ICOI World Congress • Orlando, Florida • Friday, September 21, 2012 Vol. 2, No. 1

today ICOI

Computer-aided customization

Get a step-by-step look at one custom implant restoration case, from the intraoral scan to the finished product.

»page 4

Scenes from the ICOI

Clinicians from Costa Rica and Mexico join companies from around the world for a day full of fun.

»pages 6 & 7

Stop paying for expensive software

Want to perform CT-guided surgery but don't want to keep buying new software? Now you have another option.

»page 14

Look back, move forward

Attendees crowd the aisles during the first day of the ICOI World Congress on Thursday. (Photo/Anna Kataoka-Wlodarczyk, Dental Tribune)

ICOI celebrates 40 years with insight into implant dentistry's innovations, complications and controversies

For 40 years, the ICOI has been educating clinicians on implant dentistry, along with all the innovations, complications and controversies that go with it. During the next two days, the ICOI World Congress will honor that history and look back at where this one fledgling "study club" came from.

What once was run from the office of ICOI co-chair Dr. Kenneth Judy now occupies an entire floor of an office building in Upper Montclair, N.J. What

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LOOK "from page 1

once started as a small group of clinicians has now grown to encompass more than 13,000 dues-paying members and spans all continents except for Antarctica.

This week's World Congress XXIX was created and prepared by Dr. John Russo and includes a diversified and international faculty. Some of the topics to be covered include cone-beam CT diagnosis and treatment planning; the use of growth factors including stem cells; digital impressions from the perspectives of the clinician and the laboratory; and diagnosing, preventing and treating soft-tissue esthetic complications.

In addition, there are more than 100 implant dentistry-related exhibitors just waiting for you in the exhibit hall to show off the newest and most advanced products and technology.

Here is a look at some of the highlights of the scientific program for today and Saturday.

Today

• *1:30 to 2:30 p.m.* – Dr. Carl Misch: "Prosthetic-Related Complications"

• *2:30 to 3:30 p.m.* – Dr. Rick Ferguson: "Bone Grafting – Misconceptions and Strategies for Predictable Success"

• *5 to 6 p.m.* – Dr. John Russo: "Reduce Complications, Increase Confidence, Achieve Excellence"

• *7 to 8 p.m.* – Awards ceremony

Saturday

• *8 to 9 a.m.* – Dr. Bach Le: "Management of the Ailing Implant"

• *9 to 10 a.m.* – Dr. Pablo Galindo Moreno: "Bone Level Stability Around Implants Placed in Pristine and Grafted Areas"

• *10:30 to 11:30 a.m.* – Dr. Maurice Salama: "Contemporary Reconstructive Hard- and Soft-Tissue Surgery: Myths, Realities and Future Trend in Dentistry"

• *1:30 to 2:30 p.m.* – Dr. Alan Fetner: "Subcrestal Implant Placement to Optimize Soft-Tissue Esthetics – Controversy and Practicality"

• *4 to 4:45 p.m.* – Dr. Scott Ganz: "A Comparison of Interactive Software Applications in Assessing the Reality of Anatomy: Diagnostics and Implant Planning Accuracy"

• *6 to 6:30 p.m.* – Dr. Konstantinos Valavanis: "Perimplant Tissue Design: Parameters and Key Factors for Optimum Esthetics"

today About the Publisher

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Published by Dental Tribune America

today appears during the ICOI World Congress in Orlando, Florida, September 21, 2012.

MIS Implants offers new conical connection implant

C1 Implant System. (Photo/Provided by MIS)

MIS Implants Technologies has recently launched the new C1 implant system. This new C1 system brings a combination of proven and innovative design features to market, including a conical connection and abutments that utilize a platform-switching concept.

The 6-degree conical connection ensures a secure fit between the abutment and implant. By minimizing micro-movement at that junction, bone loss at the crestal level is reduced. There is a six-position cone index within the conical connection to help orient the implant during insertion and place the abutment into the proper position.

Implants, abutments and tools are color-coded according to platform size for easy identification. The standard platform refers to the 3.75 and 4.2 mm diameter implants, while the 5 mm diameter implant is the wide platform. Lengths for all of the diameters come in 8, 10, 11.5, 13 and 16 mm.

The C1 implant (as all of the MIS implants) is made from a titanium alloy that contains titanium, aluminum and vanadium known as Ti-6A1-4V-ELI (Grade 23). This alloy has high fatigue strength and is highly biocompatible. Similar to commercially pure titanium implants (Grades 1-4), the outer surface of these implants consists of a thin layer of pure titanium oxide (TiO2).

The unique geometry of the C1 implant encourages primary stability with mild bone compression at the upper 2/3 of the implant. The final drill, used during preparation of the osteotomy, is designed in such a way to allow less compression by the threads at the apical third of the implant, which will enable rapid bone growth in that area. These two characteristics have been put in place to minimize the period of time between initial mechanical stability and long-term biologic stability.

Platform switching is a restorative concept that has been shown to minimize crestal bone loss. It has been theorized that moving the junction of the implant/abutment connection away from the outer edge of the implant platform reduces the bacterial component that could lead to loss of vertical height. For those clinicians who prefer to utilize platform switching in the restorative phase, the C1 abutments have been designed to allow this.

As with other MIS products, the surface treatment consists of both large particle blasting and acid etching. This not only creates micro- and nano-surface morphology, but also ensures a high-quality, contaminant-free surface that has been shown to achieve superb osseointegration results, according to the company. The apex of the C1 implants is dome-shaped to help prevent damage to the mandibular nerve as well as to avoid perforation of the sinus membrane. Packaged with each C1 implant is a sterile, single-use final drill, a cover screw and a temporary PEEK abutment. Each implant (including these additional components) is sold for $249.

Here at the ICOI

To receive more information about the C1, call (866) 733-1333, visit *www.misimplants.com* or stop by the booths, Nos. 303/305 and Nos. 402/404 .

From intraoral scan to final custom implant restoration

By Perry E. Jones, DDS, FAGD

■ This case demonstrates the optical scanning of Inclusive® Scanning Abutments (Glidewell Laboratories; Newport Beach, Calif.) utilizing the iTero™ digital scanning system (Align Technology; San Jose, Calif.) with software version 4.0. Digital data was used with laboratory CAD/CAM planning to fabricate custom all-ceramic implant abutments and a four-unit fixed prosthesis. The abutments and fixed prosthesis were fabricated using advanced computer-aided milling technology.

Dental history

The patient was a 52-year-old healthy Hispanic male who sustained a traumatic avulsion and lost his maxillary incisors in an automobile accident. Following healing, a four-tooth transitional removable partial denture was constructed. He was seen by the oral and maxillofacial surgery service of Virginia Commonwealth University for dental implant therapy.

Treatment plan

The patient was informed of the alternatives, benefits and potential complications of various treatment options before deciding to pursue implant restoration of his missing teeth.

The treatment plan included placement of two Replace® Select Straight RP 4.3 x 13 mm implants (Nobel Biocare; Yorba Linda, Calif.) with 5 mm healing abutments, followed by a six-month healing period and restoration with all-ceramic custom abutments and a four-unit, all-ceramic fixed prosthesis to restore the anterior incisors to form and function.

Surgical procedure

Using local anesthesia, two Replace Select Straight RP implant fixtures were placed in the area of teeth #7 and #10, using standard Nobel implant placement protocol. Placement angulation and depth were verified and deemed satisfactory. Standard RP 5 mm healing abutments were placed, and the fully reflected tissue flap was closed with interrupted sutures.

Restorative procedure

Following six months of healing post-implant placement, intraoral photos were taken to record and confirm the healthy remaining dentition. Osseous integration was confirmed with a panoramic X-ray, followed by resonance frequency analysis (RFA) using an Osstell® ISQ implant stability meter with SmartPeg™ attachment (Osstell USA; Linthicum, Md.), which displayed an implant stability quotient (ISQ) of 78 on a minimum-to-maximum scale of 1–100.

Counter rotation with a torque wrench confirmed no rotation to 35 Ncm. The implant fixtures were considered acceptable for restoration.

The 5 mm healing abutments were removed, Inclusive Scanning Abutments were placed on the implants, and the accompanying titanium screws were tightened (Fig. 1).

Using the iTero scanner with updated software (version 4.0), a full maxillary arch scan, full mandibular arch scan and centric bite in maximum intercuspation were completed.

A three-dimensional digital record of the patient's anatomy was created from these scans and electronically submitted to Glidewell Laboratories to be used in the CAD/CAM restoration process.

At Glidewell Laboratories, the virtual scan was registered to the scanning abutments, providing the dental technicians with the implant system, size, axis, position relative to the adjacent anatomy and locking feature orientation. A virtual zirconia abutment was designed using 3Shape's DentalDesigner™ software (3Shape Inc.; New Providence, N.J.) and the Glidewell Digital Abutment Library (Fig. 2).

From this, the corresponding physical Inclusive All-Zirconia Custom Abutments (Glidewell Laboratories) were milled.

Similarly, a BruxZir® Solid Zirconia four-unit fixed bridge (Glidewell Laboratories) was designed and milled using state-of-the-art CAD/CAM technology. The custom zirconia abutments were trial-fitted in the patient's mouth with slight tissue blanching noted (Fig. 3).

In the same visit, the final four-unit all-ceramic milled BruxZir Solid Zirconia bridge was tried-in and examined for proper occlusion. There was "tight" anterior coupling for this case as evidenced by the history of provisional denture fracture. The occlusion was checked and presented as so precise that no adjustment was required.

The anterior view of the final prosthesis demonstrates optimal mesial-distal width proportion, incisal edge proportion, pontic-tissue contact and excellent shade/esthetics (Fig. 4). Further, the occlusal view demonstrates an optimal incisal edge arch form. The soft-tissue lip position and speech phonetics appeared to be optimal.

Following the trial seating, the fixed bridge was removed, the zirconia abutment retention screws torqued to 35 Ncm, the abutment screws covered with cotton/Cavit™ Temporary Filling Material (3M™ ESPE™; St. Paul, Minn.), and the prosthesis cemented with GC Fuji PLUS™(GC America; Alsip, Ill.).

** Note: Cadent (Carlstadt, N.J.) was acquired by Align Technology (San Jose, Calif.) in May 2011.*

Fig. 1: **Inclusive Scanning Abutments attached to implants. (Photos/Provided by Perry E. Jones, DDS, FAGD)**

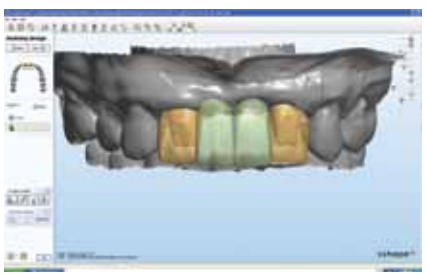

Fig. 2: **Abutment planning (labial view) with 3Shape's DentalDesigner software and Prismatik CZ™ add-on module (Glidewell Laboratories).**

Fig. 3: **Inclusive All-Zirconia Custom Abutments #7 and #10.**

Fig. 4: **Four-unit BruxZir Solid Zirconia fixed bridge cemented in place.**

Here at the ICOI

For more information about the Inclusive Scanning Abutments, stop by Glidewell Laboratories, booth No. 214.

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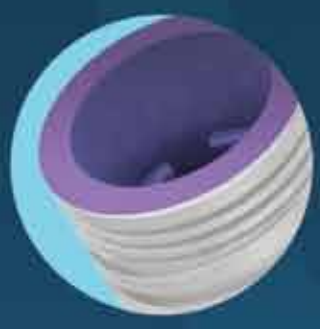
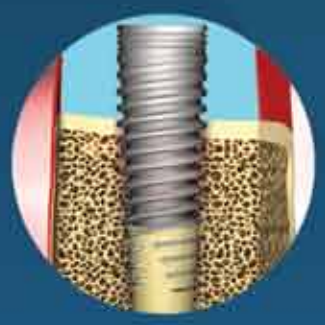
C1 | A Conical Connection Implant

All C1 implants, superstructures and tools are color coded to simplify platform identification.

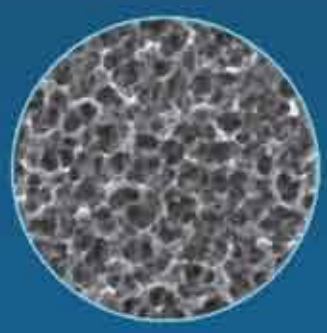
Platform Switching
Promotes vital soft tissue growth and reduces bone resorption



Micro Rings
Improve the bone to implant contact at the crestal zone by increasing surface area



Dual Thread Design
Increases bone to implant contact, reinforces osseointegration and enhances primary stability



Surface Treatment
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Scenes from the ICOI

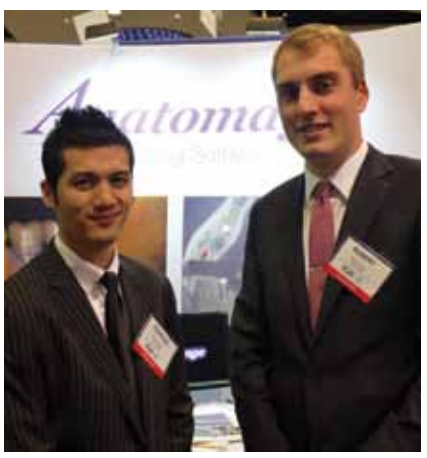
Richelle Braun, Justin Stefanick and Ken Hasty are ready to answer all your questions at the Piezosurgery booth, Nos. 508/510.

Need some new camera equipment? Come talk to Tony Aguilar and Rex Koskela at the PhotoMed International booth, No. 107.

Denise Manekas, left, and Nita Weissman-Okamoto at the Dentatus USA booth, No. 416.

The staff members of Implantes Dentales made the trip from their practice in Costa Rica to attend the ICOI World Congress.

Barbara Cox explains the benefits of Hands On Training at the booth, Nos. 204/206.



Charles Banh, left, and Robert Chen at the Anatomage booth, No. 414.

If you want to learn about hands-on dental implant education, go see Lissette Frias at the Implant Educators booth, No. 313.

Find friendly faces Noel Wilford, Ben Moyal and Erin Griffin at the MIS Implant Technologies booths, Nos. 303/305 and Nos. 402/404.

John Stephens of PreXion (booth No. 415).

Photos by Anna Kataoka-Wlodarczyk, Dental Tribune

Diane McCullough, Bryan Loch and Kristian Malooley at the Implant Direct Sybron International booth, Nos. 607/609.

The ADIN Implants booth (Nos. 514/416) staff is all smiles.

Alex Miller, president of Meisinger USA, at the booth, No. 213.

Yukari Aritake and Emiko Ota at the OSADA booth, No. 604.

Jamy Olson and Samantha Merrick in front of the OCO Biomedical booth, No. 408.

A family of dentists, Eduardo, Alberto, Eduardo and Enrique, all from Mexico, take in the ICOI World Congress Exhibit Hall.

Dan Allemeier and Daniel Kohm at the Aurum Ceramic Dental Laboratories, booth No. 610.

Paul Murphy and Peter Soto of Imaging Sciences. Come check out the i-CAT at booth Nos. 409/411.

Damon Sementilli and Adam Driggers at the Carestream Dental/Kodak Dental Systems booth, Nos. 209/211.

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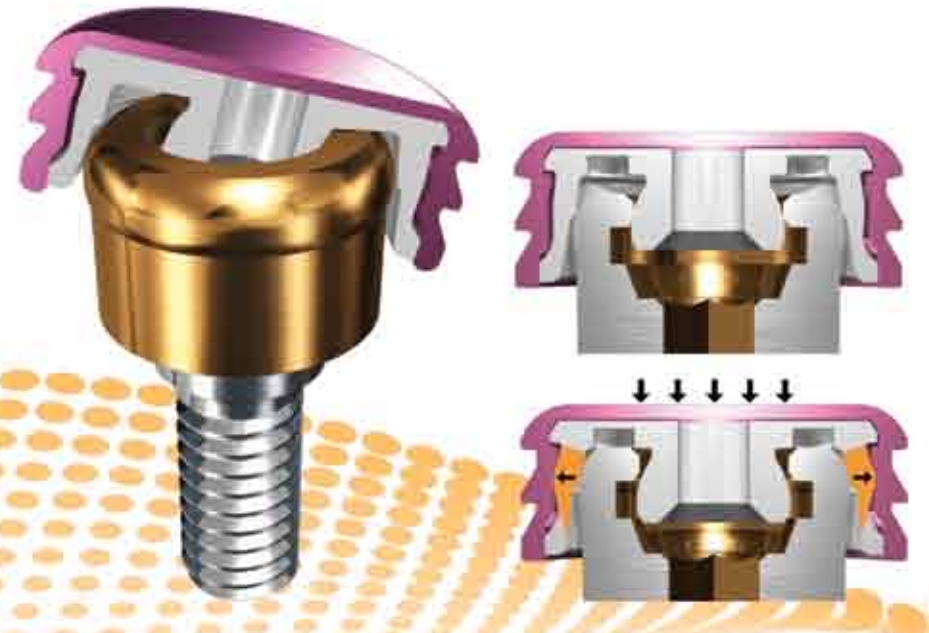

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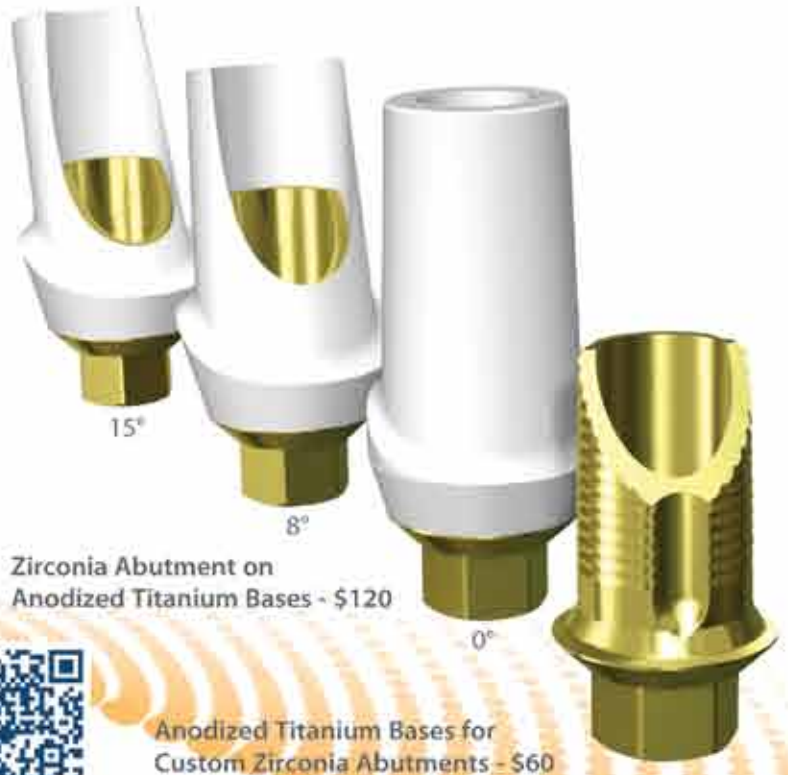

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Straumann®	N/A	$190	$195	$195	$255	$339[4]	$339[4]	$65	$275	$195	N/A	$180	N/A
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