Zimmer reveals Next Gen dental implant design with osseoincorporation functionality

Daniel Zimmermann DTE

ATHENS, Greece: A Tapered Screw-Vent implant featuring osseoincorporation was revealed by US manufacturer Zimmer Dental at the Annual Congress of the European Association for Osseointegration (EAO) last month in Athens in Greece.

The new design has an osteo-conductive midsection made of Trabecular Metal, a highly bio-compatible material with a structure similar to cancellous bone, and is compatible with the company’s Tapered Screw-Vent Surgical Kit and range of prosthetics.

Trabecular Metal has been already used for more than a decade in many of Zimmer’s orthopaedic devices. Made from tantalum, a rare and highly corrosion resistant metal already used in the fabrication of dental implants since the 1950s, it offers high porosity that allows bone around implant sites to grow not only onto the material but also around it—a process known as osseoincorporation.

Zimmer acquired the technology from an acquisition of the Implex Corporation in 2005.

Studies on dental implants containing Trabecular Metal in canine mandibular models began in 2010 and showed evidence of ingrowth by maturing bone as early as two weeks after implantation. According to the company, data collection from human trials, is currently being done with the first long-term results expected to be available soon.

Zimmer has gained CE approval for the implant in Europe and anticipates market approval for the USA through the Food and Drug Administration in the upcoming weeks. Information about when the implant will be first available to implant specialists in Asian markets was not disclosed at the EAO meeting.

Philips divests Discus unit to SybronEndo

SybronEndo has announced that it has acquired the endodontic business unit from Discus Dental, a US dental company currently held by Royal Philips Electronics. The takeover will take effect immediately and inclusions Discus’ entire product range of irrigation systems and other products under the Smart Endo brand, as well as patents and licenses, the company said in a press release.

On their websites, both companies advise customers to contact their local SybronEndo representatives for all future Discus Dental product orders. Further information were prepared and demonstrated.

Philips divests Discus unit to SybronEndo

The China office of Colgate-Palmolive is providing free dental checks for more than one million children in primary schools through a mobile service. The tour is organized in partnership with the Chinese government in order to improve the nation’s oral health. Ministry of Health representatives said.

Beijing teams up with Colgate

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New court ruling could mean end to fast food in Indian schools

From news reports

NEW DELHI, India: The High Court in Delhi has ruled in favour of a public petition that urges the Indian government to take action for changing food policies in schools and colleges nationwide. The directive also suggests a sale ban on fast food in and within half a kilometre of school premises.

The consumption of fast food has dramatically increased in India with global brands like McDonald's or KFC slowly replacing food courts selling traditional favourites like dosa or bonda. At the same time, its negative effects have also increased including obesity, diabetes or tooth erosion from acids found in fizzy drinks. A recent study conducted by researchers from the KLE's Institute of Dental Sciences in Belgum found that approximately one in three Indian children aged 5 to 6 were already suffering from tooth wear and erosion of enamel.

Representatives of Uday foundation, the Delhi-based organisation who filed the petition, welcomed the decision of the High Court which they say could help to enhance the health and well educational outcomes of schoolchildren in the long-run.

Under the directive, the government will have to deliver first reports about actions taken by beginning of November: Representatives of the Ministry of Health told the online news portal Oneindia that it recently sent out written requests to all states to follow guidelines for providing safe and healthy food in educational institutions.

Liberalisation of health care market in Malaysia encounters resistance

From news reports

KUALA LUMPUR, Malaysia: Criticism about a new rule that will allow foreigners to fully own hospitals in Malaysia has been rejected by the country's Ministry of Health. The government reaffirmed its intentions to liberalise the health care market during their 2012 Budget announcement last month, which professional organisations claim could open the sector for unqualified doctors or dentists.

The Malaysian Medical Association did not comment on the matter yet.

At a press conference in Kuala Lumpur, Health Minister Datuk Seri Liow Tiong Lai reacted to the criticism saying the quality of doctors would be assured by the Malaysian Medical Council, a government body who is responsible for the registration of medical professionals. He told the reporters that the liberalisation could bring long-term benefits for the industry such as to make the country more attractive to medical tourists or lure Malaysian doctors back who are currently serving overseas.

The Malaysia Medical Association has raised concerns about the plans by saying that checks for foreigners are currently inadequate and need revision including the introduction of a national specialist register to avoid unqualified doctors and dentists to enter the market. They also said that such a move was unnecessary and could penalise local doctors.

The Malaysian Dental Association did not comment on the matter yet.
Oral health challenges remain high in Southeast Asia, expert says

From news reports

SEATTLE, USA: One of Thailand’s leading epidemiologists has said that oral health issues remain a burden in most Southeast Asian societies. During a keynote speech she held on the occasion of the annual Research Day organised by the University of Washington’s (UW) School of Dentistry in Seattle in the US, Dr Waranuch Pitiphat pointed out that many people in the region still lack access to adequate dental care partly owing to the insufficient number and poor distribution of health care workers including dentists.

In addition, infection control in dental clinics in some of these countries is still highly inadequate, she said. She urged dental students to consider global oral health in their research agenda.

Research Day is an annual event held by the UW School of Dentistry to recognise its standing as a US leader in dental research. Besides Dr Pitiphat, this year’s event also saw participation by UW staffers Dr Tim Dehrouy, Dr Christy McKinney and Dr Carey Farquhar.

Harvard-educated Dr Pitiphat who is currently working as Associate Dean for Research, graduate Studies and International Affairs for Khon Kaen University, an international recognised school of higher education in Thailand, has been cooperating with UW for five years in order to train oral health clinical researchers. The programme which also includes Thammasat University in Bangkok, has been recently received a million dollar grant from the US National Institute of Health to continue operations for another five years.

Scrutinised over benefits

Daniel Zimmermann

HONGKONG/LEIPZIG, Germany: Investigations by the Australian Department of Health and Ageing are currently underway into the misuse of government funds for dental services provided to patients under the Chronic Disease Dental Scheme. It has been reported that more than 600 dentists nationwide are suspected to have received money from Medicare, a government health programme, for dental work that was never done or lacked the required paperwork.

The news could mean the final blow for the scheme, which has been under attack by the Gillard government for quite some time to be replaced by an programme targeting mainly pensioners and disadvantaged people. Under the Chronic Disease Dental Scheme, patients with chronic illnesses and complex care needs were able to claim AUS$4,250 (US$4,000) in benefits for dental services conducted by a Medicare-enrolled dentist over two consecutive years.

Dentist representatives welcomed the government initiative to detail dental spending from Medicare but warned about putting dentists under general suspicion because administrative requirements for the scheme are unclear and patient eligibility usually determined by GPs.

“Rather than deal with any issues around dentists not fulfilling their administrative requirements at the time of the Scheme’s implementation through an educative or conciliation process, Medicare has waited two years after the dental care was delivered to pursue recovery of monies,” President of the Australian Dental Association (ADA), Dr F. Shane Fryer, said. He questioned the motivation behind the government campaign, which he said could force dentists into bankruptcy or having to close their practices.

According to latest Medicare estimates, the benefits misused account for AUS$20 million (US$19.2 million) paid to dentists since 2007. Tovate, only 60 investigations have been completed, the department said.

The branch of the ADA in New South Wales, where the majority of dentists believed to be involved in the fraud practise, has been reported to be raising money for a potential lawsuit against the government.
Dear reader,

Dr Pitiphat’s words of concern about the oral health situation in Southeast Asia come at the right time. Unfortunately, when I tried to contact her for an interview, her Bangkok home was under threat by the floods that recently swept through the capital of Thailand. With no information about her current situation, I can only hope that she and her family have survived the catastrophe unharmed.

There is no doubt that poor oral health remains a problem from the slums in Bangkok to the Lakes Plains in Western India, even though its impact on the population is low compared with other major health problems in the region like HIV/AIDS or malaria. Quality of life, however, has many faces and the ability to speak or eat well and without pain is one of them.

Oral health improvements in booming markets like Singapore or Hong Kong have long clouded deficits in countries that have fallen behind the economic rush. Governments, health agencies and dentists alike need to push for more dental programmes and initiatives in order to close this gap. ❑

Yours sincerely,
Daniel Zimmermann
Group Editor
Dental Tribune International

Low priority for oral health

The devastating oral health problems in Southeast Asian countries, such as the lack of national oral health policies, inadequate infection control in dental clinics, limited access to care, and spotty distribution of healthcare workers, make investigation of the influence of social and behavioural factors, as well as risk factors, extremely urgent.

Growing globalisation and resulting inequalities have hindered the promise of favourable changes in oral health. Many Southeast Asian countries are facing various demographic and socio-economic changes. Since the social, political, cultural and environmental climate has been changing rapidly, prompt and appropriate programmes need to be implemented. The focus should be moved towards greater emphasis on those factors that have an impact on oral health.

Despite the magnitude of personal and community burdens that oral health problems carry in many Asian countries, it is apparent that the concerns of the general population about oral health are relatively low, mainly because most oral diseases are not serious or life threatening, but also because oral health is perceived as a lower priority compared with other health and economic concerns. The importance of oral health should be emphasised more strongly in the development of health policies and interventions.

For oral health-related measures to be successful, conventional treatment-oriented procedures are of little value in these Asian countries, owing to limited resources and personnel. Health policies that emphasise health promotion and prevention, as well as empowerment and advocacy, are considered to be essential. To improve oral health effectively, strategies that address the underpinning causes of poor oral health situations by using a range of additional strategies based on policies that emphasise health promotion and other health authorities. It is desirable to integrate such strategies with other health projects in schools, workplaces, and communities. Since everyone needs to be made aware of the urgent oral health situation and its consequences, the mass media could be used to provide adequate information to the public. ❑

Dr Masayuki Ueno
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Contact Info

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Tooth movement could be an alternative to bone transplants

From news reports

GOTHENBURG, Sweden: Researchers at the University of Gothenburg’s Sahlgrenska Academy have found a way to replace lost teeth without building up the jaw artificially. With their method, existing teeth are moved into the toothless area using a brace, which offers clinicians a less complicated and painful option for giving patients their lost teeth back.

When we lose our teeth, because of illness or injury, the jaw in the toothless area also decreases in volume. This reduction makes it difficult to carry out dental implants, often leaving just one option for replacing lost teeth: building up the jaw with a bone transplant.

In an experimental study on dogs, the Swedish researchers managed to use a brace to move existing teeth into a toothless area with limited bone volume, without any reduction in the tooth’s natural attachment to the jaw.

In a subsequent clinical study, consultant dental surgeon Birgitta Lindskog Stokland and her colleagues also managed to demonstrate that the same procedure in humans caused only small changes in the tissue around the tooth. “X-rays showed some damage to the root known as root resorption, but this didn’t seem to cause any lasting problems,” Stokland said. “What’s more, our follow-ups a year later showed that the damage had lessened.”

The original site of the moved tooth suffers a reduction in bone mass and dental tissue volume, though not to the same extent as when teeth come out for other reasons. This means that this area is well suited to implants or other tooth replacements, without there being any need for bone transplants. “In other words, many patients can be given more teeth more easily,” Stokland stated.

EU regulates whitening

From news reports

BRUSSELS, Belgium: The Council of the European Union has adopted an amended directive on teeth whitening products. The directive sets out differentiated rules according to the level of hydrogen peroxide in accordance with advice from the European Scientific Committee on Consumer Safety. Tooth whitening or bleaching products containing up to 0.1 per cent hydrogen peroxide will continue to be freely available on the market to consumers. Products containing concentrations higher than 0.1 per cent and up to 6 per cent will only be sold to dentists. For each cycle of use of the product, the first use will be by a dentist who will have first performed a clinical examination of the patient. The dentist will then provide access to these products for the remainder of the cycle of use. Persons under 18 years of age will not be allowed to use these products, even under the supervision of a dentist. Products containing more than 6 per cent have been banned.

The previous European Cosmetics Directive only established a maximum authorised concentration of hydrogen peroxide—the main active ingredient in tooth whitening products—at the level of 0.1 per cent.

The Member States will now have 12 months to implement the Directive into their national legislations.

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Implantology in times of crisis

European Association for Osseointegration celebrates annual congress in Athens

Daniel Zimmermann

ATHENS, Greece/LEIPZIG, Germany: The 20th annual congress of the European Association for Osseointegration (EAO) took place under less-than-ideal conditions. Huge piles of garbage bags littered the narrow alleys of the Greek capital, and metro buses and trains were not running for most of the time owing to the ongoing public service strikes. Furthermore, air-traffic controllers in several European countries threatened to stop working during the week in which the congress was to take place. Despite these unfavourable circumstances, more than 3,000 dental clinicians and researchers in the field of implantology attended the dental implant event of the year, which took place at the Megaron Athens International Conference Centre not far from the Presidential Mansion in Athens.

Since 1991, the Brussels-based EAO has organised congresses in different European cities annually, for example, in the Scottish metropolis Glasgow last year and the Principality of Monaco in 2009. Despite the prevailing mood of the financial crisis, this year’s congress, organised in partnership with three Greek dental organisations, went relatively smoothly, the organiser said. Speaking to Dental Tribune in Athens, most visitors and exhibitors also expressed satisfaction with the scientific and commercial offering. Their only criticism was the distribution of booths over three levels inside the venue that seemed to favour only those companies exhibiting on the ground level. Improvements in this regard were announced, however, by the organisers for next year’s event.

In advance of the congress, German professor Wilhelm Neukam from the University of Erlangen, who chaired the Organising Committee this year with Prof. Asterios Doukoudakis from the University of Athens, had said that implant treatment planning would be a major topic, particularly with regard to new imaging techniques and computer-assisted implantation. In a scientific session held on Thursday and moderated by Prof. Christoph Hämmerle from the University of Zurich in Switzerland, the latest methods for computer-aided implant fabrication were discussed by renowned specialists in the field like Dr Theodoros Kapos (USA) and Prof. Sandro Palla (Switzerland). In addition, University of Pennsylvania professor Michael Bergley presented the latest
Danish dental surgeon confirmed as President of EAO

From news reports

ATHENS, Greece/BRUSSELS, Belgium: Prof. Søren Schou has been elected President of the European Association for Osseointegration (EAO), the organisation announced on Saturday. The 49-year-old Dane, who is currently professor and Chairman of the Department of Oral and Maxillofacial Surgery and Oral Pathology at the Aarhus University’s School of Dentistry in Denmark, will be leading the organisation until the next General Assembly in 2012 in Copenhagen.

Owing to medical problems of past president Dr Paul Stone, Prof. Schou took over as interim president at the last board meeting in June 2011. Amongst other positions he has held, he served as Secretary-General of the EAO from 2006 to 2010. He is also currently Chairman of the EAO Abstract Committee and Associate Editor of the European Journal of Oral Implantology. According to Neukam, the organisation’s next congress is scheduled for October 2012 and will look back at implantology research over the past 20 years. It will be held in the Danish capital of Copenhagen.

The General Assembly in Athens also saw the current Secretary-General of the EAO, Prof. Pascal Valentini, Italy, elected as the new President-Elect. His position will be filled by Prof. Björn Klinge from the Department of Periodontology at the Karolinska Institutet in Stockholm, Sweden.

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Mectron “touches” implant specialists
Market approval of PIEZOSURGERY device in Asia in mid-2012

Daniel Zimmermann
DTI
ATHENS, Greece: Italian manufacturer of dental surgical equipment Mectron presented its new generation of PIEZOSURGERY devices to an international professional audience of implantologists for the first time at the annual congress of the European Association of Osseointegration (EAO). Launched at IDS 2011 in Germany, the PIEZOSURGERY touch is supposed to offer intuitive controls through an improved hand piece and a black coloured glass touch screen resembling those of state-of-the-art electronic devices such as smartphones.

Mectron launched the very first generation of its PIEZOSURGERY device in dental markets almost ten years ago. During the last decade, the surgical technique has become a standard in many clinical indications including implant site preparation. The company says that many universities and experts have contributed in validating PIEZOSURGERY, making it the only evidence based technology for piezoelectric bone surgery to date.

The PIEZOSURGERY touch presented at this year’s EAO comes with new inserts for a wider range of indications including mini dental implants or new applications in prosthetics related to the finishing of the cervical margin in crown preparation. In addition, mectron has developed a customized enzymatic solution called ENZYMEC.

The device is currently available for dental surgeons in Europe. Approval for other countries including markets in Asia is expected by mid-2012.

Seil sued by Sulzer over mixing tips

From news reports
NEW YORK CITY, USA/HAA, Switzerland: The Swiss company Sulzer Mixpac has filed another lawsuit at a US District Court in New York against the Seil Global Corporation based in South Korea. In the complaint, the manufacturer of the MIXPAC S-system is accusing Seil to have infringed patents with their range of mixing tips suitable for 2-component applications systems used in dentistry.

The lawsuit is the latest in a year-long juristic battle involving both companies. Sulzer filed their first complaint against Seil during the Greater New York Dental Meeting in November 2008. Other lawsuits have been successfully ruled in favour of the company in November 2010 and September this year. Despite a Temporary Restraining Order issued by the court prohibiting Seil to import and sell their mixing tips in the US as well as adjustments in the tip construction introduced in 2010, Sulzer still claims their patents to be infringed.

A decision by the court is expected in the upcoming weeks. According to representatives of the Greater New York Dental Meeting, Seil has registered again for their next exhibition to be held from 27 to 30 November in New York City.

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The Nordic masters of dentistry
In its 40th year, Planmeca closes in on a fully integrated workflow

Daniel Zimmermann

HELSINKI, Finland/LEIPZIG, Germany: Being a socially responsible company with a clear vision is one thing. Being at the top of the trade for more than 40 years is another. The Finnish dental manufacturer Planmeca is both. Established in the early 1970s, when computer technology promised to open a new world in industrial design, the company was the first to incorporate microprocessors in its dental units. Since then, this idea has spawned a new age for dental technology equipment and has set the standard for a whole industry for decades to come.

Owing to this fact, one might reduce Planmeca’s expertise only to dental units. Like the slick and ergonomic Compact i or their flagship product, Soveri, Planmeca is still generating turnover of €150 million, but also in rather unlikely places like US military bases. Overall, the Planmeca Group’s 65-year-old Finn and hobby passion to achieve a perfect workpiece, the new shiny glass facade that reflects the Nordic blue sky on sunny days hides Planmeca’s cone-beam volumetric tomography unit ProMax 3D and that of its medical device subsidiary Planned ever since, that now provides an extended selection of 5-D volume sizes, ranging from 34 x 42 mm to 16 x 18 cm, and comes with an integrated digital automated warehouse.

“My motto,” says Planmeca president Heikki Kyöstila, “is ‘Solution-oriented thinking and passion to achieve a perfect workflow.’”

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“Planning the building started only in April last year, and despite the extremely rough winter conditions, construction stayed on schedule,” said Heikki Kyöstila, President and owner, looking back on the last 18 months. “With the new production premises, we can respond to the increased demand more effectively.”

The 65-year-old Finn and hobby golfer, who founded Planmeca in 1971 as a small-scale import business and has remained its president in Cologne, Germany, this year. The centrepiece of this recent market initiative is its Digital Perfection Integration concept, which, according to Planmeca, offers a revolutionary means of combining data collected from different 3-D imaging devices to provide dental surgeons with more detailed clinical knowledge in the preoperative phase.

Hardware-wise, dental professionals recently saw the launch of two new versions of Planmeca’s cone-beam volumetric tomography unit ProMax 3D that now provides an extended selection of 5-D volume sizes, ranging from 34 x 42 mm to 16 x 18 cm, and comes with an integrated digital automated warehouse.

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The passive income practice
New methods for exit planning and retirement funding of dentists

Dr Phillip Palmer
Australia

Exit planning has traditionally been a fairly simple task for dentists. The choices a dentist faced were either winding down the number of days worked, thereby gradually easing into retirement, or working until three to six months before wanting to stop, and then advertising the practice for sale. After negotiations with the buyer, dentists would sell and walk away—much like a house sale. Sometimes there would be a good handover of patients and staff, and sometimes this process would be less than ideal.

More recently, other options for exit planning have become available for practice owners. Over the last three to four years, for example, many dentists in Australia having sold their practices stayed on to work as employee dentists for the new owner. This model in particular has increased in popularity recently with corporate entities often being the buyer. Another model is deferred sale/employee with view, whereby a new dentist (Dr Junior) works for a year as an employee for Dr Senior.

If all goes well, a contract is signed for the purchase of half (or even all) the practice in some years hence. The employed dentist continues to work as an associate, and the transaction is settled after the agreed time. This technique assures Dr Senior both a buyer and extra income from Dr Junior during the years as an employee. Through the incremental percentage technique, after a similar trial period, the practice contracts are exchanged and incrementally each year a further percentage of the practice changes hands from Dr Junior to Dr Senior.

In each case, after the practice is sold, the ex-owner commonly takes the money he made from the sale, goes on a holiday and then invests whatever is left in real estate or the stock market. From the AUS$800,000 grossing practice, also known as the “never sell concept”. Using this method, the practice is set up in such a way as to be self-managed, with little effort (1 day/month) needed from the owner when the practice is mature. The profit from the practice can be as high as 50% after payment of all normal expenses and practitioners’ wages.

An alternative, the going concern or run property, there is no reason to expect a return from the AUS$800,000 grossing practice of less than AUS$200,000 p.a. (and still maintain an asset worth at least AUS$500,000).

Obviously, for this option to work, the practice and the staff need to be trained to self-manage and to provide a certain level of service and communication. Basically, they would need to have a deep knowledge and understanding of the systems needed to run a practice.

Some degree (the more, the better) of management, leadership and business skills is also required by the owner, including the ability to look at and analyse the right numbers or to motivate key staff members to manage the practice and outperform through the judicious use of incentives, including well-designed bonus systems. As the owner dentist is no longer present full-time in the passive income practice, there also needs to be regular training in communication and the provision of service, i.e. clinical training.

There definitely needs to be more than one clinician. Rarely is there sufficient profit over and above the employee dentist’s wage (40% after lab) to warrant running the practice as a business with such a small staff.

There are plenty of horror stories out there, especially after the global financial crisis, of retired dentists needing to return to practice because the practice sale did not fund their retirement the way they expected it to. The never sell concept represents a new way of looking at the asset that is your practice and how it can bring you returns long after your clinical career comes to an end.
Violence aimed at health care professionals is rare but possible as demonstrated by the latest series of robberies and rape crimes against female dentists in the Philippines. According to University of Wales College of Medicine professor and author Jonathan Shepherd, there are a number of things that dentists can do in order to prevent and manage violent behaviour of patients in their practice or dental clinic. Dental Tribune Asia Pacific spoke with him about the most important strategies and the role practice design can play in preventing those incidences.

DT Asia Pacific: Prof. Shepherd, statistics on violence in any form of health care setting are extremely difficult to find. Has violence against health care workers increased or decreased in recent years?

Prof. Jonathan Shepherd: As you have mentioned, there are no statistics, at least in Europe, that I am aware for evaluating the occurrence of violent behaviour in health care settings. If we are talking about crime in general, we are currently observing a falling trend in the UK and throughout the continent. However, there is some evidence that the recent economic downturn in Europe is causing more acquisitive crime, particularly house crimes that include burglary and robbery, which can also affect medical or dental practices.

What are the main reasons for violent behaviour in health care settings?

Sometimes, stress can be a trigger, which has become an argument, for example, in dentistry for keeping stress levels to a minimum, managing pain promptly, and being sympathetic towards patients at all times. Mentally disabled patients or those who are intoxicated with alcohol or stimulants such as cocaine may turn violent, as might psychotic or obsessive impulsive patients.

An underestimated thing is money. If dentists happen to have an expensive car or advertise expensive valuables in their practice, some patients will interpret these as signals of wealth that could encourage stealing. Dentists should also estimate treatment costs thoroughly and deal with complaints in this regard immediately.

Some incidences of violence could be prevented by being able to detect the first warning signs. What are the most common?

Shouting or violent gestures, for example pointing at someone, are obvious signs of someone possibly turning violent. However, there are often changes in the patient’s body language that dentists, for example, should be aware of. First warning signs could be things like rapid breathing, flared nostrils, restlessness or repetitive movements.

What are the best strategies you recommend for dealing with violent behaviour?

There are several things medical or dental professionals can do both at a physical and psychological level. The most important thing is to be aware that patients do not realise that they make the clinician appear incompetent by criticising him or her. So if a patient becomes hostile and resistant during a procedure or just realises that the procedure is more uncomfortable, painful or difficult than he or she expected, the clinician should not react immediately with an angry response. Instead, the clinician should try to calm the patient and reassure him or her. There are several strategies that can be employed to prevent and manage violent behaviour in health care settings. These include:

1. Communication: Communicate clearly and calmly with the patient, listen to their concerns, and try to understand their perspective. Use empathetic language and demonstrate empathy.
2. Non-verbal Communication: Use non-verbal indicators of communication, such as eye contact and open body language, to establish rapport and build trust.
3. Management of Stress: Manage stress by using proper breathing techniques, visualization, and mindfulness exercises. This can help you stay calm and composed even in high-pressure situations.
4. Training: Participate in training programs to learn how to recognize and respond to potential violence situations. This includes understanding the common behaviors that may indicate potential violence, how to de-escalate a situation, and what to do if violence occurs.

It is all too easy to respond consciously to a hostile situation in a way that increases tension without saying a word.
thought before a procedure, dentists should explain clearly to the patient what is involved and what to expect.

Dentists should always be courteous and try to find out what their patients really concern are and acknowledge these concerns. It is recommended that dentists talk calmly to angry people and pay close attention to them, while standing outside their personal space and slightly out of their arms reach. If possible, dentists should always stand and operate on the non-dominant side, which is where the patients usually wear their wrist-watches.

**And physically?**

Even when trained in self-defence measures, practitioners or dental staff should always try to get away from a situation and summon help. If a staff member becomes trapped, however, he or she should pick up anything, even clothing or a towel, in order to use it as a shield. If someone is grasped around the neck, for example, he or she should not hesitate to defend him- or herself by kicking, scratching, biting and using his or her nails.

Generally, all incidences of violence should be reported to the police and thoroughly documented. In the UK, for example, about half the violence that leads to the emergency room is not known to the police.

**In your book, you have dedicated a whole chapter to practice design. Could you explain how the way practices are laid out can help to prevent or manage violent behaviour?**

Practice design can be indeed very important. In clinical areas, for example, furniture should be arranged in a way that a staff member is always nearer to the door than the patient and cannot be cornered easily. The reception area should create a distance between patients and the receptionist so that he or she is out of reach. It is also important that glassware, scissors or other sharp items not lie around so that agitated patients can pick them up because they will use anything at hand as a weapon in a worst-case scenario.

**Often, dental practitioners, especially after practice takeovers, have little influence over the way their practice is laid out. What can they do?**

In this case, it can be useful to have local police or crime prevention officers around from time to time to give advice on how to maximise security through simple measures like good lighting or doorlocks, particularly impractical located in poorer areas with widespread social problems such as unemployment or drug use. They often suggest ensuring that trees and shrubs in the garden in the front of the practice do not obscure the front, so that a burglar can be seen when he or she enters the front door from the road.

However, this could all be for nothing if the staff are not familiar with the premises and thus do not know where alarm buttons or all the exits are. Therefore, practitioners should regularly update their existing and new staff members about those things. Front-line staff such as receptionists should receive training in interpersonal skills but not be assigned tasks they are not qualified to do, for example, explaining the nature of various dental problems. That’s definitely a dentist’s job!

*Thank you very much for this interview.*

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For a case involving a discerning male patient who desired the aesthetic correction of teeth #11 and 21, I describe two methods of creating an anterior restoration. With the first conventional method, veneers are layered and fired on an investment die. The other involves layered veneers on a pressed ceramic substrate. The patient was particularly concerned about the palatal position of the teeth and the discoloured composite restorations (Fig. 1). The goal here was to find a treatment option that would preserve as much tooth structure as possible following the principles of conservative dentistry.

An analytical evaluation of the diagnostic model demonstrated that a minimally invasive aesthetic modification could only be achieved with ceramic veneers (Fig. 2). At this stage, the possibility of using a totally non-invasive treatment option was still considered. The palatal position of the teeth and the discoloured composite restorations (Fig. 1). The goal here was to find a treatment option that would preserve as much tooth structure as possible following the principles of conservative dentistry.

Conventional method
A metal-ceramic system (IPS e.max, Ivoclar Vivadent), which involves firing the veneers in an investment ring, was used. The veneers were modelled on investment dies (GC, Orbit Vest) that had been prepared in advance (Fig. 3-4). During the application of the layers, the areas of the composite restoration were masked with Deep Dentin to prevent it from shining through the ceramic layers (Fig. 1). The use of translucent material for the cervical region is generally advised, unless the underlying tooth structure is completely discoloured. In the case discussed, Transpa Neutral and Opal Effect 1 materials (both Ivoclar Vivadent) were applied (Fig. 6). The advantageous translucent properties of Transpa Neutral and the incisor-like opalescence of Opal Effect 1 provide a suitable combination for this area, allowing the transition in the cervical region to be effectively camouflaged.

It is essential to work in small steps when working with an investment die. The mechanical and chemical bond between the investment material and ceramic material is not as strong as the bond between the opaquer and ceramic material when a conventional layering technique on a framework is used. It is imperative to bear this in mind because it is very difficult to mend the restoration once the ceramic material has detached itself from the investment die owing to a layer that has been applied too thickly. Here, a comparatively thin layer of dentine material was sufficient because this restoration did not involve a metal framework masked with opaquer. Consequently, more space was available for the enamel materials.

Upon completion of the firing process, the investment dies were removed and the veneers were tried in. An optimal result was achieved in the cervical region. The use of a matching try-in paste (Variolink Veneer Try-In, Ivoclar Vivadent) allows the final fitting to be achieved.
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Both the patient and treatment team were satisfied with the outcome.

In addition, the veneers were oversized and did not integrate harmoniously into the surrounding dentition.

The pressed veneers were from HT A2 ingots and then ground down to a thickness of 0.3 mm (Figs. 7–9), which was unacceptable for the patient. In addition, the veneers were oversized and did not integrate harmoniously into the surrounding dentition.

The unconventional method

Owing to the first disappointing results, a treatment option had to be found that would give the patient a satisfactory result. A technique was finally considered that was based on a similar approach but involved different materials, IPS e.max Press ceramics (Ivoclar Vivadent) with highly translucent HT ingots. These materials were originally developed for full-contour in- and onlays, veneers and crowns, but their high viscosity and high flexural strength (400 MPa), also makes them suitable for ultra-thin veneers of 0.5 mm thickness.

In the case discussed, the veneers were pressed from HT A2 ingots and then ground down to a thickness of 0.5 mm (Fig. 10). A try-in showed that this material was capable of closely imitating the natural tooth shade (Fig. 11).

During the application of the layering ceramic, the existing composite restorations had to be taken into account. Try-in pastes to simulate the shade effect and to check whether the composite restorations were sufficiently camouflaged were used. Sufficient space was available to design the incisal tooth, which meant that I was able to control the translucency in this area appropriately. In order to mask the discoloured areas in the proximal regions of the restorations, opaque materials were used.

With the Deep Dentin and Mamelon materials, IPS e.max offers two choices—both of them are characterised by comparatively strong masking capabilities. However, the Mamelon materials should be used only sparingly in this area. Except for the “light” shade, these materials demonstrate fairly distinct shading characteristics and may therefore have a visible effect on the restoration. Subsequently, the Deep Dentin and Transpa materials were applied in layers in the customary manner. The restoration in progress could be directly checked in the oral cavity and the dentist, it is essential to be aware that surfaces that have been already etched have to be cleaned again after the try-in in the oral cavity and before the veneer is silanised (Monobond Plus, Ivoclar Vivadent). Studies have shown that the surface can be contaminated by the remains of salivary fluids and adversely affect the bond strength, particularly when glycerine-based try-in pastes are used.

Conclusion

Veneers made of IPS d.SIGN ceramic materials have been used to design restorations that achieve exceptional aesthetic results that last several years. However, today’s range of products includes various other materials and methods that enable dentists to achieve similar or even better results in specific cases. The IPS e.max system is a case in point. It is worthwhile taking new routes for restoration fabrication and the requirements of each patient case and allowing some scope for creativity. In the process, however, the specific properties and restrictions of the material in use should never be ignored.

The first veneers designed were not satisfactory because of their shape. Therefore, a slightly narrower incisal veneer was created this time (Fig. 11). The patient approved of the shape and veneers were applied (Fig. 14).
Completing the puzzle
An interview with Prof. Nikolaos Donos, UK, on genetic predictability for implant loss

In recent years, an increasing number of studies have focused on the association between gene combinations and their influence on biological complications that lead to implant failure. A case-control study from Egypt published in the June issue of the Journal of Oral Implantology found that IL-1 polymorphisms, for example, may affect the outcome of treatment for peri-implantitis in genotype-positive patients. At this year’s European Association for Osseointegration congress in Athens, DT Group Editor Daniel Zimmermann spoke with Prof. Nikolaos Donos from the University College London’s Eastman Dental Institute about the current state of research and whether gene tests for implant failure are on the way.

Daniel Zimmermann: Dr Donos, there are indications that specific gene combinations could be associated with biological complications that cause implant loss.

Prof. Nikolaos Donos: Yes, there are quite a number of gene combinations that are being currently looked at, for example the IL-1 and IL-6, TGF beta and TNF alpha genes have also been evaluated, mainly because they have proven to play a role in inflammatory processes.

Does any significant evidence of such an association exist?

From the studies we have reviewed so far, we have not been able to find an obvious association between genetic polymorphisms and implant failure, either early or long-term. Owing to its role in periodontal inflammation, there might be the possibility that IL-1 polymorphisms could be a risk factor for peri-implantitis but you have to consider that in order to draw these kinds of conclusions you need significantly larger studies and those we have so far are not that large in number of patients or implants. That doesn’t mean though that they do not have an influence.

How common are these polymorphisms?

It is difficult to say because some polymorphisms can occur in many people in one specific ethnicity or race group yet not be expressed in other ethnic groups.

How large do studies have to be in order to be able to draw any conclusions?

Late implant failure can become evident up to three, four or even five years after implant placement, so you would need to follow a significant number of patients for several years (at least 5) before you would be able to see complications and evaluate all relevant parameters. Evaluating early implant loss however is difficult because it can already occur within the first year or almost immediately after implant placement.

Are there any gene tests for implant failure on the horizon?

What we can do is to conduct significant research in which we keep identifying different polymorphisms and do association studies in order to complete the genetic puzzle. Then we might be able to screen patients before they receive implants.

At this point, however, we are far from being able to develop any genetic tests for implant failure risks. The only means of prevention right now is to treat the diseases that contribute to it, such as periodontal inflammation and identify groups of patients with high susceptibility to periodontal disease.

Thank you very much for this interview.

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