

The importance of **saliva testing** for **prevention**

Visiting different countries gives us a global perspective of the issues concerning oral health and health care. We continue to establish partnerships and a deeper understanding of prevention worldwide. That is why the mission of the Global Oral Health program at Arizona School of Dentistry and Oral Health in the US is simple: creating oral health solutions through leadership development, innovation, education and technologies while promoting care to underserved populations. Prevention should matter to everyone; this mission is more important than ever.

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All around the world, we are focusing on the costs of and access to dental care. From my experience over the last 20 years, the value of oral health and oral health literacy have been common problems in many areas. In the US alone, about 100 million people do not visit the dentist. Among the results of this are that the costs of dental care are a great deal higher when the person ends up in hospital. In many areas, despite access to care and proper insurance, people still do not go to the dentist. As dentists,

we have done a great job elevating our expertise as medical professionals. Despite these efforts, the average person holds the perceptions that dentistry is expensive and painful.

Historically, the idea of preserving one's teeth was different. On the one-dollar bill, George Washington is not smiling because he suffered from dental problems from an early age due to poor oral hygiene. Obviously, little was known about means of maintaining dentition at that time because science and technology were not yet sufficiently advanced. Hundreds of years ago, however, dental status affected the price of a slave: the more teeth, the healthier the slave. In today's dentistry, prevention has to become a major part of the conversation. Prevention increases education and patients' value of their oral health. It is our job to engage the population.

How to help patients brush and floss better

These are our goals: we have to figure out how to engage our patients cleverly, how to take the time to educate and train

them so they can be healthy and successful for life. Our most important challenge in achieving these goals remains the improvement of oral health care at home. While we have focused a great deal on treatment, we should spend more time on home care measures such as toothbrushing and interdental cleaning. Prevention entails substantial health management and we need to find good solutions to engage our patients.

This starts with a toothbrush. The modern message from dental professionals has been to use a soft toothbrush. In retail stores, one can still choose between hard, medium and soft toothbrushes. Even some of my colleagues continue to say that soft toothbrushes do not remove plaque completely. Using a plaque indicator will show the effective results of using a soft toothbrush and massaging one's gingivae.

Of course, brushing alone will not do the job; technique and interdental cleaning matter too. Regarding interdental cleaners, it is important to choose the right size. Obviously, whatever interdental cleaning tool dentists use, it sends

a message to patients that interdental cleaning matters. The average patient sitting in my chair does not know how to floss properly; this needs to change.

A smartphone to measure, monitor and educate for prevention

That is why education and motivation are our primary goals. In the US and many European countries with a good percentage of dental hygienists, we have a tremendous opportunity to educate patients together. During treatment, a great deal of conversation takes place between the hygienist and the patient. If 10 or 15 minutes of this conversation is dedicated to education in a fun way, we are able to become very powerful promoters of oral health.

As smartphone use continues to increase, oral health promotion via texting has the potential to be a great tool to improve oral health in the global community. Text messaging should become the most common and effective way to educate patients about their oral and overall health. We have developed a free app to promote overall health for patients, dental students and dentists. We named it Text2Floss to focus on the importance of flossing, brushing and rinsing. We also started the oral health PH2OH initiative to deliver new technology for pH saliva testing. Why saliva?

Salivary pH testing can play a significant role in helping to improve oral health by assessing pH as a risk factor for dental caries and dental erosion. It can also be used as an educational tool to engage patients in monitoring and maintaining their self-care. Saliva testing, through tools such as the PH2OH app, can be introduced to patients as a follow-up to discussions about oral hygiene and preventative recommendations and as a way to help remind them and motivate them about maintaining their oral care at home.

In the US, saliva-testing and examination tools are used by the dental team to educate patients, assist in preventative

treatment planning and properly select dental materials to initiate changes in the patient's oral health and hygiene. Dental professionals can measure salivary pH with a pH level test strip or litmus paper. Placed in a saliva sample, the paper turns a different colour depending upon the pH of the saliva. This colour changes from red (indicating a strong acidic state; $\text{pH} < 3$) to dark blue or purple (indicating a strong alkaline state; $\text{pH} > 11$).

Inform the patient right where he or she shops

Despite the technological advancements, there is still a major gap between dental care received at the practice and that practised at home. In the US, the average person purchases oral health care products from retail shops and pharmacies; however, there is no interaction with a health care professional. One may ask a pharmacist at Walmart, but he or she is more likely to merely read the instruction leaflet, not provide advice.

That is why I founded Smile Health. The Smile Health centre was created as an inviting environment with a boutique setting for consumers who are not patients yet. Those consumers can ask all sorts of questions at the centre. We also have a clinic behind the glass. We are open six days a week in a more affluent area with heavy traffic. I think that the location is key to success: I wanted the centre to be outside of a mall, but still close to it. The centre only provides state-of-the-art products, such as from Swiss brand CURAPROX.

The notion of the Smile Health centre reflects the simple idea of a healthy mouth. Good oral health is not just a lack of pain; it is functionality. I tell my teenage patients that they have to keep their teeth healthy for at least another 60–70 years. Think about the house you live in, the car you drive and all those things that you use on a daily basis. The idea of prevention is to engage individuals about total care. We have to be the leaders in moving consumers toward a healthy lifestyle. ■

