For the next few days, osseointegration experts from all over the world are coming together at the Palais des Congrès de Paris to discuss current developments in implant dentistry. The annual congress of the European Association for Osseointegration (EAO), being held for the 25th time, gives dental professionals a unique opportunity to present their latest research and explore current topics in implantology.

This year’s meeting focuses on the different aspects of treatment planning and decision-making in implant dentistry, providing scientific sessions with distinguished speakers and the opportunity for interactive discussions. Moreover, the Junior Committee of the EAO is launching a novel session called “7 minutes to convince”. In this scientific contest, every speaker will have 7 minutes to present a new approach or exceptional idea that might change the field of implant dentistry in the future. Afterwards, the committee and the audience will select the best presentation.

In addition to the scientific programme, the congress features a number of industry satellite symposia sponsored by several major companies in the market. Moreover, hands-on sessions organized by the EAO’s industry partners will introduce new techniques and offer high-level practical training. At the accompanying industry exhibition, more than 120 dental manufacturers are presenting their latest products and dental implant innovations.

Gaining increasing importance as a forum for osseointegration experts in and outside of Europe, the EAO once more welcomes a foreign guest country to this year’s congress: Japan, which has the highest number of EAO members in Asia and a very active dental community. Japanese dental implant experts and associations are presenting their research and activities at an invited country parallel session and at Japan Corner in the exhibition area.

The EAO is organizing its 25th annual scientific meeting in collaboration with the Société Française de Parodontologie et d’Implantologie Orale, the French society of periodontology and oral implantology. With over 1,100 members, the scientific association is one of the major French societies in dentistry.

The main language of the congress is English. However, simultaneous interpreting into Japanese and French is available during some of the main scientific sessions.

More information about the meeting, the scientific sessions and the latest products is available on the EAO congress website at www.eaocongress.com. The association is also offering an application for mobiles 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 dental-tribune.com.
Antidepressant use could increase implant failure risk

New research has linked antidepressants to dental implant failure. The pilot study conducted at the University at Buffalo found that antidepressants, one of the most prescribed drugs in the US to treat anxiety, pain and other disorders, could affect the regulation of bone metabolism, a crucial factor for the healing process and implant success.

In the study, the researchers analyzed data from the medical charts of the university’s dental clinic patients in 2014. They found that of the few patients who experienced implant failures, 33 percent used antidepressants. For patients who did not experience failures, only 11 per cent took the drug. Overall, the analysis showed that use of antidepressants increased the odds of implant failure fourfold. Each year of antidepressant use doubled the odds of failure, the researchers stated. Therefore, they advise patients using antidepressants to consult with their physician about the drug’s side effects and alternative methods of managing depression, anxiety or pain.

According to figures from the Centers for Disease Control and Prevention, 11 per cent of Americans aged 12 and over took antidepressant medication in 2011. Antidepressants were the third most common prescription drug taken by Americans of all ages in 2005–2008 and the most frequently used by persons aged 18–44. From the period 1988–1994 to the period 2005–2008, the rate of antidepressant use in the US among all age groups increased by nearly 400 per cent.

Antidepressant use has been associated with a number of side effects, including osteoporosis, akathisia, bruxism and dry mouth, all of which affect the implant healing process and are of concern for dentists with regard to oral and bone health, the investigators noted.

Currently, the researchers are planning to validate their initial findings in a larger-scale study.

Fundamental misconceptions about dental implants

Investigating patients’ knowledge and perceptions regarding implant therapy, a Chinese study has found that an alarming number of participants had inaccurate and unrealistic perceptions regarding dental implants. Moreover, the study determined that only 18 per cent felt confident about the information they had about the treatment.

In the study, the researchers investigated preoperative information levels, perceptions and expectations regarding implant therapy via a questionnaire. Responses from 277 patients were obtained during 2014 and 2015 in three different locations in China (Hong Kong, Shanghai and Jiangsu). The analyses established that about one-third of the participants had mistaken assumptions about dental implants. According to the researchers, common misconceptions were that dental implants require less care than natural dentition, implant treatment is appropriate for all patients with missing teeth, dental implants last longer than natural dentition, and there are no risks or complications with implant treatment.

Meanwhile, younger respondents (≤ 45) and those with higher education (bachelor’s and postgraduate degrees) tended to have more realistic perceptions and lower expectations of the treatment outcome.

When asked about their level of knowledge, 63 per cent of the participants said that they were generally informed about implants, but only 18 per cent felt confident about the information they had.

Straumann, Nobel Biocare, DENTSPLY take advantage of growing dental implant demand in Europe

UK dental implant fixture market shows highest level of growth

UK dental implant fixture market shows highest level of growth

DENTSPLY Implants has been gaining momentum throughout Europe by increasing market share, a new study has revealed. The Dental Tribune Research Company (DTRC) found that in the UK, DENTSPLY was leading the pressure towards price-cutting and discount options with many of the big companies who do not have the same brand recognition.

DENTSPLY’s market share in the UK market has demonstrated the highest level of growth relative to the other countries in the region due to economic recovery and low market penetration. Market penetration levels for dental implants vary significantly across the European market. Countries such as Spain, the effect was lagging and therefore demand for dental implants has been substantial in more recent years. The dental implant fixture market in the UK has demonstrated the highest level of growth relative to the other countries in the region due to economic recovery and low market penetration.

Governments in Sweden, the Netherlands, Germany and Switzerland offer some reimbursement for dental implant procedures. However, even with reimbursement, costs associated with implant procedures tend to be higher than alternative treatments. Partially as a result of these policies, Sweden and Switzerland have some of the highest per capita implant rates in the world. Additionally, the Netherlands has experienced incredibly rapid dental implant market growth since the introduction of its reimbursement policy in 2005. Most private health and dental insurance policies do not cover dental implants, but a few high-end policies do. However, only a small percentage of the population in Europe is covered by such policies.

The dental implant market is not a commodity market. Large, established companies have built up strong brand recognition and a certain degree of customer loyalty. This, combined with the fact that the cost of the implant is only a small part of the cost of the procedure, allows established companies to price their products at a premium relative to smaller companies who do not have the same level of brand recognition.

Europe is demonstrating a shift towards price-cutting and discount options with many of the big companies who do not have the same brand recognition.

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Prominent implantologist receives second P-I Brånemark Award

Dr Tiziano Testori honoured at 12th International Symposium on Periodontics and Restorative Dentistry in Boston

Commenting on the award, member of the award selection committee Dr Robert Gottlander said: “I had the honour of working with Per-Ingvar during my time at Nobel Biocare. Our relationship was of high mutual respect and friendship. This award is intended not only to honour a pioneer in implant technology, but to promote the ideals of fairness and integrity. We consult closely with Barbro Brånemark and opinion leaders in the field of implantology to seek out leading dentists who have devoted their life to advancing the Brånemark dental implant system.”

This year, Testori received the P-I Brånemark Award from Channel3. He is past President of the Italian Society of Oral Surgery and Implantology, an active member of the European Board of Oral Surgery, Academy of Osseointegration, American Academy of Periodontology, and American Association of Oral and Maxillofacial Surgeons. As an established author of over 200 scientific articles, Testori is a member of the editorial board of the International Journal of Oral and Maxillofacial Implants. He is also head of the implant dentistry and oral rehabilitation section at the University of Milan dental school in Italy. He maintains a leading private practice limited to implantology and oral surgery in Como, Italy.

The award ceremony took place at a dinner held in honour of Testori in Boston during the 12th International Symposium on Periodontics and Restorative Dentistry. Speaking on the evening, Ferber remembered Brånemark’s discovery that titanium could act as an anchor for artificial teeth led to the introduction of titanium implants in dentistry. After decades of research, osseointegration was finally established as the basis for implant treatment. Shortly after Brånemark’s death, Mark Ferber, a former consultant to Drs Nevins and Testori, approached Brånemark’s wife, Barbro, for permission to establish a permanent tribute to his achievements. The annual P-I Brånemark Award by Channel3 honours exceptional clinicians who have advanced dentistry for the public.

The third P-I Brånemark Award for Lifetime Achievement in Dentistry will be given to an established expert during IDS 2017 and presented at the Dental Tribune International booth. The event is hosted by Channel3, an organisation of 90 dental opinion leaders from 15 countries.

ADI biennial congress
International face transplant expert joins speakers list at upcoming implant event in London

Members of the Association of Dental Implantology will head to the ExCel, London, exhibition and convention centre in March next year when the biennial team congress of the professional body is held from the 2nd to the 4th in the British capital. Under the theme of ‘Dental implantology: A global perspective—Inspiration from around the world’, the event will offer a varied and inspirational learning experience for all members of the dental team, as well as for dentists with no previous experience in implantology.

Nottingham implantologist Colin Cambell will present the Introduction to Dental Implantology Programme which he said will show beginners the benefits of a long-term training strategy for the whole dental team. “Sharing and promoting training throughout the practice leads to better motivation, higher quality staff, better retention of staff and generally better engagement in the whole process,” he commented on his lecture.

Further sessions delivered by some of the biggest names and most highly respected clinicians in the field including Dr Daniel Alan, one of the world’s leading experts on face transplants, will further help GDPs, specialists, dental technicians and all other team members to develop their knowledge and understanding of implantology and remain up-to-date with the very latest in the field.

Presenter Dr Martyn Ansell from Oxfordshire said: “I will discuss some new ideas for treatment planning, as well as the importance of communication. Treatment planning is ultimately a jigsaw and only with all the pieces can professionals hope to achieve successful results.”

Accompanying the congress programme will be an extensive trade exhibition hosted by industry leading implant product companies, each demonstrating the cutting-edge innovations they bring to the market. At a glittering Congress Dinner on 3 March, delegates will furthermore have the chance to relax, enjoy an evening of fantastic entertainment and socialise with their peers.

Professionals interested in attending the event can find more information about the programme and how to register at www.adi.org.uk/congress 2017.
I admit that I love conventions. We meet old friends there, discover a foreign city and generally have a good time. We also learn and discover small details and new facets about clinical issues we had not thought of previously, but that have the potential to improve the way we practise and allow us to better enjoy the end results we strive for in treating our patients.

The other day, a speaker remarked that, through all the new changes and developments we experience in our profession, half of the things we do today we did differently only five years before. What a provocative idea it was! His assertion, however, was not wrong. I actually do very little of the things I learnt in dental school 40 years ago.

The essence of that idea is that happiness lies in all the challenges and discoveries we encounter and overcome on a daily basis. In my humble opinion, our professional lives closely resemble a moving train: we can either choose to be on it and enjoy the passing landscape, which changes constantly, or stand on the side of the track watching the train move away. For me, a changing landscape has always been more attractive.

The biographies of our clinical gurus, it is always wonderful to see that they have remained passionate about their profession until old age regardless of their other, private interests.

At conventions, we regard outstanding lectures the same way as we appreciate an excellent movie. The knowledge and clinical results we obtain through the presenters’ intelligence, innovation and courage are of ten impressive. This is where our work starts. Having returned to our practices, we need to optimize our newly obtained knowledge for the benefit of our patients and in order to compete with our evermore competent colleagues. We must be able to recognize the best of what we have learnt and integrate it into our professional lives.

Our personal experience is essential to understanding the implications of those messages and to overcoming our own biases, which are often difficult to identify. There is the risk of a speaker presenting an average result.
as an outstanding success. We have to return to the basics to assess the findings presented to us. Our subjective evaluation allows us to take the most appropriate and apply it to our practice through optimising the technical excellence that was presented to us. We realize after all these years the tremendous progress we have made owing to these lectures: our first implants were retained over time, then we learnt to place implants in all locations where the teeth had been lost, and finally we were able to achieve aesthetic implant results.

It might be tempting sometimes to give up and consider all the wonders that can be achieved as that of another world, inaccessible to our daily practices. Not at all. Our patients do not want their smiles from when they were 20 years old. While a more attractive smile has been the dream of many, this dream is often difficult to achieve because of the costs involved, such as the extended length of treatment, the pain involved or the need for strict follow-up. Furthermore, the financial costs of an ideal treatment plan are too high for most of our patients. Achieving a 20-year-old’s smile in a 50-year-old face, however, is not a desirable goal. What we learn often only benefits a tiny fraction of our patients. By adapting a certain technique, we realise how meaningful it is. From there, we are able to extend its indications owing to the improvement of our clinical performance. Over time, the treatment becomes safe, useful, and we grasp its limits. Patients to whom we were not able to provide this treatment previously can now be treated because we have extended our knowledge. In fact, we optimise the excellence of treatment that was presented to us through our patients by adapting a technique to our environmental circumstances. In the words of Darwin: “It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change.”

What attracts us to a convention are the remaining gaps in knowledge that we are already aware of: the appearance of multiple implants in the aesthetic zone, the quality of dental maintenance necessary for their survival or the treatment of peri-implantitis. What still amazes me at any meeting are all those questions that we did not even think of. For these reasons, we all will enthusiastically take the train ride to the EAO congress in Paris and enjoy the wonderful lectures that will lead us to progress in our field.

Dr Jean-Nicolas Hasson is a dentist specializing in implantology and periodontology. He maintains his own practice in Mulhouse in France.

“By adapting a certain technique, we realise how meaningful it is.”

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*De Jean Nicole Hasson is a dentist specializing in implantology and periodontology He maintains his own practice in Mulhouse in France.
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**“Dentists need to be proactive in seeking to understand why bone is being lost”**

An interview with EAO speaker Dr Tomas Albrektsson, Sweden

Dr Tomas Albrektsson, professor emeritus at the Department of Biomaterials of Gothenburg University in Sweden, started working with Prof. Per-Ingvar Brånemark in 1967 to further develop osseointegrated oral, craniofacial and orthopaedic implants. Since then, Albrektsson has published various papers on the topic of osseointegration and has contributed significantly to the understanding of the underlying biological mechanism and to the development of implant dentistry. At this year’s congress of the European Association for Osseointegration (EAO) in Paris, Albrektsson will present the latest insights regarding successful osseointegration, providing the basis for implant dentistry. Since then, the concept has gained acceptance and much research has been done on osseointegration and the underlying mechanism. What are the latest insights?

Prof. Tomas Albrektsson: During the first few decades, osseointegration was perceived as a natural tissue response to commercially pure titanium implants. The incorporation of these implants into bone was interpreted as a simple wound-healing phenomenon. However, this explanation has been disproved by further research. Today, we view osseointegration as a foreign-body reaction to protect the body from something potentially harmful, such as titanium or ceramic implants.

In your research, you emphasise that understanding the biological basis of osseointegration and the role of bone biology and the immunological aspects is important in order to improve the outcome of implant treatment. How far has research come in this field and what is there still to learn?

We certainly need more research. Having said this, many scientific papers researching the induction of a foreign-body reaction in the form of ligatures placed around implants have presented data on the vicious cycle of bone and soft tissue loss. Even if immunological problems, in combination with various adverse factors, account for marginal bone loss, bacteria may exacerbate the situation over time. For this reason, antibiotics should be used. We do not know the role bacteria play in this context. Do they only represent a secondary opportunistic colonisation? Do they activate bone-resorbing cells similar to those previously active during aseptic loosening? Do they, together with biofilms, constitute further induction of a foreign-body reaction, resulting in further bone loss?

Moreover, dentists need to be proactive in seeking to understand why bone is being lost. Could cement particles have caused the problem? Have implant components fractured? Having said this, previous incorrect alarmist reports have led to overtreatment in many cases. Sometimes, it may be sufficient to simply follow the implants up carefully and treat particular cases, particularly concerning the immunological aspects.

**Today International: Prof. Albrektsson, more than 50 years ago, Prof. Per-Ingvar Brånemark discovered the process of osseointegration. In 1967, he presented data on the vicious cycle of bone and soft tissue loss. How far has research come in this field and what is there still to learn?**

**Dr Tomas Albrektsson:** In my opinion, peri-implantitis is a man-made disease based on an assumed, but false, similarity between teeth and implants. Bone around implants may be lost through an aseptic reaction; macrophages will influence the delicate balance between the bone-forming osteoblasts and the bone-resorbing osteoclasts, in favour of the latter. Osteoclasts and osteoblasts are bone cells, as well as cells belonging to the immune system. Moreover, problematic implants that lose interfacial bone exist—even if in much smaller numbers than hypothesised in the past. Provided that the treating clinicians are well-trained and use properly documented implant systems, the actual incidence of implant-compromising marginal bone loss may be in the vicinity of 1-2 per cent of all placed implants if followed up for ten years or longer. Therefore, it is not at all surprising that a recent study reported that more than 95 per cent of the allegedly infected implants in another study survived for an average of nine years follow-up and that more than 90 per cent of the allegedly infected implants displayed no further marginal bone loss, but remained in a stable state with respect to further bone resorption.

How can the latest discoveries in bone biology and osseointegration help implantologists in their clinical practice, particularly concerning the treatment of peri-implant bone loss? At present, we do not have an effective means of treating all cases of implant-compromising marginal bone loss. Even if immunological problems, in combination with various adverse factors, account for marginal bone loss, bacteria may exacerbate the situation over time. For this reason, antibiotics should be used. We do not know the role bacteria play in this context. Do they only represent a secondary opportunistic colonisation? Do they activate bone-resorbing cells similar to those previously active during aseptic loosening? Do they, together with biofilms, constitute further induction of a foreign-body reaction, resulting in further bone loss?

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“Today, we view osseointegration as a foreign-body reaction to protect the body from something potentially harmful, such as titanium or ceramic implants.”

Prof. Tomas Albrektsson will be presenting a paper titled “What is osseointegration in 2016 and why are we losing bone around dental implants?” on Friday, 30 September, from 13:30 to 15:00, in the Amphithéâtre Bleu at the Palais des Congrès de Paris.
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The introduction of a well-trained TC will change your entire approach to new patient care, as well as increase profitability. While many practices know how to attract patients, their case acceptance ratio is low. The first contact, first visit and follow-up are the most important elements of the new patient process, yet they frequently represent a wasted opportunity because of a lack of skill, focus, time or all three.

In my experience, a major downfall of practices is the unwillingness of practitioners to delegate the new patient process to staff, or what we call the TC role. This is often due to a wide range of factors, including the practitioner’s perception that the patient wants communication on his or her treatment to come from the practitioner, the perception that patients pay to see the practitioner, a lack of trust to empower staff or time to train staff, and the financial implications of introducing the new role.

Relinquishing new patient management to well-trained staff is not a new trend, although its application has been limited in Europe. However, patients’ expectations, competition for private work and the team’s demand for career progression and job satisfaction are key drivers for introducing the TC role.

The TC concept

A TC is someone in your practice who, with the right skills and training, will facilitate the new patient process. He or she bridges the gap between the new patient, the practice and the staff. The TC promotes and sells the practice and its services by demonstrating their true value to prospective patients, frees up the practitioner’s time, increases case acceptance ratios and, resultantly, increases practice profits.

Consider the time spent by the practitioner with the new patient and calculate how much of that time is non-diagnostic. A TC can often reduce up to 60 per cent of practitioner–patient time. Rather than this being a barrier to patients—which is indeed what many practitioners perceive to be the case—in my experience, patients actually feel much more at ease with the TC and therefore better informed. Doctor time is not always doctor time. As a typical example: if a new patient appointment is 30 minutes, but the clinical part is ac-
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Growing a successful dental implant clinic
By Dr Ian Lane, UK

In April 2015, Dr Ian Lane, a managing partner at Queensway Dental Clinic, together with Richard Elliott, Managing Director of Queensway’s Dental Laboratory, presented a webinar to a global audience of over 350 dentists, giving their insights into what they feel have been the most fundamental factors of growing a successful dental implant clinic.

Queensway Dental Clinic (www.queensway.co.uk) was founded in 1993, when Dr Paul Averley took over the north-eastern clinic. At the time, it was at the heart of an area where the population’s oral health was significantly lower than that of the national average. Over the next 23 years, the practice grew into the award-winning business it is today—a journey that Lane believes would not have been possible without the partners, specialists, nurses, managers, technicians and therapists who have invested their time and passion in every step.

Between 1998 and 2013, Queensway Dental Clinic was the largest referral centre for conscious sedation in the region, and the clinic treated over 100,000 patients during that time. However, as of 2011, the business model started to change and the partners turned their attentions to expanding the private side of the clinic. By applying the same principles learned from building a successful NHS practice, Queensway Dental Clinic grew from a four-surgery practice into a 25-surgery practice over time.

Lane suggested that this success can largely be attributed to the Queensway ethos with its patient-centred approach to dentistry: “We focus on holistic care, meaning there is real choice for the patient, as well as ensuring that shared decisions are made, over which patients have full control.”

“We have always invested in our team,” continued Lane. “Indeed, the strong foundations of our clinic have been built on the knowledge and experience of our team. To build a truly successful implant clinic, it is vital to have the right team in place.”

With Gold Standard Investors in People accreditation, it is clear that Queensway Dental Clinic understands the importance of nurturing the skills of its team. Investing heavily in the continuing professional development (CPD) of every single member, it has seen its nursing teams progress through the Nobel Biocare basic and advanced nursing courses, as well as attain the dental implant nursing qualification from King’s College London—and all are experienced to some degree with the All-on-4 treatment modality.

Of course, it is not just the clinical skills that contribute to the success of an implant practice. Queensway Dental Clinic has striven to improve the training of its front-of-house staff to ensure that patients receive only the very highest standard of service from the moment they enter the practice. This has included sending the team on lunch and learn sessions with Nobel Biocare representatives, having nurse cards developed to act as prompts on the phone, and giving each of the staff the necessary understanding of implant treatment options in order for them to communicate this effectively to prospective and current patients.

Furthermore, Queensway understands the importance of investing in the skills of its partners and takes great pride in the individual achievements of its team members. Indeed, the partners at Queensway Dental Clinic have all graduated from the Kois Centre in Seattle in the US—five of only 15 practitioners in the UK to have done so.

“The skills we have learnt at the Kois Centre have transformed the way we practice,” said Lane. “As well as improving the outcomes we can achieve for our patients. Seeing many patients who have suffered from many different problems with their teeth, it’s vital that we have the skills—like those that the Kois Centre teaches so well—to be able to manage the complexity of these cases in a reliable way. Without a doubt, these skills have also enabled us to reassure our patients that they are being treated with the most up-to-date and predictable procedures and techniques.”

Elliot too graduated from the Kois Centre and was the very first technician in the UK to have done so. This significant achievement is mirrored in the way Queensway invests in the skills and CPD of its laboratory technicians, representing the recognition of the importance of technicians in the provision of implant therapy.

Indeed, owing to the training provided by the Kois Centre, as well as the benefits of NobelClinician Software, the team at Queensway has managed to streamline their case assessment and treatment planning process. “We’re all speaking in the same language now,” said Lane. “We can provide effective risk assessments for our patients; deliver effective and reliable treatment plans for implant treatments, design our patients’ smiles, provide diagnostic assessments with models and photos, and review cases with the entire team present.”

“I feel that all this, Lane went on, are explanation and working alongside colleagues who all have the same skill and experience. “This is why,” he said, “we take our training and education seriously at Queensway.”

It is also down to the implant provider. Since 1993 (with the exception of a very short departure in 2009), Queensway Dental Clinic has used Nobel Biocare implants. “It’s the mix of quality service and quality products,” explained Lane. “We don’t use cheap products and Nobel Biocare doesn’t provide them. In all, it helps us minimise the risk to our patients and enables us to achieve excellent results.”

Working with Nobel Biocare enables the Queenway team to use a variety of different techniques, including immediate loading, and provides the opportunity to scan and plan treatments in full 3D. It also allows the clinical staff of Queensway to liaise effectively with the laboratory staff, expediting and improving the process from start to finish. This kind of professional knowledge, when brought together effectively with clinical, technical and management skills, has been one of the greatest contributing factors to the success of Queensway’s implant business. “It’s been a challenge,” admitted Lane, “but it requires excellent communication from all aspects of our business, but it has certainly paid dividends—and it certainly would not have been possible without the relationship we share with Nobel Biocare.”

This kind of relationship seems in no way likely to end soon; indeed, the team at Queensway Dental Clinic and laboratory has found working with Nobel Biocare so effective that it has seen an 87 per cent increase in spending on Nobel clinical products, as well as a 250 per cent increase for laboratory items since 2011. “Having a single company solution in our busy practice has proved extremely useful in boosting our business,” said Lane.

The figures speak for themselves. Since 2011, Queensway Dental Clinic has experienced an increase in its implant turnover of 220 per cent with up to 50 per cent of all of its private activity originating from its expansion of implant treatments. There has also been a consistent growth of 125 per cent in its laboratory business and this can be directly linked to its implant success.

However, having the knowledge and the products is just one part of achieving success. Putting everything into practice represents the greatest struggle for a large and busy centre like Queensway Dental Clinic. For this reason, the team strives to follow five essential tenets to ensure success:

Firstly, it is important to provide one point of contact. Lane explained that having so many disciplines together under one roof has created a service within a service which patients can feel confident. Rather than being passed around between different teams, patients at Queensway can conveniently be treated by one dedicated and well-trained team.

Furthermore, Queensway invests in progressive treatment protocols. The team works hard to ensure patients’ teeth can be restored in the shortest, most predictable time. This includes adopting new technologies and techniques, as well as learning to communicate effectively with all necessary parties. Its greatest achievement in this manner is the shortest, safest and most non-traumatic implant procedure. While Lane emphasised the importance of communication within the Queenway team, he also stressed how important it is to communicate effectively with patients. By conducting applicable and in-depth research and recognising the importance of reaching patients in the area, the Queensway team can target its treatments to those who need them most. This information can then be transferred to tried and tested marketing campaigns, such as those used on the practice website, through Google or via social media. Queensway also utilizes local advertising, which can often be the most successful method of reaching patients in the area.

Lane explained how crucial it is to invest in a good website: “As one of the main points of contact for most patients, a website has to be responsive; it has to be image led and easy to navigate. Our website is both smartphone and tablet friendly, in recognition of the massive usage of these two devices. All of the images on our website are of our own patients as well as stock images are used.”

Another key factor of Queensway’s success is the ability to offer high-end treatments at any time. This means that whenever an enquiry is made about any treatment it can be answered succinctly and accurately by a member of the team who understands precisely what is needed. Queensway Dental Clinic has a highly trained treatment adviser who can answer these queries, and the clinic offers a free 30-minute consultation with an implant dentist.

Lastly, Queensway Dental Clinic recognises the importance of being approachable, and is encouraging patients to recruit other dentists. According to Lane, “At Queensway, we understand that for new patient enquiries are made through word of mouth or recommendations.”

Everything the Queensway team does is geared towards ensuring that patients receive a service they can’t help but recommend. By carrying out monthly patient surveys, running patient forums and open evenings, taking testimonials and Google reviews, and building up a strong referral network, the Queensway team can collect, review and build upon patient feedback to ensure that its service always reaches a high standard.

In conclusion, by investing in exceptional training, by communicating effectively, by working with high-quality and supportive companies, and by maintaining high level of service, Queensway Dental Clinic has achieved a great deal over the last 20-plus years. The dedication and hard work shown by the team to treatment to its past and continued success and serve as a shining example of what an implant practice can achieve today and tomorrow.”
Lateral maxillary incisor implant—Key issues for aesthetic success

Drs Philippe Russe & Patrick Limbour, France

Introduction

 faced by a missing lateral incisor, practitioners often consider a wide range of issues and are also faced by numerous treatment options:

- in a young patient, faced with a unilateral or bilateral agenesis, he has to choose between an orthodontic treatment that either opens up the space or closes them. This decision, when taken early in the overall treatment, will affect both the patient and their caregiver for a long time (Fig. 1);

- in an adult patient, this is a consequence of bone, physiological, traumatic or infectious resorption, which will result in a decision whether or not to recommend a bone reconstruction or a gingival augmentation.

In every situation, the results will be judged by the patient and those around him. Since the lateral maxillary incisor is an integral part of the smile, aesthetic expectations are generally very high and, if the results do not meet the expectations, dissatisfaction can be powerfully felt.

When describing the different treatment stages, a number of pitfalls and difficulties will be highlighted and advice and clinical protocols will be given, in order to ensure that the results of this implant/prosthetic treatment are predictable and at the same time both aesthetic and functional.

When describing the different treatment stages, the second will consider the most important aspects of the prosthetic stages as well as aesthetic outcomes and their evolution over the long term.

Anamnesis

Once the usual contraindications for oral and implant surgery have been eliminated, particular attention should be given to the patient’s answers concerning their smoking habits. Indeed, meta-analysis gives an accurate picture of the consequences of smoking, with increases of:

- peri-implantitis and bone loss;
- failure rates.

The conclusions of Snider et al. can provide recommendations for the practitioner faced with a patient who is a smoker:

- the best is to ask the patient to stop smoking;
- if this approach is not acted on, then the patient must be warned of the increased risk of failure and of postoperative complications.

This last issue is important, as smoking can be considered a lost opportunity as far as implant treatment is concerned.

Clinical examination

The smile line

When replacing a tooth in an aesthetic region, understanding the location of the smile line is one of the determining issues during the clinical examination. There are two factors to consider: the exposure of papillae and visibility of the collar of the lateral incisor, and there is one significant problem: any aesthetic deficit experienced by the patient tends to make them change their smile line, which can happen more or less as a subconscious process and this can be a source of significant errors. Analysis of gingival composition is also a determining issue in positioning the collar of the lateral incisors in a location that is aesthetically optimal. The gull-wing profile, where the collar of the lateral incisors is slightly more coronal than that of the front teeth or the canine teeth, is considered to be more attractive according to Chiocchi.

Dental aesthetics

As regards dental aesthetics, the proportions of the proposed implant supported tooth can reflect two different scenarios:

- there is a unilateral missing tooth and the contralateral incisor has normal and aesthetically pleasing proportions. The objective will be to create a lateral incisor implant that is a mirror image;

- with the same situation but where the contralateral incisor is small, this is a situation that occurs frequently in unilateral agenesis.

Papathanassiou who defined average dimensions and a typical form (Fig. 3a) and also presented numerous morphological variants affecting these dimensions and also other characteristics such as the crown/root ratio and the coronal and root axes (Fig. 3b). These morphological criteria, which can now be found using 3-D imaging, have had a significant influence on the location of implants in all spatial planes in order to achieve the goal of harmony of form and dimension. Other publications, such as those by Levin and Preston, make it possible to estimate the width of absent lateral incisors on the basis of the central incisors (Fig. 4).

Implant location

A clinically significant deficit signifies the need for reconstruction of hard tissue but, conversely, a site without a tooth with no loss of volume should be subjected to a three-dimensional X-ray, as thick soft tissue can hide a lack of hard tissue (Fig. 5). A thin tissue biotype or a lack of attached gingiva can be a sign that gingival augmentation surgery will be required, particularly if a bone graft needs to be performed.

Occlusion

For orthodontic treatments, the anterior guidance should be analyzed carefully. It can be tempting to increase the perimeter of the maxillary arcade in order to obtain, at the least, implant corridors that are sufficiently wide at the level of 12 or 22. However, an overjet will make it very likely...
that the natural teeth will move in relation to the implant prosthesis with highly negative consequences for the sustainability of the cosmetic outcome.

**Documentation**

Taking photographs at the start of the treatment will make it possible to maintain a record of the initial condition, which is always useful if there are medical/legal problems at the end of the treatment. In addition, the images often make it possible to see problems relating to width, axis or symmetry that sometimes go unnoticed during a clinical examination.

**Complementary tests**

2-D imaging

Panoramic X-rays or retroalveolar radiography make it possible to check the depth of implantable bone in relation to the floor of the nasal cavity, the bone level in relation to that of adjacent teeth and the parallelism of the central incisor and canine.

3-D imaging

3-D imaging is required to check the vestibular palatal dimensions of the bone crest. There are three possibilities:
- the crest is sufficiently wide to take an implant without any bone augmentation;
- the crest is narrow, bone augmentation is required prior to siting the implant (Fig. 6);
- intermediate situations where the siting of the implant will be accompanied either by bone splitting or by guided bone regeneration.

**Orthodontic preparation**

When the adjacent teeth present apical convergence, the orthodontic preparation should create a mesio-distal dimension at the level of the root that allows the implant to pass with a margin of at least 1 mm of bone (Figs. 7 & 8). Where there is a central incisor of normal size, the rule for the orthodontist is to measure the width of that tooth carefully and to recreate the same width in the crown of the planned implant. Where the central incisor is a rootiform, the orthodontist should plan the future face of the tooth in order to achieve two laterals with the same shape.

Diantesmas around the rootiform tooth make it possible to achieve a smile that, in the end, is almost symmetrical (Fig. 9). The rootiform incisor does not have to be in the centre of the space but should be positioned in such a way that the papillae and the future zenith of the tooth are optimized. The zenith should be located 0.4 mm distal to the centre of the tooth for a lateral incisor, according to Chu et al.**1** (Figs. 10a & b). Sometimes, a zenith situated more than 1 mm from a line between the collars of the central incisor and the canine should be surgically altered by coronal lengthening as a lateral incisor that is too short can also be aesthetically unacceptable.

**Hard tissue augmentation**

Where a bone reconstruction is indicated, this should take into account one of the key factors for the overall cosmetic outcome: restoration of papillary support in order to avoid any unsightly black triangles between the lateral incisor and the adjacent teeth or any concave area above the implant crown that would create an ugly shadow.

The cortical graft, taken from the chin or the external oblique, should be formed in such a way as to provide support for the gingival papillae (Fig. 11). Gaps under and around the graft should be filled with cortical bone particles, crushed from the chin block or lateral mandibular area using a bone mill.

**3-D positioning**

As regards replacement of a lateral maxillary incisor, the tolerances for the location of the implant are very small because of the narrow width of the implant corridor. Two recent meta-analyses**15,16** concerning the precision of surgical guides resulting from 3-D imagery, even if these do not apply specifically to the lateral incisor replacement, has found a deviation in the order of a millimetre at the point the implant emerges and 4 to 5 degrees as regards the drilling axis. For Van Ausch et al.**17**, the average imperfection at the apex of the implant is 1.24 mm.

Since these measurements are incompatible with a 12 or 22 implant corridor, it is important to check the first drill holes during the operation, whether the surgery is guided or being carried out freehand. If the implant clinic does not have

**The attachment must be reliable.**

This is done using two 1.6 mm diameter orthodontic screws (Fig. 12). Autographs take about 6 months to heal. Ideally, the implant should be inserted between 4.5 and 5.5 months after the graft (Fig. 13).

**Insertion of implant**

**Choice of implant**

The mesio-distal dimension of the gap will determine the choice of the implant. When this is close to or less than the average size of 6.5 mm, the bone and papillary volume around standard size implants will be limited. According to Hansen et al.**18** and Bourauel et al.**19**, the disadvantage of small diameter implants is that they transmit higher stresses to the crestal bone, in the absence of any significant malpositioning, and in this way reduce the stresses applied to the implants. Under these conditions, small diameter implants have the advantage of increasing surrounding residual bone volume as well as space available for papillary healing.

**In a forthcoming study of 120 NobelActive 3 mm diameter implants, one of the conclusions confirmed the importance of these small diameter implants as regards the additional height of the papillae, resulting in an improvement in the Fairhauer pink aesthetic score**12 (Figs. 14, 15a & b).

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**Fig. 14:** Composite coronal section of a lateral maxillary incisor sampled for histological analysis. **Fig. 15:** Orthodontic screws and bone resorption. **Fig. 16:** Clinical outcome five months after the graft. **Fig. 17:** Autograph fixation, CENTROMAX implant in place. **Fig. 18:** Autograph fixation, implant in place. **Fig. 19:** Initial situation. **Fig. 20:** De-epithelialization of a palatal flap into a diamond shape. **Fig. 21:** Unfoldment of palatal flap, vestibular edge.

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**Fig. 1:** Diantesmas: viewed around a rootiform tooth to obtain a space of 5 mm. **Fig. 10a & b:** Contoured location of zenith of 22 (a) (arrow) to be taken into account when making the crown (b).

**Fig. 21:** Clinical outcome five months after the graft. **Fig. 22:** Creation of flap envelope, Swann Morton blades through the envelope, 18 g.s. needle with transparency. **Fig. 23:** Passage of sutures through the envelope. **Fig. 24:** The palatal flap is folded into the vestibular envelope using a running suture. **Fig. 25:** Tissue integration with ceramic crown.
Different surgical techniques can be used, depending on these deficits, which are taken from three publications: the roll flap developed by Abrams, the envelope technique of Peter Raetzke and Carl Misch's split-flap.

- if there is just a horizontal deficit, a modified rolled flap can be carried out, without separation of papillae and without vestibular incisions, the palatal flap being folded into an envelope flap (Figs. 19 to 25). The attraction of this technique for the patient is that a second operation site to take a graft is not required. In addition, it makes it possible to recreate a root eminence, considered already 20 years by Silverstein and Lefkove to be an important factor for the aesthetic outcome (Figs. 26 & 27a to c);
- where there is a vertical deficit, a crestal W-shaped incision as described by Carl Misch is indicated. This makes it possible to recreate an anatomical gingival architecture while, as a first step, creating two vestibular neo-papillae (Fig. 28). After separating the sections, the palatal tissue (finger) is divided into two to make two palatal half-papillae, joined one on one with their vestibular counterparts (Fig. 29);
- where there is a combined deficit, the same incisions are combined with a buried connective vestibular graft. Provided that there is sufficient volume, the graft is taken from the maxillary tuberosity, since this area has the advantage of providing graft tissue that is more dense, opaque and less adipose than the palate and, in addition, results in less postoperative pain. If the graft is transferred in a V- or Y-shape, it can support the newly formed papillae. The shape of the palatal incision can be modified to a Y-shape to assist rotation of the palatal half-papillae (Fig. 31).

If the thickness of the buccal gingival tissues has not been augmented or if collagen substitutes are used that do not have the opacity characteristics of tuberous connective tissue, the aesthetic outcome can be compromised. If there is recession of the external table or the titanium abutment under thin connective tissue, the grey titanium colour can be seen through the gum as a grey halo above the crown collar, which is detrimental to the aesthetic appearance (Figs. 32 & 33).

Conclusion

The aesthetic fundamentals for an implant are in the preprosthetic surgical stages of the treatment. Any approximation in the location of the implant in such a narrow implant corridor, any lack of support for papillae or any deficiency in the thickness of hard or soft tissues, will result in aesthetical problems. The prosthetic stages allow optimisation of the result as regards the gingival context but any error in the surgical stage will often be impossible to correct during the prosthetic stages. For this reason it is vital to approach this first part of the implant treatment for a lateral incisor with thoroughness and precision.

Author

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**Fig. 27a**: Clinical and X-ray views, retrocedent in place.
**Fig. 27b**: Initial incision creating two vestibular half-papillae.
**Fig. 27c**: Insertion of half-papillae (situation in Fig. 1).
**Fig. 28**: De-epithelialisation vestibular graft.
**Fig. 29**: Insertion of connective graft buried under the papillae.
**Fig. 30**: Clinical outcome in a case of gummy smile.
**Fig. 31**: Insufficient soft tissue thickness alters the chromatic outcome.
**Fig. 32**: De-epithelialisation tuberosity graft.
**Fig. 33**: Insertion of connective graft buried under the papillae.
Scientists at the University of the West of England (UWE) in Bristol have recently discovered a new way to improve the bond between titanium implants and bone. They found that a bioactive lipid called lysophosphatidic acid (LPA) interacts with vitamin D to enhance bone-forming cell function. Based on this finding, the researchers have developed an LPA coating for titanium implants to help strengthen the bonding properties of implants to bone.

“Many implants used in surgery are made out of titanium. These include joint replacements, screws and plates for fixing broken bones and dental implants,” said Dr Jason Mansell, a senior lecturer in Biomedical Sciences at UWE Bristol, who led the study.

“Implants work well when the patient’s own bone joins onto the titanium using the body’s own natural healing processes. When this join forms properly it is extremely strong, however in some cases, the patient’s bone fails to join strongly to the titanium and therefore the prosthesis works loose and ultimately fails,” Mansell explained.

Although the success rates of dental implants are high, ranging between 88 and 99 per cent in the literature, several factors, such as bone quality and quantity, as well as infection, can cause dental implants to fail, making reimplantation necessary. The new LPA coating, developed by the researchers could further improve the success rate of dental implant treatments.

LPA is a naturally occurring fatty molecule that acts with vitamin D to promote bone-forming cell function, the researchers discovered. “This is a very exciting discovery as few agents are known to enhance the actions of vitamin D on bone forming cells. Vitamin D is vital for bone health because it enhances bone forming cell function. Therefore, agents that can co-op-

erate with vitamin D could find place as a coating on titanium to encourage better bonding to the patient’s bone,” Mansell said.

Based on this knowledge, the scientists developed an LPA coating for titanium implants. “We have found a way of joining LPA onto titanium using a simple process at room temperature. Recently we also discovered that our novel coating also deterred the attachment of bacteria, this is particularly exciting as it means we have a potential dual-action titanium implant material,” Mansell stated.

The next stage of the project, which is currently seeking further funding, will examine the robustness and stability of the coating, as it would need to withstand the rigors of storage, sterilisation and the physical forces it would be exposed to when implanted into the body.

The study, titled “Fluorophosphonate-functionalised titanium via a pre-adsorbed alkane phosphonic acid. A novel dual action surface finish for bone regenerative applications”, was published online ahead of print in the Journal of Materials Science: Materials in Medicine on 24 December 2015.
Manufacturer matters when it comes to ceramic abutments

An interview with materials scientist Prof. J. Robert Kelly, USA

All dental implant restorations are not created equal. That’s confirmed by a new study from leading materials scientist Prof. J. Robert Kelly. Here he discusses the research, which has just been published in the International Journal of Oral and Maxillofacial Implants. The findings make for positive reading for NobelProcera customers.

today international: Your latest research tests the fatigue behavior of zirconia implant abutments from four major manufacturers. What led you to take this approach?

Prof. J. Robert Kelly: We wanted to study commercial products, not in order to make commercial comparisons, but to study realistic products. Our goal was to look for processing problems and design issues, so it made sense to see what would happen with products on the market. We selected Straumann Bone Level (BL) implants as our reference and the available abutments from Astra and Straumann that are fully zirconia.

What was your methodology for testing these products?

To set up the method, we first took six of the abutments in each of the four groups and tested them with repeated loads of 200 Newtons. We chose 200 Newtons for the accelerated aging based on our previous work. We didn’t want to break the implants as we thought that was a fair load to start with. The results then allowed us to design phase two, determining the loads that we would use in testing with another 12 implants.

But by the time we got the phase one data, we were astounded. There were clearly significant differences between manufacturers in each of the categories. This was subsequently verified in full sample testing.

The NobelProcera product performed outstandingly in this study, is that fair to say?

Yes, absolutely. While with some of the other abutments we had to reduce the load, with the NobelProcera product we ran-out (no fractures at 25 million cycles), so the load had to keep going higher and higher.

How would you explain this weakness of the other abutments?

The vast differences were unexpected as the macrodesigns are similar across manufacturers. To help determine why we were seeing such varied results I asked my colleague Dr. Leslie Denney to do SEM analysis. Looking at one of the poor-performing abutments in the study, she identified that the weakness was built in through damage arising from the manufacturing process—subsurface grinding damage, large cracks, inhomogeneous crystals and a diffuse layer of porosity. We clearly see that the manufacturer matters.

There are many reports of issues caused by third-party abutments being used with a system that they were not designed for. As the manufacturer matters, are you an advocate of using only authentic components?

In general, I advise against using lower cost third-party abutments. There’s too much to lose. From what we’ve seen over the years, the quality of the materials is inferior and the outcome has such a high value—the patient has such high expectations of the clinician—why would you risk that to save 100 dollars?

Considering the results of your study for the NobelProcera third-party abutment for Straumann Bone Level implants, what are your thoughts?

NobelProcera is a high-quality manufacturer. Nobel Biocare manufactures components that are designed, tested and then verified for the BL implant system.

Thank you very much for this interview. 

References


*Manufacturer matters*: the four abutments look very similar in clinical examination, but differed significantly in performance, indicating the impact of design and production method.

Zirconia abutments with titanium base

**NobelProcera**

1,000,000,000,000,000,000,000,000,000,000,000,000 cycles

**GlideWell**

1,000,000 cycles

Extrapolated cycles for 90% failure at 10% expected clinical load

10

10

10

Full zirconia abutments

**Straumann**

30,000,000 cycles

**Atlantis**

20,000,000 cycles

“Manufacturer matters” — the four abutments look very similar in clinical examination, but differed significantly in performance, indicating the impact of design and production method.

* Zirconia abutment D1

* Prof. J. Robert Kelly

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**References**

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**“Help clinicians to make an excellent treatment even better”**

*Interview with Anders Petersson, President of Integration Diagnostics Sweden AB*

Integration Diagnostics Sweden AB (IDSAB) was formed in 2015. What was your impetus for its foundation? Which goals did you want to achieve? We wanted to be able to offer an uncomplicated and affordable “RFA” system for the measurement of implant stability, a system that did not require the dentist to purchase disposable products to use. Our goal is to make it possible for all dentists to have their own Penguin RFA.

One year later, what is your résumé so far? What are your milestones? The market response has been fantastic so far, both from users and distribution partners. The sales has actually surpassed all our initial expectations. Some important milestones until now were to develop MultiPegs for all major implant systems, to get FDA clearance for the US and also certify the company according to ISO 13485. Another important strategic issue has been to develop our distributor network and we are extremely happy that so many want to become our business partners.

What are the clinical benefits of your product? To assure enough implant stability and osseointegration to be able to load the implant with a prosthesis solution. Especially in situations with compromised bone or with other risk factors and also when you want to use shorter treatment time.

Can you describe how measuring implant stability is achieved? What does it correlate to? The MultiPeg is screwed onto the implant and the instrument tip is held close to the top of the peg—the reading will then appear in a second. In technical terms, the instrument measures the resonance frequency of the MultiPeg, which correlates to the stiffness of the implant–bone interface. The technique is non-contacting and cannot be sensed by the patient. The measurement unit is ISO (implant stability quotient) which correlates to the micro mobility of the implant.

Can you also measure osseointegration? How does it work? What values should the user go for? Yes, it can be measured by taking at least two measurements with some time in between, and monitor the change in ISQ. Research has showed that 70 ISQ or above corresponds to a stable implant. It is recommended to measure at two occasions, at installation and before loading, to see the trend in the ISQ-value.

Do you plan to be present at the EAO Congress 2016? Yes, we are at the EAO meeting in Paris, and you are most welcome to visit us at booth no. 53.

Excellent, can you already give us a preview on what you will present at the EAO? We will exhibit the Penguin RFA instrument, and demonstrate how it works. We use demo implants with adjustable stability, so there is an opportunity to test it hands-on. We will also have clinical expertise in the booth on at least one occasion during the exhibition. The people in the booth have extensive experience in the field of implant diagnostics and especially ISQ, so I hope many take the opportunity to be there and meet with us.

What can we expect from you in the future? We will continue to build our distributor network globally to make Penguin RFA available everywhere in the world. We will also continue our research in implant diagnostics and associated areas. Hopefully, it will lead to other valuable tools that will help clinicians and patients to make an excellent treatment even better.

Anders, thank you very much for the interview. ✐
THE FUTURE OF IMPLANTOLOGY
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EAO G19

Anthogyr
PRIME MOVER IN IMPLANTOLOGY
At the Nobel Biocare booth, attendees of the annual scientific congress of the European Association for Osseointegration will find the latest in the company’s product range. An important new addition to its assortment of components is the On1 concept. This innovative modular solution bridges the gap between the surgical and prosthetic workflows. The On1 Base connects to the implant at the time of surgery and remains in place throughout the healing process, the prosthetic work, and the lifetime of the restoration.

The base brings the connection for restorative components to tissue level so that, unlike with traditional two-stage healing and temporary abutments for bone-level implants, the biological seal created by the soft tissue remains undisturbed for optimized healing.

The restorative components based on the On1 concept have been designed with ease of use in mind. For example, the On1 IOS Healing Cap supports an intra-oral scanning approach, which can speed up the impression-taking process. In addition, the On1 IOS Healing Cap, the On1 Base and the On1 Temporary Abutment all come with a pre-mounted handle for easier placement. For the surgeon, the On1 concept provides the flexibility to use any of three different implant systems with internal conical connection—NobelActive, NobelParallel and NobelReplace. Furthermore, it offers peace of mind that only precision-engineered Nobel Biocare components can be used for the restoration, removing the risks associated with an ill-fitting or non-biocOMPATIBLE third-party abutment. For a restorative clinician, the raising of the connection to tissue level not only ensures no interference with the soft tissue during healing, but also simplifies the placement of the restorative components.

With two height options available, there is the flexibility to change the On1 Base depending on the thickness of the soft tissue. Unlike with traditional tissue-level implants, this allows for optimized short- and long-term aesthetic outcomes.

Depending on the indication or personal preference, the restorative clinician can choose a cement- or screw-retained final restoration.

In summary, the On1 concept is much more than a new abutment line; it is an innovative restorative approach developed to support soft-tissue healing and address the clinician’s desire for flexibility and ease of use.

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**BREIDENT GROUP AND DESS COOPERATE FOR IMPROVED SOFT TISSUE ATTACHMENT**

For the long term success of dental implants, the soft tissue attachment on the abutment plays an important role. If it is insufficient then plaque accumulation in the pocket can cause gingivitis and subsequently periimplantitis when not treated the right way. Unfortunately, the attachment of soft tissue on standard titanium surfaces is very limited as is visible on many histological sections of implants where deep pockets down to the abutment-implant-interface are normally visible. In addition, many of the abutment changes in the classical implantology cause trauma which impacts the soft tissue attachment even more.

At the EAO congress in Paris, the breident group and DESS the start of a cooperation between the two companies to offer the SKY implant user an innovative solution to improve the soft tissue attachment of customized titanium abutments with the Metalive surface. The Metalive process is changing the abutments surface in the sulcus on that way that the connective tissue can attach in a better way. Clinical studies have provided evidence to the implant the customized abutment and crown are placed and the treatment is finished.

In the second workflow, impressions are also taken and the customized abutment with Metalive (a laboratory abutment copy functioning as base to produce aesthetic ceramic crowns is produced at the same time) as well as the customized definitive crown made of breCAM. HiPC are designed and manufactured. On the day of the exposure of the implant the customized abutment with Metalive surface is inserted and restored with the temporary crown. In the dental lab on the customized abutment copy the definitive crown is produced. After the soft tissue healing the temporary crown is exchanged with the definitive crown.

With the customized abutment with Metalive and the reduced workflows, both companies expect better clinical results with much lower costs compared to traditional implantology. This way, they believe that more patients will undergo implant treatment instead of getting a conventional bridge with all its disadvantages.

Bredent, Germany
www.bredent.com
Booth S11

Olofsson, Manager Osseointegration and Scientific Affairs at TePe. That is why the company is offering the uniquely angled TePe Implant Care for keeping the lingual and palatal implant surfaces free from plaque.

The Swedish oral hygiene company currently offers a wide range of cleaning devices for different types of implants. The well-known TePe Interdental Brush, for example, is an excellent tool for interimplant cleaning. However, the range also includes a whole assortment of products to clean all surfaces of the implant. TePe has been developing high-quality oral hygiene products, including interdental brushes, dental sticks, floss and toothbrushes, in collaboration with dental experts since 1965. Based in Malmö in southern Sweden, the company currently exports interdental brushes, toothbrushes and dental sticks from its subsidiaries in France, Germany, Italy, the Netherlands, Sweden and the UK to 60 countries worldwide. Last year, the company achieved a turnover of SEK 500 million (€ 62.8 million).

TePe, Sweden
www.tepe.com
Booth S20
Soft Tissue Management for Bone Augmentation
Dubai: 19 - 20 October, a total of 2 days on location

This course consists of 2 intensive days in Dubai with lectures, hands on practice, and mentoring.

Registration information:
www.TribuneCME.com
Curriculum fee: €2,500
tel.: +49-341-484-74134 | email: request@tribunecme.com

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Certificates will be awarded upon completion

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Owing to its minimally inva-

sive approach, piezoelec-

cric surgery has gained in-
creasing acceptance in vari-

cus pre-implant surgery pro-

cedures. The benefits of ultrasonic power have been widely proven and demon-

strated. It’s use is highly pre-

cise and safe selective, offers minimal bone loss, optimal visibility as well as superior healing with reduced post-op-

erative pain for better com-

fort for both patient and prac-

titioner.

According to the manufacturer Acteon, the ImplantCenter 2 sur-

gical unit was developed as a highly reliable tool whose un-

matched performance com-

bined with clinical expertise proves the way for faster, more pre-

cise, and painless pre-im-

plant surgeries. The combina-

tion of the most advanced ul-

trasonic and rotating technologies provides total independence in in-

creasingly diverse clinical areas.

Since dental implants have be-

come a mainstream treatment op-

tion, clinicians face ever-increasing patient expectations. Nowadays, pa-

tients expect successful treatment results irrespective of their bone

quality, age, lifestyle, or medical his-

story.

For over six decades, Straumann has made significant contributions to the progressing field of dental im-

plants. Through pioneering innova-

tion, the company has redefined the boundaries of clinical possibilities for both dental professionals and pa-

tients. Ten years ago, Straumann pio-

neered accelerated osseointegration with Straumann SLActive, reducing the healing period down to 3–4 weeks in all indications. This innova-

tion made faster treatment, shorter healing time, and better outcomes a reality.

Achieving predictable treatment outcomes has been the main focus of the SLActive clinical development strat-
ye over time. Together with lead-
ing clinicians worldwide, Strau-

mann has studied the clinical per-

formance of SLActive implants under the most challenging medical condi-

tions and treatment protocols to demonstrate this outstanding healing capacity of the SLActive surface.

As new insights emerge and new data becomes available, clinicians can discover how they can benefit
cated to bone surgery, the company

said.

The exclusive and patented NEWTRON technology allows more

preservation of tissue with minimal bone loss. It is non-active on soft tis-

ue, limiting the risk of tissue les-

ions. Frequency adjustment and

power regulation offer maximal per-

formance and effortless cut ad-

justed to the resistance met by the

tip. The irrigation flow rate manages

by the peristaltic water pump can be

precisely controlled to cool down the

tsie to prevent intraosseous tempera-

ture rise and bone necrosis.

The ImplantCenter 2 also opti-
mises the visibility on the surgical

field thanks to the ultra-powerful

white light for better distinction of the tissues. Clinicians can choose be-

tween three modes (Piezotome for

pre-implant surgery, I-SURGE im-

plantology motor and NEWTRON for

all conventional treatments) depend-
ing on the treatment. Each mode can

be customised in terms of ultrasonic power, speed ro-

tation, contra-angle, irraga-

tion, torque and speed.

The Piezotome fa-
cilitates and improves the

safety of delicate pre-impl-

plant surgical procedures.

Thanks to the ultrasonic

frequencies (28–36 kHz), ImplantCenter 2 works se-

lectively on hard tissue without adversely affecting soft tissue and surrounding anatomical areas such as blood vessels and nerves. The modulated piezo signal (alternation between high and low amplitudes of sig-

al) allows tissue relaxa-

tion and excellent cell repair for a clean cut and

better healing. The six ceramic rings of the

Piezotome LED handpiece

significantly boost the

power of the generator for fast interventions but at the same time limit the risk of soft tissue le-

sion.

The innovative Piezotome tips

are specially designed to suit the dif-

ferent clinical procedures and ana-

tomical situations encountered in pre-implant practice. This wide

range is supposed to help the practi-

tioner to perform fine osteotomy, os-

teoplasty, sinus elevation (lateral and crestal), ridge expansion, extrac-

tion, Piezocision (surgical orthodon-

tic treatment).

The NEWTRON mode, intended

for conventional treatment, allows

the use of the widest range of tips on the market, suitable for periodontal insur-

gation of the soft tissue, prophy-

laxis, endodontics and surgi-

cal endodontics, as well as conserva-

tive and restorative dentistry.

The I-SURGE rotating mode

convinces with its unsurpassed con-

stant torque and steady high-perfor-

mance, even in lower revolution ranges. This motor provides a wide

range from 100 to 40,000 rpm, which is the widest revolution range in its class. And with 6 Ncm, it provides unrivalled torque in micro-motors, which allows smooth function of the drill.

The progressive footswitch allows to adjust the required power according to the anatomical con-

strains encountered in Piezotome, NEWTRON® and I-SURGE modes. There is also a traditional ON/OFF function. To limit cross contamina-

tion, special attention was given to the footswitch design to facilitate ac-

cession to the various parameters, such as modes, irrigation, purge, choice of the active instrument (handpiece/motor) and speed regulation, without having to touch the device screen. Furthermore, the metal arch allows clinicians to move it at their conven-

ience.

Acteon Group, France

www.acteongroup.com

Booth S27
The best ideas come from experienced practitioners. Since its inception in 1999, this has been the guiding principle and reason for the success of the CAMLOG implant system. Today, CAMLOG offers a comprehensive portfolio of leading-edge products for implant and restorative dentistry. During both presentations held over the course of the European Association of Osseointegration (EAO) congress, prominent speakers are going to share their knowledge with visitors and present their expertise on digital dentistry, guided surgery and the COMFOUR abutment system.

CAMLOG's implant systems feature an ideal number of system components and offer easy and efficient handling properties. The Tube-in-Tube implant-abutment connection with its unmistakable three cams has proven itself with millions of successful implantations. In comparative studies, the connection has achieved good results with regard to a tight and precise fit. The three cams and precision connection geometry ensure quick and easy insertion, as well as alignment of the abutment mechanism. Perfect transfer and time-saving barding are only two of the many benefits of the Tube-in-Tube connection. CAMLOG has followed the same outer geometry (SCREW-LINE) and therefore only one surgical set is needed for both.

With the COMFOUR system, clinicians can offer their edentulous patients immediate, comfortable and permanent solutions on four or six implants. The multifunctional system allows for occlusal screw-retained bars, as well as single-tooth and bridge restorations on straight and angled CAMLOG and CONELOG bar abutments. Major advantages of the COMFOUR Abutment System are its versatility and optimised handling are only two of the many benefits of the Tube-in-Tube connection. CAMLOG has followed the same outer geometry (SCREW-LINE) and therefore only one surgical set is needed for both.

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A new form of dentistry—and it is fun!

An interview with Dr Alan Jurim, integratedDENTAL, US

Working at a practice focused on comprehensive restorative, implant and aesthetic dentistry, Dr Alan Jurim from Nassau County in the US uses various digital and CAD/CAM technologies on a daily basis. In this interview, he speaks about his experiences with Implant Studio from 3Shape and the difference it has made to his work.

Tooth virtually using software, and that is now possible because of Implant Studio. We can then go ahead and plan the single-tooth implant in Implant Studio. For example, in this case, because I have the CBCT data detailing the patient’s skull, I can have a custom healing abutment made that mimics the exact root form anatomy of the tooth.

In this way, I am able to maintain the same tissue support after the surgery and avoid any tissue collapse or variation during healing. This is very exciting, because we are now able to maintain as much of the healthy tissue for more predictable and improved final aesthetics.

Was this possible before CAD/CAM?

Even though parts of conventional implant planning protocols used CAD/CAM technology, the difference between now and then is huge. The workflow used to go back and forth from digital to analogue, and a great deal of the resolution and data consistency was lost that way, compromising precision and accuracy.

Implant Studio enables inclusion of the patient’s skull data in our 3Shape’s Dental System CAD software. There is no need to ship models back and forth between dentist and laboratory. As a clinician, I want to know that, when I do my tooth set-up, I can accurately maintain the aesthetics and vertical dimension so that vertical position I established stays consistent at each step of planning and treatment. That is why 3Shape is filtered every aspect of our day-to-day lives, to the point at which it is rare not to depend on a computer for assistance. There are just so many advantages to using digital solutions like Implant Studio to improve one’s work. It is not just because one has the technology and should use it, but because it truly improves one’s dentistry. It really is a new form of dentistry—and it is fun!

MIS SHOWCASES INNOVATIVE VCONCEPT

Introduced in May at the third MIS Global Conference, held in Barcelona in Spain, VCONCEPT is a holistic approach intended to provide clinicians with all the tools necessary for a successful and complete rehabilitation process. The innovative V3 implant and the advanced prosthetic system, resulting in a greater volume of bone and soft tissue, delivered a clear message of innovation, aesthetics and simplicity.

The V3 provides clinicians with a better starting point. The unique triangular shape of the coronal part of the implant reduces the amount of titanium and allows more room for bone growth. The compression-free gaps at the top portion of the V3 provide a reservoir for blood pooling and the formation of blood clots, which leads to enhanced bone growth at the crestal area around the implant, according to MIS Implants Technologies.

A consistent concave emergence profile, which more closely resembles natural contours, of all prosthetic components allows for a more efficient restorative procedure and the gain of extra soft-tissue volume for more favourable aesthetic results. Dentists can utilise all the impressive VCONCEPT benefits of greater bone and soft-tissue volume without having to learn new protocols or procedures. In addition, a dedicated V3 surgical kit makes procedures especially simple, safe and accurate.

Simplicity is a driving force for all innovations by MIS. An excerpt from the VCONCEPT video shown in Barcelona emphasises MIS’s view regarding following nature: “There’s no need to change nature, its perfect just the way it is. We need to become part of it and learn from it. When we rid ourselves of our preconceptions, we reshape our mindset. We make room for more nature, which is to our advantage.”

Expanding on the V3 and its groundbreaking qualities, MIS CEO Idan Kleinfeld said: “We would like to be the most innovative dental implant company in the world.”

MIS Implants Technologies, Israel
www.mis-implants.com
Booth P1

Published in today International, 25th EAO Annual Scientific Meeting
Respects your needs. Today and tomorrow.

For more information please visit wh.com

Implantmed with W&H Osstell ISQ module for reliable treatment results.

Implant stability can be measured precisely with the W&H Osstell ISQ module, available as an accessory. In combination with the torque control it greatly increases the reliability of the treatment process. Upgrade at any time – for today and tomorrow!

Visit us on the W&H EAO booth N° 10
Tips for visitors to Paris

MUSEUM
Maison de Balzac

47 rue Raynouard, 75016 Paris • Tél. : +33 (0) 1 55 74 41 80 • www.parismusees.paris.fr

In the heart of the old Passy village, the Maison de Balzac is the last famous Parisian novelist’s house to exist today. It was in this house that Balzac wrote ‘La Comédie Humaine’. The museum, along with other things, holds personal memories of the writer and his family, numerous original editions, manuscripts and illustrations. You can also see paintings, engravings and documents about his loved ones.

The museum also organizes exhibitions and events about the author. Reference library, concerts, readings (for adults).

Musée Dapper

35 bis rue Paul Valéry, 75116 Paris • Tél. : +33 (0) 1 45 00 91 75 • www.dapper.fr

Since it opened in 1986, the Musée Dapper has contributed to bringing the African arts to a wider audience by hosting numerous exhibitions. Through its rigorous research and care taken into the layout of the items on display, it has become one of the best places in Paris to see African sculpture at its finest.

As well as promoting the African arts, it now covers all the other cultural aspects of the diaspora of the African Continent, particularly those of the Caribbean and Guyana.

The Musée Dapper also offers the public opportunities to meet all kinds of artists from Africa or mixed societies through theatre or cinema.

Shows open to all and storytelling sessions are also part of the regular programming at the theatre.

TEA HOUSE
Acide Macaron

24 Rue des Ménzes, 75017 Paris

Tél. : +33 (0) 9 83 87 05 0

Jonathan Blot considers it an honor to sell the experience of gourmandise. This pastry chef presents his macaroons on rue Legendre and now also spoils his customers in a sunny tearoom in the Batignolles district. His trademark? Acidity. “I’m from a Franco–Armenian background, so I’ve always been exposed to many different kinds of acidity.” Acidity is a flavour enhancer that also has the unusual trait of stimulating salivation. Jonathan Blot became an apprentice at age 15, was trained by Ducasse, is the former pastry chef of the Plaza Athénée and the Jules Verne, and knows one thing for certain: “You judge a place on the quality of its lemon tart!” As you might imagine, his own is unforgettable. But his greatest strength is his reliance on his culinary whims: “The other day, I got a craving for some Kramik, a Flemish brioche. I made it my way, I liked it... and I put it on the menu.”

RESTAURANT
Les Chouettes

32, rue de Picardie, Paris 3e

Tél. : +33 (0) 1 44 61 73 21

Les Chouettes has opened in a former jewelry workshop transformed into a magnificent gourmet jewel box in the trendy Upper Marais under a glass roof, two stories of passageways with Eiffel-style cast iron beams, alcoves, two bars and a library. The frequently changing menu offers delicious surprises, featuring fish and seafood (squid, sea bass Carpaccio), poultry (quail with seared foie gras and Jerusalem artichokes) and desserts (clementine Mont Blanc, hazelnut Paris-Brest). A favorite!

KONG

Immeuble Pont-Neuf – 1 rue du Pont Neuf, 75001 Paris

Tél. : +33 (0) 1 40 39 09 00

Located in the building where the Samaritaine department store used to be, at Pont Neuf, this restaurant’s decor is designer Philippe Starck’s vision of 21st-century Japan. French hipster Béatrice Ardisson has compiled the background music.

Situated on the two upper floors of the former Samaritaine, it is certainly an eye-catching place. Philippe Starck’s decor is a mix of Japanese pop and 17th-century French aesthetics. With walls of glass and Perspex, the dining rooms are rich in color and Japanese pop art features. Once you’ve got over your initial surprise about this highly unusual interior, you’ll be swept away by the view from the glass-roofed terrace.

The menu crafted by chef Richard Pommies is a subtle blend of French and Japanese food, emphasizing the potential for successfully combining these two great culinary traditions.
What’s on in Paris, 29 September

Walking on Cars
- Starting time: 19:30
- Venue: La Maroquinerie (23 rue Boyer)
  - www.lamaroquinerie.fr

A few years ago, five schoolmates from the Irish coastal town of Dingle founded the band Walking on Cars. Today, they are among the most celebrated indie pop newcomers in Ireland, the UK and beyond. Their acclaimed debut album Everything This Way was released in January 2016, including the hit singles “Speeding cars” and “Catch me if you can.” Currently, Walking on Cars is touring Europe, enthralling fans with their soft piano and guitar sounds, emotive lyrics and hymnic pop songs. Catch the band in Paris tonight.

Cathédrale Notre-Dame de Paris
- Times: 8:00–18:45
- Address: 6 Parvis Notre-Dame
  - Place Jean-Paul II
  - www.notredamedeparis.fr

In 2013, the cathedral of Notre-Dame de Paris celebrated its 850th anniversary. The Gothic sanctuary, which is one of the most visited monuments in Paris and one of the main symbols of France, has an eventful history. Built in the Middle Ages on the site of a former Roman temple, the cathedral was the location of several royal weddings and coronation ceremonies, among them the coronation of Napoleon I in 1804. Badly damaged during the French revolution, the cathedral was fully restored by architect and art historian Eugène Viollet-le-Duc in the nineteenth century. To date, Notre-Dame is considered one of the finest examples of French Gothic architecture. It offers much else to discover, including catholic relics and holy music, as well as French art and history.

Panorama of Paris from Montparnasse Tower
- Times: 9:30–23:30
- Venue: Montparnasse Tower Observation Deck (33 avenue du Maine)
  - www.tourmontparnasse56.com

Besides the Eiffel Tower, another Parisian building offers a beautiful view over the city. From the top of Tour Montparnasse, visitors have a spectacular 360-degree view of the French capital. The tower overlooks Paris and its most famous attractions, including the Eiffel Tower, the Louvre and the Arc de Triomphe, from a height of 200 meter. The viewing space has floor-to-ceiling windows, as well as an outdoor terrace, boasting visibility of up to 40 km on clear days. A photo exhibition, the 360° Café and a champagne bar complement the experience.

Marché des Enfants Rouges
- Times: 8:00–19:00
- Address: 39 rue de Bretagne
  - marchedesenfantsrougesfr.com

The Marché des Enfants Rouges, hidden behind an old iron gate in the third arrondissement, is the oldest covered market in Paris. It offers a variety of freshly made foods from all around the world, as well as flowers, fruit and vegetables, fish, wine and bread. Visitors can try everything, including Japanese and Italian cuisine and even Lebanese and Moroccan specialities, at the market’s numerous food stalls. Founded in 1628, the “market of the red children” is named after a nearby orphanage whose young residents were dressed in red, the colour of Christian charity.

Oliver Twist: Le Musical
- Starting time: 8:00
- Venue: La Salle Gaveau (45–47 rue La Boétie)
  - www.olivertwist-lemusical.fr

The tale of Oliver Twist—an orphaned boy in nineteenth-century England who suffers poverty, hunger and the cruelty of society right from the start, yet remains optimistic and courageous—is one of the most famous and adapted works of Charles Dickens. In this theatrical adaptation performed at the charming traditional Parisian theatre La Salle Gaveau, a troupe of 15 actors, dancers and singers, as well as an orchestra of seven musicians, brings Dickens’ classic to the stage. The French musical, with English surtitles, features original compositions and interprets Dickens’ amiable, as well as satirical, characters with passion and genius.
All-on-4® treatment concept

The All-on-4® treatment concept is the best in its class of solutions. But only when Nobel Biocare products are combined. Many have tried to mirror this groundbreaking concept, but only we have the scientifically documented success to back it up. The All-on-4® treatment concept provides edentulous and soon-to-be edentulous patients with a fixed full-arch prosthesis on four implants on the day of surgery. Start treating more patients better.

nobelbiocare.com/all-on-4

Visit us at booth D2, hospitality suite 243