits dental hygiene programs based on these high standards, yet they do not allow programs meeting these requirements to further expand and implement independent dental hygiene practice studies. The Commission feels accredited dental hygiene programs are fully able to provide adequate care to the public as long as graduates practice under the supervision of a dentist.

Accreditation is a form of regulation or control which is exercised over educational institutions and/or programs by external organizations or agencies.

The American Dental Association, through its Commission on Dental Accreditation, has established standards for dental hygiene education. These standards have been developed for the following reasons: 1) to serve as a guide for dental hygiene program development, 2) to serve as a stimulus for the improvement of established programs, and 3) to provide criteria for the evaluation of new and established programs. To be accredited by the Commission on Dental Accreditation, a dental hygiene program must meet the stan-
dards set forth in the document "ACCREDITATION STANDARDS FOR DENTAL HYGIENE EDUCATION PROGRAMS." These standards are national in scope and represent the minimum requirements.84

The first dental hygiene accreditation standards were developed by The American Dental Hygienists’ Association, the National Association of Dental Examiners and the American Dental Association’s Council on Dental Education. The standards were approved by the ADA House of Delegates in 1947, five years prior to the initiation of the dental hygiene accreditation program in 1952.85

In examining the accreditation standards for dental hygiene education programs, the researcher focused on two standards. Standard 5 identifies the content of the program’s curriculum, while Standard 7 identifies faculty qualifications and professional development. Excerpts from these standards are provided. (Keep in mind that these standards are only basic requirements and certain excerpts may not be in their entirety.)

STANDARD 5 – CURRICULUM

5.3 CONTENT THE CURRICULUM MUST INCLUDE CONTENT IN FOUR SUBJECT AREAS: GENERAL EDUCATION, BASIC SCIENCES, DENTAL SCIENCES AND DENTAL HYGIENE SCIENCE.

Curriculum content and learning experiences must provide the foundation for continued formal education, independent study and professional growth. Content identified in each subject area may not necessarily constitute a separate course, but the subject area must be included within the curriculum.
5.3.1 GENERAL EDUCATION: GENERAL EDUCATION, INCLUDING ENGLISH AND SPEECH, AND SOCIAL SCIENCES, INCLUDING PSYCHOLOGY AND SOCIOLOGY, MUST BE INCLUDED IN THE CURRICULUM.

These subjects provide prerequisite background for components of the curriculum which prepare the students to communicate effectively with patients, dentists, other auxiliaries and other health professionals; assume responsibility for individual oral health counseling; and participate in community health programs.

5.3.2 BASIC SCIENCES: CONTENT IN SCIENCES, INCLUDING GENERAL CHEMISTRY, ANATOMY, PHYSIOLOGY, BIOCHEMISTRY, MICROBIOLOGY, PATHOLOGY, NUTRITION AND PHARMACOLOGY MUST BE INCLUDED TO PROVIDE BACKGROUND FOR DENTAL AND CLINICAL SCIENCES.

Content in basic sciences must be included in or be prerequisite to the curriculum.

5.3.3 DENTAL SCIENCES: CONTENT IN DENTAL SCIENCES, INCLUDING TOOTH MORPHOLOGY, HEAD, NECK AND ORAL ANATOMY, ORAL EMBRYOLOGY AND HISTOLOGY, ORAL PATHOLOGY, RADIOGRAPHY, PERIODONTOLOGY, PAIN CONTROL, AND DENTAL MATERIALS MUST BE INCLUDED IN THE CURRICULUM.

These subjects provide the student with knowledge of oral health and disease as a basis for assuming responsibility for assessing patient preventive needs, developing patient counseling programs and providing prescribed patient care.

5.3.4 DENTAL HYGIENE SCIENCE: THE DENTAL HYGIENE SCIENCE ASPECT OF THE CURRICULUM MUST INCLUDE CONTENT IN ORAL HEALTH EDUCATION AND PREVENTIVE COUNSELING, PATIENT MANAGEMENT, CLINICAL DENTAL HYGIENE, COMMUNITY DENTAL HEALTH, MEDICAL AND DENTAL EMERGENCIES INCLUDING BASIC LIFE SUPPORT, AND LEGAL AND ETHICAL ASPECTS OF DENTAL HYGIENE PRACTICE TO PREPARE THE STUDENT TO PERFORM CLINICAL AND HEALTH EDUCATION FUNCTIONS AS AN INTEGRAL MEMBER OF THE HEALTH TEAM.

Content related to assuming responsibility for oral health education must prepare the student to assess the individual patient's needs and to apply knowledge of these needs, the learning process and concepts of disease prevention in planning, presenting and evaluating instruction.

Content in community dental health and public health dentistry must be included in the curriculum to fa-
miliarize students with the procedures of assessing, planning, implementing and evaluating community oral health programs. Experiences in oral health education and preventive counseling for groups must be included in the curriculum.

5.3.4.1 CLINICAL DENTAL HYGIENE: THE CLINICAL ASPECT OF THE CURRICULUM MUST INCLUDE A FORMAL COURSE SEQUENCE IN SCIENTIFIC PRINCIPLES OF DENTAL HYGIENE PRACTICE WHICH EXTENDS THROUGHOUT THE CURRICULUM AND IS COORDINATED AND INTEGRATED WITH CLINICAL EXPERIENCE IN PERFORMING DENTAL HYGIENE PROCEDURES.

Learning experiences and practice time in clinical procedures must assure that each student has adequate opportunity to develop competence in performing all functions.

Clinical procedures must include assessment of each patient’s systemic and oral health before hygiene services are initiated. An appropriate system for coordinating services provided in the dental hygiene clinic with comprehensive patient care should be utilized.

STANDARD 7 - FACULTY

THE PROGRAM SHALL BE STAFFED BY FACULTY WHO ARE WELL-QUALIFIED IN CURRICULAR SUBJECT MATTER, DENTAL HYGIENE FUNCTIONS AND EDUCATIONAL METHODOLOGY.

7.1 QUALIFICATIONS: DENTAL HYGIENE FACULTY MEMBERS MUST HAVE BACKGROUND IN AND CURRENT KNOWLEDGE OF DENTAL HYGIENE, THE SPECIFIC SUBJECTS THEY ARE TEACHING AND EDUCATIONAL METHODOLOGY.

Dental hygiene faculty members must have qualifications which include advanced study in subject areas they teach. Faculty backgrounds must include completion of courses in educational theory and practice. Individuals who do not have this background must be continuing their education in these areas.

Faculty members should have credentials at least one level higher than the degree to be granted to their students or they should be currently working on attaining such a degree.

7.5 PROFESSIONAL DEVELOPMENT: OPPORTUNITIES MUST BE PROVIDED FOR CONTINUED PROFESSIONAL DEVELOPMENT OF DENTAL HYGIENE FACULTY.
All full-time faculty shall have opportunities for pursuing study in education and research methodology as well as in their subject areas of assigned teaching responsibility. Release time must be provided for professional association activities, research, publishing and/or clinical practice experience. Each faculty member should be provided release time and financial support to attend at least one national or regional conference or workshop related to dental hygiene education each year.

Responsibility for developing a system to identify competent dental hygiene practitioners is not just an undertaking by the ADA. At the national level, the ADHA has established the Commission for the Assurance of Competence, and on the state and local level hygienists have been discussing and developing quality assurance models. In addition, federal legislation passed in 1972 created the Professional Standards Review Organization, which brought a national focus to the quality review of medical and dental care.

Dental Hygiene Entry-Level Programs

Various entry-level dental hygiene programs exist within many educational facilities; therefore, this subsection provides information regarding these levels, as well as discrepancies among these levels. As with the nursing profession, dental hygiene must establish a minimum entry-level program, preferably the baccalaureate degree, to provide stability and uniformity to the profession. An important point to consider is the relatively low number of master-degree programs offered in dental hygiene, as well as
non-existent doctoral degree dental hygiene programs. Efforts must be concentrated to rectify this notion.

Extending over more than a 70-year period, dental hygiene education facilities have increased from 1 in 1913 to approximately 200 by the mid 1980's. Existing within these various facilities is a dental hygiene educational structure comprised of four entry-level programs: 2-year education leading to an associate and/or certificate degree, 4-year education leading to a baccalaureate degree, post-certificate baccalaureate education, and graduate education leading to a masters degree in dental hygiene. The various dental hygiene programs are located in community colleges, technical schools, 4-year colleges and universities (both public and private).

Literature findings reveal that most dental hygiene programs offer the 2-year degree in a non-dental school setting. According to a 1983 report by the ADA Council on Dental Education, only 40% of dental hygiene programs in 1980 were located in a 4-year university and dental school setting, as compared to 85% in 1960 and 65% in 1970.

With these statistics in mind, the researcher compiled a table categorizing the number of entry-level programs within each state. Information for this table was provided by the ADHA. The resource is entitled: "AMERICAN DENTAL HYGIENISTS' ASSOCIATION DENTAL HYGIENE EDUCATION PROGRAMS" and is dated 1986. A brief explanation of Table 5 is given.

The first column of Table 5 indicates the total number
of dental hygiene programs offered in the corresponding state. The remaining columns divide up the total number of programs into their appropriate learning facilities and, unless an asterisk (*) succeeds the state, the following is assumed: "CC" indicates community college offering an associate and/or certificate; "UNIV" indicates university offering a baccalaureate degree; "GRAD" indicates a baccalaureate program offering a masters degree in dental hygiene and is placed in parentheses to remind the viewer that the program is offered in conjunction with a baccalaureate program, and is therefore not indicated in the total count; and "OTH" indicates other programs, such as vocational and technical schools, offering an associate degree. (Example: The state of Alaska offers one dental hygiene educational program in a community college which offers an associate degree.)

Certain university dental hygiene programs offer an associate and/or certificate degree instead of the baccalaureate degree. These variances within each state's university program(s) are indicated by an asterisk on Table 5. The following information is provided to clarify this point: (The number in parentheses indicates how many universities within the state adhere to the substitution.)

**Universities offering an associate and/or baccalaureate:**
- Arkansas (1);
- Connecticut (1);
- Georgia (2);
- Indiana (2);
- Kansas (1);
- Kentucky (1);
- Louisiana (1);
- New Mexico (1);
- Ohio (1);
- Rhode Island (1);
- South Dakota (1);

**Universities offering a certificate and/or baccalaureate:**
- Hawaii (1);
- Illinois (2);
- Michigan (1);
- Tennessee (1);
Universities offering an associate or certificate only:
District of Columbia (1); Illinois (1); Indiana (3); Kentucky (1); Minnesota (1); New Jersey (2); New York (1); Ohio (3); Pennsylvania (2); Tennessee (1); Texas (4); Utah (1); Vermont (1);

Universities offering a Graduate of Dental Hygiene degree:
Minnesota (2);

Of the 197 dental hygiene programs offered in the United States, 113 are established in community colleges, 71 in universities and 13 in vocational or technical schools (49 are in a dental school setting). One hundred and sixty five associate and/or certificate degree programs are offered by the various entry-level programs. Of the 71 university settings, 48 offer the baccalaureate degree, of which 6 offer further education for a master of science in dental hygiene.
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Accreditation standards for dental hygiene programs offer some uniformity in educational training; however, educational background information provided to hygienists at the various levels is inconsistent. In 1944, Dr. Charlotte C. Greenwood of California conducted a curriculum survey and found that fifty-four different subjects were being offered and only five were common to the then existing schools. According to the California Health Personnel Licensure Policy, clinical skills developed by two-year and four-year hygienists were basically the same, but the four-year hygienists took two extra years of basic sciences and liberal arts courses that were not included in the two-year hygienist curriculum. This educational background, in the opinion of some educators, resulted in greater judgment and decision-making skills on the part of the four-year graduate.

To evaluate the variance in educational training of two-year and four-year hygienists, one must also consider the educators’ background. The academic credentials of the faculty within a profession make a significant statement about the profession’s credibility and directly reflect on their students. A study conducted in the first part of this decade by Mescher and Brine indicated that dental hygiene program educators had education preparation beyond that previously reported by the literature. The researchers found that 61% of full-time dental hygiene educators had received a masters degree or higher, as compared to
Today, to say nothing of tomorrow, master's degrees are not going to be enough to sustain one's career in research or in research/teaching. The goal of having dental hygienists with doctorates in a variety of disciplines would be to diversify, broaden the array of research problems/questions addressed, that are applicable to dental hygiene, for oneself and to the public's oral health.

In her testimony supporting House Bill 293, submitted to the Social & Health Services Committee, Registered Dental Hygienist Sheila Hoople emphasized an often overlooked occurrence in dental schools. The following excerpt from her testimony appears to substantiate dental hygiene educator's credibility:

You may have been told that dental hygienists are not capable of working and providing their services without supervision. Isn't it ironic that as of 1982, Dental Hygiene faculty at the University of Washington educated dental students in the following courses subject matter areas: 1) Dental Anatomy; 2) Gross Anatomy Laboratory Sessions; 3) Principles of Nutrition; 4) Head and Central Nervous System Anatomy Laboratory; 5) Periodontal Instrumentation and Treatment Procedures; 6) Vertical Group Patient Management Courses; 7) Introduction to Oral Radiology; 8) Advanced Radiographic Interpretation; 9) Community Dentistry; 10) Local Anesthesia.

Please consider the irony of the fact that dental hygienists teach dental students specific skills and didactic information relevant to patient examination, diagnosis and treatment procedures and then must be supervised by the same students whom they teach.
REFERENCES

83) I.R. Woodall, p.29

84) ADA "ACCREDITATION STANDARDS FOR DENTAL HYGIENE EDUCATION PROGRAMS" ADA Commission on Dental Accreditation, 1980, i

85) ibid. p.ii


87) C.A. Cameron and S.G. Olswang, p.409


91) Dept. of Consumer Affairs, California Health Personnel Licensure Policy, p.24


94) S. Hoople, "Testimony Submitted To Social & Health Services Committee," Hearing Date: February 1, 1983.
Independent dental hygiene practice legislation is the culminating focus of the Literature Review chapter. Bills proposed to legislature, both successful and unsuccessful, provide the foundation for future independent practice movements. It is the intent of Chapter 2, part III to introduce various agencies' support of the prospect of dental hygienist's practicing independently, as well as to present individual state movements toward independence. The three states outlined (Colorado, Washington and California) have been the most successful in initiating dental hygiene independent practice.

Since laws originate in the Legislature, any changes in the law must also take place in the Legislature. Before a bill reaches the floor of the Legislature, it must be heard by appropriate committees of elected legislators who have the power to alter the bill to their choosing. During these committee hearings, persons interested in influencing the bill, in either a positive or negative direction, have the opportunity to do so. Bills which do not receive a majority of "yes" votes from the committee members are defeated and are not allowed to go on any further. Many bills die in committee because of insufficient action.\(^\text{95}\)

The primary focus of dental hygiene independent licensure legislation is to increase public access to preventive oral health care, while the secondary focus relates to firm
establishment of dental hygiene practice as an identifiable profession independent of the dentist.\textsuperscript{96}

A 1970 Carnegie Commission report discussed and reinforced the idea that there "would soon be a great shortage of physicians and dentists due to the advent of a national health insurance program that would extend health care to persons who could not afford it."\textsuperscript{97} As a result, the federal government provided funding for new dental schools, and legislation mandated an increase in dental class size. Experiments were conducted to evaluate the delegation of functions to dental auxiliaries, with the goal in mind of freeing the dentist for other services. Many states responded by debating and changing their laws to permit auxiliary personnel to perform additional services, and curricular changes were instituted to include these services. In 1976, the Carnegie Council (formerly the Commission) revised its recommendations to state that "increased numbers of physicians and dentists were not needed, but that the number of support personnel should continue to grow and be used to provide greater varieties of health care service."\textsuperscript{98}

Other federal and government agencies investigated the dental care delivery service by studying various state laws and professional societies to determine if "moderating forces might result in lower costs or greater accessibility to health services without compromising the quality of care of the services delivered."\textsuperscript{99}
In January 1979, the ADA was notified by the Federal Trade Commission (FTC) of its intent to make recommendations which would eliminate laws restricting "the delegation of any and all dental functions to auxiliaries with the exception of diagnosis, treatment planning, drug prescription, and the overall responsibility for patient care." In September 1979, the FTC announced it would seek nullification of state restrictions that require dental hygienists to work under the supervision of a licensed dentist, since it "unnecessarily limits the public's access to preventive care and may retard competition in the provision of preventive services." In late 1979, in response to the FTC's pursuit, ADA joined lobbying groups in the hope of getting Congress to support legislature to curtail the FTC and defended its actions by stating, "There is a clear danger that unelected officials in Washington who are unfamiliar with state and local problems will seek to act as a national 'superlegislator.'"

However, despite the ADA's efforts, the FTC compiled a report dated November 24, 1980. Excerpts from this report follow:

The Commission believes, on the basis of preliminary information it has gathered, that independent hygienist practice is a promising approach to the pressing need for expanded preventive dental care which deserves serious consideration by health policy makers.

However, the Commission stated that it is:

unable to consider this approach any further because of the lack of evidence concerning the
major issue raised by opponents of independent practice: the impact such practice would have on the quality of dental care.

The Commission added that:

at least independent hygienist practice would offer consumers alternative choices in seeking dental care.

The staff also believes that in light of rigorous educational training and testing requirements which all hygienists must meet for licensure, there is no public health or safety objective not realizable by less restrictive means... Nor can supervision by a dentist be justified as a means of ensuring the quality of services provided because the states interest in protecting the public from incompetence is satisfied by the rigors of licensing process, just as it is for dentists.

The Federal Trade Commission report concluded that:

by removing the dental supervision requirement, hygienists would be able to provide preventive services in areas where there is a shortage of dentists as well as to offer consumers a choice in seeking preventive therapy.

Reports from the General Accounting Office and the Council of State Governments have agreed with the FTC in "recommending expansion of the scope of dental hygiene practice in varying degrees." 102

The US District Court which oversaw Alice DeLancy's suit filed against the North Carolina State Board of Dental Examiners recognized that:

it is probable that the independent practice of dental hygienists would result in a greater number of people receiving some dental care than is presently the case. The importance of this benefit cannot be minimized, for it is universally recognized in the dental profession that there is a serious underutilization of dental services and that a large segment of the population never or rarely receives dental
The care provided by a hygienist would be significantly better for these people than no care at all.

The Court went on to add that:
all the testimony concerning dental office 'emergencies' was consistent in portraying such emergencies as rare and as having no particular relationship to the performance of services by hygienists rather than a dentist. To the extent that the emergencies are directly related to dental procedures, the hygienist is trained to address them; to the extent that they are medical in nature, the dentist does not appear significantly more qualified to address them than the hygienist."

**Colorado (Senate Bill 2)**

Colorado's independent practice movement for dental hygienists began in 1979 when the Colorado General Assembly allowed dental hygienists to practice without the supervision of a licensed dentist in certain alternative settings, such as schools, institutions and corporations. For seven years no disciplinary actions were taken against such dental hygienists nor were any complaints alleging substandard care filed with the State Board. In its 1985 Sunset Review report, the Colorado Department of Regulatory Agencies, which is charged with the task of investigating and reporting on licensing agencies, had many favorable recommendations regarding dental hygiene practice. DORA made the point that "it appears that the unsupervised practice of dental hygiene does not jeopardize consumer's health and welfare and gives consumers the freedom of choice to see a dental hygienist exclusively
Because of the outcome of the Sunset Review process, a new bill was drafted, taking DORA's recommendations into consideration. Once the bill was heard, the Colorado Senate adopted a version of the bill which was a compromise between the policy of the Colorado Dental Hygienists' Association and the policy of the Colorado Dental Association. This bill, in accordance with the rules and regulations of the State Board, allowed expansion of the number of practice settings where dental hygienists could practice unsupervised, and allowed dental hygienists to own the equipment used in these settings. A House version of this bill was adopted which allowed independent practice and proprietorship by dental hygienists in all practice settings. The Senate then called for a Conference Committee to compromise between the two versions and the result is a law which went into effect on July 1, 1986. The compromise bill, known as Senate Bill 2, allows independent practice by dental hygienists, but does not allow the independent hygienist to take X-rays, prepare study casts, remove incidental live epithelial tissue, or perform root planing, yet they can perform currettage. (Supervised hygienists are allowed to do these functions plus administer local anesthetic under direct supervision.) The reason the Conference Committee compromised on the issue of not allowing the independent hygienist to take x-rays was that according to law not allowing the dental hygienist to diagnose, there is no
need for radiographs. 106

Wellington Web, director of the Colorado DORA, suggested that the new measure was a "watershed event. Enactment of this legislation begins a new era in the provision of dental care in the United States by promising more creative, cost-cutting methods of providing health care services in the future." 107

Some members of the dental community have questioned dental hygienists desiring independence about their reasons for wanting autonomy, "since all the independent hygienist can do is clean teeth and give homecare instruction." However, numerous studies have indicated that regular prophylaxis and proper oral hygiene care are instrumental in preventing periodontal disease. 108 Persons who question independence of dental hygienists should consider that prevention is the key to improved oral health, and that dental hygiene offers the opportunity.

As mentioned in the Introduction, the ADA Commission on Dental Accreditation filed a suit challenging Senate Bill 2 the day after the bill became law. On July 2, 1986, Colleen Voshall, Jean Nies and the ADA CODA filed suit against the State of Colorado and Duane Woodard. 109 Peter M. Sfikas, Chief Counsel from Chicago, represented CODA, and the Honorable Daniel B. Sparr presided as Judge of District Court. In response to the charge filed by the ADA and two medically compromised patients, the Judge ruled that neither CODA nor the other plaintiffs had the right to
bring the original suit before the courts. He stated that CODA "lacked standing" because its representatives failed to establish the fact that CODA has a legally and constitutionally protected right to the uninterrupted status quo. Despite the accreditation standards of the Commission, the Colorado legislation can exercise its prerogative and change the Dental Practice Act at will. In addition, Judge Sparr emphasized the fact that an individual patient can elect to seek the services of either a supervised or an unsupervised hygienist, and no proof was provided by the plaintiffs which suggested that the plaintiffs would in fact be endangered if they sought the services of an independent hygienist. 110

On November 19, 1986, the ADA CODA filed an appeal with the Colorado Supreme Court seeking to reopen the suit. However, the Supreme Court, on December 3, 1986, refused the plaintiffs' appeal at that level and sent the case down to middle court, the Colorado Court of Appeals, which the Supreme Court said was the appropriate level of court to hear the case. 111

Washington

All information the researcher was able to gather relating to House Bill 293 was included in the Introduction of this paper. This bill had a substantial effect on dental hygiene practice in Washington and seemed to have created a path for future bills addressing the issue of autonomy.
In the February 25th, 1987 Washington section of *The Oregonian*, staff member Roberta Ulrich reported on a new bill being proposed in the Washington Legislature which would permit dental hygienists to work without supervision by a dentist. The day before this article was printed, House Bill 661 had received vigorous opposition in the House hearing room where dentists were testifying.

House Speaker Joe King, a democrat from Vancouver, was across the hall having his teeth cleaned by hygienist Pam Yarbrough. King has supported the proposed legislation almost since he first entered the Legislature in 1981. "I don't know if the economics are there," King said, "but I think they ought to have the freedom to fail."

Jeff Larsen, lobbyist for the WSDHA, said the measure also would permit the hygienists to serve communities too small to support a dentist. According to Larsen, the original bill proposed in 1981 was 56 pages, and this bill is down to six pages. "We've made progress. We're chipping away," he replied.

This new bill would allow independent practices by hygienists who have a four-year college degree with at least two years of dentist-supervised experience.

**California**

California Assemblyman Herschel Rosenthal introduced Assembly Bill 975, which provided for the independent practice of oral prophylaxis by licensed dental hygienists in
their own place of practice. On April 24, 1979, AB 975 failed in the Assembly Health's Subcommittee on Health Personnel. 112
REFERENCES


96) C.A. Cameron and S.G. Olswang, p.408


98) ibid. p.5

99) J.L. Forrest, J.A. Rigolizzo, and N.J. Stackhouse, p.18

100) H.B. Waldman, American Journal of Public Health, Vol. 70, 621

101) ADA, "ADA asks curbs on FTC actions," ADA News, October 1979,

102) J.L. Forrest, J.A. Rigolizzo, and N.J. Stackhouse, p.17

103) T. Leavens, p.42

104) C.J. Edstrom Tussing, Dental Hygiene, November 1986, 484


107) Professional Regulation News, March 1986, 5

108) M.K. Bartelson, Legislative Bulletin, p.1


110) C.J. Edstrom Tussing, Dental Hygiene, November 1986, 484

111) ADHA, Dental Hygiene, Vol.61, p.81

112) Dept. of Consumer Affairs, California Health Personnel Licensure Policy, p.102
Chapter 3 Opponents' and Proponents' Views

Challenge is an inevitable component of life. The need to challenge, whether it be in job, in family or within a peer group, whether it be narrow or broad, whether it be immediate or long-range, is an innate part of all of us, whether we like to admit it or not. If the intensity is strong enough, efforts are made to challenge the status quo. Some dental hygiene professionals have recently been challenging established laws regulating dental hygienists in traditional practice settings. As with any challenge, two opposing sides have been formed in this contest, between dentists and dental hygienists. Dental hygienists are demanding explanations of their legal restrictions, as well as asking for full utilization of the abilities for which they were trained. The information presented in this chapter presents both "camps'" views on the issue of dental hygiene independent practice, with appropriate input from various professionals in the field.

In 1980, organized dentistry responded to the FTC's proposal with five arguments related to the prospect of dental hygiene supervision requirements being nullified. The following statements were presented: 1) Any effort to significantly modify the delegation of duties to traditional or newly trained personnel will severely compromise the health of the public, 2) Existing dental personnel are more than able to meet the demands for services,
3) The increased growth of dental schools and graduates in the past decade has, or will shortly, outgrow the public's need for services. 4) Preventive measures, long advocated by the profession, such as fluoride and individual home care, are decreasing the need for dental treatment, and 5) Newer techniques are being introduced which will reduce significantly the costs of service for patients.\textsuperscript{113}

As mentioned earlier, most dentists are opposed to the prospect of dental hygienists practicing independently. Following are various dentists' opinions on the topic.

Dr. Barry Waldman suggests that

Based upon the current cascade of events, it would appear that the time is appropriate for some dramatic proposal to preserve the profession and the health of the public we serve.\textsuperscript{114}

A resolution was passed by the 1980 ADA House of Delegates endorsing the traditional role and supervision of dental hygienists with recommendation of immediate Constituent Legislation to insure that the traditional role of dental hygiene be maintained.\textsuperscript{115}

John Houlihan, ADA Past President speaking at the Washington State Dental Association meeting in December of 1981, said that "independent practice for hygienists would be achieved only over my dead body."\textsuperscript{116}

Dr. Bill Goodman, an Oklahoma dentist, feels the dental care system we have works by delivering the best care in the world and altering it would not benefit the public.

Dental hygienists play a vital role in
this system. As practitioners in the field of hygiene, they ought to accept the standards, rules and limitations of their profession.

John M. Coady, Past Executive Director of ADA, states

All of the hygienists training is based on two premises: First, that (dental hygiene) services will be performed as part of overall dental care and second, that the ultimate responsibility for that care lies with the dentist. The hygienist training program, as excellent as they are, do not graduate independent practitioners. The patients welfare is the primary consideration and adequate care requires diagnosis and treatment planning which only a dentist is qualified by education to perform.

From the 1983 Future of Dentistry Strategic Plan Report, the section on dental manpower cited two implications relating to auxiliary dental personnel. The first suggests

That continuing pressure by some auxiliary dental personnel for independent practice will have minimal impact on the provision of dental services in the near future. The long term effects will depend on dentistry’s ability to compete with these initiatives, on whether state legislatures will allow auxiliary personnel to provide more services and practice independently, and whether allied personnel choose to do so.

The second implication proposes that

The public will continue to view the dentist as the professional ultimately responsible for the delivery of dental services.

As mentioned on page 9 of the Introduction, a Fact Sheet circulated with House Bill 293 was written in response to four main allegations made by the Washington State Dental Association on the issue of dental hygiene independent practice. Literature tends to support these statements as
the general reasons why persons are opposed to dental hygienists practicing independently. These issues are restated and information appropriate to the discussion follows each statement.

1) **WSDA says that hygienists will not be able to provide services cheaper than dentists.**

Mike Kreidler, a democrat from Olympia and chairman of the House Social and Health Services Committee, worries about economics in these battles over who gets health care licenses. "Increasing the number of independent professions may raise the overall costs of health care," he says. "Experience shows you get an initial decrease in costs, followed by an overall rise." 120

In the context of management sciences as applied to dentistry, R.A. Hankin stated that:

The need for efficiency requires that all personnel are allowed to utilize their productive capabilities to the fullest extent. It is not sufficient that any given task be carried out efficiently; it must be delegated to the proper personnel. If two individuals—a physician (or dentist) and an allied health worker, for example—are both equally capable of carrying out a given task, economic efficiency dictates that the least costly individual be delegated the tasks. To do otherwise would be to waste scarce resources—this instance the physician’s (or dentist’s) time—which should be used in performing those functions which cannot be delegated. 121

According to the Fact Sheet, dental hygienists' overhead is lower (equipment is less expensive); dental hygienists can save the consumer money by not charging the profit that the dentist makes off the hygienists' work
(one-third of fees covers overhead, one-third is profit for
the dentist); patients will not have to pay the dentists' ex-
amination fee to see the hygienist; and dental hygienists
will be able to work as staff for businesses and corpora-
tions at reduced cost.

2) **WSDA says that hygienists are not trained for
medical emergencies.**

Dr. James Plihal, past president of WSDA, does not believe hygienists should be allowed to practice indepen-
dently and states that consumers will not benefit by grant-
ing hygienists more authority, and that

emergencies would arise, leaving patients in life-threaten-
ing situations with untrained and physically weak profes-
sionals...When you clean teeth, you interfere with the tissues and encourage all kinds of dangerous situations...
Imagine some old person who suddenly gets a heartache in the chair. How's this little gal going to get some guy down on the floor to give him CPR? Patients would be medically compromised.

An editorial appearing in the February 1982 issue of
WSDA News seems to suggest that not all dentists feel their colleagues are adequately prepared to treat medical emer-
gencies which may arise in the dental office. The article states that

a general dentist doesn't see enough medical emergencies to develop expertise in their treat-
ment. A clinician who pretends that coronary emergencies, drug interactions and acute allergic reactions are a frequent occurrence in order to frighten his audience doesn't achieve his ob-
jective. Anyone who has practiced for a number of years is already frightened because he knows they are possible, but so infrequent he has no chance of developing skill in differ-

ential diagnosis...What he needs is more information on prevention and things like CPR which will keep the patient alive until help arrives.

Along these same lines, there is evidence to suggest that more hygienists than dentists are trained in cardiopulmonary resuscitation. The Washington State Dental Hygienists Association’s 1981 survey showed that 58% of the hygienists had completed CPR courses within the last 18 months, as compared to only 42% of their employers.¹²³

According to the Fact Sheet, with CPR training a hygienist can dial 911 and support respiration/blood circulation until EMT arrives; the most common emergency in the dental office is fainting—which does not require doctor/dentist intervention; and dental hygienists are educated to do in-depth review of a patient’s medical history—hygienists would not commence treatment on any medically compromised patient and would consult with the patient’s physician before treatment (as is currently being done).

3) **WSDA says that dental hygienists are not educated for independent dental hygiene practice.**

According to the Fact Sheet, in reference to Sheila Hoople’s testimony for HB 293, dental hygienists have more hours of education to perform tooth cleaning procedures than dental students. Hoople’s testimony states that currently, dental hygiene programs in the State of Washington have a minimum of 540 clock hours in clinical examination, curettage procedures (calculus removal, root smoothing), and perio-
dental treatment procedures. The dental students at the University of Washington have 210 hours in periodontal treatment procedures. Moreover, dental hygiene students have an additional 30-240 hours providing preventive cleaning services to community programs or facilities. Significant to note is that dental hygiene students have over 50% more clock hours than the dental graduates in curettage treatment procedures.

Opponents to independent dental hygiene practice contend that hygienists are not legally allowed to diagnose, and therefore receive no education or training in diagnostic procedures. However, Kathy Forbes' February 1, 1983 testimony presented to Representative Kriedler and Members of his Committee pointed out that various instances exist where dental hygienists are expected to do not only dental hygiene diagnosis, but dental and medical diagnosis as well. The first instance relates to state dental hygiene board examinations on which the "applicant is expected to complete a charting of each patient. The evaluation will be based on the following factors: c. Accurately recording carious lesions." Also included are numerous examples where the applicant must recognize and record "lesions, deviations from normal, etc."125

Secondly, hygienists must pass a National Dental Hygiene Board examination which covers all facets of dental hygiene practice. This all-day exam is administered by the Commission on National Dental Examinations of the ADA. Forbes presented two test questions which clearly called for the dental hygiene applicant to make a diagnosis based
on clinical signs, as well as four test questions which called for the applicant to interpret medical histories and determine drugs needed for pre-treatment considerations, to recognize emergency situations, and to execute an emergency plan.\textsuperscript{126}

Forbes concluded that "nowhere on the National Dental Board exam is there a section for testing dentist candidates on recognizing or treating emergency procedures."\textsuperscript{127}

4) **WSDA says that independent practice by dental hygienists will cause fragmentation of dental care.**

The ADA opposes independent dental hygiene practice because "it fragments the delivery of dental services and is contrary to public interest." It suggests that without complete diagnosis it would be difficult for the patient to know the full extent of needed treatment.\textsuperscript{128}

Weller and Cartwright suggest that independent hygiene practice would reduce the level of care that the team approach provides. "We feel that the 'team' approach of hygienist and dentist working together gives a far more effective service to patients, who can benefit from the combined diagnostic skills of the dentist and the practical expertise of the hygienist."\textsuperscript{129}

According to the Fact Sheet, dentistry is already fragmented. In order to receive comprehensive care, a patient must often see many dental specialists, including periodontists, orthodontists, endodontists, and oral surgeons. **Hygienists providing services outside dental offices**
would function in the same manner, thereby increasing referrals.

The last aspect of this chapter involves the ADHA’s view of independent dental hygiene practice. The established mission statement of dental hygiene is

To improve the public’s total health by increasing the awareness of and access to quality oral health care and to position the dental hygienist as the preventive oral health professional.

At the June 1982 ADHA Annual Session, the ADHA adopted a five-point plan encouraging respect and understanding between the dental hygiene and dental professions and proposed a ‘moratorium’ on ADA’s opposition to alternative practice settings for dental hygienists...pending the development of research data regarding their effect on the delivery of quality dental care.

The ADHA takes no formal stand on the issue of dental hygiene independent practice; however, it reaffirms its 1982 policy statement which recognizes and supports the licensing and regulation of health practice according to state dental and dental hygiene practice laws. Because of the respect for this philosophy, the ADHA “can support the Colorado Dental Hygienists’ Association which lobbied to support DORA’s recommendation for unsupervised dental hygiene practice in Colorado.” It is also because of this philosophy that the ADHA can support the South Dakota Dental Hygienists’ Association which “does not approve of unsupervised dental hygiene practice in South Dakota.”
REFERENCES

113) H.B. Waldman, *Dental Hygiene*, August 1980, 392

114) ibid. p.392

115) C. Turbyne, President's Feature Article, *Dental Hygiene*, July 1981, Vol. 55, 16


117) H.R. Combs, p.65

118) J.L. Forrest, J.A. Rigolizzo, and N.J. Stackhouse, p.18-19


120) M. Kreidler, D-Olympia, "Chairman Kreidler for free enterprise," *Daily Olympian*, February 18, 1983


122) W. Hatch, staff writer, "Control is root of issue—Hygienists try to break dentist’s bonds," *Journal American*, February 2, 1983


124) S. Hoople, p.2

125) K. Forbes, "Testimony submitted to Representative Kriedler and Members of the Committee," Hearing Date: February 1, 1983, 5

126) ibid. p.5-8

127) ibid. p.8

128) B.S. Golden and B.L. Douglas, p.281


132) C. J. Edstrom Tussing, "ADHA. Unique in Representing You--The Dental Hygienist," *Dental Hygiene*, December 1986, Vol. 60, 532
Why independent practice? This question can best be answered by replying that doubts exist in the way our current dental care system is operating, and changes are being proposed to help combat this situation. Of course, there are always some "greedy" and "selfish" intentions whenever a change is initiated, but for the most part it seems that those persons desiring dental hygiene independent practice truly believe a change is for the best. And why shouldn't they be given the opportunity? Afterall, isn't that what advancement through experimentation is all about? Dental hygienists should be given the opportunity to practice their skill independently, but only after appropriate revisions of the current dental hygiene system. It is the researcher's feeling that this proposed change requires alterations in current dental hygiene educational programs, an alteration in how the dental hygiene profession is viewed, and in the legal provisions granted to dental hygienists.

When the founding members "invented" the dental hygiene career, they envisioned a group of health care personnel who would specialize in preventive care and eventually own their own "parlors" from which they could provide care. However, today the field of dental hygiene is restricted by the very profession which created it. By limiting practice opportunities, by not allowing equal
representation on state dental boards, and by not granting dental hygienists control of their profession, the dental profession has not helped the progression of the dental hygienist’s career. The threat of independent hygiene practice also grows from those situations where the dental practice forces hygienists into a production-oriented atmosphere, basing their competence on how many patients they can see in an hour and how much income they can generate. The hygienists on this “merry-go-round” are inevitably frustrated, and are most likely going to demand change.

All discussion so far has centered around the changes occurring in the dental hygiene profession; however, dentistry itself is changing as well. With the increased use of preventive dental health care measures, it seems a fair assumption to say that dentistry has “sold itself out.” Fluoride and sealants have greatly contributed to a reduction in decay rate, and consumers today are simply more health-conscious. Today, prevention is the keystone to health maintenance, and the dental hygienist is best suited to meet the public’s preventative needs. It does not make sense, nor is it ethical, to stand by and allow dental disease to occur when the means for preventing it are at hand.

As professionals, dental hygienists must know the people they serve. Population trends and changing disease patterns define appropriate health services; therefore, hygienists must know their audience and must be able to service all
groups of people. Not every hygienist will be willing to practice in alternative settings; however, it is imperative to recognize that all persons need dental health care and hygienists must be willing to compromise. Non-traditional practice settings look promising both as an emerging practice alternative and as a source for special populations unable to be reached by traditional private practice. However, in order for this approach to be successful, supervision requirements of dental hygiene practice must be re-evaluated.

Independent dental hygiene contracting offers a good alternative practice setting which allows the hygienist much freedom. Advantages often cited of this mode of practice include various tax benefits, responsibility for business, and increased self-esteem. Independent contracting is not legal in every state; therefore, movements directed toward this goal should be initiated before a major push for independent practice is begun. A gradual process may prove more rewarding than a gigantic, unsuccessful leap.

Another important concept in support of non-traditional practice alternatives relates to accreditation standards established by the ADA. Many of the standards in the curriculum code focus on skills which are essential to successful, non-traditional dental hygiene practice. These become significant in that accreditation standards set courses such as preventive counseling, community
dental health, assessment, planning, implementation and evaluation, all of which are related to the alternative practice settings.

Legal provisions granted to dental hygienists within each state become a significant component when trying to propose a solution to the prospect of independent practice. The western U.S. is the most liberal with legislative delegation of expanded functions, while the northeast is the most restrictive. Functions a hygienist can legally perform in each state create confusion. As mentioned earlier, no state dental practice act allows the dentist to delegate expanded functions to dental auxiliaries. A national plan for delegable functions appears to be an appropriate suggestion for two reasons. First, consistency would allow hygienists reciprocity within each state, which is currently not the situation. (Reciprocity refers to the notion that licensure to practice dental hygiene in one state would be recognized by all other states, thus eliminating the current individual state testing.) Most states require hygienists desiring to practice in the state to take a state board, regardless of experience. Second, there would not be as much confusion over delegable functions if only one set of standards was established. This idea is in contrast to ADHA's philosophy of supporting each state's identity; however, the researcher feels "a mouth-is-a-mouth," "a cavity-is-a-cavity," and "periodontal disease-is-periodontal disease."
In addition, a suggestion is made to delegate functions as whole procedures. A review of Table 3 would reveal many inconsistencies among like functions. It seems more appropriate to teach someone the entire function of "removing and placing," as opposed to only "placing."

The public's narrow perception of the dental hygiene field was mentioned quite often throughout the text, but it cannot be stressed enough that consumers are the best advocates available for initiating change. It is important to consider the attitudes and preferences of consumers regarding such significant changes in the health care delivery system. If the change is acceptable to the consumer, more than likely a "band wagon" will be formed that will work day and night to initiate the change. In addition, most persons involved in such an endeavor often have legislative contacts from working on other committees; therefore, additional help often becomes available.

Dental hygienists desiring to promote independent practice must work with all groups to increase awareness of the misconceived profession. Results from the study by the Allied Health Professions, cited in the literature review, cannot be comforting to the image of dental hygiene. The researcher suggests that efforts be made to improve relations with various health care groups by forming a coalition to promote overall health care.

Adding to the public's confusion about the field of dental hygiene is the variety of dental hygiene education
programs which exist for entry into the profession. As of today, dental hygiene professionals have failed to achieve universal acceptance of levels of practice tied to minimal levels of education. As a component of higher education, dental hygiene education programs must take the responsibility for reflecting and pursuing the purpose of higher education. The diversity of educational levels existing within dental hygiene reveals a fundamental flaw in the system of higher education, especially in the baccalaureate program. As long as 2-year hygienists are offered the same responsibilities and monetary rewards as the 4-year hygienist, the incentive for pursuing advanced education is impeded.

The prospect of independent and alternative dental hygiene practice has the potential for causing a shift from 2-year programs to the 4-year educational program. Implications of this potential shift are reduced access into the field, as well as a decreased value of 2-year programs. A dental hygienist desiring to practice independently would be required to attain a minimal level baccalaureate degree; therefore, schools should orient education in this manner. Dental hygiene schools, in order to adequately prepare a graduate, should concentrate studies on such aspects as evaluation and treatment planning, advanced clinical skills, emergency treatment, advanced pathology, oral medicine, pharmacology, business, law, ethics and decision-making skills. Any courses pertaining to primary health
care responsibilities should also be included.

A need exists for schools to begin preparing graduates for new practice options. Students must be provided with marketable skills beyond the technical ones required for clinical dental hygiene practice. Internal dental hygiene program structures must be solved before dental hygiene independent practice can be considered.

An accreditation standard for faculty members states that the educator have, or be working toward, a degree higher than the degree offered by the institution in which they instruct. If dental hygiene is going to survive in the university setting, emphasis must be placed on increasing the number of dental hygienists pursuing masters and doctoral degrees. Research and publication are important components of a profession; therefore, dental hygiene educators must take an active role in these vital components.

Health care providers will forever be behind in attempts to keep up with disease, unless it can be prevented from occurring. The dental hygienist has been effective in performing preventive oral disease services for populations they have been allowed to serve. The inability of some persons to avail themselves of dental care is unjust. Allowing the dental hygienist to practice in non-traditional settings, as well as to function as a manager in the screening and referring of patients for dental treatment, will help unserved and underserved segments of the population
gain this vital health care service.

Ultimately, the burden of proof lies with the dental hygienist to prove they are adequately prepared to practice independently. To substantiate their claim, and prove their adequacy, hygienists must provide evidence of achieving the following:

1) Hygienist training is sufficient to insure quality care without the supervision of a dentist,

2) Independent practice would not unavoidably fragment the hygienist/dentist team which provides coherent preventive and therapeutic care,

3) Hygienists are able to handle medical emergencies that might arise during treatment, and

4) Independent practice by hygienists, and the low cost care they would provide, are economically feasible.
Chapter 5  Recommendations

This paper researched numerous components pertinent to dental hygiene independent practice and provides an overall picture of the issues relating to this prospect. Although this information creates a necessary foundation, additional study is recommended which would help support dental hygienists as independent practitioners. The following recommendations are made and are intended for use by other researchers inquiring about topics in need of study:

1) Conduct a study of dental hygienists practicing in nontraditional practice settings and evaluate their utilization in these various settings. (The only one the researcher could find is from summer 1984 and current implications are necessary.)

2) Conduct a study of health care professionals to determine what factors influence their perceptions of dental hygiene. The researcher suggests studying a wide variety of health care professionals from across the United States.

3) Conduct a study evaluating why dental hygiene masters programs are not offered on the West Coast. The researcher suggests determining what makes masters programs successful on the East Coast and make speculations about its usefulness in the West.

4) Conduct a study evaluating curriculum requirements for dental hygiene education programs across the states. The researcher suggests comparing 2-yr and 4-yr programs.
5) Conduct a study evaluating the characteristics of students in dental hygiene educational programs. Emphasis on what makes a 2-year hygienist opt for a community college as opposed to a 4-year baccalaureate degree. Find out who is attending each type of entry-level program and why.

8) Develop a research project which would compare dental hygienists quality of care in supervised and unsupervised clinics to determine if dental hygienists practicing independently would prove economically feasible.

7) Establish a design for school implementation that would prepare dental hygienists for independent practice.

On the basis of current information, it is appropriate to recommend independent licensure of dental hygienists. Further research efforts can only help to solidify this proposal.
BIBLIOGRAPHY

ADA "ACCREDITATION STANDARDS FOR DENTAL HYGIENE EDUCATION PROGRAMS" ADA Commission on Dental Accreditation, 1980, 1-20

ADA "ADA asks curbs on FTC actions", ADA News, October 15, 1979

ADA Division of Educational Measurements, "Legal Provisions for Delegating Functions to Dental Hygienists," 1985, 1-52


ADHA, "Dental Hygienists on State Dental Boards," ADA information sheet


Department of Consumer Affairs, California Health Personnel Licensure Policy: Career Mobility in the Dental Professions, June 1979,


Edstrom Tussing, C.J., "ADHA. Unique in Representing You-The Dental Hygienist," Dental Hygiene, December 1986, Vol. 60, 532


Forbes, K., "Testimony submitted to Representative Kriedler and Members of the Committee," Hearing Date: February 1, 1983, 1-8


Granger, B., "Legal Aspects of Dental Hygiene Practice," *Dental Hygiene*, July 1980, Vol. 54, 337-342


Hatch, W., staff writer, "Control is the root of the issue-Hygienists try to break dentist's bonds," *Journal American*, February 2, 1983

Hoople, S., "Testimony Submitted To Social & Health Services Committee," Hearing Date: February 1, 1983

Kendall, B., *Opportunities in Dental Care*, VGM Career Horizons-National Textbook Co., 1983


Nader, R., Address to the ADHA House of Delegates, *Dental Hygiene*, August 1982, Vol. 56, 16-20


Oregon Board of Dentistry, "Oregon Dental Practice Act," May 1986


Professional Regulation News, March 1986


Steele, P.F., Dimensions of Dental Hygiene, 3rd edition, Lea & Febiger, Philadelphia, 1982,

Turbyne, C., President’s Feature Article, Dental Hygiene July 1981, Vol. 55, 14-17


APPENDIX I - DEFINITION OF TERMS

**ADA CODA** is abbreviation for American Dental Association Commission on Dental Accreditation.

**ADHA** is abbreviation for American Dental Hygienists' Association.

**Anesthetic** A drug that produces a loss of sensation or feeling. *Local anesthetic* produces anesthesia in one portion of the body or around one area of tissue, as opposed to a *general anesthetic*, which produces anesthesia throughout the entire body.

**Board** refers to State Board of Dental Examiners.

**Caries Lesion** An area of tooth structure exhibiting decay, as identified by clinical or radiographic examination.

**Cavity** A hollow, hole, or lesion produced by dental caries.

**Cavity Liners and Bases** Material used to line the preparation in a tooth before a tooth is filled or crowned.

**Coronal** Coronal refers to the crown or visible portion of a tooth.

**Curettage** The procedure of scraping and smoothing the root surfaces of teeth with surgical instruments to reestablish cleanliness and sterility.

**DDS** is abbreviation for Doctor of Dental Surgery.

**Deciduous** That which will be shed, same as primary teeth. *Deciduous dentition* refers to the twenty teeth of childhood.

**Dental assistant** A person employed by a dentist to perform chairside duties and any other duties assigned and supervised by the dentist.

**Dental auxiliary personnel** Persons such as the dental hygienist, dental assistant, and dental laboratory technician who work under the supervision or direction of the dentist.

**Desensitization** The process of removing or reducing the reactivity or sensitivity of an area, usually through a desensitizing agent.
Direct Supervision (Personal) Supervision requiring that a dentist diagnose the condition to be treated, that a dentist authorize the procedure to be performed, and that a dentist remain in the dental treatment room while the procedures are performed.

DH is abbreviation for Dental Hygienist.

DMD is abbreviation for Doctor of Dental Medicine.

DPA is abbreviation for Dental Practice Act.

EFDA is abbreviation for Expanded Function Dental Auxiliary.

Exposing Radiographs (X-rays) Processing an image, as of the roots or hidden surfaces of the teeth and gums, produced on a sensitized film by roentgen rays.

Extraoral Outside the mouth.

Fluoride, topical application The direct application of solution of fluoride to the crowns of the teeth as a measure for partially preventing the incidence of dental caries.

General Supervision Supervision requiring a dentist to authorize the procedures, but not requiring the dentist to be present when the authorized procedures are performed. The authorized procedures may also be performed at a place other than the usual place of practice of the dentist.

Gingiva The portion of gum tissue adjacent to the teeth.

Impression A negative likeness of a form or model. Impressions are made of tissues in order to produce models of the original tissues.

Indirect Supervision Supervision requiring a dentist to authorize all procedures and requires the dentist to be on the premises while the procedures are performed.

Intraoral Inside the mouth.

Matrices/Matrixes A band placed temporarily around a tooth to form a mold for the filling material as it is being condensed into two or more surfaced cavities.

Nitrous Oxide A colorless gas (N2O) used in some general anesthetics. An analgesic used for minor surgery also known as "laughing gas".
Periodontics The branch of dentistry that deals with the prevention and treatment of diseases of the bone and soft tissues surrounding the teeth.

Prophylaxis The removal of tarter (calculus) and stains from the teeth and gums, to prevent periodontal disease and tooth decay, by scaling and polishing the surfaces.

Pulpcapping The protection of an exposed, but live, dental pulp under a deep cavity before placing a solid filling over it.

Restoration A broad term referring to construction of artificial structures which replace missing structures in order for normal function of the dentition to be restored. Amalgam refers to a metal filling material, whereas temporary refers to a soft filling material.

Root Planing A definitive process of creating smooth, calculus-free root surfaces of teeth.

Rubber Dam A sheet of thin rubber with holes punched in it, is snapped over the crowns of the teeth to keep them dry and sterile during dental operations.

Scaling A dental procedure performed to remove tarter (calculus) and necrotic (dead) tissue from around the necks and roots of the teeth. These deposits are usually too hardened for the toothbrush to remove, therefore oral prophylaxis with dental instruments is required.

Soft lines to removable dentures The process of resurfacing the tissue side of a denture with new base material to make it fit more accurately.

Suture A surgical stich; the material used to sew up a wound.

Tarter/Calculus/Deposit A hard deposit on tooth surfaces made by precipitation of calcium from saliva. A major cause of periodontal disease.

Topical anticariogenic agent An agent applied directly to the crowns of teeth which reduces the likelihood of caries forming.

Ultrasonic Scaler Very high frequency machine used to remove large accumulations of deposit.