Session highlights global burden of periodontal disease and peri-implantitis

A symposium held at EuroPerio9 aimed to understand the effects of periodontitis and peri-implantitis on the world’s population.

Antibiotic resistance among patients with severe periodontal disease is increasing

Antimicrobial resistance is on the rise among German patients with severe periodontitis due to various factors. In a study conducted by Prof. Thomas Kocher, a specialist in periodontology at Sweden’s University of Gothenburg, a large survey was conducted to understand the prevalence of periodontitis among German patients with severe periodontal disease.

The study, which included data from 743 million people globally, revealed that the prevalence of periodontitis is on the rise. The study also highlighted the importance of oral health and the need for global surveillance of resistant bacteria. As such, the need for next-generation sequencing methods to detect resistomes within the microbes is increasing. The EFP has also called for the development of guidelines about the use of antibiotics in implant therapy.

One of the key findings of the study was that the use of antibiotics in the treatment of periodontal diseases is increasing. The study also highlighted the need for global surveillance of resistant bacteria and the importance of oral health for those over 60 years of age.

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Though there has been a great deal of research focused on the detrimental effect of periodontitis and peri-implantitis on an individual’s health, rarely has much consideration been given to the large socio-economic impacts of these conditions. As the world’s population continues to age, the real cost of these diseases has increasingly come into the spotlight, inspiring a thought-provoking symposium at EuroPerio9.

“Global burden of disease: Understanding periodontitis and peri-implantitis” was presented on Thursday morning to a sizeable audience. Session chair Dr Ola Norderyd introduced the topic and spoke about its significance in considering the true effects of these diseases. Prof. Thomas Kocher was the following speaker and discussed the contentious issue of whether the prevalence of periodontitis is ultimately declining, given the increased awareness of the importance of oral health. Kocher’s conclusion brought mixed blessings, for though there has generally been a decrease in caries in industrialised countries and periodontitis prevalence seems to be on the decline, the increasing number of elderly people, combined with a higher number of teeth on average in individuals, will likely result in an increased demand for treatment in the future.

“Though we have seen a somewhat dramatic improvement in oral health in some countries, thanks to the introduction of systematic preventive measures, this trend can also cause a massive increase in oral treatment, since a smaller segment of the population is edentulous,” stated Kocher.

Third to present was Dr Jan Derks, specialist in periodontology at Sweden’s University of Gothenburg. He addressed the prevalence of peri-implantitis and the diagnostic principles behind it, and presented the results of an observational study he had conducted on this topic, the largest study of its kind. The results showed peri-implantitis to be a common condition and that several patient- and implant-related factors influence the risk of moderate and severe peri-implantitis.

Severe periodontitis is estimated to affect around 743 million people globally, making it the sixth most prevalent condition worldwide, and periodontal diseases are thought to be responsible for US$54 billion per year in lost productivity. As the prevalence of periodontitis rises with age, its global burden is likely to increase, with a growing ageing population. The EFP has acted quickly in response to this, with a call for global action on the burden of periodontal diseases issued by EuroPerio9 Scientific Chair Prof. Søren Jepsen, Prof. Maurizio Tonetti, Prof. Lijian Jin and Dr Joan Otomo-Corgel in a 2017 issue of the Journal of Clinical Periodontology. In addition, the current EFP President, Prof. Dr Anton Soutelen, used this year’s general assembly to announce his intention to raise awareness of the importance of periodontal health for those over 60 years of age.

With more and more edentulous patients opting for dental implants, peri-implantitis has become a condition that must be addressed at all points of pre- and postoperative patient care regimens. A later state of peri-implant mucositis, peri-implantitis is an inflammatory lesion of the tissue surrounding an implant, and it is often caused by the pre-existing presence of periodontal disease. Left untreated, peri-implantitis can lead to reduced osseointegration of the implant and, ultimately, implant failure.
Preventative care is a lifelong habit—Part 2
An interview with Prof. Dr Anton Sculean, President of the European Federation of Periodontology.

As President of the European Federation of Periodontology (EFP), Prof. Dr Anton Sculean has announced his plans to raise awareness of the importance of periodontal health for those over 60 years of age. In the second part of an interview with today International, Sculean spoke at length about the reasoning behind this, as well as other important shifts in dental treatment and prevention.

How was your first European Gum Health Day as EFP President? It was a very successful campaign, I would say. The idea of European Gum Health Day is to inform the entire population of each participating country of the importance of maintaining healthy gingivae not just in their country but in the country of the importance of overall well-being of the entire population of each participating country. It was great to see this commitment to spreading the message of “Health begins with healthy gums” adopted by these nations, and I hope that they will continue to participate in the future.

With the increase in popularity of patient-centred concepts such as motivational interviewing, do you see the role of the dental professional changing? I think that’s a very important point to consider. We see more and more new treatment concepts being guided by a philosophy of actively involving the patient in the treatment process. If we actively involve the patient, his or her motivation to follow through with the treatment is likely to be higher and its success is thus more likely as well—without the cooperation and input of the patient, we can never achieve complete success.

In dentistry, there has been a shift away from dictating certain concepts to patients and towards involving them in the treatment process, working together to improve their oral health. This shift is a positive one, as it recognizes the importance of putting patients in charge of maintaining their oral health.

At the recent EFP General Assembly, you mentioned that, though gingival health impacts the quality of life of individuals of all ages, it could particularly affect people over 60 years of age. Why do you think this is so? This is one of my main priorities as the EFP President. Preventative care is a lifelong habit, of course, and gingival health brings not just oral health but also overall health, well-being and quality of life over a whole lifetime, particularly for those over 60 years of age. If one looks at demographic data regarding this issue, one can see that the world’s population is continuing to grow older and older. Life expectancy is generally increasing, and many people who are over 60 are still in excellent general health. They take action to maintain their well-being and want to extend this for as long as possible. That is why I started with this programme—if one considers that the number of people worldwide who are over 60 currently less than one billion, but that the number is predicted to rise to 2.1 billion by 2050, it’s clear that we need to take immediate action to target this group.

What I want to achieve through this action is to reposition this age group as one that can maintain gingival health. I want to get away from focusing on disease and instead emphasize how important maintaining and preserving their health is. I have labelled this concept “oral fitness”. By this, I mean that we shouldn’t just focus on the general fitness of our bodies, but instead incorporate the gingivae and the oral cavity into our understanding of what fitness can be. Regarding some of the EFP’s other programmes, like those centered on the interaction between gingival health and cardiovascular disease, diabetes and so on, they have already been established and are benefiting those individuals who suffer from, or are at risk for, these conditions. However, for the bulk of the population who doesn’t have one of these conditions, maintaining their oral fitness can really benefit quality of life.

The EFP has a duty to promote gingival health, oral health and the treatment of periodontal disease. Personally, I would prefer not to have this disease in the first place and to ensure a high quality of life and high level of oral fitness as long as possible.

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Editorial note: The first part of this interview appeared in the second Edition to the Global issue which was published on Friday, 22 June 2018.

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New classification of periodontal and peri-implant diseases and conditions

A new global classification system for periodontal health, diseases and conditions, as well as peri-implant diseases and conditions, was announced on Friday at EuroPerio9. The outcome of a joint workshop held by the EFP and the American Academy of Periodontology (AAP) in Chicago in the US in 2017, the updated system comes almost two decades after the last comprehensive classification of these conditions and builds upon the significant amount of new evidence and knowledge that has been gained in that time.

Chaired by Prof. Maurizio Tonetti and Dr Kenneth Kornman in front of a packed house, “News from the world workshop on classification: Critical factors in periodontology” provided attendees with an in-depth look at the findings from this workshop and their clinical implications. The workshop included over 100 experts from Europe, America, Australia and Asia who reviewed existing literature to create a global consensus that enables care to be standardised for patients around the world. Parsing the experts’ workflow as a “robust, inclusive and open process”, Tonetti emphasised that the findings, through their unbiased nature, were intended to be as credible as possible and hope fully “project a vision that will shape the future of periodontal treatment”.

Kornman highlighted how the new classification system could help to shape the direction of periodontal education and university curricula, as it recognises and debunks some common misconceptions about how periodontitis develops. “We now know that the severity of periodontitis is not just a simple function of how much plaque is on your teeth and how long it has been there, and that not everyone is equally susceptible to this disease,” Kornman said.

The comprehensive classification is based upon contemporary evidence and includes a staging and grading system for periodontitis, indicating severity and extent of disease, accounting for lifetime disease experience and taking into account the patient’s overall health status. Clinical health is defined for the first time in the classification, and periodontitis is described in four stages, ranging from least severe to most severe. The risk and rate of disease progression has been categorised into three grades, from lowest risk of progression to the highest. This grading takes into account risk factors like smoking and the presence of concomitant diseases such as diabetes.

The complete review and consensus reports have been published simultaneously in the EFP’s Journal of Clinical Periodontology and the AAP’s Journal of Periodontology.

“The AAP and EFP are proud of this global, collaborative accomplishment,” said Dr Steven R. Daniel, President of the AAP. “The result of this landmark workshop is a redesigned disease classification that guides comprehensive treatment planning and allows for a personalised approach to patient care. These proceedings will make an indelible impact on the scientific advancement of periodontal care and practice.”

“This was a huge undertaking, but one of vital importance, ensuring that an international language for clinical care, research and education is established, and updating the 1999 classification system to account for rapid advances in scientific knowledge over the last 20 years. The new classification should provide a globally consistent approach to diagnosis and management and ultimately improve outcomes for our patients,” added Prof. Iain Chapple, EFP Secretary General and co-chair of Group 1 of the workshop.
An interview with Prof. Nicola West, head of restorative dentistry and the Clinical Trials Unit at the Bristol Dental School, UK.

What is the oral microbiome, and what is its significance for oral health?

The oral microbiome is the structure of the bacteria on the teeth and oral mucosa, with its proteins and natural enzymes. Ideally, the bacteria in our oral microbiome are naturally in a state of balance, that way maintaining oral health and protecting us from developing disease. The vast majority of periodontal diseases are initiated by an accumulation of biofilm on the hard surfaces of the mouth: the teeth or implants. If the biofilm is not disrupted on a regular basis by self-directed oral hygiene, it becomes dystrophic, and we get the emergence of pathogenic strains, leading to gingivitis and, in susceptible individuals, periodontitis.

What are some of the dangers to a healthy microbiome?

A poor sleeping pattern or unhealthy lifestyle choices such as smoking. Pregnancy is a risk factor too, owing to the hormonal changes happening in the body, and the fact that there are hormone receptors in the mouth. Lastly, a healthy diet is very important. We should be eating and drinking more natural products instead of the processed forms we eat a lot of time, stopping for example processing foods to get the emergence of pathologies linked to the mouth. When it comes to periodontal disease, people either are or are not naturally susceptible to it. If one is susceptible, stress is one of the contributing genetic and epigenetic risk factors. All in all, 50 per cent of our population are susceptible to periodontal disease—which is huge number. When we look after patients, we can definitely see a difference in stability in the periodontal condition between people who are stressed and those who are not. In people who do not cope well with stress, one can actually see changes in saliva production, sleeping pattern, pocket formation and so on.

Lastly, how has EuroPerio been for you so far?

I think it is a fantastic event. It is buzzing, isn’t it? It is busier than the last one we had in London, and I just think this is the place to be. For me, it is an opportunity to network and exchange ideas with all the experts on periodontology from all around the world. It is very friendly and well organised, and the programme is just amazing.

New book aims to make periodontology palatable

An interview with Dr Michele Reners, EuroPerio9 Congress Chair.

Who is the book aimed at?

Above all, the book is practical. As such, it is mainly aimed at dental students and older general dentists. The aim is to help students understand the subject better, but it is also a book to keep practising dental professionals up to date on some topics. That is why the first chapters of Periodontology Made Easy cover the aetio-pathology of periodontal disease, the disease's link with systemic disease, and stress as a risk factor in people with periodontitis. These are, after all, some more recent findings in periodontology. It’s only been a day now, but I am pleasantly surprised at the number of people showing up at the Philips booth to get a copy.

We are almost through EuroPerio9. What will the last day of the congress still bring for you?

It seems that there will be quite a few meetings left of all. Other than that, I am moderating a session, and last but not least there is our top-secret closing ceremony. After this show, I will be looking forward to the next one in Copenhagen, of which Prof. Phoebus Madianos will be the Chair. Over the three last years, I have had a great and enthusiastic team that definitely is the secret behind this EuroPerio. Now, I will be glad to have a rest from all the preparations.
NAVIDENT 2.0 WITH TRACE AND PLACE LAUNCHED AT EUROPERIO9

By using the CBCT image as a kind of map, ClaroNav’s Navident guides clinicians much like a GPS guides drivers, offering them an easy-to-use, accurate, highly portable and affordable method for the planning of desired restorations and implant placements. The new Navident 2.0, designed to further streamline everyday digital dentistry workflows, is officially showcased to visitors at EuroPerio9.

With Navident 2.0, the clinician will no longer be required to do a special extra scan. Instead, he or she will be able to use the diagnostic scan already available for the patient. The step of making a stent is not a part of the workflow because it is no longer required, saving clinicians valuable time. Known as Trace and Place, this is a game-changing development for dynamic navigation. With Trace and Place, the Navident 2.0 workflow is efficient and user-friendly and can be seamlessly integrated into daily clinical practice.

“Trace and Place is a real tipping point for dynamic navigation guidance,” said user Dr George Mandelaris, a periodontist from Chicago in the US. “It has streamlined and simplified the workflow in both the diagnostic and surgical phases to allow state-of-the-art technology to be an everyday component of my surgical implant practice. I can’t imagine going back.”

Implantology specialists who have already used Navident 2.0 have experienced negligible operator stress, improved time efficiency and an increase in patient acceptance. The accuracy the new version offers, combined with the need for minimal tissue manipulation, is conducive to a shorter and better recovery process for patients, according to ClaroNav.

On Thursday, the team of ClaroNav invited to the Dynamic Navigation Evening at the Apollo Hotel in Amsterdam. At this unique meeting, some of ClaroNav’s master clinical trainers shared their clinical experiences when using Navident. The programme included lectures on the treatment protocols of today, including both surgical and prosthetic aspects. Finally, the programme concluded with some highlights of possible future development trends within the field of computer-guided surgery.

ClaroNav, Canada
www.claronav.com
Booth 11.14A

Ideal for microsurgery

Optimal shape and thickness

Small tip for easy control

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Example of use / Feather surgical blade No.390 and 300C

Compatible handles

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No.7
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Blade lineup

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No.390C

ClaroNav Inc
Simplified Workflow
Dynamic Overview

* Luca Caselana, Regional Sales Manager for southern Europe at ClaroNav, with an instrument from the company’s Navident 2.0 navigation system.

ClaroNav, Canada
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The 2019 Nobel Biocare Global Symposium will take place from 27 to 29 June at the Mandalay Bay Convention Center. Registration for the event is now open at nobelbiocare.com/global-symposium-2019.

Owing to a well-organised syllabus, dental professionals choosing just one stream can join every relevant session. Alternatively, those wishing to pick and choose between different streams can create their own individualised programme, tailored to their needs and interests. The event will also offer a dedicated programme covering the latest tools for dental technicians.

The 2019 Nobel Biocare Global Symposium is to be held in Las Vegas in the US next June. As part of the overarching theme, “Knowl-edge changes everything”, this edition of the three-yearly event will focus especially on transforming patient care and will serve as the platform for a state-of-the-art education programme. New solutions, profound innovations and ground-breaking science, which are expected to have a major impact on the field of implant dentistry, will be presented.

Over 150 specialists will lead hot topic debates, hands-on sessions, master classes and podium lectures. The scientific committee, chaired by Dr Peter Wöhrle, is developing a programme to inspire and train an expected 3,500 dental professionals. Some core subjects will include new innovations in aesthetics, advancements in full-arch solutions and first-hand experience of procedures that are becoming more straightforward than ever before.

As a leading manufacturer of high-precision medical cutting tools, such as surgical blades and scalpels, ophthalmic knives, microsurgical blades for fine incisions and microtome blades used in pathology, Feather Safety Razor has been providing medical professionals in Japan and around the world with great satisfaction since it was founded in 1932. During EuroPerio9, the company is showcasing its latest surgical blades for use in dentistry. The new Feather surgical blades, Nos. 370, 390 and 390C, which were named among the BEST Products in 2017 by the Garden J. Christensen Clinician’s Report, are small, shaped surgical blades that are suitable for microsurgery (fine incision). With appropriate shapes and thicknesses for fine incisions, they are easy to control and, according to the company, provide superior performance, especially in periodontal plastic and regenerative surgery. As another feature, they are compatible with the surgical blade handles commonly used in dental surgery.

In addition to the new blades, the company has other popular blades, such as the Nos. 11g and 15c, on display in Amsterdam. Visitors are invited to the Feather Safety Razor booth to view the high-quality products.

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Most of us know that proper brushing with toothpaste containing fluoride is the first step in maintaining healthy teeth and gums. Despite this, biofilm-related oral infections such as dental caries and periodontitis are still among the most prevalent health problems. Recently, interest has been growing around another factor that helps prevent these diseases: enzymes that occur naturally in saliva and perform an integral role in protecting and repairing the oral cavity. By using glucose oxidase for healthy oral flora, CURAPROX’s new toothpaste series helps maintain optimal oral balance.

In order to understand the health benefits of enzymes on our oral flora, it is important to understand biofilm—the benign layer of bacteria, fungi and protozoa attached to each other as well as to our teeth and oral mucosa. Ideally, the different bacteria that make up biofilm are in a state of balance called symbiosis. However, fermentable sugars, smoking, stress, physiological changes like pregnancy, or the frequent use of antibiotics and antimicrobials can create an imbalance in the oral microbiome where pathogenic bacteria predominate. Left untreated, this dysbiosis can lead to diseases such as caries, gingivitis and periodontitis.

A 2016 study by Pleszczyńska et al. published on the International Union of Biochemistry and Molecular Biology website explores the possibilities for enzymes to treat and prevent oral disease. Oxidative salivary enzymes were found to inhibit the growth of cariogenic oral pathogens. [BE YOU.] contains glucose oxidase, a naturally occurring enzyme that inhibits dysbiosis by boosting salivary flow, and turns glucose into hydrogen peroxide, which gently whitens the teeth.

“Hydrogen peroxide and the Potassium thiocyanate in the toothpaste support the lactoperoxidase naturally present in the mouth,” said Dr Christoph Fiolka, head of chemical product management at Curaden. “Lactoperoxidase then in turn forms a potent natural antibacterial system. As a result, [BE YOU.] softly whitens teeth, naturally prevents enamel staining, and contributes to a healthy, balanced oral microbiome.”

“Equally important is what the toothpaste does not contain,” added Fiolka. “[BE YOU.] contains no triclosan, microplastics and sodium lauryl sulphate (SLS)—a foaming agent contained in many toothpastes—to avoid any possible irritation to the oral mucosa.”
PRODONT-HOLLIGER, now part of ACTEON Group, offers a wide range of hand instruments for all clinical dental procedures. Produced by a passionate team for whom accuracy and precision are key, the reliable tools are manufactured with leading-edge industrial equipment and have been developed through the staff’s unique competencies. The PRODONT-HOLLIGER factory is located in the heart of France in a region known worldwide for its metal industry, particularly blades and knives.

For EuroPerio9, PRODONT-HOLLIGER is showcasing its screw and implant extraction kit. Dental professionals will find all the necessary tools to easily remove both broken screws inside implants and osseointegrated implants of any brand available on the market. The extractors, along with a dynamometric wrench, are packaged in a compact sterilisation cassette.

The kit has the main advantage of minimising bone loss by avoiding bone drilling during the extraction of an implant. Both left and right extractors are alternately screwed into and unscrewed from the implant to gradually separate it from the bone. Furthermore, the system can be combined with Piezotome extraction tips to speed up the overall process for a quicker, safer and more comfortable implant extraction.

Hoffmann’s PeriO3 Oil in implant therapy. The treatment was conducted in his private practice, where over 200 patients have been treated successfully with this method. The following details Sevük’s workflow:

1. After placement of the implant screw, one drop of Hoffmann’s PeriO3 Oil is introduced into the screw gap (Figs. 1 and 2). A quantity of PeriO3 Oil is then applied around the implant to seal the mucosa. Any sutured area is also covered with a thin layer of PeriO3 Oil (Fig. 3).

2. After completion of the osseointegration period, Hoffmann’s PeriO3 Oil is applied to the implant screw gap and the surrounding tissue during insertion of the gingiva former and during the impression taking stages (Figs. 4 & 5).

Hoffmann’s PeriO3 Oil consists of castor oil and olive oil enriched with ozonides, which are active oxygen. The active oxygen provides an environment in the implant screw in which anaerobic bacteria do not prosper. Thus, inflammation or growth of bacteria and undesirable odours are prevented at any stage of the implantation. “It is also a good feeling to be able to treat my patients with a preparation that is free of any chemical substances. Some solutions are really simple but ingenious,” Sevük said.

The PeriO3 Oil can be used in several areas of application such as acute and chronic gingivitis, peri-implantitis, stomatitis, gum injury and many more.

Sevük graduated from Istanbul University, Faculty of Dentistry in 1974. He completed a postgraduate qualification and obtained his PhD in the department of fixed prosthetics at the same university in 1979. He was awarded the title of “associate professor” in 1988 and “professor” in 1996. Over the course of his career, he has conducted numerous studies on ceramic restorations and inlay restorations.

Hoffmann Dental Manufaktur GmbH, Germany
www.hoffmann-dental.com
Booth 11.09C

* Prof. Dr Çetin Sevük is an expert in prosthodontics and implantology with decades of experience. Despite his clinical work, he is involved in several associations and academies and he currently holds the position as president of the Türk Prostodonti ve İmplantoloji Derneği (Turkish association of prosthodontics and implantology).
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The new Planmeca CALM algorithm for correcting patient movement in CBCT images is taking dentistry by storm, according to the Finnish company. As the first-end user solution for movement artefact correction from a dental manufacturer, the feature has already been praised by dental professionals out in the field. In an interview about Planmeca CALM, the company’s 3D imaging specialist Mikko Lilja spoke about how the innovative algorithm came to be and why he believes every dentist can benefit from it.

“It all happened very naturally,” said Lilja in discussing the background to developing Planmeca CALM, the trail-blazing iterative algorithm for correcting patient movement. “I had gained a good understanding of movement as an imaging problem in my doctoral research work. When it then turned out this was also a topic of interest for Planmeca, it all came together.”

The name “CALM” stands for “Correction Algorithm for Latent Movement” and describes a projection geometry optimisation algorithm that can analyse and compensate for patient movement in CBCT images. The outcome is an improved image that eliminates the need for retakes—saving time and improving patient safety.

Patient movement is among the most significant challenges to CBCT image quality. When a patient moves during imaging, it produces artefacts that affect the quality of the image.

“In tomographic reconstruction, the assumption is that the measurements—in this case, the CBCT X-ray projection images—are geometrically consistent with one another,” Lilja explained. “But when a patient moves, the data no longer add up, which shaves in the reconstruction. What Planmeca CALM does is to restore the consistency of the X-ray measurements by tracking the movement of the patient, resulting in a sharper final image.”

Planmeca CALM works with all volume and voxel sizes and adds only under 30 seconds to the overall reconstruction time. The feature can be applied after the scan is complete, but also before exposure to ensure that the volumes are already corrected when they are accessed in the Planmeca Romexis software.

“In the past, dentists would send their unsatisfactory images to the manufacturer for reconstruction or just redo the entire scan, but with Planmeca CALM this is now a thing of the past. We are proud to be the first dental manufacturer to provide a solution for movement artefact correction to the end user,” Lilja stated.

According to Lilja, an end-user solution for patient movement correction had been on Planmeca’s algorithm development roadmap for some time and was assigned to him upon joining the Planmeca 3D imaging team.

“I think the timing was perfect for everybody. With Planmeca’s expertise in medical imaging and image reconstruction and my knowledge of movement correction, we just immediately put our heads together and got to work,” he said. The development process was not without its challenges, and a great deal of effort went into creating a dedicated algorithm for Planmeca CBCT devices.

“My previous experience was related to industrial tomography imaging, where things like reconstruction times and the imaged target itself were very different. So, although our first prototype tests were encouraging, we had to go back to the drawing board time and again to produce a new algorithm for dental imaging. Thankfully, I had a lot of help from my extremely capable colleagues, which allowed me to focus on the core problem,” Lilja continued.

The final product was presented at the 2017 International Dental Show in Cologne in Germany amid much excitement and industry anticipation, as Planmeca CALM offers many advantages for dental imaging. The feature is particularly beneficial when imaging restless or livelier patients, such as children, individuals with special needs or elderly patients. According to Lilja, however, the algorithm can add value to any image.

“On the one hand, we have, of course, the images where the patient has moved to such an extent that an image may be unusable without Planmeca CALM, but in my experience, it always improves the quality of the image. Even in cases where you might not typically think there has been significant movement, Planmeca CALM can noticeably enhance the image and enable seeing more details,” Lilja described.

“Whatever the case, it is being able to correct movement artefacts ‘in-house’ rather than having to resort to retakes or sending the image for enhancement which is key here,” he went on. “When dentists are able to make the correction themselves, the end result is improved diagnostics, time saved, reduced costs, and less exposure to radiation.”

Planmeca CALM has been praised by dentists since its release earlier this year. “The feedback we have received so far has been overwhelmingly positive—both from customers and from within the company. It has been truly heartwarming to hear that the hard work that went into it is also bearing fruit. I’ve even heard that the software has been tested by shaking a phantom head around in the X-ray unit, and that all tests have come to the conclusion that it’s ‘the real deal’. It’s a great feeling!” Lilja summed up.
What’s on in Amsterdam: 23 June

TonTon Club (West)
Address: Pelaanseind 27
Opening times: Fri & Sat 13:00–3:00, Sun–Thur 13:00–1:00
www.tontonclub.nl
The Mega Tetris, Mario Kart, Street Fighter and Dance Dance Revolution video games and several pinball machines are only some of TonTon West’s seemingly endless gaming offerings. The arcade game centre also offers food and drink facilities, where, after a few tuning matches of air hockey, players can enjoy a pint of beer and a bite to eat in preparation for the next round of games. There’s also TonTon Club’s big sister in Amsterdam’s red-light district, located in the heart of the city. Please note its shorter opening times.

ZOOmeravonden
(an evening at the zoo)
Venue and location: Natura Artis Magistra, Plantage Kerklaan 18–40
Opening times: 15:00–23:00
www.artis.nl/en/language/visitors-information
ZOOmeravonden welcomes guests (and Amsterdam’s party animals) to explore the city’s ARTIS Royal Zoo until sunset on Saturdays during summer. While some of the animals will be preparing for bedtime, their nocturnal counterparts will be waking up. Zookeepers and animal carers will be present throughout the extended opening hours to answer questions and inform visitors about the animals and their life at the zoo. Musicians and students from Amsterdam’s music academy will add to the entertainment programme by serenading the audience. Guests can also take part in workshops, guided tours and fun activities for children. Dinner is taken care of with picnics and barbecued delights available to eat on the lawn.

Festival Sunstation
Venue and location: Observatorium
Robert Morris, 8227 Rb Leijndens
Dates and times: 22 June, 16:00–0:00, 23 June, 5:00–9:00
www.festivalsunstation.com
This free festival celebrates the summer solstice with spoken word and features a huge range of authors and performers, allowing writers, artists and poets to shine. The festival programme includes musical performances, cosy campfires, barbecues and a bar, where chilled drinks will be served. One of the special live-ups this year is Ernst Janis, keyboard player and co-founder of the band Doe Maar, and with that a pioneer of Dutch pop music, who will be performing twice with his band on the morning of 23 June. It is important to note that the festival takes place in Dutch mainly.

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