

# The Origin and History of the Dental Hygienists

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## Introduction

Read before the Section on Mouth Hygiene, Preventive Dentistry and Public Health at the 7th International Dental Congress Philadelphia, Pa., August 24, 1926.

A search has been made in the American dental periodical literature to trace the development of dental prophylaxis as a part of the practice of dentistry, and carried out by the dentist, and the development of dental prophylaxis as an auxiliary branch of dentistry, practiced by lay women, trained for this purpose and limited to this specialty.

The first dental periodical in this country, the American Journal of Dental Science, was published in 1839, and as early as 1844 it carried an editorial under the caption "Dental Hygiene." The author, who was undoubtedly one of the three editors, Chapin Harris, Edward Maynard or Amos Wescott, deploras that so much attention is given to therapeutics, mechanical dentistry and surgery, and "the hygiene of the teeth almost wholly neglected." The editorial says in part, "Certainly there is no part of the physical organism to which prevention of disease can be more successfully or effectually applied than to those organs (the teeth). The hygienic treatment recommended by L. S. Parmly for the teeth is the most successful that has ever been instituted. It consists in cleaning the teeth regularly four or five times a day with waxed floss silk. Every dentist should be provided with an abundant supply and should furnish every one of his patients with it, and such other material as may be necessary to enable him to keep his teeth thoroughly clean." Mention was made that the American Society of Dental Surgeons was to issue correct information through tracts or pamphlets "to promote dental hygiene." Thus, in the first stages of the dental hygiene movement, the responsibility for maintaining a clean mouth was put entirely on the patient.

In 1865, under the same title, "Dental Hygiene," Henry S. Chase advanced the idea that the diet, especially during the prenatal period, was the most important factor in dental hygiene. He made no mention of cleanliness in relation to the teeth.

The first paper to be entitled "Prophylaxis or the Prevention of Dental Decay" was written by Pros. Andrew McLain of New Orleans Dental College, and published in 1870. This author had an appreciation of diet, especially prenatal, and of mouth sanitation as carried out by the patient. In the literature of this period, quite frequent references were found to the dietary as an important factor in relation to diseases of the teeth and gums, but it was not until 1879 that any stress was laid on the cleaning of the teeth as carried out by the dentist. In an able article by G. A. Mills of Brooklyn on "How to Keep the Teeth Clean and Healthful," the cleaning and polishing of the teeth is strongly urged, and this was practiced by the author, although he did not offer any special system for accomplishing his results. The first reference made to that now indispensable instrument, the explorer, was found in Dr. Mills' paper.

M. L. Rhein of New York City, in an article entitled "Oral Hygiene," brought his prophylactic toothbrush to the attention of the profession in May, 1884, and advocated that the dentist should make a pupil of his patient and teach him how to brush his teeth effectively. Dr. Rhein claims to have been the first to have used the adjective, prophylactic, but reference was found to a work by Arthur of Baltimore in 1871 advocating "prophylactic measures as preventive of decay." Likewise, D.D. Smith of Philadelphia claimed to have first applied the term prophylaxis in dentistry, but reference has already been cited to the use of this word in McLain's paper of 1870.

It is not my intent to trace the earliest use of these terms in dentistry, but I deemed it interesting to report their first appearance in the literature reviewed. During the late eighties, considerable interest was developing in dental hygiene, the term being then applied mostly to the necessity for effort on the

part of the public to maintain clean mouths. The South was especially active in this matter of public education, and, in 1887, the Alabama Dental Association advocated "a public lecturer on Dental Hygiene," and adopted the following resolution:

WHEREAS, the rapid strides that are being made by our profession in all its branches impose on us the additional duties of making known to the people in some practical way the advantage to be derived from instruction in Dental Hygiene;

Resolved, That the time is now at hand when a practical lecturer should be employed, and instructed to visit our schools, both public and private, and deliver lectures of a plain and simple character to the pupils, instructing them in the proper care for the teeth. The resolution was referred to the Southern Dental Association in 1888, and a committee was appointed to look into the matter.

One of the most comprehensive outlines of prophylaxis, and one that conforms almost identically with our views today, was advanced in 1890 by Charles B. Atkinson of New York City. The introduction to this paper, "Prophylaxis in the Field of the Dental Surgeon," is quoted as follows:

Prophylaxis presents four closely related and two attendant aspects for consideration.

1. Prevention, properly a broad effort of education to teach to avoid.
2. Diet, a means of preparation of the system to assist prevention.
3. Hygiene, a regulation of circumstances closely governing (prevention).
4. Regimen, ruling of use of system, food, article and circumstance under the instruction of the preceding aspects; add to these operative and medicinal interference in the progress of disordered and diseased conditions, and the breadth of prophylaxis is before us.

Dr. Atkinson undoubtedly had visualized the scope of prophylaxis and ably outlined it, although a perusal of his paper did not disclose an appreciation of the necessity for the treatment of prophylaxis, as we apply this phrase today.

In the early nineties, much was written on various phases of this subject, but it remained for D.D. Smith of Philadelphia, with his forceful and convincing arguments and demonstrations, to impress the dental profession thoroughly with the importance of the dental prophylactic treatment. Dr. Smith states in one of his papers that, in 1894, he started the surface treatments for the prevention of decay and the general betterment of mouth health for the members of his family and a few selected patients. After four years of this service, he was so impressed with the results that he gave a talk entitled "Prophylaxis in Dentistry," February 15, 1898, before the Washington City Dental Society, and, in October of the same year, elaborated the talk into a paper of the same title read before the Northeastern Dental Society at Hartford, Connecticut.

His paper was so well received that he was invited to appear again before that society at Holyoke, Mass., in 1899. At this time, he had been increasing the number of patients under this form of treatment and, in the year of 1900, gave two exhibits of his patients. From this time on, he presented this subject before numerous societies, and held ten or twelve exhibits in his office for the benefit of large groups of dentists.

In the extensive material reviewed on the subject of dental prophylaxis, it/ was the consensus of opinion that D.D. Smith was truly the father of dental prophylaxis. Although other men had made the effort to impress the dental profession with the importance of mouth cleanliness, he was the first to evolve

a definite system of dental prophylaxis and offer his technic to the profession, and to show clinical evidence through his exhibits of patients, of the beneficial results of his system. To quote Dr. Smith in this regard, "The discovery and enunciation of the important fact that enforced and systematic change in the environment of the teeth will prevent decay, and carry with it many other beneficial results, is new, new in essence, new in conception, and new in its elaboration; and results wholly from clinical investigation, and experimentation." It will be noted that, for the prevention of dental caries, Dr. Smith stressed only the environment of the teeth. He did not concede that nutrition or other hygienic factors that govern the health of the body as a whole were influential in the susceptibility or immunity to dental caries. His teachings still form the basis of our knowledge regarding the operative technic of dental prophylaxis, and he justly deserves great credit for this. In the light of our present-day knowledge, the true prevention of dental disease covers a wider field than operative procedures for extreme cleanliness, although these measures must play an important role.

In tracing the history of dental prophylaxis as an auxiliary branch of dentistry, practiced by lay women trained for this purpose and limited to this specialty, it was thought apropos to mention briefly the development of the idea of utilizing women in dentistry. In 1866, James Truman of Philadelphia, in an address before a dental graduating class, took for part of his theme the admission of women into dentistry through the then closed doors of dental colleges. The suggestion was so at variance with the accepted thought and practice of this period that the idea aroused amusement, and even indignation. By 1869, however, two women had been admitted and graduated from two separate dental colleges, and Dr. Truman made bold to offer a resolution before the American Dental Association that women should be admitted to full membership in subordinate associations, but the resolution was unanimously tabled at once.

N. W. Kingsley, in 1884, wrote a very complimentary paper called "Woman—Her Position in Dentistry." He advocated the acceptance of women as assistants to dentists, to help at the chair: and he said, "When she becomes familiar with the details of practice, she will perform all operations required upon deciduous teeth, including fillings with any of the plastics, she will take entire charge of the regulating cases, and that branch of practice, so dreaded by all because of the apparent waste of time, in the rearrangement of splints, becomes in her hands a valuable source of income. In short, it is impossible to enumerate in detail the acquirements she will come to possess." He did not mention cleaning especially. Probably this was considered too unimportant. He did not believe women were suited to become graduate dentists because "They are inexact and not inventive."

Only very meager references could be found to women in dentistry previous to 1900, and not many printed records were located to show that women were generally employed in dental offices to any great extent. The search for the first suggestion of training lay women to aid the dentist in cleaning and polishing of the teeth as a separate specialty in a dental office has brought to light the work of C. M. Wright of Cincinnati, Ohio, a man of high standing and long experience in our profession. In January, 1902, Dr. Wright presented a paper before the Odontological Society in Cincinnati entitled "A Plea for a Sub-Specialty in Dentistry," and it is to be regretted that his paper cannot be given in full. A considerable part is quoted as follows:

1. The practitioners of this separate and yet most important part of dentistry are to be women, — women of education and refinement, — who are seeking a field for work of an honorable and useful kind among people of culture.
2. The dental colleges are to offer opportunities for this partial and separate training. The course to consist of lectures on the Anatomy of the Teeth and Gums, Special Pathology, and Physiology, and a special clinical training in prophylactic therapeutics.

3. Upon the completion of this special course, which shall require one session or one year of study, and practice under instruction in the college infirmary, and after presenting satisfactory evidence of proficiency in the polishing of teeth and caring for the mouth, the college shall grant a certificate of competence to the graduate of this course.
4. With this training and the dental college certificate, these ladies may be employed by dentists for this special work, or may practice at parlors of their own, or at the homes of patients, the dentists using their influence and recommending the new specialists, just as physicians and surgeons recommend and insist upon the services of the trained nurse or the masseuse.

This is but an outline of a scheme, the details of which seem easy of arrangement. Dr. Wright says, further:

I think every one of you will agree with me that there could be no more valuable service in oral hygiene than just such a class of specialists would afford. About twenty-five years ago, in Basel, Switzerland, I mapped out a scheme for a new specialty in dentistry for a woman of education who applied to me for advice. She wished to earn a living, yet did not desire or feel able to enter into the full work of an accomplished Doctor of Dental Surgery. I then planned for her the kind of work which shall form the subject of my talk this evening. She did not follow my suggestions and fit herself for this specialty, because it was not feasible at that time and place, but this circumstance did not effect my opinion of the excellence of the idea.

The time has arrived when I believe we should make it possible for and encourage just such applicants to enlist in this field of useful service. Ten years ago I explained the same scheme to another lady who sought advice about entering the profession of dentistry. This lady was convinced by my picturesque and enthusiastic advocacy of the "Specialty within a specialty," but as there appeared no opportunity for acquiring the education necessary for the practice of the vocation, she was compelled to abandon the plan.

The recent papers by Dr. D.D. Smith of Philadelphia, on the prophylactic value of a certain dental operation, — namely, the expert polishing of the human teeth, beginning with the children and having regular and frequent appointments and systematic attention in this one direction and continuing it possibly throughout life, — has appealed to me so forcibly that I have felt that suggestions on "A Sub-Specialty in Dentistry," devoted to the polishing of the teeth and the massage of the gums, might be apropos.

We have given ourselves over to restoration and have been content to advise tooth brushes, sanitol, or vegetol to our patients, leaving the responsibility of real prophylaxis with them. We may not be able to change our modes and habits of practice, but we can, by this method and with the hearty cooperation of the dental colleges in affording the educational equipment necessary for the cultivation of this field of special practice, revolutionize dentistry — place it upon a still higher plane. The operation suggested is more directly in the line of preventive medicine, with all that this implies, than any other in the scope of prophylaxis that I can think of, such as boiled drinking-water, ventilation, sanitary plumbing, physical exercise, diet and bathing. Imagine a room full of children, as they are now in any school, public or private, in regard to surgically clean mouths, and the same children after a thorough polishing of their teeth. Here is an opportunity for missionary work. Enthusiasm on the part of the operator and patient could easily be stimulated and health and morals be vastly improved. Ten years of such effort on the part of our profession would do more for the human family than all the tooth-pastes and powders ever invented, or all the tracts for the people ever published, for the responsibility would be removed from the patient and placed where it belongs — on the practitioner of this art of oral hygiene, these sub-specialists.

We have set the men on pedestals who have been able to cut out a carious spot on a tooth, extend and form a cavity so that a clean surface of gold

may take the place of enamel and protect one part of a single tooth from a single disease; shall we not commend and honor the specialist who patiently and regularly operates for the prevention of this and other diseases by intelligent and systematic care of the entire mouth? This is a fundamental idea of dentistry, agreed by all and yet neglected.

With our present exact knowledge of etiology and our increasing familiarity with the wide-reaching effects of oral sepsis, are we not ready for the establishment and hearty endorsement of trained specialists who will devote their entire time to this one branch of prevention? From personal observation among refined people in America and Europe, I believe that success will follow the efforts of the colleges and the profession in this direction, for we shall be supplying an awakening demand for just such service. Later, in 1902, when some fears had been expressed that a partially educated sub-specialist would drift into illegal practice of dentistry, Dr. Wright, in a paper entitled "Preventive Dentistry," answered these objections:

The fact that the partially educated dental profession does not trespass on the private domain of the physician and also that these women must be largely dependent upon the recognition and recommendation of the dentist for their employment, seems to me a barrier against invasion, and a protection against infringement. Then we are supposed to be controlled by state laws regulating practice and a modification of these laws might be adopted that, while permitting these specialists to practice would also control and limit them as we are controlled and limited. It seems to me the women practitioners of this well defined sub-specialty would gladly remain within the scope of their privileges.

Dr. Wright repeatedly presented his plan at various gatherings of dentists. It seems remarkable that a man should have had, in this early period, such a comprehensive view of this field of service for women and its value to dentistry and the public. It shows that Dr. Wright had given previously years of careful thought to this subject and had even visualized its possibilities for good among the children in our public schools. He also had an appreciation of the necessity for intelligent legislation for the regulation of her practice. Unquestionably, Dr. Wright must be given credit as the first one to have visualized properly the dental hygienist as we know her today.

In August of the same year (1902) F. W. Low of Buffalo, N.Y., inspired by D.D. Smith with the thought of systematic polishing of the teeth, brought forth his suggestion of the "Odontocure." Dr. Low said: "I read a little paper before the City Dental Society in Buffalo in which I advocated a new profession — that of odontocure — a girl with an orange wood stick, some pumice, and possibly a flannel rag, who shall go from house to house." He advocated polishing the teeth in this way every two weeks, and suggested that possibly 50 cents would be the charge.

It is apparent that he was so impressed with the universal need for clean and polished teeth that he desired the service to be available to everyone in a convenient and inexpensive way. The next record in dental literature is a paper by M.L. Rhein of New York City, entitled "The Dental Nurse." This was presented to the Section on Stomatology of the American Medical Association, May 5, 1903, and practically the same paper was read again before the New York State Dental Society, May 13, 1903. Dr. Rhein had, for many years previous to his presentation of these papers, an appreciation of the great value of mouth hygiene, and the suggestion of the name "dental nurse" coming from one so prominent in the profession, and experienced in dental prophylaxis, gave the cause the impetus it so much needed.

The following extract from Dr. Rhein's paper will show clearly his great interest in this matter. In discussing the reasons why prophylaxis was neglected, he pointed out that the repair of existing lesions in tooth structure and the adjacent tissue takes up all the time of the man with the average practice, and says further:

The difficulty of receiving commensurate pay for the hours of time required

in faithfully carrying out the treatment by prophylaxis brings up the question of expediency. It is true that Dr. Smith of Philadelphia claims to personally give his patients this treatment at regular intervals. If an effort were made to follow out this method in an average practice there would be time left for nothing else. It certainly is the consensus of professional opinion that the busy practitioner cannot give up his valuable time for this tedious, monotonous and irksome labor, however important it may be for the salvation of the human teeth. A small number of us have tried to solve this important problem by employing an assistant to attend to this department. In the judgment of your essayist, who has tried this method for twelve years, it has failed to satisfactorily solve the problem.

The employment, in a private office, of a graduate to make a specialty of this work is very likely the best remedy we have had at our disposal up to the present time. The greatest objection to this plan is the inability to retain a graduate possessing ordinary ambition and talent a very great length of time in this position. In discussing this subject with prominent men it has been generally conceded that far better results could be obtained if suitable female assistants, not graduates, were especially trained and employed for this work.

In view of the high esteem held for the work of the trained nurse, it appears remarkable that the sphere of her usefulness has not long since been extended to our own specialty. It would be an easy matter to add to the training schools for nurses a department for dental nurses. Applicants for admission to such a course would be required to pass a satisfactory preliminary examination. Outside of the general didactic instruction which they would receive, they would obtain additional instruction in regard to the oral cavity, etc., from a dental member of the school's faculty. They would also receive their manual training under the same supervision, and in the hospital material they would find ample opportunity for perfecting their working technique.

Having graduated from the training school, it would be in keeping with our other laws to compel the nurses to pass a state board examination. The passing successfully of such an examination would then entitle them to be registered as trained dental nurses. Being so registered, they would be able to practice their profession in private life. By that is not meant the fact that they would be licensed to go around indiscriminately, cleansing the mouths of people. Their license to practice dental nursing should mean that they are permitted to cleanse, polish and medicate the dental territory only under the prescription of the patient's attending dentist.

In conclusion I might say that there are three important reasons why the plan above outlined for the introduction of dental nurses should meet with your approval:

First. It will tend materially toward the public good. Second. It will open to womankind a new vocation second to none in desirability. Third. It will materially aid the stomatologist in the quality of his results.

This plan of Dr. Rhein's was so well received that the Section on Stomatology of the American Medical Association unanimously adopted a resolution commending it, with the hopes that it would lead to action being taken by the proper agencies to amend the dental laws to legalize the employment of dental nurses. In the New York State Dental Society, after much favorable discussion, and little unfavorable comment, F.T. Van Woert of Brooklyn offered the following resolution: "Resolved, that the New York State Dental Society do hereby recommend the Legislative Committee to use their best endeavors to have the dental law amended in conformity with the views expressed in the paper on "Trained Dental Nurses." The motion to adopt this resolution was put and unanimously carried. Thus it is that through Dr. Rhein's efforts, and with the support of many prominent dentists, notably Thaddeus P. Hyatt, R. Ottolengui, F.T. Van Woert, William Jarvie, John J. Hart and others, the New York State Society was the first to attempt to legalize the dental nurse. Although the movement had the backing of many of the foremost dentists in the state, the

dental law was not thus amended until 1916.

The record of my activities is next in order. My thoughts were directed to prophylaxis by D.D. Smith in a paper and clinic on this subject before the Northeastern Dental Association in the fall of 1899, and through Levi Taylor of Hartford, one of Smith's first converts and most enthusiastic followers, I was thrice invited to Dr. Smith's office to attend his exhibits of patients. Returning from my first visit to these exhibits with Dr. William Jarvie of Brooklyn, I commented on the inordinate amount of time that such a system as Dr. Smith's would require in dental practice, and suggested that it might be possible to train a woman specially to perform this operation. Dr. Jarvie agreed with the idea, and he lived to see the dental hygienist movement well under way. Before his death, he confirmed by letter his recollection of our conversation in 1900.

It is interesting to note the similarity of thought of so many dentists who were inspired by D.D. Smith to a realization of their responsibility to practice dental prophylaxis, but recognized at once their ultimate inability to devote a sufficient amount of their time to this branch of preventive dentistry. The suggestion as to training women to perform prophylactic treatments seems to have been advanced by Drs. Wright, Low, Rhein and me, and possibly others, independently, and no one seems to have received the inspiration for his idea from the others. It was, no doubt, a strong argument for the great practicability of the thought, that it should occur almost simultaneously to several different individuals, who were alike inspired with a deep desire to see dental prophylaxis made a feasible part of the office routine.

It was not until 1905 that, having evolved in 1901 a system of prophylactic treatments for use in my own office, I found it no longer feasible to carry on these treatments without aid, and I undertook the instruction of my office assistant, Mrs. Irene Newman. She began prophylactic work for the patients in February, 1906, and has been in continuous practice in the same office for twenty years. As far as we know, Mrs. Newman was the first lay woman to practice dental prophylaxis.

In 1907, the Connecticut dental law was amended to make it unlawful for dentists to employ unlicensed assistants for operative work in their offices. As chairman of the Legislative Committee of the Connecticut Dental Association, I advocated a clause to the effect that this amendment should not prevent dentists from employing assistants for the "so-called operation of cleaning teeth." This clause, being then adopted, was the first provision ever made in a dental law to legalize the prophylactic treatment when performed by an operator who was not a graduate dentist, but specially trained for and limited to such work.

My interest in this subject led me to accept the appointment of lecturer on dental prophylaxis at the New York College of Dental and Oral Surgery, in 1907, and to appear before many society meetings with papers and clinics on my technic. I was so enthused by the beneficent results secured through dental hygiene in my own practice that, beginning in 1909, I inaugurated a campaign to secure similar prophylactic service for Bridgeport, Conn., school children, in contradistinction to relief and repair dental clinics.

It took four years of strenuous effort to convince the city officials, but finally, in 1913, \$5,000 was appropriated to the board of education to conduct the first demonstration of the value of an educational and preventive dental clinic. It at once became necessary to train a number of women to carry on the demonstration. I determined to enlist the aid of professional men and to train a number of women in my office building, where there were excellent facilities for such a course. As early as 1911, in analyzing the special type of services that these women were to perform, I felt that the name dental nurse was a misnomer, and I tried to think of a name to designate these health workers that would not create an association in the mind with the treatment of diseases. The name "dental hygienist" was finally evolved and has been generally accepted.

Thus it was that, in September, 1913, an announcement was issued of the first course for dental hygienists at Bridgeport, Conn., reading in part:

In the last few years, there has been a great demand for women as hygienists and prophylactic operators in dental offices, for it is a well known fact that at least 80 percent of dental diseases can be prevented by following a system of treatment and cleanliness. There is also now developing a demand for these women in public institutions, such as schools, hospitals, and sanatoriums. At the present time, there is no standard educational courses for dental hygienists. The demand for these women throughout the country is sufficiently large to warrant a course of lectures to be given by men who are authorities in their various specialties, these lectures to be printed in book form. With the possibility that this movement will be a powerful aid in the prevention of disease, these educators have agreed to give their services gratis. After the lecture course, there will be six weeks of practical training in dental prophylaxis. A nominal fee of twenty dollars will be charged to partly cover this expense.

The men who so generously agreed to aid this cause were: Raymond C. Osburn, Ph.D., professor in Barnard College, Columbia University, New York City; Alexander M. Prince, M.D., instructor in medicine and physiology Medical Department, Yale University; L.F. Rettger, Ph.D., assistant professor of bacteriology, Sheffield Scientific School, Yale University; R.H. W. Strang, M.D., D.D.S., Bridgeport, Conn.; George M. Mackee, M.D., instructor in dermatology, College of Physicians and Surgeons, New York

City; Edward C. Kirk, Sc.D., D.D.S., dean of Dental Department, University of Pennsylvania, Philadelphia, Pa.; Eugene H. Smith, D.M.D., dean of Dental Department, Harvard University; M.L. Rhein, M.D., D.D.S., New York City; R.G. Hutchinson, Jr., D.D.S., New York City, R. Ottolengui, M.D.S., New York City, editor, *Items of Interest*; Charles M. Turner, M.D., D.D.S., professor of mechanical dentistry and metallurgy, School of Dentistry, University of Pennsylvania; Russell H. Chittenden, Ph.D., L.L.D., Sc.D., director of Sheffield Scientific School of Yale University; M.I. Scharnberg, M.D., D.D.S., New York City; Herman E.S. Chayes, D.D.S., New York City; C. Ward Crampton, M.D., hygienist and director of physical training, Public School System, New York City; Prof. Irving Fisher of Yale University, chairman of Committee on One Hundred on National Hygiene; William G. Anderson, professor and director of Yale University gymnasium; Thaddeus P. Hyatt, D. D.S., New York City.

Their lectures were later compiled into the book, "Mouth Hygiene, the First Text Book for Dental Hygienists," compiled and edited by me, with R.H.W. Strang of Bridgeport, Conn., and E. C. Kirk of Philadelphia, Pa., associate editors. Nov. 17, 1913, thirty-three women, including school teachers, trained nurses, experienced dental assistants and the wives of three practicing dentists, began the course, and June 5, 1914, twenty-seven were graduated as dental hygienists. This group of women, coming as they did from various parts of Connecticut, organized on their graduation, June, 1914, the Connecticut Dental Hygienists' Association. This, the first state association of dental hygienists, has held an annual convention since 1915, and had grown to 135 members in 1926.

In the fall of 1914, ten enthusiastic hygienists began their pioneer work in the Bridgeport, Conn., public schools. This demonstration directed by me, with the help and advice of a local committee of most cooperative dentists, was planned on a five-year basis, so that the large group of the same children progressing from the first to the fifth grade could follow the dental hygiene program over that period, and could be used for statistical purposes and be compared with the fifth grade control class, which had no mouth hygiene program. The gratifying results of this demonstration have frequently been published in detail, and the success of the dental hygienist in the first educational and preventive dental service for school children is now a matter of record.

In 1915, an appropriation for additional dental hygienists for the Bridgeport public schools, and a persistent demand from other sources for these trained women, necessitated the second dental hygiene course and a third and last course was held in 1916, at which time organized institutions took up the train-

ing of dental hygienists. A total of ninety-seven hygienists were trained in the three Fones courses. The field of service of hygienists was extended beyond private dental offices and the public schools, when, in 1915, a graduate of the Fones course was installed as a resident hygienist in the New Haven Hospital, and again, in 1917, when a hygienist was employed to provide prophylactic treatments in the industrial dental clinic for the employees of the Yale & Towne Lock Company of Stamford.

The Fones hygienists who were completing their course in 1917, when war was declared, had the unique experience of working in May of that year for the national guardsmen who were mobilized in Bridgeport, and graduate hygienists in this vicinity continued to carry out the same program for the drafted men, utilizing the equipment of the training school. After the cleaning and examination of the teeth, each soldier was supplied with a toothbrush and given individual instruction in the care of the mouth. They were then referred to the local dentists who had responded to our appeal for operative work for these men. This was several weeks previous to the organization of the Preparedness League of American Dentists, and, as far as we know, was the first organized effort to provide dental service for our soldiers. The hygienists cleaned the teeth of 600 soldiers.

In 1915, the increasing number of hygienists in Connecticut, and the possibilities of the future growth of this profession, prompted me to draw up and urge the adoption of an amendment to the Connecticut dental law to regulate the practice of these auxiliary workers. This, having been adopted, legally prescribed for the first time the field of operation of the dental hygienist, and served as a precedent to the majority of the states that subsequently adopted similar clauses. The original dental hygienist practice act is quoted as follows:

Any registered or licensed dentist may employ women assistants, who shall be known as dental hygienists. Such dental hygienists may remove lime deposits, accretions, and stains from the exposed surfaces of the teeth and directly beneath the free margin of the gums, but shall not perform any other operation on the teeth or mouth or on any diseased tissues of the mouth. They may operate in the office of any registered or licensed dentist, or in any public or private institution under the general supervision of a registered or licensed dentist. The dental commission (state board of dental examiners) may revoke the license of any registered or licensed dentist who shall permit any dental hygienist, operating under his supervision, to perform any operation other than that permitted under the provisions of this section.

It is worthy to note that, during these early events, there was never at any time any organized opposition to the dental hygienists from the dentists of Connecticut. The spirit of cooperation was everywhere felt, which accounts in a great measure for the fact that Connecticut was the first state in the country to make a rapid advancement in this movement.

In Massachusetts, as early as 1910, an amendment to the dental law permitting the practice of the dental nurse, was introduced into the legislature, but it was defeated. There were dentists in Massachusetts who desired to utilize the services of a woman in their private offices as early as 1902. Dr. Wright, in one of his papers, spoke especially of S.A. Hopkins of Boston, but the threats of the dental commissioners to prosecute whoever attempted to use a prophylactic operator, other than a dentist, were so effectual as to prevent it. There were many strong advocates for the dental hygienist, notably W.P. Cooke, Carl R. Lindstrom, George H. Payne, Charles M. Proctor, Eugene H. Smith, LeRoy M.S. Miner and others, who kept this matter before the profession until, in 1915, the dental law was amended to permit the use of these auxiliary workers.

In New York, this matter was agitated, as stated previously, from 1903 until the passage of the dental hygienist amendment in 1916. Shortly after the legalizing of the dental hygienist in Massachusetts and New York, three training schools were organized in these states. The New York School of Dental

Hygiene was founded by Louise C. Ball, who secured a grant of \$2,500 from the Rockefeller Foundation, and with the aid of several dentists, physicians and teachers conducted a preliminary summer course through Hunter College in 1916. In the fall, the school became an organized part of the Vanderbilt Clinic of Columbia University. The course was a full academic year in length and required "evidence of attendance for one year in a high school" for admission to the class. This was the first university course for dental hygienists, and has been in continuous service since 1916. It is now conducted by the College of Dentistry of Columbia University.

In 1916, shortly after the New York school was founded, a similar school was established in the Rochester Dental Dispensary at Rochester N.Y., under the direction of Harvey J. Burkhart, and another at the Forsyth Dental Infirmary for Children at Boston, Mass., under the direction of Harold DeWitt Cross. These schools have since become a part of the School of Medicine and Dentistry of the University of Rochester, and of the Dental School of Tufts College, respectively.

From the time of the establishment of the first training schools, the dental hygienist movement has made rapid progress. At the present time there are ten schools; Training School for Dental Hygienists, University of California, San Francisco, Calif.; Courses in Oral Hygiene, School of Dentistry, University of Pennsylvania, Philadelphia, Pa.; School of Oral Hygienists, Temple University, Philadelphia, Pa.; School of Dental Hygiene, Marquette University, Milwaukee, Wis.; Dental Hygienist School, Northwestern University, Chicago, Ill.; School of Dental Hygiene, College of Dental Surgery, University of Michigan, Ann Arbor, Mich.; School for Dental Nurses, University of Minnesota, Minneapolis, Minn.; School of Oral Hygiene, Columbia University, New York City; School for Dental Hygienists, University of Rochester and Rochester Dental Dispensary, Rochester, N.Y.; and Forsyth-Tufts Training School for Dental Hygienists, Boston, Mass.

The dental laws in the following twenty-six states have been amended to regulate the practice of dental hygienists: Alabama, Arkansas, California, Colorado, Connecticut, District of Columbia, Iowa, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, New Hampshire, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Vermont, Washington, West Virginia, Wisconsin, and Wyoming, and the Territory of Hawaii.

In the majority of these states, the hygienists have organized into local or state societies. The dental hygienists of California were instrumental in bringing the matter of organizing a national dental hygienists' association to the attention of the Officials of the American Dental Association at a meeting in Los Angeles, Calif., in July, 1922. A resolution was presented and met with the approval of the Board of Trustees, and Sept. 12, 1923, the American Dental Hygienists' Association was formed, in Cleveland, Ohio. The first officers chosen to serve in this new organization were Mrs. Hubert W. Hart, Bridgeport, Conn., president; Miss Edith Hardy, Rochester, N.Y., president-elect; Miss Evelyn C. Schmidt, Boston, Mass., Miss Emma Ditzell, Harrisburg, Pa., and Miss Ethel Covington of Denver, Colo., vice-presidents; Miss Helen Hilbish, Cleveland, Ohio, treasurer, and Miss Alma W. Platt, San Francisco, Calif., general secretary.

The American Dental Hygienists' Association is sponsored by the American Dental Association, and has held its convention in conjunction with the annual Session of the American Dental Association. It is estimated that there are approximately 2,000 dental hygienists in the United States at present, with the number increasing yearly, as the various training schools graduate their classes.

Without doubt the work of these auxiliary practitioners of educational and preventive dental service constitutes one of the greatest contributions of dentistry to the public's health during the past twenty years, in which time the dental hygienist movement has developed to its present importance.