Oral rehabilitation with dental implants continues to increase and with every month, new treatment methods and tools become available. This is facing clinicians with the question what they should consider the right treatment protocol for their patients. One of the most important implantology meetings in Europe, the annual scientific conference of the European Association of Osseointegration (EAO) aims to keep professionals up-to-date with the latest knowledge and concepts in the field. Held at the Auditorium Parco Della Musica in Rome over the course of this week, this year’s meeting has been announced to update professionals on a variety of topics such as protocols for full arch restorations, dilemmas in bone augmentation as well as practice management.

The programme will start off today with an afternoon session focusing on dental implant surgery. According to latest estimates of the EAO, approximately 2,500 professionals are expected to attend the three day event, which is being held for the 23rd time. While the number of expected visitors is most likely to remain steady compared to the last two editions in Denmark and Ireland, participation at the commercial exhibition has increased with over 90 companies and dental institutions to showcase their latest products and solutions this year. Among the innovations will be new implants, biomaterials and digital treatment solutions, with some of them to be available to European dentists for the first time. Visitors can learn more about these products during a number of corporate-sponsored satellite symposia and hands-on workshops to take place during all three congress days.

As a first, there will also be parallel sessions in dedication to professional organisations of the host country Italy as well as special parallel guest country session on Friday, which is organised by the Korean Academy of Osseointegration in Seoul.

More information about the meeting, scientific sessions and industry exhibition is available on the EAO congress website at www.eao-congress.com. The association also offers an application for mobile devices and tablet computers that is aimed at giving visitors quick access to congress-related information. Daily news updates, interviews and product reviews from the show floor are available on the Dental Tribune website at www.dental-tribune.com. The newsfeed can also be accessed by scanning the QR code below.
For her research on the clinical efficacy of the sandwich bone augmentation technique, Dr Jia Hui Fu from the National University of Singapore’s Faculty of Dentistry has just been awarded the André Schröder Research Prize by the International Team of Technology (Booth B10) in Geneva in Switzerland. In her paper, published in the journal Clinical Oral Implants Research, she and a team of researchers were able to show that the technique provides predictable results in the regeneration of buccal bone on dental implants.

Fu was recognised for the first part of her study during which she was collecting clinical and radiographic parameters between 2009 and 2011 as part of an overseas scholarship at the University of Michigan in the US. Follow up research, which has recently been submitted for review, according to Fu, will focus on the biological and structural phenotypes of the bone that has been regenerated via the technique. “We observed that implant design affected bone regeneration at the platform level and will explore the influence of implant macro and micro designs on the stability of regenerated bone in subsequent studies,” she said.

First reported about a decade ago, sandwich bone augmentation utilizes the different healing properties of particulate cancellous and cortical bone allografts. These are layered on the implant surface and protected by a bovine pericardium membrane, mimicking native human bone structure. The technique has demonstrated several advantages compared to the method of harvesting block grafts, such as reduced surgical trauma and treatment time.

Internationally-educated Fu, who is currently working as Associate Professor at the National University of Singapore, is the first dental professional from Singapore and the second from Asia to have won the prize, which has been awarded since 1992 to researchers who contributed significantly to the area of dental implantology and oral tissue regeneration, according to the ITI. Named after the organisation’s founder, Professor and pioneer in fixed tooth replacements, it is endowed with the sum of CHF20,000 (US$22,500).
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Search engines of little use for people seeking information on dental implants online

According to reports, an increasing number of people tend to look for health-related information on the Internet. In the field of dentistry, dental implants currently rank among the top three most searched topics after amalgam and aesthetic treatment. The findings of a Spanish study suggest that results for this search term provided by common search engines do not lead to either easily comprehensible or useful information for users.

From the 100 highest-ranked results listed for the search term “dental implants” by the two most popular search engines, Google Search and Yahoo! Search, in autumn 2013, the researchers from the University of Santiago de Compostela found that the overall majority scored low in accessibility and usability. The information provided on the remaining websites, which were evaluated by the group over the course of the study, was also seriously lacking in terms of both of these criteria. The results on the Yahoo search engine scored slightly higher in terms of relevance and usability in comparison with Google, according to the researchers. No significant difference could be detected between the two search engines’ results in terms of accessibility however.

The poor outcome in terms of quality in even the highest-ranked results could be a reason that patients considering dental implants are misinformed about the device or have overly high expectations for the treatment, the researchers suggested. “E-health information on dental implants in the English language is difficult to read for the average patient and poor in terms of quality,” they said in the report. “Therefore, it is necessary to generate websites that provide reliable, high-quality information about dental implants, with content that is both independent from commercial interest and easy to understand by the average patient.”

According to a quick web search by Dental Tribune, Yahoo listed slightly over 1.7 million results for “dental implants” in early September, while Google listed around twice that number. With approximately one billion users a month, the market leader remains the most popular English-speaking search engine worldwide, followed by Yahoo, which is estimated to have 300 million users.

Overall, the study only included 32 websites, of which the majority were affiliated to non-profit organisations, or medical or dental institutions. Only five of these websites were listed among the results on both search engines. Websites hosted by companies, as well as forums or discussion groups, were not included, according to the researchers.

The study, which was recently published in the Clinical Oral Implants Research journal, was conducted by the OMED III research group at the University of Santiago de Compostela’s School of Medicine and Dentistry.
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When I first entered the field of implantology many years ago, I remember very well how extremely meticulously the procedure was approached. Back in the pioneer days, there was only one company operating in the field and it had a near-monopoly on not only the implants but also the training of the few who worked in this discipline, which, although far older in origin, was at its beginning stages, to develop the scientific and practical framework that it required and warranted in those years.

My experience in the surgical field allowed me to understand very clearly the reasons for careful and scrupulous adherence to protocols, the adequate preparation of the operating room, and the necessary attention to sterility and to the management of a patient who was to undergo the implanting of a foreign body with the expectation that it could last for some time. At that time, all this was reserved for a few, who paid proper attention to treat-ment planning for the sake of their own patients and those referred to them by their colleagues. I have to admit that since then I have witnessed, with great perplexity and not less concern, a gradual softening of the procedure, which, although being practised by more clinicians nowadays, has experienced a dangerous decline in terms of rules, protocols, patient awareness and ethical guidelines that practitioners are supposed to follow. Similar to regenerative surgery, a simplification period followed the period of development and consolidation, which moved implant therapy to within the reach of many more practitioners, thus liberating patients from having to undertake long and sometimes unnecessary journeys in hope of receiving treatment from a distinguished dentist many miles away.

Unfortunately, this rapid growth did not follow what, in my view, should have been the correct sequence in the evolution of the field. I will not discuss here the university courses, which are seldom adequate in providing regular dentists with the necessary surgical skills. Instead, let me consider who is truly able to practise implantology today. How many practitioners profess to be able to do so, without actually having obtained the required academic qualifications? How many have only undergone minimal training during a two-day course run by an implant company (the so-called weekenders’ club)?

Instead, let me consider who is truly able to practice implantology today. How many practitioners profess to be able to do so, without actually having obtained the required academic qualifications? How many have only undergone minimal training during a two-day course run by an implant company (the so-called weekenders’ club)?

During my teaching activities on national and international levels, I fortunately have had the great pleasure of meeting many clinicians who possess the skills necessary to perform implant procedures. Far too often, however, have I also met those who do not give due attention to the discipline. In my course on anatomical surgery, now running for the 15th time, I am often and sadly reminded of the fact that many dentists not only lack basic anatomical knowledge, but also are not aware of the fact that adequate anaesthesia is very much based on the knowledge of anatomical landmarks. To this can be added ignorance of the basic rules of surgery, as if making an incision and inserting an implant are trivial and risk-free acts. When I ask what is to be done in case of an arterial lesion, for
example, too often do I see trainees refer to superstitious gestures and signs instead of taking a Klemmer.

It has become a tendency in Italy, unfortunately, to increasingly use cloned implants of dubious origin that often lack research and the little research that has been done has involved unwitting patients in what barely resembles a thorough study. Does it make sense to save perhaps €50 or €100 on a device that should have dignity similar to a prothetic hip or femur, and is supposed to remain in the mouth for the rest of the patient’s life? And this choice, alas, does not amount to any saving for the patient, who pays the same price, nonetheless, in order that the dentist might achieve a greater profit margin.

In recent years, owing to the heavy influence of private companies, another trend has been the trivialisation, almost popularisation, of implantology. It follows the argument that with new radiographic tools, software, system designs, surgical stents and practically anything else, anyone may call himself or herself an implantologist, despite having almost no expertise or experience in the surgical field, for example. Hence, dentists are providing new teeth in 24 hours with extreme immediate loading, and all on four at any price and under any conditions, with flapless surgery for everyone. Placing and loading the fixture and the consequences, however, are not given consideration. And what about the implant stability quotient, resonance frequency, stability and adequacy checks, prosthetic rehabilitation, the general health of the patient and his or her ability to cope with the operation, as well as prior assessment of how to handle possible failure to reduce damage or unwanted side-effects? Well, we can dismiss it all as nonsense and useless sophistry of some old pedantic solon like me or my other more mature colleagues.

The fact that this year Italy is hosting the prestigious annual meeting of the European Association for Osseointegration could be a starting point for reflection and reconsideration by anyone involved in the dissemination of high-level scientific information and who is a point of reference for the training of young people (in the vacuum left by institutions) or for the updating of the most experienced clinicians. Together, let us try to take a small step back, while still trying to bring the latest market developments to the attention of all. Let us not forget to assume the solemn responsibility and commitment to giving valid, practical and reliable guidelines. Let us be less prone to corporate dictates and commercial pressure, and more pragmatic in teaching others to distinguish true from false in order to show them what is concretely achievable by the new dental population compared with what is only a sort of miracle performed by the few super-experts, almost heroes. Let us be reminded of the fact that placing an implant is a surgical procedure performed on a living patient who has placed his or her own money on the line, as well as his or her most valuable assets: his or her personal health and trust.

A plethora of scientific and educational activities exists today that is too often only a showcase for some individuals not worthy of approaching a podium. Let us use this valuable tool for its rightful function as a means by which to share the expertise of those who are more experienced for the benefit of those who are not, as a way to share and learn from our mistakes, and to say what needs to be said even though it may appear to go against the current or appear to be a step back, applying that old axiom that sometimes less is more. And, above all, let us make the patient the focus of our treatment plan again by leaving behind procedures not really required by our patients and that are only there to feed our pride or to bring another series of flattering slides to the screen.

What our patients only ever want and need is a solution to their problem. They have placed their trust in us and we must, in good science and good faith, find a solution based on sound and proven scientific principles that are compatible with our real competences. We have to admit to ourselves that not everything that can be done should be done. With more humility and the correct training and expertise, we must restore scientific and cultural dignity to our profession, which we currently in serious danger of losing at the expense of the many professionals who continue to believe in this profession and to practice it according to the best and most realistic criteria of excellence.

Prof. Mauro Labanca is co-founder and vice-president of Società Italiana Studio Odontostomatologica (the Italian society for the study of orofacial pain). He also maintains a private practice in Milan in Italy. This Friday, he will be presenting a paper titled “Monitoring osseointegration: A dynamic biological process” at the Osstell industry symposium at the EAO congress in Rome.

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Is continuing education of implant dentistry sending the wrong message?

By Drs Sebastian Saba & Michael Moscovitch

Over the past few years, it appears that there has been an increase in continuing education. Many of the courses are about implant dentistry and the conventional courses that form the basis of learning the skills of saving teeth have been fewer in number. Obviously, everybody wants to learn how to surgically place a dental implant. It appears that some apparent “need” of patients has driven clinicians to subscribe to these weekend courses in surgery so they can respond to these patient “needs.” However, patients see their dentist regularly to save their teeth, not to have their teeth sacrificed for implant dentistry. Are we sending the wrong message here?

Originally all courses were provided by clinicians and researchers with a broad scientific support, justifying the concepts and designs for implant dentistry. Longitudinal and retrospective clinical data, scientifically based, were always presented to justify a design improvement, clinical protocol, or change in concepts like Submerged vs. Non Submerged Implants, for example. Recently, however, continuing education is here to stay. Many are concerned that dentists are not promoting the right approach to saving the integrity of the natural dentition.

Lately, however, continuing education courses are not confident in diagnosing or rendering the necessary procedures to save teeth adequately.

“The removal of key aspects of dental training creates dentists who are not confident in diagnosing or rendering the necessary procedures to save teeth adequately.”

What is their motivation? Are we doing enough to teach dentists how to diagnose and prognose the ailing dentition? When does the ailing dentition become a failing dentition? When is it appropriate to choose implant dentistry over conventional, time-proven and predictable conventional dentistry?

Once the courses are completed, most clinicians receive the golden label of approval, a dental certificate of completion that they can hang on their dental mantle at the office. On Monday morning, they become changed and charged individuals. They have been pre-programmed to now look at patients as potential implant patients. Their approach to dentistry has changed overnight. In the past, they spent four to five years in dental school learning most of the skills to save teeth. These skills involve different forms of dentistry, not limited to periodontics, operative dentistry, or endodontics. They spent countless hours understanding how to negotiate root surfaces in debridement, root canal curvatures in endodontics and multiple techniques in operative dentistry to save teeth. But overnight, all that has changed. Why spend so much time saving teeth, when you can remove them and place a dental implant at half the time? Is this really better for the patient? Why burden the patient with multiple periodontal procedures to save teeth when the alternative is here?

This approach seems to be contagious in the thinking of clinicians today. Many are concerned that dentists are not promoting the right approach to saving the integrity of the natural dentition. This attitude is so contagious that even some endodontists are learning to place dental implants. Is this not a clear conflict of interest?

The whole marketing approach to implant dentistry has been to “oversimplify” the protocols so that anybody can place or restore a dental implant. These lectures appear to be purely mechanical with no prosthodontic considerations.

Once the courses are completed, most clinicians receive the golden label of approval, a dental certificate of completion that they can hang on their dental mantle at the office. On Monday morning, they become changed and charged individuals. They have been pre-programmed to now look at patients as potential implant patients. Their approach to dentistry has changed overnight. In the past, they spent four to five years in dental school learning most of the skills to save teeth. These skills involve different forms of dentistry, not limited to periodontics, operative dentistry, or endodontics. They spent countless hours understanding how to negotiate root surfaces in debridement, root canal curvatures in endodontics and multiple techniques in operative dentistry to save teeth. But overnight, all that has changed. Why spend so much time saving teeth, when you can remove them and place a dental implant at half the time? Is this really better for the patient? Why burden the patient with multiple periodontal procedures to save teeth when the alternative is here?

What is their motivation? Are we doing enough to teach dentists how to diagnose and prognose the ailing dentition? When does the ailing dentition become a failing dentition? When is it appropriate to choose implant dentistry over conventional, time-proven and predictable conventional dentistry?

The removal of key aspects of dental training creates dentists who are not confident in diagnosing or rendering the necessary procedures to save teeth adequately. Their clinical skills in recognising and managing ailing dentitions are limited. Their ability to recognise when and where dental implants may be used can be influencing their ability or motivation to save teeth. Are we not creating a situation where we may not be doing what’s best for our patients?

The way to address this issue is to exercise more caution when approaching continuing education. Choose your lecturers carefully, expect more from these sources of information, and learn more from your time commitments to continuing education. The true “need” should be to go back to basics and learn how to save teeth first, so patients are able to keep the most natural dental implant of them all. 

Dr Michael Moscovitch is an Assistant Clinical Professor, Division of Restorative Sciences, at Boston University, and Clinical Instructor, McGill University Residency Program at the Jewish General Hospital in Montreal. He also maintains a private practice in Montreal limited to prosthodontics and implant dentistry.

Dr Sebastian Saba is the Editor-in-Chief of Dental Tribune Canada. He has a private practice in Montreal limited to prosthodontics and implant dentistry.
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MD DDS FICD, Oral Surgeon, Consultant, Professor University of Brescia-Italy, Deputy Regent International College of Dentists Italian Section, President of the Labanca Open Academy

The ISQ-Scale in Daily Practice  
Prof. Peter Moy  
Professor Department of Oral and Maxillofacial Surgery, Nobel Biocare Endowed Chair Surgical Implant Dentistry, Director Straumann Surgical Dental Center, UCLA School of Dentistry

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The success of dental implant reconstruction depends upon decisions made throughout the treatment process. The patient’s initial situation was assessed by a comprehensive case history and considering all the possible alternative treatments. The patient’s initial condition was assessed, with full consideration given to all the existing oral structures, i.e., teeth, bone, and soft tissue. The time required for various treatment alternatives must be carefully weighed, time is a resource crucial to the comfort and well-being of the patient and an important cost factor for the whole implant team.

Advancements in computer-based technology, including 3D imaging and advanced software applications, have made it possible to streamline and optimise the implant treatment workflow in ways that previously were unimaginable. The following comprehensive case illustrates the results that can be achieved when adopting a completely digital approach to treatment planning, implant placement and immediate seating of an aesthetic full maxillary restoration. This approach combines processes that until now have been independent, enabling successful low-pain (morbidity) delivery of an exceptional result.

Case presentation

A 65-year-old male patient presented with advanced periodontal disease. All his remaining maxillary teeth were loose (Figs. 1–5). The patient explained that he wanted a quick solution, with the caveat that he did not wish to be toothless at any time or to leave the practice with an obvious temporary restoration.

A CBCT scan was obtained, along with a precise impression and bite registration. No major treatment was planned for the mandible. Owing to the fact that all the maxillary teeth required extraction, a treatment plan incorporating immediate seating of a full arch restoration was developed, for which the patient provided informed consent. The laboratory fabricated a maxillary master cast along with a duplicate (Fig. 6), and the teeth were carefully removed progressively from the duplicate cast. The objective was to create an impression of aesthetic natural dentition that would not significantly change the patient’s appearance.

A set-up was fabricated, starting in one quadrant and using the other as a guide (Figs. 7 & 8). The new teeth were placed in ideal construction and only minor aesthetic alterations were made. On a conventional denture set-up, the interdental spaces are filled with gingsiva-coloured acrylic. In this case, however, the teeth were widened to create more space for the implant abutments. The completed set-up (Fig. 9) was crucial in demonstrating the potential final results and determining the position of the implants. The parameters specified here must not be changed to accommodate both the surgical and restorative phases of treatment. The set-up is therefore also known as the “point of no return”. These steps represent the analogue or conventional method of creating the diagnostic wax-up.

The completed set-up was sprayed to facilitate digitisation of the cast utilising an open laboratory scanner (Sirona SCAN, Nobel Metal; Figs. 10–13). The model of the patient’s initial oral condition and the edentulous cast on which the set-up was created were both scanned for incorporation into the implant planning software. The CBCT scan data was first imported into the SIMPLANT interactive treatment planning application (ENTISPLY Implants). The digital workflow continued with the import of the virtual STL files of the digitised stone models (Figs. 14–c). The STL 3D volumes were then combined with the patient’s CBCT images in the SIMPLANT software, using the Optical Scan module (Fig. 16). The separate datasets are accurately superimposed or combined to allow for improved diagnostics, as they can be easily manipulated by the software. The surface detail of the digitised stone casts and wax up is far superior to the surface detail of the CBCT scan image.

Using the interactive implant treatment planning module, eight implants were simulated in the patient’s bone, each with a virtually elongated axis that helped demonstrate parallel positioning in relation to the proposed restoration as represented by the diagnostic wax-up. In order to achieve the desired surgical and restorative results, various technical aspects must be considered. The length and width of the implants in the bony receptor sites must be sufficient for implant stabilisation and each implant’s screw access channel should ideally end in the middle of the planned tooth for a screw-retained prosthetic design (Figs. 16–22). Figures 23 to 26 show the patient’s jaw before and after tooth extraction, along with the prosthetic design and the axis projection of the simulated implants.

Owing to the number of extractions in this case, the surgeon opted for a bone-supported surgical guide. Using specific software segmentation, the teeth can be virtually removed from the 3D reconstructed maxillary arch (Fig. 24). The ability to combine digital datasets allows for unparalleled diagnostic interaction, providing state-of-the-art preoperative assessment of the virtually placed implants, abutments, gingiva and bone. Once the surgeon was

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**Fig. 1:** A view of the initial situation from the left.
**Fig. 2:** The frontal view of the initial situation.
**Fig. 3:** A view of the initial situation from the right.
**Fig. 4:** Models of the patient’s maxillae and mandible.
**Fig. 5:** The initial situation in the maxillae.
**Fig. 6:** The initial situation in the mandible.
**Fig. 7:** The duplicated master cast (frontal view) with the wax-up in the second quadrant.
**Fig. 8:** The occlusal view of the master cast.
**Fig. 9:** A new, improved situation with acrylic teeth (Genios, DeguDent) and wax, achieving the ideal function and aesthetics for our patients, here articulated.
**Fig. 10:** The finished model with ideal tooth alignment is scanned.
**Fig. 11:** The model’s surface with scan spray.
**Figs. 12 & 13:** The sprayed model under the light of the scanner.
**Fig. 14:** The virtual model one original with the existing dentition, after extraction on the model and finally the end situation to be achieved after surgery. **Fig. 15:** After the CBCT scan, all data was sent to the SIMPLANT software, where it was three-dimensionally matched. The image shows the eight implants in the bone with virtual axis elongation. **Fig. 16:** Design of the future restoration can be included in the implant plan according to the medical aspects. **Figs. 17 & 18:** The implant screw channels should ideally be situated in the centre of the tooth. **Fig. 19:** Cross-sectional view with teeth and implant in place. **Fig. 20:** The plan to the panoramic view.
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satisfied with the virtual plan for the implants, the software was directed to fabricate the simulated bone-supported surgical guide (Fig. 27). The data was then sent via the Internet for stereolithographic fabrication of the resin surgical guide (Fig. 30). The implant-specific SIMPLANT SAFE surgical guide incorporated drilling sleeves to match the manufacturer's drilling sequence (Fig. 30). In addition, a 3D printed model of the situation after implant placement was fabricated for use as a control model during manufacture of the temporary restoration. This optional step provided additional confidence in the accuracy of the temporary restoration. However, it is possible to make a temporary restoration using digital data exclusively (Figs. 33–36).

Fabrication of the temporary restoration

The digital workflow as described helps to facilitate the fabrication of a temporary restoration that must fit immediately and accurately after implant placement, as readjustment during the operation can be quite difficult, if not impossible. In order to provide a measure of safety, two temporary restorations...
were fabricated for this particular procedure. The first was produced digitally. The implant planning data was exported as STL files from the SIMPLANT software and imported into the CAD software (exocad DentalCAD; Figs. 33–36). The restoration was then designed in exocad DentalCAD based upon the location of each implant and abutment, and the diagnostic wax-up.

Once the design process had been completed, the CAM process was completed on a CNC milling machine, which milled the restoration from a solid block of PMMA (Figs. 37 & 39). Enamel and transparent composite material were applied to the milled teeth to add a hint of mamelons, enhancing the aesthetic appearance (Fig. 41). The second temporary restoration was fabricated by hand in the laboratory utilizing the 3-D printed model and was based on a metal substructure (Fig. 42). Each restoration was designed to be worn by the patient throughout the anticipated three to six months of osseointegration. When both restorations were compared, they were the same size, but the handmade restoration appeared to be distinctly stronger (Fig. 43). When it was placed on the 3-D model, the aesthetic appearance was also satisfactory.

The surgical procedure

Surgery was carried out under general anesthesia in the Princess Grace Hospital Centre in Monaco. The teeth were extracted and the extraction sockets were meticulously cleaned (Figs. 46 & 47). A gingival flap was reflected sufficiently to allow for the bone-supported surgical guide to be positioned on the alveolar ridge (Fig. 48). It fitted perfectly. The surgeon then inserted the implant specific drilling protocol to prepare osteotomies for the eight implants (ANKYLOS C/S, DENTSPLY Implants; Fig. 49). The implants were placed alternately with the specially designed carriers that allowed for placement through the guide. The implants were strategically positioned and secured to prevent the guide from tipping and then blocking the implants with the positioning aid (Figs. 50 & 51). Once the surgical guide had been removed, Balance Base Abutments (ANKYLOS, DENTSPLY Implants) were connected (Figs. 52 & 53).

The surgeons judged that the two terminal implants could not sustain immediate loading, as the bone in those areas was too soft (Fig. 54). Bone graft material (Bio-Oss, Geistlich) was filled in around those two implants and covered with a GUIDETEX Regenerative Membrane (Gore Medical; Fig. 55). Cover screws were then placed and the areas were sutured so that the Balance Base Abutments were barely visible under the gingiva (Figs. 56 & 57). According to the original CBCT-derived plan, the remaining six implants had bone in sufficient volume and density to enable immediate loading, and the connection to the two terminal implants would help improve healing. The ANKYLOS retention coping was positioned and tightened (Fig. 58). The surgeons opted to insert the CAM-fabricated PMMA temporary restoration so that the patient would not have to go home without any maxillary teeth (Figs. 59 & 60). It was decided to insert the metal strengthened long-term temporary restoration the following day. This was recommended because the two terminal implants were not immediately loadable and because it was determined that the PMMA restoration would not be able to provide sufficient stability for six implants long term. This was the first time that the surgeons had inserted a previ-ously manufactured temporary restoration for immediate loading. The fit of the PMMA restoration was excellent and the aesthetic appearance was pleasing, even after the extensive surgery.

The gingiva adapted well to the contour of the restoration and sufficient occlusion was achieved. The temporary restoration was fixed with light-curing composites and the exact position was reconfirmed (Figs. 61 & 62). As planned, the following day, the PMMA restoration was exchanged for the temporary bridge with the metal substructure. Function, aesthetics, and adhesive fixation were all checked, and the patient and the surgical team were all pleased with the results (Figs. 63–65).

Conclusion

The application of computer technology and advanced 3-D imaging in implant dentistry using multiple interactive software applications makes it possible to create advanced designs that are multi-layered, simultaneous and precise, enabling true resource optimisation. In the clinical case example, the design and production of a complex treatment plan were carried out using a state-of-the-art digital workflow. The data export procedure allowed for simulation of optimal abutment positioning. The CBCT image data was used to position the implants accurately within the desired envelope of the diagnostic wax-up, allowing for the restorative data to be exported for CAD and fabrication of the temporary restoration before the treatment on the patient had even begun. The analogue or manual working steps in the laboratory were replaced by the digital workflow as made possible through advanced computer-aided processes.

Resource optimisation using digital workflow has great advantages for both patients and dental implant treatment teams. When it is possible to deliver an immediate-load restoration supported by sufficient dental implants, our patients can continue their lives with less psychological burden, and implant teams benefit from predictable operating procedures and efficiency. The craftsmanship of a competent dental technical specialist and the skill of a good dental surgeon when combined with 3-D preoperative planning can reduce operator and patient stress to a minimum, reduce patient morbidity and improve surgical outcomes, even when the operation must be relatively invasive, as represented by the clinical case illustrated.

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In 2013, the global dental implant market—composed of the sale of dental implant fixtures, final abutments and other devices—was valued at over US$1.7 billion. The European market, valued at nearly one-third of the global market at close to US$1.2 billion, contracted through 2014, as uncertain economic conditions continued to reduce procedure volumes and as more low-cost competitors entered the market, driving down prices.

These factors hampered the expected economic recovery and resumption of growth projected for 2013. As a result, the dental implant market will continue its decline before stabilising in 2015. Only then will the European market slowly begin to recover. Factors such as low gross domestic product growth and high unemployment continue to render dental implant procedures—which are primarily paid out of pocket by patients—cost prohibitive, while alternatives, such as bridges and dentures, that are perceived as more affordable will represent attractive options.

Dental implants were invented in Sweden; as a result, it is not surprising that a great number of premium manufacturers are based in Continental Europe. In the past, premium manufacturers, such as Straumann and DENTSPLY Implants, were able to rely on their long-standing reputations in the market and the high quality of their products to command higher prices than did some of their competitors.

More recently, however, some of the premium competitors have employed strategies to appeal to increasingly cost-conscious consumers. For instance, Straumann has reduced the price of its titanium implants by 15 per cent in Austria, Germany and Switzerland. While the price change only came into effect in the first quarter of this year, the strategy appears to have been effective because the company reported a 6 per cent rise in first-quarter revenue compared with a 6 per cent decrease in the same period last year.

The price reduction has come at a perfect time: while economic conditions begin to slowly improve, consumers are still extremely price sensitive. These price cuts therefore allow dental professionals to offer premium implant products to their patients at a reduced rate.

Straumann’s price reduction is not its only foray into the value market. In the first quarter of this year, the company purchased US$30 million worth of bonds from low-cost South Korean dental implant manufacturer MegaGen. The investment, which will be converted to shares in 2016, will help bolster Straumann’s revenue while allowing it to participate in both the premium and value segments, thus appealing to a wide range of practitioners and patients alike.

Straumann is not the only company shaking things up in the world of dental implants. Zimmer Dental recently announced its acquisition of rival Biomet. While both companies are better known for their orthopedic products, they are fairly significant competitors in the dental industry as well. Lay-offs are not uncommon when companies merge, especially when the companies in question offer the same types of products. This can have a negative impact on sales in the short term, as the newly conjoined companies’ sales force decreases, leading clients to switch to other competitors.

However, this will not be the case with the Zimmer-Biomet merger, at least not in the short term, as the sales teams from both companies are expected to be retained through the merger. The cost of retaining both sales teams has been estimated at US$400 million. While the effect of this acquisition on the market remains to be seen, the fact that the sales force will not be decreasing bodes well for the newly merged companies, likely resulting in an increased market share in the dental implant segment.

There is discussion of merger and acquisition activity among other companies in the segment too, with Nobel Biocare reportedly in talks to sell to private equity firms and strategic buyers. While these talks are still in the very early stages, what is certain is that there has been a great deal of activity in the competitive landscape in the past several years.

This, combined with the aforementioned economic factors, is turning this once stable and mature industry into a dynamic, action-filled space. With the dental implant market set to rebound in Europe and with revenues expanding in other countries—particularly in the rapidly developing BRIC and Middle Eastern markets—the global industry is poised for even further change, and the competitive landscape could look entirely different a few years from now.

Editorial note: A list of references is available from the publisher.

By Kristina Vidug, USA

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Dental implant competitors shake things up

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“The trend towards the medium-price range has accelerated”

An interview with Straumann executive board member Frank Hemm about the company’s recent investment in MegaGen

Following previous investments in Brazil, Germany and Spain, Straumann recently announced that it has bought convertible bonds worth US$30 million from MegaGen, one of the largest dental implant solution providers in South Korea. At the recent World Symposium of the International Team for Implantology in Geneva in Switzerland, on behalf of Dental Tribune Asia Pacific, implants magazine Managing Editor Georg Isbaner had the opportunity to talk with Frank Hemm, a member of Straumann’s executive management board, about the investment and how it will affect the company’s position in the Asia Pacific region.

DT Asia Pacific: According to analysts, South Korean manufacturers are expected to dominate the market for dental implants in Asia in the years to come. Is this projected development the main reason for your investment in MegaGen?

Frank Hemm: South Korea is one of the largest markets for implants in terms of volume. More than two million implants are placed every year and local manufacturers are looking to expand into other Asian markets with high potential. China is a good example, where the market is still comparatively small but under-penetrated and growing quickly. In these markets, the premium implant segment, where Straumann has been and still is very active, is growing less dynamically than the medium- and low-price segments are. We see the same trend in other markets, like Brazil, where companies like Neodent sell higher volumes than premium providers do. Two years ago, we had to ask ourselves whether we could address the non-premium segment with our existing brand or whether we needed a second brand. We decided on the latter and purchased a 49 per cent stake in Neodent. As an established brand in the region, MegaGen gives us a foothold in the Asian "value" (medium-price) segment. The convertible bond approach means that we have the option to gain a majority stake in 2016 with a managed low risk.

Straumann has always provided premium dental implants backed by solid scientific evidence and service excellence. These key differentiators make it necessary to use a separate brand strategy to address customers who are willing to accept lower standards and who want to pay less for implants. The value segment is growing exponentially and developing a new brand from scratch would simply take too much time and too many resources, which is the reason we chose to invest in other established companies.

Both companies have said that they will continue to operate separately. Still, do you expect any synergies to arise from this partnership?

It is important to keep both businesses completely separate to ensure that customers do not think that Straumann is MegaGen and vice versa. The only synergies we see are in supporting the value brand companies to enter selective markets, and in sharing back-office functions, like infrastructure, information technology or accounting. Everything else is handled by each company independently.Straumann products are certainly produced in Straumann facilities and this will continue to be the case in the future.

Is there the risk that you might be creating more competition for yourself with this investment?

We would not have taken this step if the market situation had not required it. The trend towards products in the medium-price range has accelerated and there is already strong competition, even without MegaGen. We are not adding more competition; rather, we are competing where we could not compete as Straumann.

What position is your company generally aiming for in the Asia Pacific region?

We aspire to market leadership in the region. We are not there yet, partly because our Roxolid implants with the SLActive surface are not yet available in the larger markets. We recently received approval for SLActive Tissue Level implants in Japan and the sales figures demonstrate the extent of the potential of our innovative technologies.

Achieving a leading position in Asia will certainly have a positive influence on our global position.

What requirements will have to be fulfilled for you to exercise the option to convert and acquire a majority stake in MegaGen in 2016?

We are keeping a close eye on the company’s development. MegaGen is a relatively new enterprise. It is growing dynamically and has many ambitions that still have to be realised. We also want to see how the market develops and the extent to which MegaGen can penetrate certain areas. The company’s development is another item on our radar. If our expectations are met, we can convert the bonds into shares in 2016 or require repayment with interest. That is the flexibility that this option allows us.

Should you decide to convert the bonds into stock, another large international implant conglomerate would be created. Is it only possible to survive in the long run as a large market player?

The implant market is still very fragmented and the market share of larger corporations is actually declining. There are hundreds and hundreds of smaller providers, often founded by dental clinicians, that come and go because they do not have the capability to expand internationally.

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Unlikely in some industries, scale in the dental implant industry does not have inherent returns.

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“Unlike in some industries, scale in the dental implant industry does not have inherent returns.”
Facing new challenges in sales and marketing

Karin Laupheimer & Jan Bordon, Germany

Price pressure and competition are on the rise in the dental industry in order to maintain their success in the future, manufacturer of dental products and services will have to rethink their cost approaches and structures in sales and marketing, for instance.

Influenced by significant changes in the market, business expectations for the dental industry in Europe, for example, are cautiously positive, as leading dental manufacturers have anticipated single-digit revenue and profit growth for the next two years. Under these conditions, rising customer demand and highly innovative manufacturers, which will in turn drive growth from the supply side, are considered to be two main factors for growth.

Demand-driver industry growth has resulted primarily from stronger customer interest in cosmetic treatments and dental implants owing to higher patient awareness and the availability of treatments that are more affordable. The increasing number of qualified and specialised dentists who perform these types of treatments has further driven this growth. Moreover, manufacturers are experiencing higher demand for services and integrated solutions. The reason for this is the shifting service spectrum and higher demand for process optimisation in dental practices and laboratories.

An increasing number of manufacturers are therefore seeking to differentiate themselves from competitors by extending their existing portfolio and offering integrated solutions. To do so, they are implementing changes in demand of their customers.

According to leading dental manufacturers, product and service innovations in core competencies and related product areas (e.g. IT/workflow integration) will drive growth from customers. They also want to distinguish themselves from competitors as far as possible.

On the supply side, the rising market price pressure will also be influenced by increased customer price sensitivity. Manufacturers expect stronger price pressure in market segments in which wholesalers offer their own brands than in other segments.

Supply and demand challenges

The market developments yield four primary challenges for manufacturers of dental products (Fig. 1), which require adaptations in their portfolio, as well as in their marketing and sales approaches.

On the supply side, the rising competition from wholesalers at product and service levels presents a considerable challenge. With regard to products, they offer their own brands as well as an expanding product spectrum. They are also increasingly investing in developing integrated process solutions (IT/workflow integration), and offer sophisticated consulting services and training seminars, placing them in direct competition with manufacturers. While manufacturers are dependent on wholesalers as their main sales channel, they also want to distinguish themselves from them as far as possible.

From products to IT solutions and from product-related services to IT solutions, manufacturers are continuously improving. Added purchases or co-operation will open up new opportunities here. At the heart of manufacturers’ portfolio strategy considerations are work processes that are more efficient, and international integration serves as another important success factor. Manufacturers that sell primarily via the Internet and e-mail, can still be observed in these segments.

Redefine customer segmentation and channel management

In order to adjust to the changing dental practice and laboratory environment, manufacturers are relying mostly on marketing and sales strategies tailored to customer types and needs. This involves, for example, segmenting customer types according to portfolio coverage and potential. It also involves developing innovative models and consulting services ensuring individual and targeted customer development. In this context, implementing structured key account management is regarded as another important success factor. Manufacturers that will primitively through wholesalers are currently being confronted with the question of how to optimise their management of wholesalers, for instance in selecting, steering, developing and incentivising, plus pricing, and controlling cross-channel and cross-border activities.

Expand portfolios and develop solutions for customers

Manufacturers will continue to offer integrated solutions to stand out from competitors. In doing so, they will expand their portfolios

Rethink sales structures and push forward integration

Manufacturers of complex products and solutions (e.g. CAD/CAM and imaging) particularly are planning on introducing strengthening direct sales structures to better meet the demand and supply-side challenges in the dental market. Forward integration, for example taking over lab-saler will retain its importance. A trend towards direct sales, primarily via the Internet and e-mail, can still be observed in these segments.

Table I: Examples of important growth areas.

<table>
<thead>
<tr>
<th>Area of Growth</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Prosthetics and materials</td>
<td>Developing more robust synthetic materials, effective, symbolic solutions and other materials</td>
</tr>
<tr>
<td>Preclinical solutions</td>
<td>Increasing market penetration with chairside systems, Greater use and integration of IO scanners</td>
</tr>
<tr>
<td>CAM/DAM solutions</td>
<td>Higher efficiency in work processes and cost and time savings</td>
</tr>
<tr>
<td>IT/Workflow integration</td>
<td>Increasing customer price sensitivity, individual and targeted customer development</td>
</tr>
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It comes down to creating a balance between efficient wholesaler management and the highest possible level of differentiation.

On the demand side, consolidation and integration of dental practices and laboratories (e.g. dentists joining laboratory chains or practice laboratories) pose new challenges for manufacturers. End-customers’ escalating cost pressure and market competition, but also their increasing levels of digital and international integration are undoubtedly responsible for these developments. In this context, manufacturers will have to deal with the growing negotiating power of providers and their increasing price sensitivity, making the battle over customers increasingly tougher.

Need for action

In order to compete successfully in a changing market environment, manufacturers of dental products have identified the need for action in four main areas (Fig. 2).

1. Rethink sales structures and push forward integration

Manufacturers have to deal with the growing negotiating power of providers and their increasing price sensitivity, making the battle over customers increasingly tougher.

2. Customer segmentation and channel management

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3. Expand portfolios and develop solutions for customers

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Recognising what needs to be done and acting on it

Manufacturers of dental products are looking ahead with cautious optimism. In the next few years, they will continue to focus on innovation as their number one growth driver. At the same time, the industry is facing substantial changes in both supply and demand. In order to overcome this, manufacturers provide sales with better support by means of case studies and simulation tools.

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Fig. 1: Challenges in marketing and sales facing the dental industry.

Fig. 2: The industry’s reactions and solutions.

Price pressure and competition are on the rise in the dental industry in order to maintain their success in the future, manufacturer of dental products and services will have to rethink their cost approaches and structures in sales and marketing, for instance. Added purchases or co-operation will open up new opportunities here. At the heart of manufacturers’ portfolio strategy considerations are work processes that are more efficient, and international integration serves as another important success factor. Manufacturers that sell primarily via the Internet and e-mail, can still be observed in these segments.

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“The tissue-level implant has always been close to our heart”

An interview with TRI Dental Implants CEO Tobias Richter and CTO Sandro Venanzoni

With the introduction of the TRI Octa tissue-level implant here at the annual congress of the European Association for Osseointegration (EAO), Swiss implant manufacturer TRI Dental Implants is adding a tissue-level implant line to its existing portfolio of bone-level implants. What was the incentive for your relatively young company to launch such an ambitious product on the market?

Tobias Richter: From a scientific point of view, the tissue-level implant is undoubtedly one of the implant types that is most reliable and gives the best performance. Its low ranking status in the early 2000s was probably due to the perception of many dentists of it not being easy to place in anterior sites and it thus being regarded as unsuitable for aesthetic indications. These implants, as is well known, gave way to the more commonly used bone-level implants. At TRI Dental Implants, we have always believed in the strength of tissue-level implants in terms of longevity and ease of handling in posterior and edentulous sites. Considering the fact that many dentists now fear peri-implantitis in cases involving bone-level implants, we chose to add the TRI Octa implant line to our portfolio. It not only offers reliable long-term results, but also guarantees maximally predictable aesthetics for all indications through a rose-pink colour-coded 1.8 mm machined neckportion.

Is the addition of a tissue-level implant a market necessity or the result of a long-term development process?

Tobias Richter: Considering the fact that two key executives in our company previously worked at Straumann, the tissue-level implant has always been close to our heart as a product that could provide predictable long-term results for our customers. Combined with the opportunity of offering better aesthetics, it will certainly gain significance in the future.

Will the abutments be available in the same colour as the implants?

Sandro Venanzoni: The main function of the pink neck is to reduce the effect of negative colour shades on the gingival tissue. It was designed to improve aesthetics even in the case of unlikely hard- and soft-tissue recession. We are convinced that the colouring could have a similar effect on the abutment lines; therefore, all of the TRI Octa abutments have the same rose-gold colouring. Currently, studies on pigs’ jaws are underway at the University of Zurich in Switzerland to establish that coloured titanium offers improved transluency compared with machined titanium. These are being conducted in collaboration with Christoph Hämmeler, Daniel Thoma and Ronald Jung (all from Switzerland). Preliminary results from this research are available at our booth at the congress (B16), as well as in the scientific section of our website.

You already did a pre-launch of TRI Octa in May this year.

Why did you decide to launch this product here in Rome?

Tobias Richter: In our opinion, the EAO congress is the annual scientific and academic highlight for our industry and attracts top clinicians, as well as promising talent. Therefore, it is probably the most prestigious place to launch an innovation like TRI Octa. It is here where we can reach the best clinicians in Europe and beyond.

Is this the main target group for this product?

Tobias Richter: The TRI Octa implant is the implant of choice for all implantologists looking for a premium Swiss quality tissue-level implant with superior performance that offers the best value for money.

How will this product complement your portfolio?

Sandro Venanzoni: The TRI Octa tissue-level implant complements our portfolio, which consists of the TRI Vent bone-level implant and the TRI Narrow implant. Together with our TRI+ digital interface, the combination of bone- and tissue-level implants will provide good long-term results both in the anterior and posterior regions, as well as for edentulous situations. We are proud to have assembled such a powerful yet lean portfolio, which we believe will further strengthen our position as one of the fastest-growing best-value players internationally.

Thank you very much for the interview. «
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Thursday, 25 September
12:45–13:00 Welcome Address
13:00–14:30 Surgical alternatives
- Flapless surgery
- Non-submerged approach
- Reduced number of implants
- Reduced length implants
- Reduced diameter implants
- Augmentation prior to implant placement

15:00–16:30 Oral communication – Treatment of technical and biological complications

16:30–18:00 Oral communication – Treatment of complications

18:00–20:00 EAO Certification Programme Workshop

Friday, 26 September
08:45–10:15 Oral communication – Basic research

10:15–10:30 Congress Ceremony

10:45–12:15 Prosthetic alternatives
- Treatment planning for the reconstruction of the atrophic maxilla
- Full arch restorations: several options or only one protocol?
- When do we need autogenous bone?
- When do we need to submerge?
- Advantages of submerged approach in the aesthetic zone
- When do we need to submerge?
- Indications and limitations to the non-submerged approach

12:15–13:15 General Assembly

13:15–14:45 Oral communication – Prosthetically oriented (part 1)

15:15–16:45 Evaluation of aesthetics and functional long term results
- Objective evaluation of aesthetic outcome: different methods
- Is stable long term aesthetic outcome achievable?
- Could we reduce biologic long term complications of implant supported restorations?
- A comparison of smooth and micro-rough titanium surface: are we on the right track?

16:45–18:00 Oral communication – Prosthetically oriented (part 2)

18:00–20:00 EAO Annual Scientific Congress 2014 – 25 September

Saturday, 27 September
08:00–10:45 Early bird registration
10:45–13:15 Award Ceremony

Science & Practice
My first 100 days with TRIOS
A short interview with dentist Dr Wendy AuClair Clark, USA

By Dr Juan Blanco-Carrión, Spain

A demanding procedure
Flapless surgery and why it shouldn’t be considered routine yet

To date, the placement of dental implants is considered a routine method in the rehabilitation of partially and completely edentulous patients. Initially, dental implants were installed using a surgical protocol, which involved the elevation of a mucoperiosteal flap. However, it is known from periodontal surgery that any flap reflection always results in bone resorption and changes in the crestal bone level. In view of this problem, a flapless surgical approach has been recommended.

With this technique, three different approaches have been described: tissue punch (with shorter punch diameter than the diameter of the implant), circumferential incision using a surgical blade, and direct drilling. In addition, clinicians will address two clinical scenarios when using flapless surgery: healed sites and fresh extraction sockets.

From a biological point of view, preclinical “in vivo” research (short-term data) concluded that with flapless surgery, one can obtain a shorter healing process, as well as less marginal bone loss, gingival inflammation and buccal recession. These results have not been confirmed in clinical long-term studies. There are no statistical differences between flapless and flap surgery in terms of survival rate, marginal bone loss, probing depth, keratinized mucosa and papillary index, meaning that there is probably no biological benefit with the flapless approach.

However, flapless surgery seems to have a positive impact on patient-centered variables such as pain, postoperative swelling, medication, morbidity and patient comfort.

The flapless technique is not exempt from complications like the risk for more bone perforations and low implant stability. The available data demonstrate that flapless surgery, initially recommended for novice surgeons, actually requires more experience and pre-surgical planning than had originally been assumed. Furthermore, this technique is often more demanding than the conventional surgical approach. Therefore, the use of flapless implant placement as a routine procedure in daily practice is not recommended.

Since the flapless technique is not supported with enough evidence for preserving marginal bone, it may have no long-term aesthetic benefits and should not be recommended for cases that aim to achieve highly aesthetic outcomes. Instead, adequate keratinized mucosa and alveolar bone volume (flat crest and lack of concavities) should be used.

Dr Juan Blanco-Carrión is a Professor of Periodontology at the University of Santiago de Compostela’s School of Medicine and Dentistry in Santiago de Compostela in Spain. Today, he will be presenting a paper titled “Flapless surgery, flapless surgery” as part of the EAO 2014 scientific programme.

A demanding procedure

My first 100 days with TRIOS

By Dr Juan Blanco-Carrión, Spain

A short interview with dentist Dr Wendy AuClair Clark, USA

Whether regarding the market’s hottest smartphone or something bigger, most owners of new technology will start out by critically scrutinising their new piece of equipment. Dentists who have just acquired the TRIOS Digital Impression solution from 3Shape (Booth S13) are no exception. Some say that the first 100 days is the perfect span of time needed in order to judge a sophisticated product, since it is long enough to form a qualified opinion about its functionality, usability, and clinical results. Prosthodontist Dr Wendy AuClair Clark from Atlanta in the US speaks about her initial experiences.

Dr Wendy AuClair Clark: Our practice has been a leader in smile design for more than three decades. When the decision came to implement the 3Shape TRIOS into the practice, I was very excited to be using a new intra-oral scanner. I had previous experience using other digital impression scanners in the past and was eager to learn how TRIOS would differ.

How was your description of your initial experiences with the TRIOS solution? Both the setup and the training were very easy and simple processes. The system expert got us started. He did the installation on the first day, which was setting it up with our network and setting up the connection with our lab. The second day was for training. We worked with TRIOS, interface, turning it on, adding users, checking cases and scanning methods. The expert then followed up with us a month later, which worked perfectly.

What kinds of cases are you now using TRIOS for? Originally I was using it primarily for crowns, including screw retained. Now, I am mainly doing implant cases (milled abutments). Being able to use the same workflow for the scanning has made the transition into this new area seamless.

Has the use of TRIOS also improved your doctor-patient experience? Has your doctor-patient experience changed since using TRIOS? The patients have been very impressed and appreciate the fact that we implement new technology into our practice. They also like seeing the images from the scan. Eventually I will connect the TRIOS solution to an iPad and use it for patient education as well.

Has the use of TRIOS also improved communication with your lab? I can keep in touch with my labs much better and follow up on my cases faster, which has reduced the total time for treatments. I appreciated being able to get in touch with them when they were having trouble reading the margin line. I was able to easily reset the margin line, and the crown came back in perfect form. I didn’t have this option with any of my previous scanners.

Thank you very much for the interview.

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*This list is subject to change. Last update was 9 September, 2014.*
THE SMART WAY TO YOUR SUCCESS

The only control system offering the pre-programmed clinical sequences of the main implant brands is now available with a dedicated application for touchscreen tablets.

Discover the perfect working balance between your iPad* and exceptional electronics for controlling the MX-i LED micromotor. The most powerful motor on the market, with LED lighting guaranteeing a very long service life, is now also equipped with ceramic ball bearings which are lubricated for life. And, if this were not enough, it also offers exceptional reliability and is guaranteed for 3 years.

The 20:1 L Micro-Series contra-angle and the iChiropro system redefine ergonomics and ease of use.

* iChiropro application compatible with iPad 4 and iPad Air.
CROS XENO.PROTECT PROMISES EASY AND RELIABLE TISSUE REGENERATION

According to reports, half of all dental implant cases are estimated to require a regenerative procedure. As any movement can disrupt the formation of new bone, the ability to place a graft accurately and securely is essential for effective healing and ensuring the best possible outcome for the patient. Designed for use in guided bone regeneration (GBR) and guided tissue regeneration (GTR) procedures, the biodegradable cros xeno.protect collagen membrane from Nobel Biocare is said to offer excellent strength without compromising its outstanding handling properties. With a lesser increase in size when hydrated, cros xeno.pro- tect can take the guesswork out of trimming the membrane compared to competitive products, the manufacturer said. According to Nobel Biocare, it can be cut to match the treatment area when dry with less risk that it will not fit the defect site when applied. Easily unfolded and not sticky when moistened, it can be repositioned without removing the graft material, which makes it a very predictable solution.

High mechanical stability and its tear-resistant nature allow it to be easily tacked sutured in order to stay in the perfect position for facilitating new tissue growth, which the company said helps to improve the treatment outcome and reduce the number of membranes inadvertently torn during application. Owing to three different membrane sizes, ranging from 30 x 40 mm for larger treatment sites down to 15 x 20 mm for small bone defects, w gestation can therefore be avoided by achieving optimal fit without unnecessary trimming.

A resorbable membrane, no second surgery is needed with cros xeno.protect, reducing the risk of complications and enhancing the aesthetic outcome. The membrane is instead designed to resorb safely in the pa- tient’s mouth over a prolonged degradation time. As a result, the patient’s regenerative therapy benefits from the membrane’s strength and stability properties long after it has been placed.

The cros xeno.protect membrane acts as a strong barrier to unwanted cells while simultaneously paving the way for the vital in-growth of osteogenic cells and blood vessel penetration. By ensuring optimum conditions for tissue integration, the new bone and soft tissue is able to develop effectively for a more predictable outcome. The key, according to the company, lies in its high mechanical strength, provided by interwoven, highly purified porcine collagen fibers and porcine elastin fibers, which are brought together to form a dense mesh that holds bone graft material securely in place. Furthermore, the fibers prevent undesirable cells migrating from surrounding soft tissue and disrupting the healing process.

Nobel Biocare said that the vascularization behaviour of cros xeno.protect is excellent. Owing to its natural collagen structures, the membrane exhibits exceptional strength without the need for having a cross-linking agent to reinforce the membrane. As it is not cross-linked, cros xeno.protect also features outstanding tissue integration properties.

TWO GOOD REASONS FOR OSSTELL ISQ, MANUFACTURER SAYS

The company Ostell invites delegates of the EAO annual scientific congress in Rome to join its Scientific Symposium on Friday morning to learn more about new developments and the clinical benefits of Ostell ISQ. The symposium runs from 7:45 a.m. to 8:45 a.m. at the Teatro studio of Auditorium Parco della Musica.

A certain level of initial implant stability and the assurance of osseointegration over time are considered crucial for long term implant success. A totally objective and non-invasive handheld instrument for determining implant stability and osseointegration, Ostell ISQ is said to provide clinicians with exactly that information. According to Ostell, the solution is of particular value when dentists want to reduce treatment time. If the initial me- chanical stability is high enough, a one-stage approach is often used together with immediate or early loading. Measuring again before the final restoration and comparing that value to the baseline value taken at placement, makes the decision about whether or not to proceed, quick, easy and objec- tive, the company said.

Through a decreasing ISQ value, it also can give clinicians an early warning if osseointegra- tion is not progressing as expected, helping to avoid the cost of implant failure or redoing a crown owing to premature loading.

The ISQ (Implant Stability Quo- tient) is a global standard unit for implant stability, with a scale ranging from 1 to 100 ISQ, that correlates perfectly with micro mobility. The higher the ISQ, the more stable the implant. More than 600 articles have been published on the Ostell technique and ISQ scale. Abstracts from these can be found in a searchable database at the company’s website.

INTERACTIVE FROM IMPLANT DIRECT OFFERS CONICAL CONNECTION

Most of the leading dental implant manufacturers have introduced conical internal connection products in recent years. Implant Direct, a part of the KaVo Kerr Group since 2013, is following with the launch of a new implant line with internal conical connections. The Inter-Active implant is based on the established Legacy system, featuring progressively deeper thread structures (double lead threads) in the body and is prosthetically compatible with NobelActive and NobelReplace CC by Nobel Biocare.

Owing to its concave, trans- gingival profile, the implant is especially indicated for treatment in the aesthetic zone, according to Implant Direct. Two different prosthetic platforms (3.0 mm and 3.4 mm) aim to simplify the handling.

With four different diameters and six length options, Interactive will offer additional flexibility in almost every bone configuration. Users will be able to choose between the surface types SBFM and SBAActive with a light HA coating. The implant’s two-part, color-coded fixture mount that doubles as an abutment and impression post is also revolutionary and extremely effective, the company said.

The InterActive All-in-One package includes all of the principle components required for a complete surgical and prosthhetic solution; the implant including a cover screw, healing collar, and transfer; and an abutment with concave profile, which significantly optimises the entire process of using Interactive.
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OPTIMISING THE DIGITAL WORKFLOW WITH CONNECT DENTAL

Dental digitalisation provides unprecedented possibilities to implant dentistry, leading to improved aesthetic quality for the patient and higher efficiency for the implant dentist. Straumann, a leading provider of products and services to office-based dental practitioners and laboratories, developed a comprehensive approach to help dentists throughout Europe make the best possible use of digital solutions for patients and practitioners. Under the umbrella brand ConnectDental, the company offers a customer-tailored consultancy service aiming at enhancing dentistry through digitalisation and a comprehensive range of digital products. This includes newest technologies, high quality materials and products, professional consulting in numerous areas, and financial services—as well as various educational and training courses. With Connect Dental, EAO Gold Standards Partner Henry Schein emphasises the open architecture format for integrating digital technology into any clinical setting.

In the framework of Connect Dental, Henry Schein supports implant specialists in optimising the complete prosthetic workflow, including diagnostics and CAD/CAM supported prosthetic planning of implant cases as well as cooperation with the laboratory. As each dentist has his or her own treatment procedure and laboratory partners to serve the needs of patients, Henry Schein provides its customers a complete but individually-customised service. Data exchange between dental practice and lab, one of the main obstacles for a purely digital workflow, is reduced to a few clicks. To make this possible, digital specialists work closely with both sides to develop a solution that suits all needs, the company said. According to Henry Schein, one of the outstanding strengths of ConnectDental is that specialists are familiar with the requirements and work processes of laboratories and dental practices.

DDX, an open software platform between the laboratory and the dental practice that runs on standard browsers, is designed to allow an even smoother data exchange. The platform has already been launched in the US, Canada and the UK with other European countries to follow.

In Italy, ConnectDental was launched for Henry Schein Krugg customers earlier this year. This offering includes intra-oral scanners Apollo DI and Omnicam from Sirona for the dentists to capture the digital impression. On the laboratory side, CAD/CAM milling systems from Vie SFH for the laboratory and two new model-scanners for Open Technology, an Italian high-tech company, have been added to the offering.

In order to guarantee its clients high level service, training and update programmes, Henry Schein Krugg started a collaboration with Cabegip, an Italian company specialising in CAD/CAM systems for laboratories. Henry Schein Krugg is already present in dental practices with a full assortment of market-leading High Tech 3D Conebeam CBCT systems, laser, microcopy and CAD/CAM systems, where it is the market leader in the distribution of CEREC chair side systems by Sirona. Through this and in combination with the newly added assortment on the laboratory side, the company is now able to cover complete digital workflow and to support customers in Italy with solutions that increase efficiency and support, and optimise the implant planning and prosthetic implant process like custom abutments etc.

Since IDS 2013, Henry Schein has launched ConnectDental in all major European markets. While the product offering varies from country to country, the general commitment of Henry Schein to provide excellent products and services transcends borders. Throughout Europe, the Connect Dental service and support is covered by a group of 190 specially trained and experienced sales and integration specialists for digital dentistry and digital restorations and is backed up by 460 Henry Schein service technicians. The specialists build a close network with the regional branches and local field representatives. Customers will also benefit from comprehensive training programmes at various locations, including 50 dental information centres.

ROLL-OUT OF BOTISS LINE-UP BY STRAUmann BEGINS AT EAO

Implant treatments increasingly require bone augmentation. Recent advances and innovations in oral tissue regeneration have led to new protocols and a multitude of products. The conclusion is that there is no single bone graft or soft tissue biomaterial is able to cover all medical needs, biological situations, indications and user preferences. A variety of factors, including indication, age, hygiene, biopsy, bone height and treatment plan, requires a sophisticated approach with several coordinated products. To add value to this, Straumann has recently teamed up with botiss, a manufacturer of biomaterials for oral tissue regeneration, to provide comprehensive solutions in this field.

At the EAO in Rome, the company will start with the distribution roll-out of botiss products in Europe for the first time. According to the agreement between the two companies, Straumann will have exclusive rights to distribute botiss regeneration system products initially in most Western and Central European countries, with co-distribution in Germany. Both companies will work together to expand regulatory clearances in North America, Asia and Latin America. At the same time, botiss will receive the rights to distribute Straumann’s unique regenerative product Emogain in parts of Eastern Europe and the Middle East, and follow the co-distribution model in Germany.

The partnership between the two companies means that their combined regenerative lines cover all indications and preferences for oral tissue regeneration products, thereby complementing its dental implant and prosthetic systems, Straumann said. "Botiss will enable us to offer an unparalleled range of regenerative solutions to support implant and periodontal procedures. Their quality, effectiveness, handling characteristics and clinical track record will have great appeal to our customers as well as the possibility to obtain every component for a complete solution from one company," CEO Marco Gadola commented.

He invited congress participants to learn more about the new innovative line-up at the Straumann booth or during the Straumann Satellite Symposium today starting at 10 a.m.

STRAUmann, switzerland www.straumann.com Booth D01

“MASTER OF SCIENCE IN ORAL IMPLANTOLOGY” PROGRAMME STARTS AGAIN IN OCTOBER

On 14 October, the Master’s Degree Programme “Master of Science in Oral Implantology” (MOI) at the Johann Wolfgang Goethe University in Frankfurt/Main, Germany, will begin its 13th class with thirty selected students from 14 different countries. While they have already placed implants, there is a demand to increase their skills and build up a solid, scientific foundation in order to provide suitable appropriate and efficient treatment to their patients. The programme will include two years of in depth studies filled with comprehensive lectures, mandatory discussions, hands on exercises, exciting research work and demanding patient treatments.

According to the university, the MOI programme is completely independent and is not affiliated with any non-university institution or corporations. The student body consists of international students coming from over 40 countries. In order to be considered for the MOI programme, students needs to hold a license and academic qualification enabling them to work as a dentist in their own countries. In addition, a minimum of two years relevant professional work experience and excellent English skills (e.g. TOEFL) are required.

“Each student attends live treatments with thirty selected students from 14 different countries. In addition, they are encouraged to document, share and discuss their own experiences with their fellow students. A multidisciplinary and international team of experts will be available to mentor the clinical cases and Master theses at any time. The MOI programme is completely independent and is not affiliated with any non-university institution or corporations. The student body consists of international students coming from over 40 countries. In order to be considered for the MOI programme, students needs to hold a license and academic qualification enabling them to work as a dentist in their own countries. In addition, a minimum of two years relevant professional work experience and excellent English skills (e.g. TOEFL) are required.”

Training and teaching is based on the principle of blended learning and work-based learning. During the course of their studies, the students attend live treatments and will be supervised on their own clinical cases. They are encouraged to document, share and discuss their own experiences with their fellow students. A multidisciplinary and international team of experts will be available to mentor the clinical cases and Master theses at any time.

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TRI LAUNCHES TISSUE LEVEL IMPLANT WITH PINK NECK

TRI Dental Implants, a Swiss dental implant provider for innovative aesthetic implant solutions, is currently launching its novel pink-neck Tissue Level Implant TRI Octa at the EAO congress in Rome. The TRI Octa dental implant responds to the continuing demand for tissue level implants due to superior scientific data on longevity and reduced risk for peri-implantitis. It has also been designed to enhance the aesthetic results in the posterior and edentulous indication.

It is unique as it combines the most modern implant features for this type of implant: a tapered implant body, a friction-based internal octagon connection and a 1.8 mm rose-pink implant neck. The pink-coloured implant neck is the most significant feature innovation and aims to eliminate the “grey shade effect” of today’s tissue level implants. All abutments are also rose-pink coloured to emphasize the esthetics in the prosthetic range correspondingly.

A scientific study with the University of Zurich under guidance of Christoph Flammerle, Ronald Jung and Daniel Thomas is underway to further substantiate the positive aesthetic implications of this novel design.

The implant can be placed with the same surgical kit as the TRI Bone Level implant, and therefore reinforces the company’s focus on simplicity and aesthetics at the same time.

TRI-IMPLANTS, SWITZERLAND
www.tri-implants.com
Booth B16

NEW IMPLANT LINE FROM BEGO SHOWS PROMISING TREND

Last year’s conference of the German Association of Oral Implantology in Frankfurt/Main saw the launch of the new BEGO Sema- dos RS and RSX implants. More than half a year after the market introduction, the company said that sales have exceeded first expectations.

“We are very satisfied with the trend. With over 20,000 implants sold, our expectations have been surpassed by far. The RSX-Line in particular is becoming increas- ingly popular amongst our users as an attractive alternative to the established products from various premium suppliers,” said Walter Esinger, Managing Director of BEGO Implant Systems.

“In addition to the sales figures, the shifts in our implant portfolio are also interesting,” Dipl.-Ing. André Henkel, Product Manager at BEGO Implant Systems added. “There has undoubtedly been a move from BEGO Semados S im- plants to the new RS and RSX im- plants but, ultimately, the conver- sion is on a healthy scale. The sales of BEGO Semados RI-Line im- plants, on the other hand, have been virtually unaffected by the launch of the new implants thus far,” explained. “We are especially pleased at the large number of new customers and interested parties,” Henkel continued.

The BEGO Semados S implant is the only implant produced in the BEGO Implant Systems portfo-lio while the BEGO Semados RI im- plant, with its self-condensing thread, is considered the means of choice for many clinicians when faced with difficult bone conditions.

“Overall, we feel vindicated. With the new implant product port-folio from BEGO Implant Systems, we are able to completely satisfy indi-vidual requirements in terms of both patient treatment and user preferences,” explained Esinger.

The complementary prosthetic line, which picks up on and supports the platform switch con-cept of the new implants, will be available towards the end of the second quarter. Despite this new offering, all prosthetic components which are available today and which a fully compatible with all family members (S/RI/RS/RSX) will still be part of the company’s product range. Integration of the new platform switch abutments in the CAD/CAM service portfolio of BEGO Medical GmbH is also ex-pected by the end of the second quarter.

The international roll-out, par- ticularly in markets subject to strict regulations, is anticipated for the second half of 2014.

CBCT IMAGING WITH LOWER DOSES

Planmeca Ultra Low Dose is a new imaging protocol that is supposed to allow CBCT imaging with an even lower patient radiation dose than standard 2D panoramic imaging. It is based on intelligent 3D algorithms, accord-ing to Planmeca, and offers a vast amount of detailed anatomical information at a very low patient dose. Two dimen-sional imaging, therefore, can no longer be justified, the manufactur-er noted.

The Tampere University Hos-pital in Finland is one of the facili-ties which has changed imaging protocols owing to the new proto-col. It currently takes around 2,000 CBCT images per year, a number which, according to the hospital, is constantly growing.

“We have been using the new Planmeca Ultra Low Dose protocol since last summer, and we have found it to be very useful in many imaging indications,” a representative said. “These in-clude postoperative follow-up studies, orthodontic cases re-quiring localisation of impacted teeth and their effects on the neighbouring ones, detection of facial asymmetries, sinus imag-ing in certain ENT cases where sinusitis needs to be excluded, pharyngeal airway measure-ments in sleep apnoea patients, as well as many implant cases.”

According to the representa-tive, the protocol also had a sig-nificant impact on patients. “We often found them to be con-cerned about radiation expo-sure, but once they hear that the dose is even lower than in traditional panoramic 2-D imaging, they are always re-lieved. Also, referring physi-cians often specifically ask us to use the Ultra Low Dose protocol,” he said.

Planmeca Ultra Low Dose is available with all Planmeca Pro-Max 3D imaging units. According to the manufacturer, the platform switch concept of the imaging protocol can for aused for a large variety of clinical cases, such as postoperative and follow-up studies in maxilfacesial surgery, orthodontics, implant planning, as well as ENT studies.

INSPIRATION TALKS WITH DENTSPLY IMPLANTS AT EAO 2014

As a Founding Diamond Sponsor, DENTSPLY Implants welcomes participants of EAO 2014 at their Satellite Sympos-iurn this afternoon. Irena Sailer (Switzerland), Anne Ben-hamou (France), Ingeborg De Kok (USA) and Jocelynne Feine (Canada) will be presenting In-spiration TALKS on “quality of life and evolution in implant dentistry”.

On Friday and Saturday, DENTSPLY Implants will also of-fer three hands-on workshops. There, Thomas Dietrich (UK), Goran Benic (Switzerland) and Marco Degilli (Italy) will cover treatment solutions, such as bone grafting techniques, the complete digital workflow and the new WeldOne intraoral weld-ing concept, all from the com-pany’s comprehensive portfolio.

At the DENTSPLY Implants booth and in the Hospitality Lounge, participants are invited to explore the latest innova-tions like the new ASTRA TECH Implant System EV featuring SIMPLANT Guided Surgery and intraoral scanning for ATLANTIS Abutments and learn more about the long term documentation and research behind these products, as well as DENTSPLY Implants’ unique STEPS marketing program.
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