Implant Tribune

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Waasdorp awarded fellowship

BIOMET 3i is pleased to announce that the American Academy of Periodontology Foundation (AAPF) awarded the 2009 Richard J. Lazzara Fellowship in Advanced Implant Surgery to Dr. Jonathan Waasdorp.

Dr. Jonathan Waasdrop

The Richard J. Lazzara Fellowship in Advanced Implant Surgery is a 12-month award intended to provide educational and clinical experiences that reflect the most current techniques in implant dentistry. The hosting institution must provide the fellow with clinical learning experiences in the surgical management of advanced implant cases. These learning experiences include implant site development and oral plastic surgery procedures aimed at restoration, clinical research leading to the development of an implant-related research paper suitable for publication and teaching experiences.

In addition, the current fellow is invited for two visits to BIOMET 3i, at both the beginning and conclu-

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Facing the facts

The differences between dental CBCT and medical CT scans

By Dr. Bruce Howerton

Before a practitioner performs surgery, he or she should be equipped with up-to-date knowledge regarding the possible conditions located under soft tissue within the oral cavity.

Three-dimensional data generated by cone-beam computed tomography (CBCT) technology offers a "surgical view" or slices of the entire field of view from the front, side and under the patient. Cone-beam scans assist with determining bone structure, tooth orientation, nerve canals and pathology; in some cases it may preclude the necessity for a surgical procedure.

In the past few weeks, various media sources have published articles regarding high exposure of radiation from medical CT scans. Unfortunately, these have generated misconceptions about the dental CBCT, or 3-D cone-beam computed tomography scans.

The dental CBCT imaging method allows dentists to obtain vital three-dimensional information without exposing patients to high levels of radiation that come from medical CT scans. An in-office imaging method is more convenient; it saves the patient travel time to and from the hospital and for follow-up examinations after treatment.

Dentists and other medical professionals ascribe to the ALARA (as low as reasonably achievable) protocol concerning radiation levels. This protocol guides practitioners to expose patients to the least amount of radiation possible while still gaining the most pertinent information for proper diagnosis.

Effective Dose Comparison

	2D FMX (Full Mouth Series)	2D Digital Pan	Medical CT	i-CAT CBCT 3D
Radiation Dose (µSv)	150*	4.7-14.9*	1200-3300**	36†

* Dr. Sharon Brooks, Department of Radiology, University of MI

** Dr. Stuart White, Department of Radiology, UCLA - scanned area approximates MFOV

† Standard scan mode, medium resolution

For example, for dentists placing implants, having this information beforehand is imperative to determining anatomical variations that can affect the procedure's success or failure.

The differences between dental and hospital scans derive, in part, from the method of capturing the information. The average medical CT scan of the oral and maxillofacial area can reach levels of 1,200-3,300 microsieverts, the measurement of radiation absorbed by the body's tissue. These significant levels are attributed to the method of exposing tissues to radiation. With the hospital scan, the anatomy is exposed in small fan-shaped or flat slices, as the machine makes multiple revolutions around the patient's head.

To collect adequate formation, there is overlapping of radiation. In contrast, the dental scan captures all the anatomy in one single cone-shaped beam rotation, decreasing the exposure to the patient of up to 10 times less radiation.

For example, radiation exposure using the standard full field of view from an i-CAT® CBCT machine (Imaging Sciences International) is 36 microsieverts. These machines are also available in different fields of view, thereby reducing radiation exposure even more, depending upon the needs of the patient.

For other comparisons of exposure, consider that a typical 2-D full mouth series runs 150 microsieverts while a 2-D digital panoramic image ranges between 4.7-14.9 microsieverts.

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sion of the fellowship; to become familiar with the company's facilities and employees, to provide feedback on products and to debrief on the experience as a Lazzara Fellow.

This $50,000 fellowship is funded by BIOMET 3i. According to. Waasdorp, currently in training at the University of Maryland: "It is an honor to receive the award. The fellowship will facilitate advanced training in all aspects of implantology while affording me the opportunity to perform clinical research and further develop my skills as an educator."

For more information about the AAPF's Lazzara Fellowship in Advanced Implant Surgery, visit the AAPF Web site at *www.perio.org/foundation/foundation.html.* IT

(Source: BIOMET 3i)

IT Corrections

Implant Tribune strives to maintain the utmost accuracy in its news and clinical reports. If you find a factual error or content that requires clarification, please report the details to Managing Editor Sierra Rendon at *s.rendon@dental-tribune.com.*

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[1] Histologic Evaluation of a Stem Cell Based Sinus Augmentation Procedure: A Case Series. – McAllister, Haghighat, Gonshor. – Journal of Perio., April 2009

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Register now for the AO

Online registration for the Academy of Osseointegration's 2010 annual meeting, "The Formula for Predictable Implant Success," is available on the new and expanded meeting section of the academy's Web site at *www.osseo.org/events/meetings/index.html*.

This site is full of interactive meeting information where you can view the session descriptions and speakers along with their abstracts to help assist you in selecting the many options available while in Orlando.

To further explain this year's meeting, check out the new meeting video, which is available at the link above.

New at this year's AO annual meeting is a full-day workshop, "Computer-Guided Implant Therapy: A Hands-On Workshop in 3-D Digital Implant Dentistry," offered Wednesday, March 3 and presented concurrently by six leading companies. Space is limited, so please register early.

Discounted pre-registration rates continue through Feb. 8 for the meeting, which will take place March 4–6 at the Walt Disney World Dolphin Resort in Orlando. IT

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Researchers who have developed this technology have achieved the goal of allowing dentists to achieve the same information gained from a medical CT, without the additional radiation exposure.

Dentists who do not own their own CBCT machines can take advantage of this imaging method by referring patients to imaging centers to acquire this valuable information.

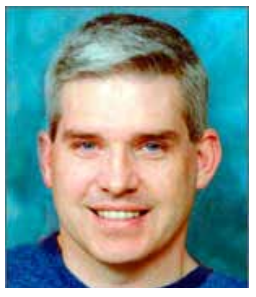
The knowledge obtained from capturing 3-D scans has the ability to influence the effectiveness and efficiency of dental treatment.

A dental CBCT scan offers the views and detail needed to perform the latest procedures, while avoiding the unnecessary higher levels of radiation emitted from hospital scans. As the technology continues to evolve, the possibilities for improved dental care can only increase.

Increased software compatibility with surgical guides and orthodontic applications has made CBCT scanners an imperative for some dental offices.

As an oral maxillofacial radiologist and an educator, I firmly believe that with knowledge comes responsibility to provide patients with the best dental care in the safest way possible — a dental CBCT accomplishes this goal without the additional risks involved with hospital scans. IT

IT About the author



Dr. Bruce Howerton is a board-certified oral and maxillofacial radiologist who practices privately in Raleigh, N.C. He received a DDS degree from the West Virginia University School of Dentistry in 1985. He completed a certificate in endodontics in 1987 from the University of North Carolina School of Dentistry and practiced surgical and non-surgical endodontics in Asheville, N.C. for eight years. In 1999, he entered the UNC Oral and Maxillofacial Radiology graduate program and completed the master of science program. Howerton became a diplomate of the American Academy of Oral and Maxillofacial Radiology in 2003. For more information, see *www.carolinaomfimaging.com*.

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FDA CE 0197

Sirona launches 'InEos Blue' scanner

Fast, precise and flexible product joins the inLab line

Sirona Dental Systems, the company that pioneered digital dentistry more than 25 years ago and one of the world's leading producers of dental CAD/CAM systems, recently announced the launch of the inEos® Blue desktop scanner, an advanced 3-D scanner that allows dental technicians to quickly, precisely and easily scan dental models.

inEos Blue is built on Sirona's innovative blue light-emitting diode (LED), a.k.a. Bluecam technology, which is superior in many ways. Bluecam technology utilizes short-wavelength visible blue light to facilitate flexible recording options, resulting in substantially faster scanning and highly-precise 3-D digital models.

inEos Blue provides dental technicians more control to determine what they want to record, allowing the design process of 3-D digital models to be performed with unprecedented precision and speed.

With the inEos Blue, the technician can now utilize an automatic image capture function (auto capture) that allows free movement of the model in any direction, providing complete control of the angle of the scan.

Thus, the user takes a digital impression only of the required treatment area with interactive control and increased flexibility.

The inEos Blue scanner will be available in February, along with a dedicated computer and inLab 3-D software.

The scanner can be utilized as a standalone unit or in combination with the inLab® milling unit for complete in-house production.

In addition, inEos Blue can save and export scanning data in STL format, thereby allowing the data to be processed using third-party software.

"Our goal for inEos Blue was to create a scanner that provides superior optical precision, reliability and speed, while providing the technician full control of the scanning process," said Bart Doedens, vice president dental CAD/CAM systems. "Through our innovative Bluecam technology, we are now able to bring the best digital dental scanning capabilities to our valued laboratory clients."

The inEos Blue desktop scanner allows for quick, precise scanning.

For more information on inEos Blue, and on all Sirona Dental Systems' inLab services, please call (800) 873-7683, contact your local Patterson Dental representative or log onto *www.Sirona.com*.

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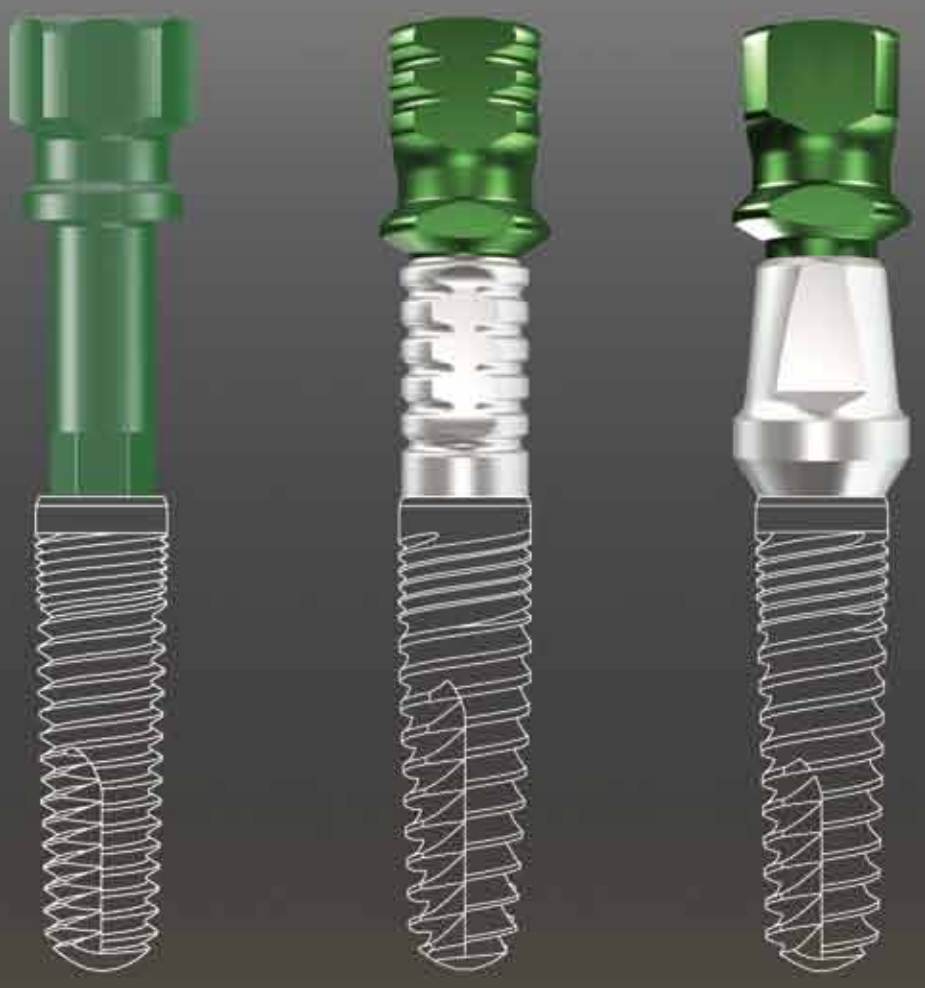

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Straumann partners with Cadent

Straumann, a global leader in regenerative, restorative and replacement dentistry, and Cadent, a provider of 3-D digital solutions for the orthodontic and dental industries, recently announced they have established an agreement that makes Straumann the exclusive European distributor of Cadent's iTero digital impression systems with immediate effect.

The agreement provides Cadent with access to the highly attractive European dental market through the Straumann sales network and brand. It also enables Straumann to offer European customers leading intra-oral scanning technology as part of an integrated range of tooth replacement and restoration solutions.

The deal follows a data-sharing agreement between the two companies, which was announced in August and connects the iTero system into the Straumann CAD/CAM workflow.

Partners of choice

"We are privileged to be Cadent's exclusive distributor in Europe," said President and CEO of the Straumann Group Gilbert Achermann. "The iTero technology complements our in-lab scanning solutions, offering customers the option of fast, precise and convenient in-chair scanning connected directly to our integrated digital workflow. Dentists, labs and patients all stand to benefit from the time and cost savings in addition to the added convenience and comfort."

Tim Mack, CEO of Cadent, added: "Straumann is a powerful brand in dentistry that will leverage and drive our penetration of the highly attractive European market. The breadth and quality of Straumann's dental solutions together with its strength in sales and service make it the partner of choice — not just for us but also for dentists and labs."

Intra-oral scanning: shaping the future of dentistry

Intra-oral scanning is an established but still emerging technology that promises to have substantial impact on the future of dentistry. Its main advantage is it enables the dentist to create a 3-D image of the patient's teeth using a miniature digital scanner/camera inside the mouth. This avoids the slower — and potentially less reliable — conventional process of impression-taking in the dental practice, followed by model casting in the laboratory. In addition to high precision, there are considerable time and cost savings for both the lab and the dental practice.

About iTero

Cadent's iTero system uses a ground-breaking powder-free laser scanner that produces a precise 3-D digital impression, or model, of the prepared tooth or implant abutment. The model includes the opposing dentition and the bite in occlusion, which will enable the technician to ensure the new prosthetic tooth or teeth fit precisely with the opposite teeth during biting/chewing. The model is magnified and displayed on a chairside computer screen while the patient is still in the chair. This enhanced visualization, plus real-time analytical tools, allows the dentist to make any necessary adjustments simply and quickly before completing the scanning process. The data is then sent electronically to a dental laboratory equipped with the respective design software. After processing, the data are forwarded to a Straumann manufacturing facility, where the prosthetic is milled and then sent to the laboratory, together with a model of the patient's teeth, for finishing. The highly esthetic, precise-fitting restoration is then delivered to the dentist.

About Cadent

Headquartered in Carlstadt, N.J., with R&D and operations in Israel, Cadent is a leading provider of 3-D digital solutions for the orthodontic and dental industries. The company services thousands of cases each day for a rapidly expanding customer base. Cadent's offerings improve the efficiency and effectiveness of orthodontic and dental treatments while increasing the revenue of dental health-care providers. More information is available at *www.cadentinc.com*.

About Straumann

Headquartered in Basel, Switzerland, the Straumann Group is a global leader in implant and restorative dentistry and oral tissue regeneration. In collaboration with leading clinics, research institutes and universities, Straumann researches, develops and manufactures dental implants, instruments, prosthetics and tissue-regeneration products for use in tooth replacement and restoration solutions or for preventing tooth loss. Straumann currently employs about 2,200 people worldwide; its products and services are available in more than 70 countries through its broad network of distribution subsidiaries and partners. IT

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