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EAO 25th Annual Scientific Meeting Paris • 29 September–1 October, 2016



EAO Paris 2016

French implant specialist Dr Jean-Nicolas Hasson, Mulhouse, discusses conventions and why they help us to optimise clinical excellence and improve the way we practise. » **page 5**



Interview

Today International spoke with EAO presenter Dr Tomas Albrektsson about the latest insights regarding successful osseointegration and peri-implant marginal bone loss. » **page 8**



Dental products in focus

The 25th annual scientific congress of the EAO will be an excellent opportunity to see the most up-to-date technologies and achievements in the field of dental implantology. » **page 24**

AD



EAO welcomes dental implant experts to Paris

European Association for Osseointegration hosts annual scientific meeting in the French capital

■ 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 excep-

tional 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 organised 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 organising 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

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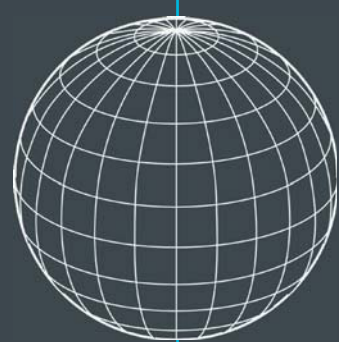


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congress website at www.eaocongress.com. The association is also offering an application for mobiles and tablet computers that is aimed at giving visitors quick access to congress-

related information. Daily news updates, interviews and product reviews from the show floor are available on the *Dental Tribune* website at dental-tribune.com. ◀

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

UK dental implant fixture market shows highest level of growth

■ According to a new series of reports on the European dental implants, final abutments and computer guided surgery market, over the past five years, the dental implant fixture market in Europe has experienced higher demand due to the recovering economy. Patients who held off dental implant procedures during the economic recession are now generating demand within the market. In 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.

Market penetration levels for dental implants vary significantly across the European market. Countries such as Italy, Spain, Switzerland, Germany, Benelux and Scandinavia represent more highly penetrated dental implant markets. On the other hand, France and the UK are far less penetrated and bear a greater pool of potential dental implant patients. It is expected that the French market for dental implants will begin to demonstrate more sig-



nificant growth throughout the forecast period.

"The European market is demonstrating a shift towards price-cutting discounts and value implant options," explains Dr Kamran Zamanian, CEO of iData. "This, in turn, has largely depressed prices and handicapped the overall market value growth. The growing prevalence and popularity of discounted products have therefore led to premium implant companies levying larger discounts on their products."

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 intro-

duction 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 high premium relative to smaller companies who do not have the same level of brand recognition.

Straumann holds the leading position in the dental implant market in Germany, Spain, Benelux, Austria and Switzerland. Straumann benefits from a relatively stable customer base, even in regions like Germany, where a high level of competitive pressure exists from local value and discount implant companies. In Germany for example, the largest contributing factor to growth in recent years has been the company's campaign which offered a free upgrade from titanium implants to the new higher strength Roxolid material. Ad-

ditionally, Straumann lowered the price of their basic titanium SLA implant to compete within the value segment. The company also invested in a number of value and discount brands that cater to the European market including: Neodent, Biodenta, Medentika and MegaGen.

In France, Nobel Biocare continued to hold the market leading position despite sluggish growth in the region. Overall, Nobel Biocare held the second leading position within the dental implant market in Europe. DENTSPLY Implants hold the third leading position in Europe. The progression of DENTSPLY's market share is a primary result of their acquisition of Astra Tech in August 2011. In the UK, DENTSPLY emerged as the market leader, closely followed by Straumann. Other competitors in the European dental implant market include BIOMET 3i, CAMLOG, Sweden & Martina, Zimmer Dental, MIS Implant, BEGO, Global D, Klockner, BioHorizons, Implant Direct, BTI, Phibo, MegaGen, Bredent, Osstem, Anthogyr, Medentis, and Southern Implants among others. ◀

Information in this article was provided by iData Research (www.idata-research.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

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

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



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 analysed 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

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

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 expectations about 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, Sichuan and Jiangsu).

The analyses established that about one-third of the participants had mistaken assumptions about dental im-

plants. 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.

Overall, 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. ◀

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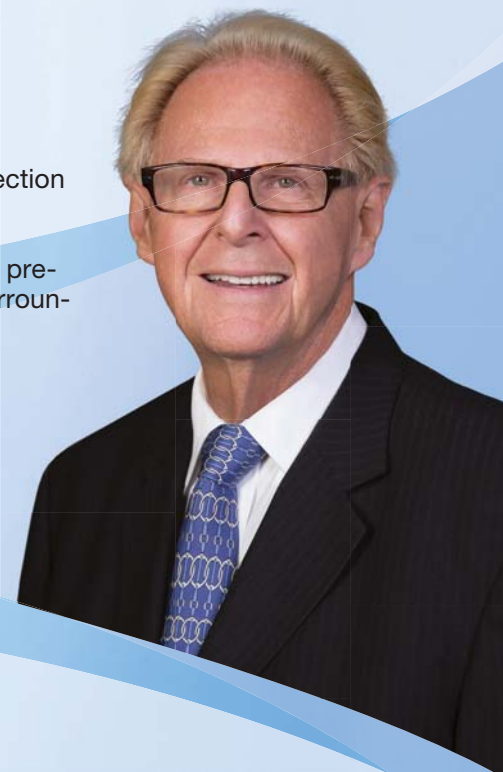
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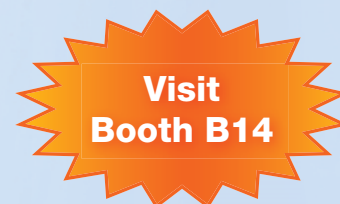
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Prominent implantologist receives second P-I Brånemark Award

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

■ Prof. Per-Ingvar Brånemark is known as the father of modern dental implantology. His work on the relationship between living bone and titanium established the process of osseointegration as the foundation for implant use in medicine and dentistry. In December 2014, he passed away after an extensive period of illness in his hometown of Gothenburg in Sweden. It is due to his work that medical and dental schools now include the use of bone-anchored titanium implants in their curricula. It is in his honour that the P-I Brånemark Award for Lifetime Achievement in Dentistry was established in 2015. Prominent implantology expert Dr Tiziano Testori, who is an active member of the European Association for Osseointegration, received the second award this summer.

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 Brånemark, asked 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 general well-being of society. German-born printmaker Markus Haala was commissioned to create the award plaque, which reads: "Per-Ingvar Brånemark. Scientist. Clinician. Educator. Humanitarian. Sage."



*From left to right: Presenters and recipients of the Award for Lifetime Achievement in Dentistry granted in honor of the late Prof. Per-Ingvar Brånemark: Mark Ferber, Founder of Channel3; Dr. Myron Nevins, recipient of the 2015 award; Dr. Tiziano Testori, recipient of the 2016 award; and Dr. Robert Gottlander of the award selection committee. (Photograph: Channel3)

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 sec-

tion 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 sense of fairness and integrity: "This award should serve as a permanent reminder of his sense of innovation, his dedication to education and his overriding concern for the welfare of humanity. Per-Ingvar was unique in many respects. He was concerned about developing products that serve the poor. That was far more important to him than any commercial interest. His scientific research and implants have helped millions of people globally. Per-Ingvar was a great teacher, worldwide lecturer, an accomplished author and generally just a great guy."

During last year's International Dental Show (IDS), Dr Myron Nevins, Associate Professor of Oral Medicine, Infection and Immunity at the Harvard School of Dental Medicine, Cambridge, U.S., received the first P-I Brånemark Award. "Both Drs Nevins and Testori have made lifetime achievements in titanium-based implantology based on Brånemark's initial research and ideas," commented Ferber.

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 Alam, 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 Amsel from Oxfordshire said: "I will discuss some



*Dr Daniel Alam

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/congress2017. ◀

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Optimising clinical excellence

By Dr Jean-Nicolas Hasson, France

■ 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 of the side of the track watching the train move away. For me, a changing landscape has always been more attractive. Reading 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-

„... happiness lies in all the challenges and discoveries we encounter and overcome on a daily basis.”

ten impressive. This is where our work starts. Having returned to our practices, we need to optimise our newly obtained knowledge for the benefit of our patients and in order to compete with our ever-more competent colleagues. We must be able to recognise 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

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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 realise 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

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

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.”

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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 specialising 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 and peri-implant marginal bone loss. *Today International* had the opportunity to discuss these topics with him ahead of the event.

Today International: Prof. Albrektsson, more than 50 years ago, Prof. Per-Ingvar Brånemark discovered the process of 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 for-



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 combination of two foreign bodies—the implant and the ligature.

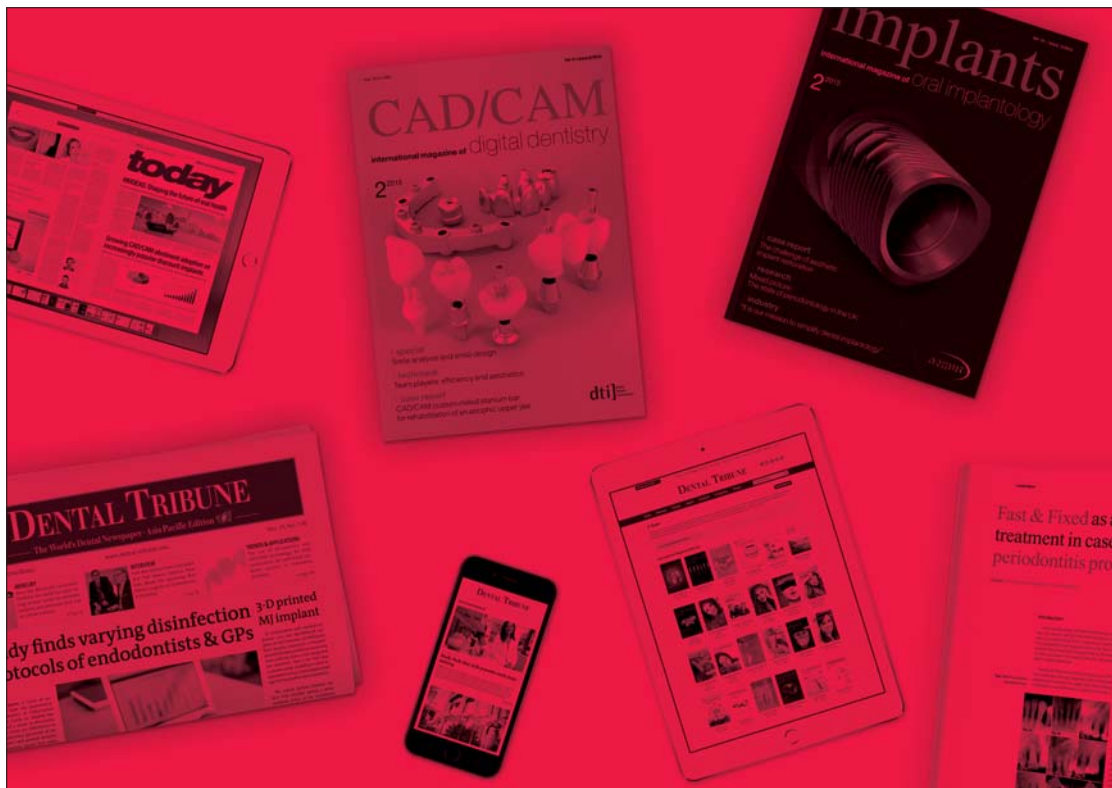
In clinical research, another such combination of foreign bodies was observed, namely when cement particles accidentally enter the soft tissue around the implant. One may say that a successfully placed implant is in a delicate state of balance, described as a foreign-body equilibrium. If another foreign body or certain patient characteristics, such as smoking, genetics or the intake of medication, like anti-

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 of 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

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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.”

depressants, are present, the equilibrium may be disturbed and bone resorption may ensue. Moreover, factors such as implant ionic leakage (particle wear), excessive force or broken components may exacerbate the situation and result in osteolytic reactions due to immune system activation.

The condition of peri-implantitis has been much debated in recent years and there is still no consensus on whether it should be classified as a disease or a complication of placing a foreign body in the oral cavity. What is the main issue in this regard and what is your opinion on the matter?

In my opinion, peri-implantitis may be 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. Osteoblasts and osteoclasts are bone cells, as well as cells belonging to the immune system.

However, problematic implants that lose interfacial bone exist—even

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 mainly follow the implants up carefully with frequent patient follow-ups to determine whether the condition will actually worsen or whether a new stable state with respect to no further bone loss will ensue. ◀

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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@ EAO 2016

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booth D4



The perfect symbiosis of design, material and surface –
the Straumann® Bone Level Tapered Implant:

- Roxolid® material – Reducing invasiveness with smaller implants
- SLActive® surface – Designed to maximize your treatment success and predictability
- Apically tapered – Excellent primary stability even in compromised bone situations
- CrossFit® connection – Simplified handling, legacy of Bone Level System

In combination with:

