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AO puts 'Focus on South Korea' at its annual meeting

The Academy of Osseointegration is a recognized international association for professionals interested in implant dentistry, and attendees at its annual meeting represent countries from across the globe. Photo/Provided by the AO

Symposium will feature AO members from across the globe

By Academy of Osseointegration Staff

South Korea has the world's highest per capita use of dental implants, and the Asia Pacific area is projected to witness the industry's fastest growth during the next five years. Last year, the Ministry of Health and Welfare announced dental implants for patients ages 75 and older would be covered by South Korea's national health insurance.

"South Korea is not only a highly developed implant market but also a leader in clinical research in the dental implant industry," says Dr. David M. Kim, explaining why the Academy of Osseointegration (AO) has dedicated a symposium to South Korea at its 30th annual meeting, to be held in San Francisco in March. "It's both important and refreshing to see and hear how dentistry is practiced in different countries."

With 6,000 members from 70 countries, AO is truly an organization with global influence and reach. With that in mind, AO began a new tradition last year by hosting a symposium dedicated to a single country. AO members Drs. David M. Kim and Brian M. Chang will moderate this year's Focus on South Korea Symposium.

"This symposium is an excellent opportunity for AO members from across the globe to hear and learn from top-notch speakers — all of whom have a university affiliation, conduct research and see patients on a daily basis," Kim said. "These presentations will address clinically relevant information that can be applied in the clinic the following Monday."

All three organizations specializing in implant dentistry in South Korea — the Korean Academy of Oral & Maxillofacial Implantology (KAOMI), the Korean Academy of Implant Dentistry (KAID), and the Korean Academy of Osseointegration (KAO) — have provided speakers for this symposium.

A group of renowned experts from South Korea will address this symposium, in English, and a wide range of clinically relevant topics.

"This symposium will not just be one-way. We're going to encourage a lively discussion and interaction both during and after the programming," Kim said.

The Focus on South Korea Symposium will be held from 1:30 to 5 p.m. on Friday, March 13, at the Moscone Convention Center in San Francisco during the AO Annual Meeting.

For more information and to register, visit *www.osseo.org/events/meetings/2015/index.html*. To stay up-to-date on the academy's news, follow the AO on Facebook and Twitter.

Kim is an associate professor at the Harvard School of Dental Medicine, as well as the school's director of the postgraduate program in periodontology and continuing education.

Study measures micromotion at implant-abutment interface

This study was published in the November/December issue of The International Journal of Oral and Maxillofacial Implants (JOMI), the official journal of the Academy of Osseointegration (AO).

Background

Micromotion at the implant-abutment level has been identified as a major determinant of long-term implant success. Technical problems ranging from screw loosening to screw fracture may occur as a consequence of excessive micromotion. Different concepts for the design of the implant-abutment connection have been proposed in the past. These affect micromotion at the restorative interface as well as the stability of the abutments used.

While initial micromotion depends predominantly on the fabrication accuracy achieved, long-term micromotion appears to be related primarily to wear phenomena at the implant-abutment interface.

Despite the clinical importance of micromotion phenomena at the implant-abutment interface, no universally valid method for quantifying this phenomenon has been described.

Key point

It cannot be predicted that a certain type of abutment will always lead to a certain level of micromotion. Relative displacement of components occurs at varying magnitudes. However, strict adherence to manufacturers' guidelines with respect to tightening torque may help reduce implant-abutment micromotion. Because micromovement occurs during the initial phase of loading, it may be prudent to routinely retighten the abutment screws, which might have lost preload.

Authors

Dr. Matthias Karl, department of prosthodontics, University of Erlangen -Nuremberg, Erlangen, Germany; Dr. Thomas D. Taylor, department of reconstructive sciences, University of Connecticut, Farmington, Conn.

► See STUDY, page C2

Why dental students should attend the AO Annual Meeting

By Academy of Osseointegration Staff

We asked young clinicians why they're looking forward to the Academy of Osseointegration Annual Meeting and how the event has benefited them in the past. In their own words:

I attended the AO 2014 Annual Meeting as a second year graduate prosthodontic resident, and it was an enriching experience. The comprehensive accumulation of lectures by specialists in the field of prosthodontics, oral surgery and periodontics elevated my clinical and academic benchmark.

I had the opportunity to present a table clinic, which gave me a chance to interact with many co-residents going through the same training as myself. It was a great educational experience, and an environment in which to share new thoughts and ideas about what's up and coming in our respective fields. The AO meeting also had the perfect circumstances for me to connect with eminent members of our field, like Dr. Steve Eckert and Dr. Dennis Tarnow, and to talk about future professional goals and tips on how to achieve them.

As a graduate resident, my aim was to collect maximum information for my masters thesis, and the various lectures on CBCT scanning and virtual treatment planning of implants were of immense value. The most comprehensive and up-to-date data provided on these subjects greatly helped my research. My keen interest being in immediate loading and virtual planning of implants, I found it very beneficial to interpret the long-term follow up of experienced professionals in this discipline.

Vrinda Mohunta, BDS
graduate resident
advanced prosthodontic program
Ohio State University,
College of Dentistry

I attended the AO 2014 Annual Meeting as an advanced surgical implant trainee at UCLA. It was my third time attending, and I consider it to have been the most profitable in all aspects regarding education, experience and networking.

I used the meeting to make new contacts with other residents and colleagues from other programs, as well as have fun and relax at the social events with my friends. I also did an oral presentation at the meeting, and my advice to students and residents is to attend these presentations and visit the posters. Do *not* be shy of asking questions and discussing them with others.

AO has such an amazing environment, which makes it easy to introduce oneself and have good conversation with the most important leaders in the field. It's a wonderful opportunity to be at the forefront of implant science around the globe. I will be attending AO's 2015 Annual Meeting, so I can continue to learn and see my friends again!

Rodrigo G. Beltrao, DDS, PhD
oral maxillofacial surgery and
implant dentistry
Prof. Implant Dentistry Sobracid/Imed
UCLA Advanced Surgical Implant

I attended the AO 2014 Annual Meeting as a graduate prosthodontics resident at University of Michigan. The meeting provided a great opportunity to combine learning with socializing. It was an opportunity to exchange ideas and lay the groundwork for future collaborations, as well as meet up with old friends and make new ones.

The uniqueness of this meeting is that it gives you multidisciplinary exposure to clinical advances and interventions, while also giving you an opportunity to participate in social events that allow you to have fruitful dialogue about the progress being made in our field.

The opportunity to meet leaders in this field is nothing less than inspiring for the new dental generation. Plus, the destination gives you a chain to experience cultural and culinary flavors while mingling with future colleagues from around the world. I am looking forward to this year's meeting.

Anastasia Katsavochristou, DDS
graduate prosthodontics
University of Michigan

◂ STUDY, Page C1

Purpose

Scientists aimed to establish a biomechanical approach to directly measure relative motion at the implant-abutment interface and to quantify micromotion in a variety of implant-abutment combinations. Geometry of the implant-abutment interface, fabrication method of the abutment, engagement of antirotational features, abutment material, tightening torque and type of manufacturer (original, clone) were investigated.

Materials and methods

Implant-abutment assemblies were fixed in a universal testing machine at a 30-degree angle. A cyclic load of 200 N (Newtons) was applied to the specimens 10 times at a cross head speed of 100 N/s while relative displacement between the implant and the abutment was quantified using extensometers. For five consecutive loading cycles per specimen, micromotion was recorded as a basis for statistical analysis. Comparative analysis was based on Welch tests.

Results

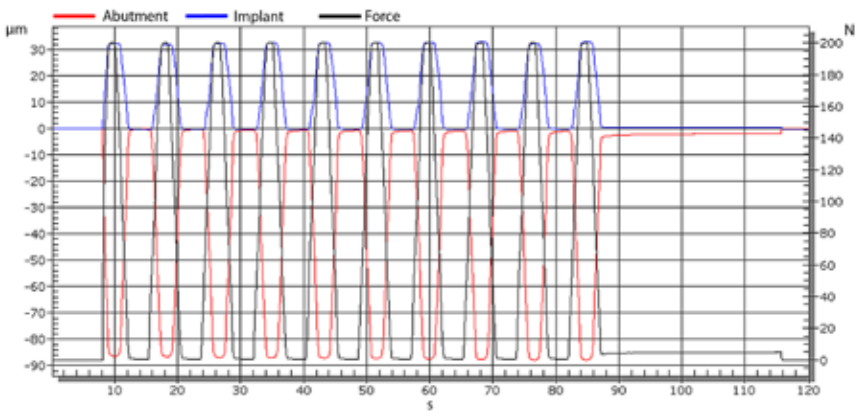
Investigated implant-abutment combinations produced a broad range of micromotion values. Researchers did not find perfect implant shoulder geometry or perfect fabrication technique that would result in undetectable micromotion. The values for micromotion at the implant-abutment interface ranged from 1.52 to 94.00 µm (micrometers).

Researchers found tightening torque significantly affected the level of micromotion when one specific abutment type was investigated.

Implant shoulder design did not reveal a significant effect in all cases. Lack of engagement of antirotational features of the implants resulted in increased micromotion, regardless of the implant system investigated.

Casting onto prefabricated gold cylinders resulted in abutments with significantly less micromotion as compared to copy-milled stock abutments. Computer-aided design/computer-assisted manufacture (CAD/CAM) zirconia abutments showed less micromotion than CAD/CAM titanium abutments. Inconsistent levels of micromotion were recorded for CAD/CAM abutments coupled to proprietary and competing implant systems.

In most cases, the CAD/CAM abutments performed as well as stock abutments. Great variations in micromotion were found with clone abutments and clone implant systems.



Graph/Provided by JOMI/the AO

More information

For a complete copy of the study and the JOMI November/December table of contents, visit *www.osseo.org/NEWIJOMI.html*. To join AO and begin receiving JOMI (bi-monthly) or obtain online access to JOMI, visit *www.osseo.org/NEWmembershipApply.html*.

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Academy of Osseointegration hosts scientific meeting in India

From left, AO Indian Ambassador Dr. D. Gopalakrishnan, AO Board Member Dr. Michael Norton, AO President Dr. Joseph Gian-Grasso, and AO DPU Liaison Officer Dr. Georgios Romanos.
Photo/Provided by the AO

By Academy of Osseointegration Staff

The Academy of Osseointegration (AO) recently hosted its first-ever AO Indian Outreach Meeting (AOIOM), in collaboration with Dr. D.Y. Patil Vidyapeeth (DPU) of Pune, India. More than 275 dentists gathered Jan. 22–24 to discuss and exchange information related to the event's theme, "Innovation and Practice in Modern Implant Therapy."

This three-day scientific program included plenary lectures from internationally and nationally acclaimed experts. In addition, delegates shared their scientific expertise during an e-poster session.

"Renowned experts from across the world shared their vast knowledge of the field and its latest advances. The interdisciplinary makeup of these speakers provided a refreshing and unparalleled learning experience," said Dr. D. Gopalakrishnan, AOIOM 2015 organizing chairman.

The speaker lineup included Dr. Joseph E. Gian-Grasso (USA), Dr. Michael Norton (UK), Dr. Paresh Kale (India), Dr. Hugo De Bryun (Belgium), Dr. Saphal Shetty (India), Dr. Dhirendra Srivatsava, Dr. Georgios Romanos (USA), Dr. T. V. Padmanabhan (India), Dr. Suvarna Nene (India), Dr. Fernando Viscaya (Spain) and Dr. Jocelyne Feine (Canada).

There were 50 e-poster submissions, of which 20 were selected for a blind-review competition. Prize winners for each category are listed below:

- *Original research:* Dr. Shuchi Tripathi
- *Case series:* Dr. Gurbani Kaur
- *Case report:* Dr. Binita Srivastava

"AOIOM exemplifies the successful network AO is creating internationally to facilitate the exchange of new technologies, emerging trends and research in the fields of implant dentistry and tissue engineering," said AO President Gian-Grasso. "This is consistent with, and critical to, the academy's mission. Exchanging ideas and learning with international colleagues is the fabric of our organization."

For more information about AO's global outreach and chapter charters, visit *www.osseo.org/charterChapters.html*. To stay up-to-date on the academy's news and upcoming meetings, follow the AO on Facebook and Twitter.

About the Academy of Osseointegration (AO)

With 6,000 members in 70 countries around the world, the AO is recognized as a premier international association for professionals interested in implant dentistry. AO serves as a nexus where specialists and generalists can come together to evaluate emerging research, technology and techniques, share best practices, and coordinate optimal patient care using timely, evidence-based information.

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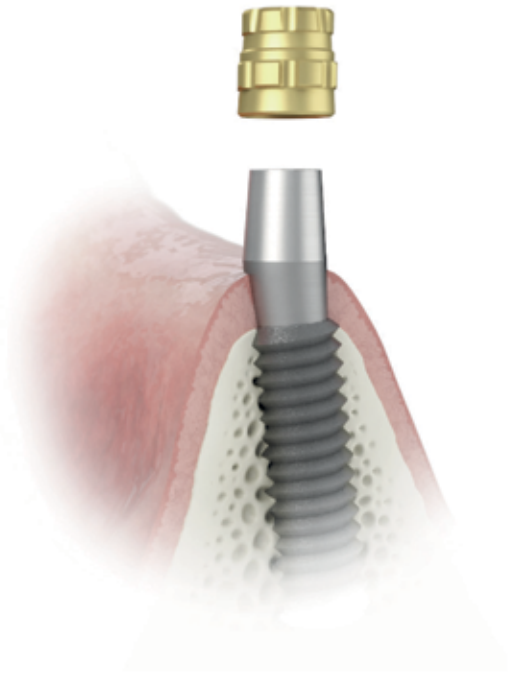

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For tight situations when extracting wisdom teeth, here's how to extend your surgical viewing angle

By W&H Staff

Surgical drive instruments face anatomical limits when extracting wisdom teeth: The cheek obstructs straight handpieces in the case of small mouths, or the distal molar makes burr access difficult for contra-angle handpieces.

In either case, the new surgical contra-angle handpieces from W&H offer a solution — even for wide apical tooth sectioning. Dental handpieces WS-91 and WS-91LG combine the advantages of surgical straight and contra-angle handpieces for the first time ever. The extended angle between the shank and burr axis allows good access to the tooth row both buccally and occlusally. Displaced teeth can be comfortably sectioned.

The dentist also has a significantly better view of the surgical site than with the instruments previously available.

Dr. Mario Kirste from Frankfurt/Oder had this to say: "If I turn the contra-angle handpiece head slightly, I can work particularly quickly and safely in the retromolar region. The instrument has the potential to reconcile the contrasting positions taken up by the users of straight and contra-angle handpieces."

Power plus hygienic safety

The new contra-angle handpieces WS-91/WS-91LG are real powerhouses at the same time, W&H asserts. Their transmission ratio of 1:2.7 results in a speed of up to 135,000 revolutions per minute. The key factor, however, is their high power combined with a surgical motor.

The contra-angle handpieces achieve an effective power of more than 2 Ncm on the working part of the burrs, making them almost three times as powerful as standard dental contra-angle handpieces combined with an electric dental motor.

Biologically necessary and hygienically safe cooling is also taken care of: An external triple spray cools the rotating instrument with a sterile saline solution. As with all dental handpieces from W&H, the surface of the new contra-angle handpieces is scratch-resistant and therefore easy to clean, according to W&H. They can also be easily disassembled without tools.

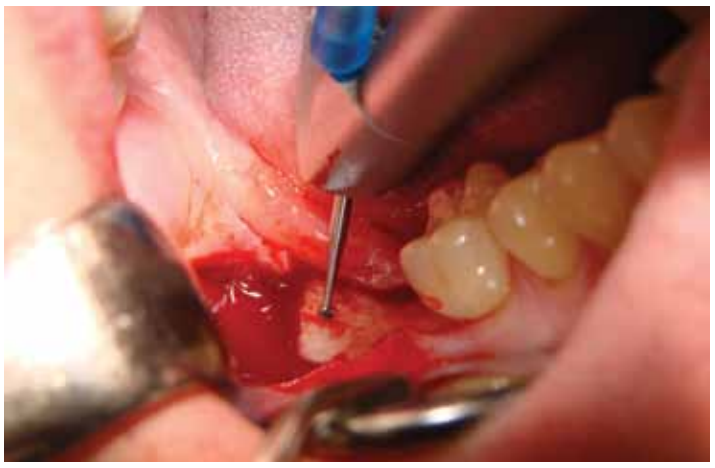
AO BOOTH NO. 133

Successful balance

Apical resection is another indication for the contra-angle handpieces WS-91/WS-91LG. The sophisticated geometry ensures excellent vision in cases involving maxillary molars and small mouths, according to W&H. In the WS-91LG, a mini LED+ also illuminates the operating area with daylight quality.

"The new contra-angle handpieces are a really successful balance. This achievement by W&H extends my viewing angle and my options in routine surgery," Kirste said.

The new surgical contra-angle handpiece WS-91LG. (Photos/Provided by W&H)



At left, application of the WS-91LG by W&H.

Below, a visual comparison and the W&H surgical contra angle handpiece.

At left, X-ray visual.

Below, the contra angle with 45-degree head and the W&H surgical handpiece.

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Dentium celebrates 10 years of clinical success

By Dentium USA Staff

Dentium is pleased to announce the results of its long-term clinical case study. The study, conducted for more than 10 years, has successfully shown Dentium implants are reliable and predictable.

The study's radiographic images showed a successful osseointegration during a long-term observation period and also showed that Dentium's unique design and surface features resulted in stable osseous crest without bone loss to the first thread, according to the company.

Dentium implants possess S.L.A. (sand-blasted with large grit and acid-etched) surface treatment, which facilitates the osseointegration process with a high predictability of success and provides more complete bone-to-implant contact throughout every thread of the implant.

This produces a well-attached base for osseointegration, the company said. The greater distance between the threads of the implants also helps promote early osseointegration while the increased thread height helps augment initial stability. The double-threaded design of the implants reduces insertion time, thereby decreasing the patient's chair time.

The tapered body design of Dentium dental implants provides initial stability and bone expansion response for easy installation, according to the company. The tapered design also helps create a stable yet comfortably placed implant that provides integration with surrounding bone anatomy.

Dentium implant systems offer a variety of diameter and length options for individual cases. Dentium implants can bring initial stabilization and osseointegration, especially in soft-bone cases and in sinus graft with implant placement cases.

All implants offered by Dentium share the same internal hex. The conical hex connection between the implant and abutment interface helps ensure greater hermetic sealing and provides an improved tactile sense, the company asserts.

This helps to ensure a more stabilized abutment seating. The biological connection contained within the implant creates an even distribution load to the fixture, helping to minimize micro-movement and marginal bone loss.

Dentium components are equipped with a true single platform; only one abutment connection is used for implants. This reduces the need for multiple prosthetic components and simplifies the surgical and prosthetic procedure, according to the company.

Dentium is a dental implant manufacturing company with a heavy focus on innovative research and development. Dentium has released state-of-the-art dental technology with products ranging from implants to regenerative materials. The motto of Dentium is "Developed by Clinicians for Clinicians" because its products are developed by industry leaders. Dentium is in more than 80 countries and has a manufacturing facility here in the United States. Dentium is FDA registered and ISO certified. Dentium wants to encourage the academic community as well as future clinicians to follow its passion for research and development.

For more information and introductory specials, call (877) 304-6752 or send an e-mail to *info@dentiumusa.com*. You may also visit *www.dentiumusa.com*.

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At a glance

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- Removal of pins made simple with pin holder
- Easy pin placement even in dense cortical bone

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