Oral rehabilitation with dental implants continues to increase and with every month, new treatment methods and tools become available. This is facing clinicians with the question what they should consider the right treatment protocol for their patients.

One of the most important implantology meetings in Europe, the annual scientific conference of the European Association of Osseointegration (EAO) aims to keep professionals up-to-date with the latest knowledge and concepts in the field. Held at the Auditorium Parco Della Musica in Rome over the course of this week, this year’s meeting has been announced to update professionals on a variety of topics such as protocols for full arch restorations, dilemmas in bone augmentation as well as practice management.

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

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

More information about the meeting, scientific sessions and industry exhibition is available on the EAO congress website at www.eao-congress.com. The association also offers an application for mobile devices and tablet computers that is aimed at giving visitors quick access to congress-related information. Daily news updates, interviews and product reviews from the show floor are available on the Dental Tribune website at www.dental-tribune.com. The newsfeed can also be accessed by scanning the QR code below.

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Cochrane reports no evidence for superior long-term success of dental implants

Promising superior clinical outcomes, plenty of new dental implants are launched to markets each year. A report by researchers from the Cochrane Oral Health Group in Melbourne and Manchester has recently suggested that there may be no differences in terms of long-term success, regardless of the type of implant or the material used.

The researchers reviewed randomised clinical trials conducted around the world from the group’s own database. From this, the only statistically significant difference observed was in relation to surface preparations, with smoother surfaces being found to be less prone to bone loss associated with peri-implantitis than were rougher surfaces. Smoother surfaces, however, appeared to fail early more often, according to the analysis.

Similar results were reported by the group in a series of earlier reviews, of which the first was published in 2002. In the most recent update, two of the review authors independently compared 38 different implant types, which had been placed in 27 trials involving more than 1,500 patients, ranging from the early 1990s to early 2014. They said that, while their report provided no evidence that one specific type of implant proved superior in terms of long-term success to other types of implants with different characteristics, the results would have to be evaluated carefully owing to the low number of participants and short follow-up periods, which ranged from one to 10 years.

Overall, more than half of the reviewed trials proved to be at high risk of bias, they said.

“One well known weakness of such a meta-analysis of several small studies is that it cannot predict the results of a larger study,” remarked Prof. Stefan Holst, Global Head of Research and Science at Nobel Biocare, one of the global market leaders in dental implantology, on the report’s findings. “With 38 different implant types with highly diverse geometries, surfaces, prosthetic superstructures and clinical protocols applied—several of which are no longer in use—there are many variables. The meta-analysis dilutes any potential effect of a single relevant implant surface or implant characteristic in clinical practice today.”

Research on sandwich bone augmentation technique wins implantology award

For her research on the clinical efficacy of the sandwich bone augmentation technique, Dr Jia-Hui Fu from the National University of Singapore’s Faculty of Dentistry has just been awarded the Andre Schindler Research Prize by the International Team of Technology (Booth B10) in Geneva in Switzerland. In her paper, published in the journal Clinical Oral Implants Research, she and a team of researchers were able to show that the technique provided predictable results in the regeneration of buccal bone on dental implants.

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

A representative of Straumann also cautioned against the results, saying that the review reflects the fact that there is very little or no published clinical data on the majority of commercially available dental implants, since they have not been clinically tested. He emphasised that of all the implants available today, only 38 tests in randomised controlled clinical trials were considered worthy of review.

"With regard to our own implants, the review excluded studies that we and others feel are important. Furthermore, it did not consider the large body of bench tests and preclinical trials that demonstrate significant differences in some cases," the representative told today. According to Cochrane, there are more than 1,300 different dental implants available on the market today. The total value of fixed tooth replacements was estimated to be US$3.4 billion in 2011, a figure that some analysts expect to almost double in the next five year owing to the increasing demand of an ageing population and more dentists starting to place dental implants.
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According to reports, an increasing number of people tend to look for health-related information on the Internet. In the field of dentistry, dental implants currently rank among the top three most searched topics after amalgam and aesthetic treatment. The findings of a Spanish study suggest that results for this search term provided by common search engines do not lead to either easily comprehensible or useful information for users.

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

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

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

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

The study, which was recently published in the Clinical Oral Implants Research journal, was conducted by the OMEGI research group at the University of Santiago de Compostela’s School of Medicine and Dentistry.