New Philips Sonicare AirFloss Ultra improves periodontal health in just four weeks

By Philips

Cologne, Germany: Dutch healthcare manufacturer Philips presented its latest innovations in oral healthcare at the Philips media breakfast on 10 March at the International Dental Show (IDS) in Cologne. One of the main innovations is the new interdental cleaning device, Philips Sonicare AirFloss Ultra. Study results show this device is able to improve periodontal health in just four weeks. The product is now available in the UAE.

Among other products, Philips presents the next generation Philips Sonicare FlexCare Platinum with a new, adaptive Clean brush head and the new AirFloss Ultra. (Photograph: Claudia Duschek, DTI)

Oral Probiotics - it is Time to add Friendly Bacteria to the Mix

By Dr. Jaco Smith, UK

Brush more, floss more, use automated toothbrushes, a water pik, or place sulcular antibiotics? What regimens are you currently recommending in your office for your patients’ oral hygiene maintenance and prevention? What if I told you that mechanical removal of bad bacteria might not be enough to ensure optimal oral health in all of your patients? After all, if simple removal of bacteria was beneficial then mouth washes would rein supreme chemical adjacent to mechanical removal. The problem is that this chemical warfare kills all types of oral bacteria, including the good!

The potential issue is that problems can become worse because good bacteria are targeted and reduced and numbers can decline to levels that allow bad bacteria to take over. What if the war on bad bacteria could be won with target warfare by out numbering them! It is time to consider adding friendly bacteria to the mix.

There is an entire category of products that is underutilized in the dental profession – oral probiotics. In fact, they are a category unto themselves.

Oral probiotics have the potential to make a significant impact on the oral health of our patients, and systemic health by extension. While not yet a therapeutic modality that we could include in a periodontal patient’s active phase of treatment, oral probiotics are among the best options we can use for patients in differing states of disease or health.

According to the current adopted definition by the World Health Organization, probiotics are: “Live microorganisms which when administered in adequate amounts confer a health benefit on the host.” Lactic acid bacteria (lactobacilli), Streptococcus and Bifidobacteria are the most common types of microbes used as probiotics and have been widely accepted in the medical profession. Some benefits of probiotics are decreased hypertension, lowering cholesterol, overall GI health and soon to be added is improved oral health and caries prevention.

The beauty of oral probiotics is the simple, commonsense manner in which it works. All oral probiotics are naturally occurring live bacteria, freeze-dried and delivered to the mouth in different ways, i.e. mouthwash and lozenges. These products contain diverse species of oral probiotics, which are natural colonizers of a healthy mouth, rather than genetically engineered. The patient dissolves one mint in the mouth per day. The bacteria are released and compete with various pathogenic bacteria for binding sites. The sites on the teeth and gums occupied by the probiotic bacteria reduce the surface area available for disease-causing bacterial colonization. Furthermore, they also compete for nutrients.

Use of oral probiotics Caries As dentists we advise patients to avoid sugar to prevent caries. Have you ever wondered why some patients’ diets are loaded with sugar, and yet they are relatively caries free, while others partake in a diet only light with sugar (substrate) and they are highly caries active? How do you respond to this patient amongst team members? “They are drinking more soda then they are telling us” or “eating more sugar-filled snacks then they let on.” Here is the truth when it comes to caries: it isn’t the sugar that causes cavities but how streptococcus bacteria use sugar and produce lactic acid that causes decay. The ecological plaque hypothesis states that caries and periodontitis, the 2 most common biofilm-associated diseases in the world, originate from a disturbance in the balance and diversity in the biofilm. Contributing causes may be inadequate oral hygiene, incorrect diet, stress and/or other factors which determine the microbiology. Caries is caused by the presence of acidogenic and aci-
Ultra, an innovative product designed to provide an easy and effective way to clean in between teeth and achieve healthy gingiva. The device features Philips Sonicare’s proprietary technology, which has been combined with a new ‘Triple Air Flow’ feature that delivers three powerful blasts of liquid (mouthwash or water) and air to remove plaque and unwanted bacteria more effectively and efficiently than previous models.

“Based on feedback from dental practitioners, we focused on upgrading the existing model with new specifications designed to improve interproximal plaque removal and make interdental cleaning even easier,” Ivon said. “In laboratory studies, our improved proprietary ‘Microburst’ technology removed up to 99.9 per cent of plaque from treated areas, although results will vary from patient to patient.”

A recent clinical study of the Philips Sonicare AirFloss Ultra reported to 97 per cent of users had improved periodontal health in just four weeks. While the Philips Sonicare AirFloss Ultra has not been designed to replace string floss for those people who already floss consistently, it is clinically proven to be as effective as string floss for improved periodontal health — when used in conjunction with an anti-microbial rinse in patients with mild to moderate gingivitis.

While it would be compelling to reference a double-blind, placebo-controlled study confirming a specific dollar amount as a return-on-investment that study does not exist. So instead, I will share real-world experiences. First, let’s appreciate that biofilm management with low-abrasive powder requires a different approach. Since low-abrasive powders and air polishing devices are so efficient in biofilm removal, clinicians can begin with use of that technology, finishing up with use of power and hand instruments to remove calcified deposits and remaining stains. Rubber cup polishing is not required. This simple transition of going after the biofilm first with the most efficient technology saves about 10 minutes of instrumentation time per patient.

The most obvious use of those magical minutes could easily be to couple them together to see one more patient per day, per dental hygienist, but I have experienced and observed a very different return-on-investment. Within the allotted time per patient, the clinician can perform a more comprehensive examination. First, the clinician can perform a traditional periodontal exam to check for early signs of periodontal disease, or progressing disease. Second, the clinician can check for early tooth movement, which can be caused by early signs of periodontal disease.

In summary, the Philips Sonicare AirFloss Ultra improves periodontal health in just four weeks by reducing the amount of time per patient.

While the Philips Sonicare AirFloss Ultra is typically used as an extra 8 to 12 minutes due to efficient biofilm management with air polishing gives the clinician freedom to be more comprehensive in his or her services.

For example, how many dental hygienists have intra-oral technology that goes unused due to time constraints? When is the last time you sat the patient upright and performed a shade guide analysis to discuss the options of veneers versus whitening or Invisalign? What percentage of your adult patients today have comprehensive periodontal charts that have been updated within the last 12 months in including recession, bleeding and furcation involvements? What if you had time to walk a patient through their treatment options without the benefits of not waiting until symptoms manifest? What if you had time to take impressions for whitening, or collect comprehensive periodontal disease data leading to early diagnosis and treatment of periodontal disease, or play an educational video explaining the benefits of implants for missing teeth, or provide varnish, sealants and desensitizers to better manage caries risk? These and many other comprehensive and billable services can be provided, per patient, without running behind when you start your appointment by managing biofilm first with air polishing devices. What is this real return-on-investment?

• Happy patients because the process is more comfortable and more efficient.

• Happy clinicians because they finally have more T-I-M-E per visit to perform services that have been elusive.

• Increased profitability as a result of increased services and treatment enrollment by the dental hygienist.

SOUNDS TOO GOOD TO BE TRUE?

Try it yourself, and experience the return-on-investment possibilities with your own magical minutes.

References


By Karen Davis, Texas

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References


A triple burst
of better gingival health

The new Philips Sonicare AirFloss Ultra

Philips Sonicare AirFloss Ultra gives your inconsistent flossers everything they need for improved interproximal health. With our new high-performance nozzle design and triple-burst technology, it creates three bursts of micro-droplets to remove plaque biofilm.

Clinically proven as effective as floss for improving gingival health** and is shown to improve gum health in 4 weeks***. AirFloss Ultra can be filled with water or antimicrobial mouth rinse, for targeted treatment. And inconsistent flossers say it’s an easy addition to their daily routine. After all, the best solution is one they’ll use regularly... and effectively.

innovation + you

95% said it was easy to use*

up to 97% showed improved gum health**

up to 99.9% plaque biofilm removal in the treated area†

For enquires contact Castle General
Trading tel: 0097143328795
or email: cgtidub@emirates.net.ae

* Survey of U.S. patients
** When used in conjunction with a manual toothbrush and antimicrobial rinse in patients with mild to moderate gingivitis. AirFloss is designed to help inconsistent flossers develop a healthy daily interdental cleaning routine. For more information, please visit www.philips.com/AirFlossFAQ or reference the QR code.
*** Viva study to assess the effects of Philips Sonicare AirFloss Ultra, when used with antimicrobial rinse, on gum health and plaque removal.
† In a lab study, actual in-mouth results may vary.
duric bacteria (mainly mutans streptococci) metabolizing di-
etary sugars to create a low lo-
cal pH environment which can de-mineralize enamel. Thus
patients whose bacteria war is being won by the bad bacte-
ria will have more decay than those where the bad bacteria
is kept at lower levels. How can
we help?

Oral probiotics are able to natu-
really alter the oral pH levels and
because they are early biofilm
colonizers and non-aciduric,
they build a much smaller bio-
film.

Streptococcus rattus JH145 is
a unique strain of streptococ-
cus that does not produce lac-
tic acid, and has been shown
to successfully compete for
nutrients and space on tooth
surfaces with the native strain
of streptococcus that produces
lactic acid. The result is a re-
duction in decay despite the po-
tential presence of sugar (sub-
strate) in the oral environment.

Gum and Tooth Health
What do you make of patients
who brush and floss, their
plaque indices are down, and
yet their periodontal health
continues to slumps? Can the
same be true of these patients? Despite their commitment to
mechanically remove bacte-
ria, chemically the bad is still
winning the war.Research has
revealed that even after the ag-
gressive process of scaling to
clean out the periodontal pock-
ets, the future oral health of the
patient is determined by the
type of bacteria that colonizes
first in the base of that clean
pocket. If the harmful bacteria
are first to colonize, the disease
condition will quickly return. If
the beneficial bacteria are first,
then good oral health will be
established and the dental of-
fice procedure will have been
successful (Socransky and
Pathogenic biofilm has a couple
of requisites, and one is a low
pH. So a biofilm with early col-
onizers that doesn’t make acid
has a harder time harboring
the bacteria that we associate
with dental disease. Harness-
ing this pH characteristic of
biofilm goes right up into the
face of traditional methods
brush ‘n’ floss. Adjusting the pH
allows your patients a way to
manage their biofilm without
having the dexterity and laser-
focused education of a dental
hygienist.

When giving brush ‘n’ floss
directions, we end up focus-
ing only on the teeth, and we
miss the elephant in the room
- the tongue. Tongue coating
is not innocuous, nor is it only
a cosmetic concern. Biofilm
on the tongue releases plank-
tonic bacteria in what’s called
a planktonic storm. A coated
tongue sends new biofilm to the
rest of the mouth.

So it’s time for the tongue to be
included in discussions about
biofilm management and pro-
phyaxis and it is here that pro-
biotics plays a very important
role due to their activity in all
oral biofilm.

Probiotic bacteria like Strepto-
coccus oralis KJ1, and Strepto-
coccus uberis KJ2 colonize su-
pra- and sub gingival sites and
produce hydrogen peroxide,
which aids in inhibition of peri-
odontal pathogens. The ability
to reduce these types of harm-
ful bacteria in return results in
a reduction of pathogenic bio-
film on the teeth because they
only cause disease when they
are in direct contact with the
gingival epithelium. If they
are in contact with the tooth
or surfaces other than the gin-
gival epithelium, or if they are
freely floating in the mouth,
they cannot cause periodontal
disease.The patients who suf-
fer from refractory periodontal
disease, or who have poor re-
results from traditional periodon-
tal treatment now have a new
conservative approach which
might provide them results
they were previously unable
to achieve with contemporary
treatments alone. The story of
oral probiotics gets better! This
way of biofilm management is
not the wave of the future any
longer. Recommending oral
probiotics with natural strains
from healthy mouths may be
the ticket for patients who can-
not or will not remove their
own biofilm to dental hygiene
standards.

Antimicrobial agents — in-
cluding therapeutic doses of
systemic and locally applied
antibiotics, mouthwashes, sub-
gingival irrigants, etc. — will
kill probiotic bacteria. This is
why they are not used during
active periodontal therapy. One
of the ideal situations in which
oral probiotics are used is im-
mediately following successful
periodontal treatment. Reduc-
ing the repopulation of caries-
causing and periodontal bacte-
ria gives the patient a fighting
chance to remain healthy. Pro-
biotics are also ideally used in
periodontally healthy patients,
especially those with a family
history of periodontal disease.
The optimal time to take the
probiotic mint is in the evening,
following the use of all biofilm-
control devices.

Freshier Breath
In general, amino acids are the
main substrate for the produc-
tion of oral malodorous com-
pounds. As freshly secreted hu-
man saliva contains low levels
of free amino acids, halitosis
occurs as a result of bacterial
putrefaction by several anaero-
bic species found in the oral
cavity. The most widely used
strategies in the treatment of
halitosis are comprehensive
oral hygiene, including tongue
scrapping and brushing, as well
as the use of mouth rinses con-
taining antibacterial agents.
Antibacterial mouthwashes
and breath fresheners promote
killing up to 99.9% of bacteria
and germs in the mouth. These
products indiscriminately wipe
out both the essential, good

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bacteria along with the harmful bacteria for several hours after using an antibacterial mouthwash or breath freshener, the surviving 1% of the bacteria remaining in the mouth will repopulate the full level of harmful bacteria that was present in the mouth before the product was used. This indiscriminate destruction of bacteria creates ongoing imbalances in the microflora that naturally inhabit the oral cavity. Antibacterial mouthwashes and breath fresheners simply mask the malodor and can never effectively address the issue on the causal level. Oral probiotics are natural antagonists to the malodor-creating bacteria, quickly colonizing to create a healthy balance of micro flora and resulting in longer lasting, truly fresher breath.

The use of benzoin, commercial probiotics could therefore offer a more effective and more long-term treatment strategy to combat bad breath.

White Teeth

A natural by-product of oral probiotics is a low-dose of hydrogen peroxide. As this good bacteria is replenished daily, it creates a gradual teeth whitening effect with the full benefits of long contact times, delivering 24 hour per day coverage of balancing and brightening. Yellowing, surface disoloration or staining are all results of lifestyle choices: tobacco use, coffee, tea, etc. Anything that stains will affect the color of the teeth. Tooth enamel is porous, filled with microscopic cracks and pores that hold onto staining products. Commercial tooth whiteners employ extremely high levels of harsh, chemical hydrogen peroxide which can actually damage the teeth and create a roughness on the tooth surface. It also increases the film that builds up on the tooth surfaces and in the micro cracks and is available to hold on to stains much better. Streptococcus orals K15 binds to the tooth, crowding out harmful bacteria by competing for the same nutrients. In laboratory studies, the low-dose hydrogen peroxide produced by Streptococcus orals K15 created a continuous whitening benefit that did not plateau over the duration of the studies. To use daily, the colo- nization of Streptococcus orals K15 provides a constant and expanding population for gradual and continual whitening effects. The hydrogen peroxide metabolites of Streptococcus orals K15 also contribute to the breath-freshening features of oral probiotics by controlling the growth of harmful bacteria. The presence of this bacteria results in a substantial reduction in the volatile sulfur compounds associated with bad breath. Unlike other whitening products, oral probiotics are completely safe for veneers, crowns, bridges and fillings.

Systemic link

The patient’s health and family history are sources of con siderable impactful information. A patient with a strong family history of diseases and conditions such as cardiovascular disease, diabetes, periodontal disease, high blood pressure, and rheumatoid arthritis, among many others, has a potentially heightened risk for oral disease as well. A large body of research has demonstrated several different mechanisms of oral-bac terial associations. One is the effect of the chronic inflammatory process on periodontal disease on various diseases and conditions. Another is the effect of the potential pathogens on gen- rous on cardiovascular dis- eases and events, independent of periodontal disease. Other studies have noted an increase in insulin resistance from the inflamma- tory and infectious components of periodontal disease. Insulin resistance is the biggest root cause of atherosclerosis, which is the initiating event for heart attacks and strokes. Reducing the number of pathogenic bacte ria, along with the oral con- tribution to the total inflam matory burden in the body, by consistently and effectively controlling periodontal disease can only result in better patient health.

As clinicians, it is important to take these risk elements into account when evaluating a patient and developing a treat- ment plan for periodontal dis ease. The maintenance phase of periodontal therapy, along with the effectiveness of the pa- tient’s home care, determines how long a perio patient will re- main healed. Understanding all the tools at our disposal, including oral probiotics, will help to optimize our patients’ oral and general health.

Patients who have been sus- ceptible to oral health breakdown due to age related or medically induced changes can now have conservative treatment to help reverse these issues. Patients who undergo extensive dental treatment such as implants, veneers, full mouth rehabilita- tions, or even are currently un- dergoing orthodontic therapy now have a simple treatment to aid in the protection of their dental investment. This research and evidence on probiotic therapy for overall health and well being is vastly advancing in new areas and uncovering new benefits. The probiotic benefits for oral health is an exciting and newly expanding area of this type of therapy. The obvious patient demand for fresher breath is apparent. How about introducing them to a mint that not only tastes good and freshens breath, but allows for reduction in caries and peri- odontal disease?

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Seeing teeth everywhere (while trying not to)

By Patricia Walsh, USA

I can always tell when I’m in a new city, I start to dream about teeth. There are more subtle signs that I’m on the verge. The first of which is the emergence of the robotic hygienist. She lurks inside of me and, fortunately for all those involved, doesn’t rear her ugly head too often. The other is the OODA, or Dr. Walsh.

The one who doesn’t enjoy the physical well being if we don’t see through a perceptual filter — a ladybug land on your keyboard. Just as I started, I noticed a ladybug land on my keyboard. “What is this week?” I thought. Not that I was from Croatia. “That’s different,” I thought. Not that I expected him to look like Satchmo, but I was unaware he was from Croatia. “That’s different,” I thought. Not that I was from Croatia. “That’s different,” I thought. Not that I expected him to look like Satchmo. “That’s different,” I thought. Not that I was from Croatia. “That’s different,” I thought. Not that I expected him to look like Satchmo.

A few days on the cruise ship and I was starting to feel like my old self again. I eagerly awaited my return to the pyramids in Belize with my new post- found zest for life. Halfway up the hill to the Xunantunich ruins, my guide stopped to pull a leaf off a tree and asked, “Anybody know what that is? Ask and see if you can tell me.” It was albispine, but nobody in my group had known this was the name of the Mayan site. The Mayans used this leaf to cure toothaches. They tucked it be- tween the gum and the tooth to relieve pain. Hmmm. While I wasn’t so sure about the pain part, it certainly may have had some antiseptic qualities to it. On we went to the pyramids. During the excavation, remains had been found entombed mid- way up, in the front of the struc- ture. What the archaeologists were surprised to discover was that the deceased were Guate- malan patients with foot disorders, the Mayans had a diet that con- sisted of different grains than ours, and that those patients had taken the Mayan “dental hygiene” trip and all of its dental anec- dotes. Just as I started, I noticed a ladybug land on my keyboard. “What is this week?” I thought. Not that I was from Croatia. “That’s different,” I thought. Not that I expected him to look like Satchmo. “That’s different,” I thought. Not that I was from Croatia. “That’s different,” I thought. Not that I expected him to look like Satchmo.

When I returned home, I decid- ed to write about my travel trip and all of its dental anec- dotes. Just as I started, I noticed a ladybug land on my keyboard. “What is this week?” I thought. Not that I was from Croatia. “That’s different,” I thought. Not that I expected him to look like Satchmo. “That’s different,” I thought. Not that I was from Croatia.

Ready for a recharge by escaping all things dental, Hygiene Tribune Editor in Chief Pa- tricia Walsh, RDH, BDH, keeps encountering teeth everywhere (while trying not to) in the tsunami-affected region of Thailand. Contact her at pwalsh@uberhygienist.com.

About the Author

Patricia Walsh, RDH, BS, has been a clinical dental hygienist for more than 20 years. She is a graduate of the Fones School of Dental Hygiene, University of Bridgeport in Connecticut. She has an ex- tensive history in interna- tional volunteer work in oral health, including being in- strumental in the creation of The Thailand Dental Project, a volunteer program focused on providing educational, preventive and restorative dental care to children in a tsunami-affected region of Thailand. Contact her at pwalsh@uberhygienist.com.