



Toothfriendly

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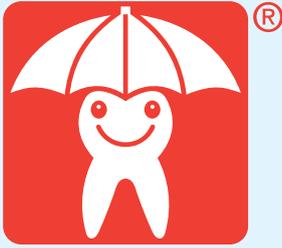
Gummybears &
other product novelties

HIPP: Toothfriendly instant
teas with isomaltulose

**Quality in Practice:
Excellent Dentist
Awards in Turkey**

Diet and teeth:

**Sweet, sweeter,
sugar-free?**



Toothfriendly International
Bundesstrasse 29
4054 Basel

Tel: +41 61 273 77 07
Fax: +41 61 273 77 03

contact@toothfriendly.ch
www.toothfriendly.org

President:

Prof. Dr. Bernhard Guggenheim

Board:

Prof. Dr. Bernhard Guggenheim
Prof. Dr. Stefan Zimmer
Prof. Dr. Tuomas Waltimo
Dr. Seyhan Gücüm
Dr. Thongchai Vachirarojpisan
Dr. Hans-Caspar Hirzel

Office:

Dr. Albert Bär
Kati Weiss
Irene van Loon
Brigitta Zürcher

Toothfriendly International is a non-profit association working for better oral health.



*Dr. Albert Bär is the
Executive Director
of Toothfriendly
International since
1989.*

Toothfriendly goes beyond sweets

Now, most of you know the Happy Tooth logo as the symbol for Toothfriendly confectionery but allow me to let you in on the latest developments: for us, the year 2012 will remain in the books as the year we accredited a wide range of products and services that are not ‚sweet‘ in the traditional sense of the word.

Take baby products, for example. Few years ago, a pacifier named Dentistar was developed in Germany which - after a 27-month clinical study - was determined by the scientific board of Toothfriendly International as the best of the industry in terms of dental quality. In 2012, the Toothfriendly-labeled Dentistar pacifier is well on its way to seal new distribution deals in both Turkey and Switzerland.

Meanwhile also certain salt products carry the Toothfriendly logo, namely household salt with a fluoride content of at least 200ppm. In 2012, two new fluoridated salts - one in Austria and one in Turkey - accredited for the Toothfriendly logo.

Finally, we have stretched the use of the Toothfriendly logo also to dental services. Since 2012, the first dental clinics fulfilling the strictest quality criteria have been accredited with the Toothfriendly seal in Turkey.

We hope that these developments mark a trend towards a diversified Toothfriendly product portfolio also in 2013!

Dr. Albert Bär
Toothfriendly International



Toothfriendly Instant Teas with Isomaltulose

Hipp is replacing its sucrose-containing instant tea range with a toothfriendly alternative.

The German baby nutrition specialist Hipp has launched a new instant tea range that is approved as safe for teeth. The new products include a mildly sweet carbohydrate called isomaltulose.

The launch comes on the heels of recent publicity in which Hipp's classic instant tea range, containing sucrose, was blamed by a German watchdog organization for rotting toddler's teeth.

According to Hipp's spokesperson, instant teas typically contain sucrose that functions as a carrier substance for herbal extracts. "We spent a long time looking for a toothfriendly alternative for sucrose, which would also be easily digestible and suitable to use in baby nutrition."

Fermentable carbohydrates were out of the question – they wouldn't qualify for the dental claim. Eventually Hipp discovered the disaccharide isomaltulose, which provided the necessary 'natural' credentials combined with toothfriendly properties and a mild, sugar-like taste.

Isomaltulose is virtually unused by the oral flora as a substrate for fermentation. No significant amounts of acids are produced, and therefore, the demineralisation process initiated when the plaque pH drops below 5.7 (which is known to be caused by fermentation of sucrose) does not occur after the consumption of isomaltulose.

Plaque pH telemetry, an *in vivo* method explained in detail on pages 10-11, enables the observation of plaque pH changes on the tooth surface during and after the consumption of foods. This has been established as the basic method for the substantiation of dental claims in several countries including the United States and the EU. The pH telemetry curve of isomaltulose shows that the consumption is not followed by a drop in plaque pH below the value of 5.7. Therefore, isomaltulose is toothfriendly.

Toothfriendly-labelled

The 'Toothfriendly' labelling scheme adopted by Hipp is a popular concept in Germany where it has been promoted for nearly 30 years. Hipp is confident about the dental credentials of its new product line. "A product can be labelled as Toothfriendly only if it demonstrably causes neither caries nor dental erosion. We have conducted clinical studies at the University of Zurich and have the relevant expert's statements affirming that our product is safe for teeth."

Tainted tea

Hipp has made a public promise to the German Foodwatch consumer protection organization to replace its whole sucrose-containing instant tea range by the end of 2012 with toothfriendly ones.

Dentists welcome Hipp's strategy turnaround and say that leaving fermentable sugars out of baby bottle is the single best thing any parent can do for the teeth of his child.

The main cause of early childhood tooth decay is the frequent consumption of liquids containing carbohydrates. Almost all consumable liquids contain sugar, except pure water. Even milk contains natural sugars that could cause baby bottle tooth decay if its contact with the teeth is prolonged. If the liquid in the bottle has sugar added, such as fruit drinks, soft drinks, or sweetened water, the risk of developing cavities increases even more.

-KW

What is isomaltulose?

Isomaltulose is a natural constituent of honey and sugar cane and has a very natural sweet taste. It is manufactured from sugar beet through a fermentation process. It has a low glycemic index which means that isomaltulose-containing products will not cause quick peaks in blood sugar level. It is also safe for teeth.



Prof. Dr. med.dent. Thomas Imfeld (MBA) retires

The retirement marks an end of an era in Swiss preventive dentistry.

By Prof. Bernhard Guggenheim



Prof. T. Imfeld left the Centre for Dental Medicine at the University of Zurich at the end of last year. This brings to a close probably the most successful period in Swiss academic dentistry, which was started by Prof. Dr. H.R. Mühlemann and maintained by his pupils, Prof. Dr. K. König, Prof. Dr. Marthaler, Prof. Dr. Rateitschak, Prof. Dr. H. Schroeder and many others.

Successful research work

Thomas Imfeld was the last pupil of H.R. Mühlemann still working, having begun his academic career as an assistant at the Department of Cariology, Periodontology and Preventive Dentistry in 1975. His main activities were research and teaching, and he was promoted to senior assistant as early as 1978. Here follows a brief tribute to the main areas on which the working group built up by T. Imfeld at the research and development laboratory for preventive dentistry focused.

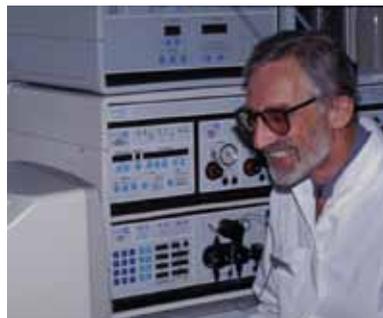


pH-Telemetry

Thorough investigations were carried out into the cariogenic effects and tooth-friendly properties of foodstuffs and beverages. pH-telemetry was further developed and perfected as a test method and remains the scientific foundation for testing tooth-friendly properties and for deciding whether to authorize the use of the logo , the

Swiss national Toothfriendly association.

These studies were documented in the post-doctoral thesis „Identification of low caries risk dietary components“, published in 1983. The test method was adopted in the Swiss Food Ordinance and by the US Food and Drug Administration (FDA) in 1996 as a standard method for health-related claims for foodstuffs.



Radiochemistry laboratory

In order to make it possible to measure the relative dentin and enamel abrasion (RDA and REA) of tooth-pastes and prophylaxis pastes in conformity with the ISO standard, he developed a radiochemical method, which is used by four test centers worldwide.

Clinical work

Alongside his broad range of research activities and his extensive teaching commitments, T. Imfeld had little time left for routine procedures in restorative dentistry. However, he did set up a working group for the treatment and care of patients with special problems, including eating disorders (bulimia, anorexia) and reduced salivation with a wide variety of causes. Patients of doctors and dentists and those from psychiatric clinics and clinics of the university hospital were treated together successfully with newly-developed intensive prophylaxis programs.

Documenting the oral health of the Swiss population

T. Imfeld also headed the Station for Oral Epidemiology. Clinical field studies were carried out over a period of years, especially on school-children and army recruits, making it possible to document the constant improvement in the dental health of the Swiss population.

T. Imfeld - A gifted teacher

From 1975 he gave lectures and ran courses in the fields of preventive medicine, pathophysiology and cariology. His talks and lectures will be well remembered by generations of dentists. They were excellently structured, always up to date and backed up by carefully prepared visual aids. The Centre for Dental Medicine will miss him.

His role in Aktion Zahnfreundlich

Initially, T. Imfeld assumed a critical, wait-and-see position in relation to Aktion Zahnfreundlich, as had Prof. Dr. Mühlemann. The latter had tried for a number of years to finance a sugar research institute. This did not come to pass, because it was not possible to persuade the industry of its benefit. Our approach, which brought the industry and the retail sector together as equal partners, led to the establishment of our association and quickly proved very successful. The high costs of telemetry reports on sugar substitutes, chewing gums and confectionery came down.

T. Imfeld was a member of our initiative, but he consciously never occupied any position on the executive board. This avoided a potential conflict of interest between the association and the test station.

Continues on page 11.

Quality in Practice: Excellent Dentist Award

The Toothfriendly logo is known as a quality seal for confectionery, but in Turkey it also stands for dental practices that fulfil the country's strictest quality criteria.

The Toothfriendly Excellent Dentist Programme is Turkish dentistry's leading quality assurance. By becoming members of the Programme, practices demonstrate a visible commitment to providing quality dental care to internationally recognised best practice standards.

The scheme requires practices to undergo a strict assessment, self-reporting, random audits and annual reviews in order to maintain their status. It is open only to any dental practice or community which meets the standards set by the Toothfriendly association. The Excellent Dentist Programme has the support of the University Dental Institutes and the Turkish Quality Association. The audits are conducted by the Turkish Accreditation Institute UDEM.

"We initiated the Excellent Dentist Programme in 2009 after realizing that many Turkish dental practices do not own a simple autoclave for the sterilization of dental equipment", explains Selda Alemdar, the Director of the Turkish Toothfriendly Association. „Furthermore, there is a big need to distinguish the high quality practices from less qualitative ones.

The first step was to gather a panel of experts to compile a set of quality standards for the practices. "The award is based on two pillars: hygiene and preventive dentistry", says Alemdar. "Hygiene is crucial for the overall quality perception as it means safe and bacteria-free environment for the patient. But we consider prevention-mindedness almost equally important, as it means that the patient is proactively coached to keep his teeth healthy."

According to Alemdar, the Turkish dental practices taking part in the scheme benefit by developing a confident, professional and inspi-

red team. "Most employees pride themselves for working in an environment that fulfils the highest possible quality standards", she says. „This reflects positively in the work ethics and motivation.“

Taking part in a quality scheme also ensures that the practice is kept up-to-date with the best possible equipment and procedures in terms of hygiene and patient safety. The Turkish Toothfriendly Association works together with the top-notch manufacturers of dental hygiene products and is also able to provide reduced prices for most equipment.

Finally, fulfilling the strictest quality criteria means for a dental practice the same as for any five-star hotel; the clients are prepared to pay more for better service. "The financial investment in the Programme will pay itself back quickly", assures Alemdar. „The practices will quickly benefit from the free publicity generated through the Association's journal, website and media work.

How the Programme works

To get started, practices need to contact the Turkish Toothfriendly Association. Support material and advice sheets are provided with model policies and templates to assist practices working through the practice self-assessment. On completion



of the self-assessment, practices are ready to apply for membership.

When an application has been assessed and the Toothfriendly Association confirms compliance with the Programme, practices can display the Excellent Dentist certificate in their premises and use the Toothfriendly logo. Random audits are conducted in regular intervals by qualified inspectors of the Turkish Accreditation Institute UDEM.



Contact

See www.disdostu.org for full details.
To order the Excellent Dentist practice self-assessment programme, please contact the Turkish Toothfriendly team on +90 212 240 73 53

Dentistar pacifier supports healthy jaw development

A long-term study by the University Witten/Herdecke shows that an orthodontic pacifier may prevent malocclusion.

Children who have a prolonged pacifier habit are at high risk for open bite, a type of malocclusion in which the incisors don't come together when the jaws are closed.

In an ideal world, parents would sooth a crying baby without the help of a pacifier. In the real world, however, all young parents know that pacifiers make life easier, so they will be reluctant to give them up.

Fortunately, some pacifiers are less detrimental than others. Currently the only „orthodontic” pacifier with solid scientific substantiation is called Dentistar, made by German Novatex. What sets Dentistar apart is the exceptionally narrow teet: it has a spoon-like shape that allows normal tongue movement and exerts

minimal pressure on the incisors, thus reducing the pressure on jaw and teeth up to 90%.

In a 27-month comparative study run by the University of Witten/Herdecke, the frequency of malocclusion was much lower in children who did not use a pacifier (0%) or used the Dentistar (7%), than in those who used a more conventional pacifier NUK (50%).

For Prof. Dr. Stefan Zimmer, professor at the University of Witten/Herdecke in Germany, the results are clear. Compared to ordinary soothers, the Dentistar results in significantly fewer open bites. This means that the Dentistar can be endorsed without reservation – at least for children under 16 months of age.



The first recommendable dental pacifier in the world.

New clinical trial indicates erythritol's superior dental benefits

A new three-year clinical trial has found that non-caloric erythritol, a sweetener that has better digestive tolerance than any other polyol, may also be superior at promoting dental health. The double-blind, randomized, placebo-controlled study revealed that erythritol may be more effective at preventing dental caries and reducing plaque formation than xylitol and sorbitol.

In the clinical trial – funded by Cargill's Research & Development Centre in Europe and conducted by the University of Tartu, Department of Stomatology, Faculty of Medicine – 485 first- and second-grade students were randomly assigned to three groups: erythritol, xylitol and sorbitol. Over the course of three years, only during school days, their teachers distributed and supervised the use of candies three times a day at school – in the morning, immediately after lunch and at the end of the school day. The teachers

and students did not know to which sweetener group they belonged. During their annual dental exams, each participating student was assessed using the International Caries Detection and Assessment System. The differences between the annual caries ratings in intervention groups and placebo reflect each sweetener's caries preventive effect.

After the second and third years, the researchers found that the number of dentin caries was lowest in the erythritol group. Plaque formation within the erythritol group was lower after the first, second and third years. The significant higher plaque reduction observed for erythritol compared to xylitol and sorbitol in this long-term intervention is consistent with the finding in a short-term, six-month study (Mäkinen et al. 2005) in which a significant higher plaque reduction also was observed for erythritol compared to xylitol and sorbitol.



Erythritol is commonly used as a sweetener in chewing gum. Besides its dental qualities, erythritol is the only zero-calorie bulk sweetener. Unlike other polyols, erythritol does not cause laxative side effects even after excessive consumption.

The candy shop for healthy sweet tooth

One innovative man's dream was to establish a dentist-friendly candy shop.

A self-described shop-owner with a mission, Tobias Elger wants to help parents find toothfriendly alternatives for traditional chocolate and gummy bears. Founder of the first toothfriendly candy store, Zahnfreundchen (Tooth Friend), Elger is armed with what he calls the world's most comprehensive selection of dental candy – and some technical support from his dentist wife Melanie. The plan, he says, is to not only create a successful candy shop, but also change consumers' thinking about sugar-free sweets.

The idea behind the Zahnfreundchen concept is that a candy shop can be dentist's new best friend – if, Elger says, the product selection is guaranteed safe for teeth, „guaranteed“ being the operative word. Many food companies sell sugar-free options but never consider if the recipe really truly is toothfriendly.



Elger, a dentist's spouse who specializes in novel ingredients and chocolate-cooking techniques, has taken the health concept several steps further. "We guarantee that each product carries the Toothfriendly seal and is truly non-cariogenic and non-erosive."

Elger's visionary perspective on sugar-free sweets was key as he formulated the ideology for Zahnfreundchen. He was originally drawn into sweets and their impact on teeth because his

pediatric dentist wife saw the consequences of frequent sugar consumption in her daily work with children. There should be a store that, Elger found, had much more diversity in the selection of toothfriendly confectionery. "Most importantly," he said, "it has to range from chocolate to cotton candy – otherwise it's no fun

for the children." Today, his selection contains nearly 100 items - a paradise for anyone with a healthy sweet tooth! To visit the first Toothfriendly candy store go to: www.zahnfreundchen.de



Fresh breath with a green twist

This season's Toothfriendly product novelties take inspiration from the nature.



Chewing gum with vitamins

The Swiss novelty gum Vitamize contains vitamins A,B,C, D and E and comes in two refreshing flavours: Fresh Spearmint and Spicy Cinnamon. A must for all gum-loving health freaks!

Velamints with stevia

The German confectionery house Ragolds has re-introduced Velamints, which is now naturally sweetened with stevia.



Trident with rainforest feel

The American gum giant KraftFoods is introducing its Trident range in Germany. Trident Senses offers sensory pleasure with Rainforest Mint.

Ricola with mountain freshness

The herbs for Ricola's new Mountain Mint drop are cultivated in the Swiss mountains using organic processes and without chemical pesticides.



Smint with double flavor

Smint is toothfriendly, has just 0.5 calories per pastille and is available in new 2in1 range which combines two flavors in one pastille.





Sweet, sweeter, sugar-free?

Dr. Albert Bär explains why sugar is not the only culprit in caries formation and why sugar-free product labels can sometimes be misleading.

Despite improved trends in levels of dental caries in developed countries, dental caries remains prevalent and is increasing in some developing countries undergoing nutrition transition. There is convincing evidence for an association between the amount and frequency of free sugars intake and dental caries.

Dental caries occurs due to demineralisation of enamel and dentine by acids formed by bacteria in dental plaque through the anaerobic metabolism of sugars derived from the diet. When sugars or other fermentable carbohydrates are ingested, the resulting fall in dental plaque pH caused by organic acids increases the solubility of calcium

increases the solubility of calcium hydroxyapatite in the dental hard tissues and demineralisation occurs as calcium is lost from the tooth surface. The pH at which demineralisation occurs is often referred to as the critical pH and is approximately 5.5.

Carbohydrates

Most food carbohydrates can be fermented by the microorganisms of the dental plaque to organic acids (e.g., lactic, acetic, propionic and butyric acid). The resulting acidification of the dental plaque promotes the demineralization of the underlying tooth surface. If periods with such demineralization occur

frequently, caries (tooth decay) may develop. Sites at which dental plaque accumulates and is not removed with the toothbrush, are particularly at risk for developing caries (e.g., occlusal surfaces of molar teeth, interproximal sites).

Many sugars (glucose, fructose, sucrose) as well as starch and starch hydrolysates (maltodextrin), which are widely used in foods, are fermentable and may promote tooth decay. Sucrose is, in this regard, particularly critical because it is not only fermented but in addition can be converted by certain plaque microorganisms to extracellular polysaccharides (glucans, fructans) which facilitate the adhesion of

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the plaque to the tooth surface and serve as reserve substrate during periods with low availability of carbohydrates.

However, not all carbohydrates are fermentable by plaque microorganisms. Two sugars, namely D-tagatose and isomaltulose, are not fermented to a relevant extent and thus do not lead to plaque acidification. Similarly most sugar alcohols are not fermented to a significant extent. Pure resistant (i.e., non-digestible) maltodextrin and polydextrose are not fermented either. These non-fermentable carbohydrates are, therefore, suitable for the formulation of toothfriendly confectionery. However, it must be noted that certain brands of resistant dextrin, polydextrose, maltitol syrup and isomaltulose contain fermentable by-products and/or are degraded to fermentable breakdown products during the food production process which makes them unsuitable for the production of dentally safe foods.

In other words, the fermentability of a food ingredient (sugar, oligosaccharide, polysaccharide, sugar alcohol) cannot be predicted with certainty from its chemical structure. Each of these carbohydrate categories contains products which are fermentable and products which are not fermentable.

Accordingly, the presence of fermentable components can, therefore, not always be seen from the ingredient declaration of a food product. Hence, the cariogenic potential of a foods (candy, chocolate, beverage, etc.) cannot always be predicted with certainty from its composition. Therefore, it is not possible to conclude that sugarfree foods generally and by definition are ‚Toothfriendly‘, as it is often believed erroneously.

Food acids

Food acids, such as citric, tartaric and ascorbic acid are usually added to fruit-based beverages, fruit- and berry-flavored candies, and other foodstuffs.

Such food acids have an adverse effect on dental health in different ways. Upon frequent and prolonged

contact with the teeth, they may directly lead to erosion (demineralization) of the tooth surface (Lussi et al., 2004). Furthermore, food acids may acidify the dental plaque for an extended period of time depending upon the mode of consumption (for example: sipping of a beverage in small but

plaque. Foods which contain excessive amounts of added or naturally present food acids, may have, in addition, an indirect cariogenic potential because frequent acidification of the dental plaque promotes the growth of acid-tolerant microorganisms, which often are also the most

It is not possible to conclude that sugarfree foods generally and by definition are Tooth-friendly, as it is often believed erroneously.

frequent portions for a considerable period of time), thereby promoting not only demineralization of the tooth surface underneath the plaque but also the growth of acid-tolerant and thus particularly cariogenic plaque bacteria, such as *Streptococcus mutans* (Svanberg, 1980).

Foodstuffs which contain excessive amounts of added or naturally present food acids have, therefore, a damaging effect on dental health and are not Toothfriendly, even if they do not contain any fermentable carbohydrates.

Measuring the cariogenic potential of foods

The cariogenic potential of a food, i.e. its ability to promote tooth decay, depends directly upon its content of substances, mainly carbohydrates, which may be fermented to acids by the microorganisms of the dental

aciduric (i.e. acid producing) and thus cariogenic ones (such as *S. mutans*) (Svanberg, 1980).

The acidification of dental plaque due to the presence of fermentable carbohydrates can be measured by different methods using a pH-electrode. The method, which determines plaque-pH under the most realistic conditions, is the so-called plaque-pH telemetry. In this method, the pH is measured in human volunteers, i.e., *in-vivo*, with a so-called „indwelling“ electrode, an electrode which is inserted in the artificial tooth of a partial prosthesis. This electrode is facing an interproximal site (i.e., a predilection site of caries) and is covered by normal dental plaque that has accumulated on the electrode during a period of at least three but not more than seven days. With this method, the plaque-pH is measured on the tooth surface, i.e. under the dental plaque, or – in other words – at exactly the site where caries often occurs.

The method and its application have been described in detail in a book (Imfeld, 1983), but it has also been referred to in numerous scientific publications. At present, plaque-pH telemetry is routinely applied at three university institutes (in Switzerland, Germany and China) for the determination of the cariogenic and erosive potential of foods. Since the three institutes follow exactly the same study protocol, which is laid down in TI's Standard Operation Procedure (SOP), the same test results will be obtained for a given foodstuff, regardless of where it is tested. Any other institute which would follow the same SOP, could also perform such tests after



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The ,Toothfriendly‘ standard - each product must be non-cariogenic and non- erosive under normal conditions of use - meets the toughest guidelines set by the dental profession.

the quality of its performance has been confirmed by interlaboratory comparative tests.

If non-acidogenic (and thus non-cariogenic) food is to be distinguished from acidogenic (and thus potentially cariogenic) food on basis of a plaque-pH test, it is necessary to define a critical plaque-pH.

Since different methods of plaque-pH measurement yield somewhat different results, this critical pH is not an absolute value but is method-dependent (Lingström et al., 1993). For the in-vivo method with measurement of the plaque-pH by an indwelling, interproximal electrode, a pH of 5.7 is considered to represent the critical level. This value has been derived from studies on dental enamel demineralization by acids and it contains a safety margin (Bössmann, 1977; Imfeld, 1983 (at p. 4)). A comparison of plaque-pH tests and rat caries experiments with several sugars and sugar substitutes supports the adequacy of this threshold value (Imfeld, 1983 (at p. 85/86)).

It follows from this data that a food, which during consumption and for 30 minutes after consumption does not depress the plaque-pH below 5.7, as measured by in-vivo plaque-pH telemetry, lacks a significant acidogenic potential and does, therefore, not expose the teeth to a significant risk of caries.

Measuring the erosive potential of foods

The erosive potential of a food, i.e., its ability to demineralize the tooth surface directly (i.e., in the absence

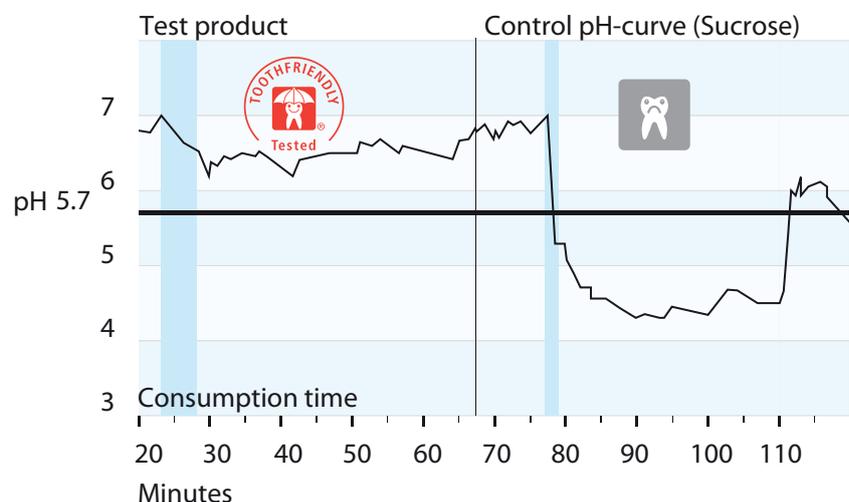
of plaque microorganisms), depends upon its content of organic or inorganic, added or naturally present acids. However, the magnitude of the erosive potential is determined not only by the quantity of acid present in the food, but also by the type of acid in terms of its buffering capacity in the relevant pH range and its ability to complex calcium ions.

The erosive potential of food can only be determined in-vivo because factors such as the dissolution time of a food (in the case of candies), contact time with the teeth (e.g., size of a candy) and neutralization of the acid(s) by saliva influence the magnitude of the erosive potential. For the determination of the erosive potential, the same instrumentation

is used as for the measurement of the cariogenic potential. However, the pH measurement is performed in this case with a plaque-free indwelling electrode in-vivo.

Measured by this method, an acid exposure of $40 \mu\text{mol H}^+ \times \text{min}$ is considered to be the critical level. This value has been derived from studies on the demineralization of polished dental enamel by different acids in an in-vitro model system. The determination of this value includes a safety margin because under in-vivo conditions the tooth enamel is not polished but in fact covered by a thin layer of protein, the so-called pellicle, which acts as a barrier to the diffusion of mineral (calcium, phosphate) from the tooth surface.

Figure 1. Volunteer is chewing a sugar-free chewing gum (circa 8 minutes). Before, during, and for 30 minutes after, the pH of the plaque is measured. As the product does not depress the plaque pH below the critical level of 5.7, it is considered non-cariogenic. After paraffin chewing a positive control with sucrose solution demonstrates that the plaque pH drops below 4.5 after sugar consumption.



Conclusion

In conclusion, there exist criteria for determining whether or not a food has a potential to promote dental caries and/or tooth erosion. Threshold values exist for both the cariogenic and erosive potential to distinguish foods which are innocuous for dental health from foods which are potentially nocuous.

Foods, which upon normal consumption do not lower plaque pH below 5.7, as measured in-vivo by means of a plaque-covered indwelling electrode do not bear a significant cariogenic potential.

Foods, which during normal consumption do not expose teeth to an acid load of more than 40 $\mu\text{mol H}^+$ x min, as measured in-vivo by means of a plaque-free indwelling electrode, do not bear a significant erosive potential.

Foods, which have neither a significant cariogenic nor erosive potential, may be consumed as often as the consumer likes without exposing his teeth to a health risk. Such products qualify, therefore, for use of the Toothfriendly symbol and the term toothfriendly as an explanatory statement.

Since chewing gum and candies stimulate the flow of saliva and since saliva, by means of its elevated pH (7.4) and buffering capacity, not only has a neutralizing effect on the dental plaque but, moreover, promotes the remineralization of the tooth surface because of its calcium supersaturation, toothfriendly chewing gum and candies would qualify for an even stronger claim such as *„helps protect dental health“*.

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Prof. Dr. med.dent. Thomas Imfeld (MBA) retires



Prof. Imfeld at Mount Huayna Potosi with a Toothfriendly flag.

Continues from page 4.

T. Imfeld supported our campaign for many years and was extremely helpful in every respect. We must wait to see how things will develop in future without him.

Relations with industry

T. Imfeld's comprehensive knowledge of preventive dentistry made him a sought-after adviser whenever products needed to be developed and/or tested for their effectiveness. In order to be able to engage in discussion with his clients on equal terms, he gained the Master of Business Administration (MBA) qualification in France at the prestigious Institut Européen d'Administration des Affaires back in 1982. The University of Zurich received more than six million Swiss francs in external funds in the period from 1997 alone.

T. Imfeld as a man and colleague

Thomas, a gentleman to the core, is always polite, kind and willing to help. Many members of the Centre for Dental Medicine have been able to rely on his support in an emergency. He is very close to nature and devotes his spare time to hiking, climbing and cross-country skiing.

Together with his wife, Carola, he has undertaken some truly daredevil expeditions in every continent on the planet. He is a talented painter with a great aesthetic sense and flair for colour and form.

We have reason to be grateful to him, and we wish him many years of good health and the time to develop his many non-academic talents.



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toothfriendly.**

www.toothfriendly.org

Toothfriendly International · Bundesstrasse 29 · 4054 Basel Switzerland · contact@toothfriendly.ch