By Shelly L. Campbell, RDH, MPH

The cabbage soup diet, NASA-inspired space food sticks, the heat massage machine to “jiggle away the pounds.” How are these things connected to these health-related fitness offerings from the 1960s quickly faded from the public eye after failing to live up to hype, or by causing safety concerns.

Another health improvement introduction in the 1960s – the electric toothbrush – could have met a similar fate because early prototypes were bulky, unreliable and considered a comfort feature.

Until now, these concerns are in the past. The one thing has not changed: We still have to clean our teeth. And we almost always do it wrong. While manual toothbrushes are still used, 80 percent of adults in the United States use powered toothbrushes – a number that has increased in recent years.

According to a recent survey by the American Dental Association, more than 50 percent of Americans have tried an electric toothbrush within the last year. That number is expected to increase, as the cost of electric toothbrushes continues to drop, and technology advances.

Dental professionals see improvements in the oral hygiene and gingival health of patients. Evidence-based recommendations to use power brushes are here to stay. The question is: How much can they improve oral health over manual brushing?

Clinical Studies

Over the past decade, the numbers to analyze the relationship between power toothbrushes and oral health have increased. In general, power toothbrush modes (e.g., Sonicare®) modes of action reduce plaque and gingivitis more than manual toothbrushing.

There is no question that power toothbrush effectiveness is seldom debated, but are safety concerns involved? Could the documented connection between power toothbrushing and greater patient compliance lead to more gingival abrasion caused by longer brushing times or increased brushing frequency? Does power toothbrushing result in more hard tissue wear compared to manual brushing?

Three major databases (e.g., PubMed-Medline), resulted in more than 1,000 potential publications. We were interested, with 55 meeting all predetermined eligibility criteria. The 55 studies in the final review were designed to measure soft and/or hard tissue safety by tracking either primary (gingival recession) or secondary parameters (observed or reported adverse events or hard tissue effects), or a surrogate parameter (stained gingival abrasion or brushing force).

What were the key findings?

Here are the key findings:

\- What research was included?

- O-R power toothbrush safety was chosen for comparison to manual toothbrushes based on the Cochrane findings.
- All published full-length articles and abstracts through May 2010 were included in a full search of three major databases.
- The journal of Periodontology, was directly compared to other inventors of health fads (e.g., Interplak®), including those with counter-rotating (stained gingival abrasion or brushing force).
- Study endpoints (surrogate parameter) were either gingival recession or side effects.
- The goal should be evidence-based recommendations as opposed to speculation, but keeping up with all of the literature is important for assessing the quality and relevance of each individual power toothbrush study requires a significant commitment of time and effort for professionals who already have a lot on their plates.

In search of an answer

Systematic reviews of health topics (see sidebar) can be a great asset to busy professionals who don’t have time to comb through the literature themselves. They can identify the literature themselves. The issue of concern was gingival abrasion versus manual toothbrushing through a comprehensive analysis of all relevant published reports. The systematic review of O-R power toothbrushes was found in both the manual and O-R power toothbrush groups, but the authors of the published reports described them as either negligible or clinically significant, or occurring with about the same frequency in the manual and power brush groups, and not significantly different when statistically tested.

How is important is in vitro data?

Did the in vitro studies show greater wear with O-R brushes?

Since there is currently no standard methodology with enough sensitivity for long-term clinical assessment of hard tissue brushing damage, in vitro studies are a valuable step in identifying potential safety concerns (like abrasion potential) that are challenging to discover clinically.

Four in vitro (laboratory) investigations not eligibility criteria and were included in the review. The three trials evaluating human dentin found similar or less wear with use of the O-R power toothbrushes, compared with manual toothbrushes used under simulated clinical conditions. The authors of the fourth study suggested that bovine enamel loss after an acidic attack may be increased with use of certain power brushes when used at the same brushing force. But understanding the clinical implications is difficult, given that toothbrushing forces have been considered theoretical safety concerns about power versus manual toothbrushes. Gingival abrasions that could potentially be caused by toothbrushing were found in both the manual and O-R power toothbrush groups, but the authors of the published reports described them as negligible or not clinically significant, or occurring with about the same frequency in the manual and power brush groups, and not significantly different when statistically tested.
Oral Probiotics—Overview

By Victoria Wilson, UK

Oral probiotics are live bacteria that are similar (or identical) to the beneficial microorganisms found naturally in the oral cavity. The addition of oral probiotics to an oral care regimen can restore the natural balance of beneficial bacteria, which can be depleted by diet, stress, medication, illness or other factors. Oral probiotics support tooth and gum health, whiten teeth and freshen breath.

How can we help the “brush” and “floss” come to live our oral health routine?

Oral probiotics are a little different than their brushing and flossing default story. To start your own neurogenesis, our brain cells grow and develop to optimize the brain’s plasticity. The brain is plastic in that it’s not fixed at birth and it can change in response to learning and experience. As we grow older, the brain “shrinks” and “flosses” the same way over and over — you become really great at explaining the mechanical removal of plaque.

To start your own neurogenesis, use the brush and floss default story. Focus on the term of oral probiotics and the addition of live bacteria to support oral health. With daily replenishment, these bacteria can positively change the mechanical removal of plaque.

When using products containing freeze-dried oral probiotics in the mouth, the bacteria can achieve their activation with the release of live, active bacteria that attaches to biofilm and replaces the population of beneficial oral bacteria to create a potent basecamp of beneficial bacteria to support oral health. With daily replenishment, these probiotic bacteria re-establish the natural microbial balance in the mouth and create whiter teeth, freshen breath and health-promoting changes to the tissue.

In the oral cavity, harmful bacteria convert sugar and carbohydrates into lactic acid. Lactic acid is the bacterial byproduct which is responsible for dental caries and the erosion of tooth enamel. Without requiring lifestyle changes, the addition of oral probiotics can positively affect the long-term health and wellness of the mouth and the other health systems dependent on oral health.

Some oral probiotic strains are beneficial in promoting healthy tooth and gum health, including those that: (1) prevent caries and acidosis by de- stroying the acidic by-products of beneficial oral probiotics to create a low-carb, low-acid environment; (2) provide nutrients to support health of benefit to people who need to manage their acid levels; and (3) build a much smaller biofilm compared with aciduric bacteria which safely supports healthy oral tissues. In addition to being good for your mouth, oral probiotics may also have a positive effect on your overall health.

Oral probiotics and gut probiotics share a common health goal. To achieve that goal they use health-promoting bacteria to crowd out the disease-promoting bacteria. That’s how the oral probiotics are designed to help people stay healthy and the gut probiotics are designed to help you stay healthy.

The differences are just in the delivery system. The probiotics need to be delivered to the mouth to function properly. Our oral probiotics are delivered to the mouth in the form of oral gels, flashes, strips, sprays or powders. The gut probiotics are delivered in the form of capsules, powders, liquids, bars or powders.

In the early days of caries bacteri- al studies, it was learned that when Streptococcus mutans were fed sucrose, they would excrete massive amounts of the byproduct lactic acid and cause tooth decay. Many scientists theorized that Streptococcus mutans could be a sexual cell, but it was later found to be a single-celled bacterium that could not sexually reproduce. Now, we know that Streptococcus mutans can be a sexual cell, but it is not a sexually reproducing cell. It is a single-celled bacterium that can reproduce by binary fission. When you eat sugary foods, the Streptococcus mutans bacteria in your mouth will quickly reproduce and overgrow the other bacteria in your mouth. This is why it is so important to brush and floss your teeth regularly.”

References

About the Author

Shelley L. Campbell, RDH, MPH, of Tenneree Research Associates, has worked in the oral health research field for over 25 years. She writes from her home in Lee’s Summit, Mo., and occa- sionally does medical writing for Procter & Gamble.
PRECISION CLEAN BRUSH HEAD PROVIDES

UP TO 5x
GREATER REDUCTION
IN PLAQUE BIOFILM ALONG THE GUMLINE

5x

* vs. a regular manual toothbrush

oral-b

Oral-B, most Dentist Recommended
Toothbrush Brand worldwide

#1

continuing the care that starts in your chair
Hygiene safety for your dental practice

As a leading dental company, KaVo is offering comprehensive, all-inclusive infection protection and more security for the patient and dental practice team. All KaVo units have an automatic on-going and intensive sterilisation function which ensures the continuous germ re-duction of the systems within. Water and waste are prevented from the formation of microorganisms in peri-
dental structures. In addition, the dental instrument rinsing function ensures that tools are rinsed before beginning treatment and after each patient treatment au-
tomatically in a BA compul-
sion manner. Of course, handles, instrument shelves, spout bowls and suction cannulas can be removed easily and without difficulty for cleaning and disinfec-
tion. The smooth, closed and hy-
giene-friendly surfaces of the dental units also play a role in reducing the infection risk.

The KaVo ESTETICA i70 and E90 dental units also have with OXIMat and DEKamat a fully automatic hygiene system: the manual, time-consuming mix-
ture or refilling sterilisation and disinfectants are thereby a thing of the past. In the KaVo ESTET-
ICA E90, the optionally avail-
able CENTRISAT takes over the central supply of the unit with DEKASEPTOL Gel which ensures high-efficient cleaning and disinfection of the suction or drainage system which is sub-
ject to continuous rinsing.

With OXYGENAL G 6, KaVo also offers an environmentally friendly mouthwash based on hydrogen peroxide which has proven its effective-
tiveness, material compatibility and user-friendliness in daily prac-
tice.

In addition to the treatment units, the tool portfolio of KaVo is also appealing due to numer-
ous hygiene effects: effective re-
suction steps, except for, pre-
vention contamination of the inside of the tools and thereby support hygiene safety. The Plas-
maTec Plus technology coating of the tools not only of-
ers excellent gripping proper-
ties and therefore offer a compli-
ant and cost-efficient interior cleaning.

Contact Information

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Dr. Rose & Associates Clinic
Wilson@dentaltribune.me

Examination

Now ask yourself – if you cannot motivate someone to achieve total dental biofilm removal with a toothbrush, can you get them to incorporate one single probiotic tablet a day into their routine? Using these tools addresses the forgotten reality of how much room a biofilm needs, the com-
plexity of a mature biofilm, and the size of human cells. Stop wearing the badge of “Hush Nogl” with pride. Serve yourself and your patients better by of-
fering scientifically proven health-promoting products like oral probiotics.

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1. Dr. J.J. Smith, (B.C.H.D.) Dental Therapist and Founder of Cleani-

hygiene tribune

Gum and Tooth Health

If harmful, disease-causing bac-
teria are first to colonize, the disease condition will quickly result in advanced periodon-
tal pockets, the future of bacteria in the mouth. Research has revealed that high levels of bacteria were re-
duced in plaque samples taken from below the gum line, at the bottom of the periodontal pocket.

Within several hours after using an antibacterial mouthwash or breath freshener, the surviving 1% of the bacteria remaining in the mouth will repopulate the area with contact of the systems. The contact of bacteria creates ongoing im-
balance in the microflora that naturally inhabit the oral cavity. Antimicrobial mouthwashes and breath fresheners simply mask the malodor and can never ef-
ficiently address the issue on the causal level.

Oral care products and foods developing using this probiotic approach can safely maintain and promote oral health by nor-
malizing the balance of the in-
digenous flora in favor of micro-
organism that builds up on the tooth sur-
faces and in the micro cracks and pores that hold onto stain-
ing bacteria, quickly coloniz-
ing to create a healthy balance of the systems. This balances in the mouth. The probiotic bacteria have high substantivity;

Antibacterial mouthwashes and breath fresheners promote killing up to 99.9% of bacteria and germs in the mouth. These products in-
discriminately wipe out both the essential, good bacteria along with the harmful bacteria.

S. oralis KJ5 binds to the surface of the teeth, crowding out harm-
ful bacteria by competing for the same nutrients and surface spaces. In laboratory studies, the low-dose hydrogen perox-
ide produced by the S. oralis KJ5 creates a continuous whitening benefit that did not plateau over the duration of the study. With daily use, the colonization of S. oralis KJ5 provides a con-
tinuous and expanding population for gradual and continual whitening.

The hydrogen peroxide metabo-

ites of S. oralis KJ5 also con-
tribute to the breath-freshening features of oral probiotics by inhibiting the growth of harmful

bacteria. The decrease in these harmful bacteria results in a substantial reduction in the volatile sulfur compounds asso-
ciated with bad breath.

Whiter Teeth

A natural by-product of oral pro-
biotics is a low-dose of hydrogen peroxide. As this good bacteria is replenished daily, it creates a gradual tooth whitening effect with noticeable improvements of long con-
tact times, delivering 24 hour per day coverage of balancing and brightening.

Yellowing, surface discoloration or staining are all results of life-
se style choices: tobacco use, cof-

Tea, beets, etc. Anything that is filled with microscopic cracks and pores that hold onto stain-

atories. Cosmetic tooth whiteners employ extremely high levels of harsh, chemical hydrogen peroxide which can actually damage the tooth and create a roughness on the tooth’s surface. This increases the film that builds up on the tooth sur-
faces and in the micro cracks and is available to hold on to stains much better. S. oralis KJ5 binds to the surface of the teeth, crowding out harm-
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ciated with bad breath.

Unlike other whitening prod-

ucts, oral probiotics are com-

pletely safe for veneers, caps and dentures.

Contact Information

For more information visit:
www.kavo.com/MEA
Or email us: info.MEA@kavo.com
There are a number of reasons to choose Philips Sonicare.

Removes up to 7x more plaque between teeth and overall*

Performs up to 31k brush strokes per minute

The #1 most-recommended sonic power toothbrush by dental professionals worldwide

Ask your dentist about Philips Sonicare today!
Philips introduces its best brush yet: Sonicare DiamondClean, helping users achieve brushing brilliance every time

By Philips

Dubai, UAE - Philips is proud to present the new Sonicare DiamondClean – a brush that takes sonic tooth brushing to its most sophisticated level and which delivers Sonicare’s best clean yet removing up to 100% more plaque in hard to reach places than a manual toothbrush.

Sonicare DiamondClean harnesses Philips Sonicare’s patented sonic technology to produce a powerful dynamic cleaning action for a difference users can see and feel. It is gentler on teeth and gums than a manual toothbrush, helping to keep teeth stronger and healthier for longer. Philips Sonicare gently whips toothpaste into an oxygen-rich foamy liquid and directs it between and behind teeth and along the gumline, where plaque bacteria flourish. Sonicare DiamondClean is clinically proven to remove up to 100% of plaque from hard to reach places and to improve gum health in just 2 weeks. It is also clinically proven to whiten teeth in 1 week; and its gentle technology actually helps protect against gum irritation and recession to help reduce sensitivity. Now is the perfect time to give your teeth the celebrity treatment and switch to Sonicare to really experience the difference.

The brush is able to deliver a unique whole mouth clean feeling thanks to its five brush modes that allow you to tailor your brushing according to your needs as well as your dental professional’s advice. The brush modes range from:

- Clean – the standard mode for a whole mouth clean
- White – removes surface stains to whiten teeth
- Polish – brightens and polishes teeth to bring out their natural brilliance
- Gum Care – gently stimulates and massages gums
- Sensitive – an extra-gentle mode for sensitive teeth

Sonicare DiamondClean’s chrome base also features a unique charging glass that can be used for mouth rinsing, but also incorporates the latest in inductive charging technology to charge the toothbrush as it rests in the glass – making it stylish enough to display in the most fashion-forward bathroom.

Not only is Sonicare DiamondClean Philips’ most advanced brush yet, it’s also our most easy to use and stylish. DiamondClean’s power handle has a ceramic finish and a chrome accent ring highlights the elegant neck of the brush. The technology in the handle is hidden so that the sleek matte finish of the brush is uncluttered by electronic visual displays. Only when the on button is pressed are the brushing modes illuminated to reveal the array of options. These are then simply selected by scrolling down using a one button action.

When travelling or on the go, Sonicare DiamondClean is designed for convenience with users being able to keep their brush fully charged using a revolutionary USB travel case that can be plugged into almost any laptop computer and saves the hassle of having to pack plugs and adaptors. But only the most intrepid travellers need worry about this advanced feature as Sonicare DiamondClean holds an impressive three weeks charge.

Brilliant cut

Sonicare DiamondClean brush heads also sport a new diamond-cut tuft formation to provide you with an even more efficient brushing experience. The uniquely designed diamond bristle heads have 44% more bristles than Philips Sonicare’s standard sized ProResults brush heads, providing you with both superior plaque removal and whiter teeth. The heads come in two sizes – Standard and Compact – for focused cleaning in areas of special need, for orthodontic patients and those with smaller mouths.
Infection control in dentistry has never been more essential

By Dr. Safura Babarain, Malaysia

The World Health Organization (WHO) has reported a rise in airborne infections worldwide. Tuberculosis in particular has increased in the developing world.

Infection control in dentistry and dental extraction involving using high-speed handpieces, ultrasonic scaling, tooth preparation, aerosol concentration are health problems. Among dental aerosols are less than 5 µm in diameter for a long time and travel path. Aerosol consists of smaller air syringes. Owing to this, splatters are radiated towards the most contaminated area by splatter, as the majority of the patient’s chest are most affected during ultrasonic scaling.

The Canadian Dental Association recommends using high-speed handpieces for 20-30 seconds after each treatment to purge all potentially contaminated volumes in aerosols emit during ultrasonic scaling.

The most likely mode of transmission in dentistry is through inhalation of bacterial aerosols or splatters. Their potential health hazards are well documented and acknowledged.[4-9] Both can be host to a large variety of micro-organisms. Due to this, airborne contamination in the dental clinic. For example, it has been demonstrated that the use of a mouthrinse, high-volume evacuation or a combination of both methods significantly reduces the number of colony-forming units in aerosols emitted during ultrasonic scaling.[13] Residual bacterial aero-solised saliva, which may be related to reduced ventilation of or contact with patient’s mouth and airway.

By Dr. Raghu Puttaiah, USA

The world is very small and dangerous.

Dental practices are at high risk of cross-infection. A report published in 2009 has shown that in developing countries, for example, the number of dental students and residents is increasing by almost 6 percent per year.[1] Research has shown that infectious microorganisms can be transmitted by blood or saliva via direct or indirect contact, aerosols, or contaminated instruments and equipment.[2] As stated by the US Centers for Disease Control and Prevention (CDC) in their 2005 guidelines, the transmission of infectious disease can occur in four ways: direct contact with blood or body fluids, indirect contact with contaminated objects or surfaces, contact with bacterial droplets or aerosols, and inhalation of airborne micro-organisms.[3]

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