



First graduating class of dental hygienists, 1914. Fones is in the second row, fourth from right.

Dental Hygiene at 100: Who Was Dr. Fones?

By **Laurel Risom, RDH, BSDH, MPH**

This year marks the 100th anniversary of dental hygiene. It all started in Connecticut, where Dr. Alfred Civilion Fones, the Bridgeport dentist often referred to as “the father of dental hygiene,” pioneered the dental hygiene profession in 1913.

Alfred C. Fones was born in 1869 and was a Bridgeport, Conn. native.¹ After attending dental school at New York College of Dentistry in 1890, he joined his father, the Hon. Civilion Fones, to practice dentistry together on Washington Street.¹ The most common reason people visited their office was extraction of decayed teeth. After practicing dentistry for about five years, the younger Fones became convinced of the importance of prevention of oral disease. He trained his cousin and chairside assistant, Irene Newman, to be the first dental “auxiliary.”²

In 1907, Newman was performing the duties of what Fones would term a “dental hygienist” at their offices in Bridgeport. In 1913, Fones opened a school and, with Newman’s help, instructed the first class of dental hygienists. These classes took place in a carriage house on Washington Avenue in Bridgeport, behind Fones’ private practice.² It is reported that educators from Harvard, Yale, Columbia and as far away as Japan traveled to the carriage house school clinic to assist in educating the first class of dental hygienists.²⁻⁴

To understand the origins of the profession of dental hygiene, one must understand Fones, his philosophy and his vision of prevention. In 1916, Fones published a textbook for dental hygienists called *Mouth Hygiene*.⁵ In his second (1921) edition, he describes the role of a dental hygienist.⁶

The dental hygienist must regard herself as the channel through which the knowledge of prevention that the dental profession has acquired is to be disseminated. The greatest

service she can perform is the slow and painstaking education of the public in mouth hygiene and allied branches of general hygiene. It must always be borne in mind that the aim of the dental hygienist is to secure extreme cleanliness of the mouth in an effort to starve bacteria and render them inert.

Fones further states that the dental hygienist’s responsibilities are “to include the removal of the heavy tartar deposits, large accretions, and accumulations of stain and plaques,” remarking that this is essential before the real science of prevention can be applied.⁶

A true prophylactic treatment must be designed to aid in the prevention, not only of dental caries, but in any of the departures from the normal of the supporting tissues of the teeth. The cleaning of the teeth bears the same relationship to (a) dental prophylaxis as plowing does to agriculture. The plowing is essential before the science of agriculture can be applied.

In his textbook, Fones presents detailed instructions of hand instrumentation with scalers to remove “tartar” deposits from both above and below the periodontium of the surrounding teeth. In the text, he presents figures, 218 illustrations and eight plates in all, including manikin instrumentation for each instrument in each area of the mouth, demonstrating both rests and strokes.⁶

In his clinic, Fones mounted extracted teeth in modeling compound for his students to use when learning scaling, instrumentation and polishing.² In addition, he painted plaster of Paris around each tooth to simulate the calculus deposits to be removed.² This is similar to the education of hygienists today, where students use typodont models to learn and master scalers and curettes, grasp, fulcrum and strokes before being introduced to a live patient.

In his textbook, Fones further discusses his vision of dental hygiene and dental hygiene education, encouraging

that the role of the dental hygienist include "preventative education" for all patients, young and old, children and mothers, as well as nutritional counseling. He suggests that every mouth would benefit from a prophylactic treatment and recommends visits to the dental hygienist every two months.⁵

Today, the American Dental Hygienists' Association (ADHA) describes the professional responsibilities of the dental hygienist in terms of six interrelating roles: the dental hygiene clinician, educator, advocate, researcher and administrator/manager all surrounding a core of public health practice.⁷ Fones' vision, too, included public health at the center. He envisioned the dental hygienist in schools, providing classroom education for schoolchildren. He believed that dental hygiene public service should be widespread, and stated in his book that dental hygienists should practice in settings such as dental offices, infirmaries, public clinics, sanatoriums, factories and other private corporations, "to care for the millions of mouths who need their service."⁶

Dental hygiene was incorporated into Bridgeport's school system, and the program was studied for six years, with Fones presenting the excellent results in his publications.⁸ His plan was that the dental hygienists would see first-grade school children once a month and provide education on the proper use of a toothbrush, classroom supervision of its use and lessons in hand and face hygiene, along with nutritional counseling. He hypothesized that with this program, "three-fourths of the diseases of children would be eliminated."^{6,8}

Eight dental hygienists and two supervisors set out in September 1914 to work with the Bridgeport schoolchildren, each of whom received a prophylactic treatment regardless of the financial status of the parents. This dental prevention system was incorporated as a part of the school curriculum. The total number of children treated in the first year was 6,768. Fones reports in his findings, "On first examination, it was observed and reported that less than 10 percent of (the) children were brushing their teeth daily. Ten percent of the children examined were found to have fistulas, and averaged over seven decayed teeth per child." Fones further reports that he was "shocked at the finding to discover the mouth of the children in such deplorable condition."^{6,8}



Alfred Civilion Fones

More dental hygienists were added to the Bridgeport School system, and by 1917, all the children in the first grade had been seen, totaling 15,000. Fones compared the fifth grade classes that had received the preventive treatments (dental hygiene prophylaxis from grades one through five) to a fifth grade class of years past, who had received no prevention or dental hygiene visits. Results demonstrated a reduction in dental caries in the permanent dentition of the fifth graders — as high as 67.5 percent

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The carriage house where Fones taught.

in the Barnum school, while only 15 percent in the Waltersville school. Fones reported that the total average reduction in caries, once hygienists had been introduced into all the Bridgeport elementary schools, was 33.9 percent. He attributed the difference in the reduction rates from school to school to the movement of children with the Bridgeport school system and loss of children in the schools.^{6,8}

Irene Newman became the first president of Connecticut's state dental hygiene association, which was formed by 1914, having 19 charter members. The national dental hygiene organization, ADHA, would follow in 1923. Connecticut was the first state to license dental hygienists, and Irene Newman was the first licensee in 1917. In New England, other states began to license hygienists, too, including Massachusetts.²

Alfred C. Fones died in 1938. Connecticut dental hygienist, Mable C. McCarthy wrote a tribute to Fones and in his honor a \$1,000 scholarship was established with ADHA to help a student dental hygienist in financial need.²

Fones' vision of prevention and his guiding force created the profession as we know it today. Community service and dental outreach remain important components of dental hygiene education. Students in their final year of dental hygiene visit numerous community sites, senior centers, nursing homes, day care centers, Head Start programs, public and hospital dental clinics and local schools, gaining experience with different populations, cultures, ages and serving the community just as Fones envisioned in 1913.



Irene Newman in the Bridgeport Schools, 1916

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Bridgeport dental hygienists provided care in schools.



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