Classic versus modern: Comparison of new method of professional dental cleaning

By Adina Maurer, Germany

The early work of prophylaxis pioneers Axelsson and Linthi in the late 70s already described the content and procedure of a dental prophylaxis session. Due to scientific and technological progress, new possibilities are available today that enable professional dental cleaning in a more efficient, effective and gentle way (minimally abrasive and atraumatic) with increased potential to encourage better oral care among children.

Co-chaired by Hamdan Bin Mohammads College of Dentistry, Professor Crawford Bain and Dr Arwa Al-Sayed, Director for the Saudi Board of Periodontics, the meeting of ten dentists from the United Arab Emirates and the United Arab Emirates and the United Arab Emirates met for two days to discuss how best to promote better brushing habits among the region’s consumers. Research undertaken by the Dubai Healthcare Authority in February of this year found that 80 percent of children in Dubai between the ages of 12 and 15 have unhealthy gums.

The group agreed on the following recommendations:
1. Evidence suggests that power brushes are more effective in the short & long term compared to manual brushes. According to present data, over the short & long term, power brushes are better at maintaining oral health.
2. Evidence suggests that oscillating-rotating mode of action are more effective than others at reducing and preventing gingivitis in the short & long term.
3. Bluetooth enabled power brushes with interactive apps and smart guides have the potential to aid in better compliance from children. This consensus suggested that power brushing can be started at any age if parent and child are comfortable with it.
4. Power brushes with an oscillating-rotating mode of action are more effective than others at reducing and preventing gingivitis in the short & long term.
5. Power brushes with an integrated pressure feedback mechanism could have the potential of reducing soft & hard tissue abrasion.

Middle East’s Dentist Meet Recommends Power Brushes for Improved Oral Hygiene

"This was the first time that we’ve brought together such a group of experts to talk about the pressing need to improve the region’s oral hygiene. The Middle East in general suffers from poor oral hygiene when compared to regions such as Western Europe, and as a profession we felt that it was important to come together to agree on how to change the status quo. Regular brushing is an essential part of good oral health, and by using power brushes we can better maintain our oral health both in the short term and the long term,”

By Oral-B

DUBAI, UAE: A group of the Middle East’s leading dentists have come together to agree on how best to promote good oral hygiene through brushing. Held in Dubai at the end of August and supported by Procter & Gamble, the first dental consensus has issued a series of recommendations to help improve oral hygiene in the region. These proposals, which focused on tooth brushing habits across the Middle East, include an agreement that electric power brushes are more effective at maintaining oral health, and that Bluetooth enabled power brushes have the potential to encourage better oral care among children.

By Kimberly Bray, RDH, MS

Wax determines your level of confidence in recommending a product to your patients? My confidence level depends on doing some of my own research and coming to my own conclusions.

When I first heard about Crest Pro-Health toothpaste and the wide range of cosmetic and therapeutic benefits it provides, I have to admit I was curious. The only product I own that can do just about anything is my smartphone: it’s a phone, camera, iPod, and so much more! Then I started wondering, what if toothpaste could work that way, providing all of the key oral health benefits in a single tube? What would be the advantages? As it turns out, I could think of quite a few:
• Convenience. Many patients just don’t have time to use more than one oral care product to get a wide range of benefits. They would prefer to simply use one product.
• No trade-offs. Patients could get therapeutic benefits without trading off cosmetic benefits of extrinsic whitening, tartar control, and breath protection.
• No selection required. Unlike my smartphone, where I select the app I want, a multi-benefit dentifrice would provide all of the benefits with each use.
• Widely applicable. It would be a product that would offer benefits for both teens and adults alike.
• Provides therapeutic protection. It would provide protection against caries, plaque, gingivitis, and sensitivity.

My list of potential benefits turned out to be pretty impressive. So I decided to do some research on Crest Pro-Health toothpaste. Here are the questions I asked and what I learned.

What is the basis for Crest Pro-Health formulations? Crest Pro-Health (CPH) dentifrice is based on a unique, patented system of stabilized stannous fluoride (SnF2) and a cosmetic ingredient, sodium hexafluorphosphate (NaHMP).
Stannous fluoride has a long history of use in oral products for protection against caries, sensitivity, plaque, gingivitis, and oral malodor.1 Crest with Floristam, introduced by Procter & Gamble (P&G) in 1955, contained SnF2 and was the first dentifrice to receive the American Dental Association (ADA) Seal of Acceptance for the therapeutic prevention of caries. Stannous fluoride is the only fluoride source to provide benefits against caries, sensitivity, and plaque/gingivitis. It was the potential of this multi-benefit therapeutic agent that motivated P&G scientists to work for more than three decades to overcome the early limitations of SnF2-based dentifrices. These limitations included formula stability, an astringent taste, and mild extrinsic staining of teeth in some patients.

One breakthrough along the way was the discovery of polyphosphates, such as NaHMP, as cosmetic agents. Pyrophosphates were used in Crest Tartar Control dentifrices to provide tartar control benefits. Compared to pyrophosphate, NaHMP is a larger polymer with more potential attachment sites to the tooth surface, which enhances fluoride adsorption to tooth enamel, which provides surface stain removal along with calcification of plaque to provide tartar control benefits. NaHMP was successfully used in Crest toothpastes to improve whitening benefits. The successful formulation of NaHMP and stabilized SnF2 in a single dentifrice formulation is the key breakthrough leading to the introduction of CPH dentifrice in 2003.

How does CPH dentifrice perform?

CPH dentifrices containing a system of stabilized SnF2 and NaHMP have been shown to provide a full range of therapeutic and cosmetic benefits (see Figure 1). The efficacy of CPH dentifrices has been demonstrated in randomized, blinded, controlled, and independent clinical studies. Based on these clinical studies, CPH dentifrice has been awarded the Seal of Acceptance from the ADA in five categories: cavities; gingivitis and plaque; oral malodor; sensitivity; and whitening. In fact, CPH dentifrice is the only toothpaste on the market to earn acceptance in all five categories.

Efficacy demonstrated in technical studies, clinical trials.

Over 80 publications and research presentations support the efficacy of CPH dentifrice. The results show CPH dentifrice is:

1. Effective in preventing and reducing the incidence of cavities. Use of a fluoride-containing dentifrice is known to be effective in reducing cavities and reversing early carious lesions by promoting remineralization and preventing demineralization.2

In addition, fluoride may also limit the production of acid associated with cariogenic bacteria.3 Stookey et al. conducted a two-year clinical trial with 955 subjects. A dual-phase protocol of CPH dentifrice provided 17% to 25% fewer cavities relative to a standard sodium fluoride (NaF) dentifrice.4 These cavity benefits were also demonstrated by Wefel et al. in an in situ study.5

2. Effective in building protection against dental hypersensitivity. Laboratory studies show SnF2 reacts to form precipitated calcium pyrophosphate (CaPP), which can include dental tu- bules and provide sensitivity relief. Figure 2 shows high magnification scanning electron micrographs (SEM) of root surfaces before and after the use of CPH dentifrice.6

Independent clinical studies have demonstrated both long-term and sensitivity relief as measured by tactile and thermal methods compared to standard fluoride negative controls. Results from one clinical study showed a 44% decrease in thermal sensitivity and up to a two times greater tolerance to tactile sensitivity after eight weeks of use.7

3. Effective in reducing plaque and gingivitis. These benefits are due to the broad spectrum antibacterial ability of CPH dentifrice and long-term sensitivity relief as measured by tactile and thermal methods compared to standard fluoride negative controls. Results from one clinical study showed a 44% decrease in thermal sensitivity and up to a two times greater tolerance to tactile sensitivity after eight weeks of use.7

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What do patients and professionals think about CPHdentifrice? The efficacy of CPH dentifrice is supported by extensive body of clinical evidence. However, its success ultimately depends upon its effectiveness and acceptability to users in the home environment. The question is the benefit measured or observed in a controlled clinical environment by clinical specialists translate to product acceptance in the home environment? In other words, are dental benefits observed by patients and dental professionals in clinical studies evident when used in the home environment? These questions have been addressed in two recent home-use studies. These studies showed that CPH dentifrice is effective for and acceptable to both patients and dental professionals who used it at home as part of their normal oral hygiene routine.

Practice-based assessment. A practice-based assessment of CPH dentifrice was conducted among patients across the USA. In this study, both patients and their dental professionals answered questions about their experiences using the product.

95% of dental professionals rated their experience with the product as “very good/ good”

96% indicated they would continue to use the product

82% agreed that dentifrices containing SnF2 can benefit their patients more than other toothpastes

91% said they had recommended CPH dentifrice to patients in the past and 96% said they would recommend CPH dentifrice to more patients now that they had experienced the product themselves (see Figure 6).

When asked why they would recommend CPH dentifrice to more of their patients, some responses given were:

• “I believe patients can benefit from this product”
• “I can only vouch for a product I have personally used and liked.”
• “I believe this is the best product on the market right now.”
• “Ortho patients need that extra level of protection.”
• “It feels clean, and there was noticeable plaque reduction in my mouth.”
• “It helped with my sensitivity and has a nice, refreshing taste. It’s also good for the gums.”
• “I have seen a clinical improvement with Crest Pro-Health.”

Clinical studies demonstrate that CPH dentifrice puts the power of CPH’s proven benefits of an efficacious, multi-benefit toothpaste in the palm of your hand, providing seven therapeutic and cosmetic benefits with each use. Real-world, independent assessment of CPH dentifrice established the high level of therapeutic efficacy of CPH dentifrice established the high level of therapeutic efficacy of CPH dentifrice established the high level of therapeutic efficacy of CPH dentifrice established
in controlled clinical trials translates into effectiveness and acceptability among both patients and dental professionals.

Recent studies have shown that dental care routines that include CPH, an Oral-B oscillating-rotating power toothbrush, and regular use of dental floss can further enhance oral care benefits to patients.

These findings show that you can be confident in recommending CPH dentifrice to your patients, knowing that the vast majority are likely to notice and appreciate benefits of a clean, healthy mouth and gums.

**References**

**Editorial note:**
The full list of references is available from the publisher.

Author’s acknowledgment: To Ms. Anita Gay for assistance with manuscript preparation.

**About the Author**
Kimberly Bray is professor and director for the Division of Dental Hygiene at the University of Missouri-Kansas City School of Dentistry. She currently teaches in three degree programs including two degrees with distance learning options.

Prof. Bray has 24 years of clinical experience in both general and periodontal practice with research interests in patient adherence, alternative learning strategies, and product efficacy.

Figure 5. Summary of patient survey results from practice-based evaluation of CPH dentifrice. The percentage of patients rating the CPH dentifrice as “excellent/very good/good” in each category shows the high effectiveness and acceptability among patients who used the product at least three months and completed the survey. (Courtesy of Journal of Dental Hygiene)

Figure 6. Summary of in-home usage study of CPH dentifrice among dental professionals. Results showed the product is highly effective and widely accepted among dental professionals participating in the study. More study participants indicated they would recommend CPH dentifrice to their patients after using the product at home.

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Using the example of a 20-year-old patient with braces, increased plaque deposits and a hyperplastic gingiva, the author describes the procedure, the implementation and time management of a structured, professional prophylaxis session.

The upper jaw was treated individually with the Piezon device (here: Hu Friedy EXD 3CH, Vivadent), which allows a clear differentiation according to risk groups. The respective findings can be selectively removed with a chemical plaque control. As a result, the obtained findings can be discussed in detail with the patient. They are the basis for deciding on specific needs and questions on the case history. This will be followed by the control and consultation on the case history. This will enable the physician to decide on treatment in a targeted manner.

Fig. 4: Air-Flow Master Piezon device.

2. Patient pick-up and repeat measurement (5 minutes)

In order to reduce the number of bacteria prior to further treatment, rinsing with 0.2% chlorhexidine is recommended. Another modern way is to clean the entire oral cavity (full-mouth treatment according to Flemmig) including tongue, cheek, palate and mucosal fold using air-flow technology and Plus powder in a gentle and simple manner (Fig. 4). This seemingly simple step already serves to carry out successful biofilm management (guided biofilm therapy).

Diag nostics (7 minutes)

After the visual inspection of the teeth, the inspector examines the mucosa of the membranes in the oral cavity. This is where tongue, cheek, palate, base of the mouth, the mucosal fold as well as lips and inner surfaces of the cheeks are accurately inspected. After that, a re-evaluation of caries, complications and erosion diagnostics is carried out (Fig. 5). This includes the application of probing depths, oral hygiene, etc. This is where electronic systems that enable a long-lasting and prove their worth. In order to ascertain the plaque index, it is helpful to stain the teeth using Mira (miradent, Hager & Werken Göttingen, Germany). The patient situation can be represented neutrally and made visible (Fig. 5). In order to ensure an accurate reproducibility of the indices, it is advisable for the entire team involved in prophylaxis to focus on the documentation and evaluation of a patient index and system.

5. Oral hygiene reconstruction and intervention (5 minutes)

The diagnostic findings should be discussed in detail with the patient. They are the basis for deciding on specific needs and questions on the case history. This will be followed by the control and consultation on the case history. This will enable the physician to decide on treatment in a targeted manner.

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In this way you can save a lot of time during the prophylaxis session. The upper jaw was treated individually with the Piezon device (here: Hu Friedy EXD 3CH, Vivadent), which allows a clear differentiation according to risk groups. The respective findings can be selectively removed with a chemical plaque control. As a result, the obtained findings can be discussed in detail with the patient. They are the basis for deciding on specific needs and questions on the case history. This will be followed by the control and consultation on the case history. This will enable the physician to decide on treatment in a targeted manner.

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Fig. 5: Air-Flow Master Piezon device.

Pain (Fig. 6, upper jaw). Only by using the new technology is it possible to quickly and easily achieve a perfect polish in difficult-to-reach areas, which is particularly important in areas where polishing is difficult, such as subgingival, polishing cup and brush. In addition, when using this technology, the use of orthodontic appliances can also be cleaned without running the risk of damaging it. Once the resistance has been removed, tartar and any subgingival calculus becomes clearly visible and can be selectively removed with a very fine ultrasonic tip (EMS Piezon/PS tip). This development in ultrasonic technology is referred to as “Piezon No Pain” in the new generation. It is an intelligent technology that makes it possible to conduct a more thorough treatment while being able to control the “Pain” in the new generation. It is an intelligent technology that makes it possible to conduct a more thorough treatment while being able to control the “Pain” in the new generation.
Oral health and diabetes discussed at premier event in Singapore

By Dental Tribune International

SINGAPORE: Among developed nations, Singapore has the second-highest proportion of diabetics, according to a recent report by the International Diabetes Federation. As the condition continues to be a growing concern owing to the increasingly sedentary lifestyle and high-calorie diets of Singaporeans, the city-state was the ideal place for the Joslin-Sunstar Diabetes Education Initiative (JSDEI) to hold its first Diabetes, Oral Health and Nutrition symposium in Asia.

The one-day event took place last week at the Swissotel The Stamford. Attended by Singapore Chief Dental Officer Patrick Tseng and Japanese Ambassador Haruhisa Takeuchi as part of the SJ50 celebrations (a number of events to commemorate 50 years of diplomatic ties between Singapore and Japan), it provided the latest information on the two-way relationship between diabetes and oral health. Over 500 international leading medical and dental health care global experts, including Dr George King, Senior Vice President, Chief Scientific Officer and Director of Research at the Joslin Diabetes Center in Boston in the US, among others, presented the latest findings on the interrelationships, innovations and interactions between periodontitis and diabetes.

Future strategies on oral and systemic health, as well as how JSDEI’s efforts at strengthening the ties between the medical and dental fields were also discussed.

According to the initiative, increasing evidence supports the existence of an association between periodontal disease and diabetes. The latest research has shown that not only are people with diabetes more susceptible to serious periodontal disease, but the condition may also have the potential to affect blood glucose control and contribute to the progression of diabetes.

Recognising that early and proper treatment of periodontal disease can have a profound effect on the control of diabetes and its complications, the Sunstar Foundation established the JSDEI in April 2008 with the Joslin Diabetes Center, the world’s largest diabetes research and clinical care organisation dedicated to the prevention, treatment and cure of diabetes, affiliated with the Harvard Medical School, to engage in education and research to improve knowledge and practices in this field.

In addition to its symposium in Asia, it has organised an annual event under the same name in Europe.

Established almost 40 years ago, the Sunstar Foundation for Oral Health Promotion has achieved international recognition for the significant benefits to society gained through its efforts to improve oral care and promote dental health through various activities.
Dentine hypersensitivity protection, now in a daily mouthwash

The first Sensodyne mouthwash containing 3% potassium nitrate and fluoride, proven to provide ongoing protection from dentine hypersensitivity with twice-daily rinsing¹⁻⁵*


*Rinse twice daily after brushing with a fluoride toothpaste.
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IN PLAQUE BIOFILM ALONG THE GUMLINE

5x

* vs. a regular manual toothbrush

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