

## **SADHA/ADHA ANNUAL CONFERENCE ESSAY**

**What have been the advances made in the dental hygiene field over the past 100 years?  
What role do we have to play in advancing the profession forward?**

Over the past 100 years, the dental hygiene profession has undergone significant advancements that have transformed how oral health and, by extension, an individual's overall health is managed and maintained. I am sure that when Dr. Alfred Fones decided to train Irene Newman to be the "first hygienist," neither understood the importance of the field they pioneered.

One of the crucial advances in the field is the development of new technologies and techniques for preventing and treating gum diseases. Gum disease is a common problem that can lead to tooth loss and related health issues. New treatments and technologies have made it easier for dental hygienists to prevent and treat conditions and promote better oral health. Some of these advancements include:

- Fluoride's discovery, development, and use has significantly improved oral health care. Fluoride has been proven to strengthen tooth enamel, making it more resistant to decay. This property is used extensively in preventative care. Fluoride has found its way into many Oral care products such as toothpaste, mouthwash, and both self-applied and professionally applied gels and varnishes. Even the water we drink is fluoridated! It has reduced the prevalence of decay and the need for costly and invasive dental procedures.
- Another huge advancement is the application of Pit and Fissure dental sealants. Considerable research has shown that they significantly reduce the incidence of dental decay. They are thin resin coatings applied to the chewing surfaces of posterior teeth, essentially sealing off pits and fissures and preventing the accumulation of plaque and bacteria that can cause cavities. They are now considered part of a complete prevention program.
- The introduction of digital imaging and radiography in the field allows a dental hygienist to take more detailed and accurate dental X-ray images. This has dramatically improved the diagnosis of oral health problems and allowed for earlier intervention, leading to better treatment outcomes.
- Lasers are now used in dental procedures such as teeth whitening, cavity removal, and gum disease treatment. Lasers can be less invasive than traditional methods, resulting in less discomfort and faster healing times.

- New Technology, such as electric toothbrushes and specialized tools/instruments, like air abrasion devices, ultrasonic scalers, and other advanced tools, has made it easier for dental hygienists to remove plaque and tartar from teeth and promote better oral health.

Another significant advancement in the dental hygiene field has been the introduction of evidence-based practices. In the past, many dental treatments were based on tradition and personal experience rather than scientific evidence. Extensive research has provided the most effective methods for preventing and treating dental diseases and promoting oral health. This allows dental hygienists to provide evidence-based recommendations to patients and offer treatments backed by scientific evidence.

The increased emphasis on prevention and education is one of the more significant improvements in dental hygiene. After all, as the old saying goes, "Prevention is better than Cure." Over the past few years, the importance of promoting good oral hygiene habits has become apparent. As dental hygienists, we play an essential role in educating patients about the importance of good oral hygiene habits like regular brushing and flossing. We also provide guidance on good nutrition and lifestyle choices that can impact oral health. One such topic is tobacco cessation, which is fast becoming a critical topic of discussion.

Dental hygiene is fast becoming integrated into an individual's overall healthcare. Many healthcare facilities and organizations have started to realize the importance of oral health and its part in an individual's overall health. We work with other healthcare professionals, such as dentists, physicians, and nurses, to ensure that oral health is integrated into overall healthcare practices as we provide comprehensive patient care. This can include sharing patient information, collaborating on treatment plans, and referring patients to other healthcare providers when necessary.

It is easy to see that dental hygiene is ever-evolving and has made significant improvements over the past century. From the early days of basic cleaning and scaling to the current focus on prevention and patient-centered care, dental hygiene has evolved to meet the changing needs of patients. While the profession faces many challenges, dental hygienists continue to play a critical role in promoting oral health and providing high-quality care to patients.

As healthcare evolves, the dental hygienist's role has become increasingly important. With advances in technology and an increasing understanding of the connection between oral health and overall health, there is a need to advance the field of dental hygiene to serve patients and communities better. We are at the forefront of providing preventative dental care and promoting good oral health practices, which are increasingly seen as a link to systemic health and not separate from it. In addition, advancements in personalized medicine may lead to more

tailored treatments and preventive strategies for individual patients. By emphasizing the importance of prevention, we can help reduce the prevalence of dental diseases and improve the population's overall health.

We can advance our profession by staying current with the latest research and technological advancements. Dental hygiene programs can include research courses, and continuing education courses can provide opportunities for dental hygienists to learn about the latest advances in the field. Dental hygienists may also receive training in advanced therapeutic techniques such as regenerative therapies, personalized medicine, and targeted drug delivery. This will allow us to provide our patients with the highest level of care and take on more advanced roles within the dental profession.

As dental hygienists, we must continue to advocate for ourselves, promote our profession, and raise awareness of our essential role in promoting health. We can advance the field by advocating for changes in policies and regulations that impact dental hygiene. We can work with professional organizations and government agencies to promote policies that improve access to dental care, such as expanding Medicaid coverage for dental services, community water fluoridation, or increasing funding for dental clinics in underserved areas. I strongly believe in the concept of a dental therapist. A dental therapist can provide more services like checkups, fillings, and pediatric dentistry. It will beneficially impact areas not adequately serviced by dentists, increase access, and drive down treatment costs while ensuring safe, effective care.

We, as hygienists, can also participate in research, promote innovation, and contribute to the body of knowledge in the dental hygiene field. Dental hygienists can collaborate with researchers and scientists to develop new treatment methods, dental products, and technologies that improve patient care. The field of dental hygiene is constantly evolving, and we must embrace new technologies and techniques as they emerge. By staying open to new ideas and innovations, we can continue to improve the quality of care we provide and advance the field. Some newer technologies already making waves in other fields can easily be adapted and used in dental hygiene. Advanced imaging techniques like 3D imaging can provide more accurate diagnoses and treatment planning.

Another newer technology that could revolutionize the field is telehealth. Its widespread adoption could be leveraged for virtual appointments in dental hygiene. Patients may receive remote consultations through virtual platforms, and home-based diagnostic tools such as intraoral cameras and diagnostic imaging could provide supporting data. It could also monitor patient progress remotely, increasing access to care for patients in underserved areas. Artificial intelligence and machine learning could also be adapted for dental hygiene. AI-powered tools could help dental hygienists detect early signs of dental diseases, make more

accurate diagnoses, and develop personalized treatment plans. Smart toothbrushes, for example, could use AI to provide real-time feedback on brushing techniques and help prevent tooth decay and gum disease.

In conclusion, we have an essential role in advancing and shaping the future of the dental hygiene profession. By promoting the profession, advocating for equity and access to care, expanding our skills and knowledge, and contributing to research, we can help to improve the overall health and well-being of the population and ensure that the dental hygiene profession continues to evolve and thrive. It is an exciting time for the dental hygiene profession, and I look forward to seeing how it evolves in the years to come.

“The best way to predict your future is to create it.”

— **Abraham Lincoln**

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