Academy of Osseointegration
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Academy NEWS

A QUARTERLY MEMBER NEWSLETTER

Creating Consensus Advancing Science

AAP 2024 CONSENSUS CONFERENCE

2025 40th ANNUAL MEETING PREVIEW INSIDE!

VOLUME 35, NUMBER 4 • 2024

Emerging Leaders: AO's Got Talent Case Presentation Competition

The **Emerging Leaders: AO's Got Talent Case Presentation Competition** is an opportunity for early career clinicians to present at AO's 2025 Annual Meeting. Five clinical cases will be selected from all submissions providing an opportunity for clinicians with less than 10 years in practice to present on the main podium. Judges will identify the "Best in Case" presentation and recognize the recipient during the Award Ceremony on Saturday, March 29th.

Applicants must:

- Be an AO member and in practice for less than 10 years;
- Provide a complete case that is surgical, restorative or a combination of both;
- Submit a 1-minute video of themselves describing the case;
- Complete the online application – including the $125 application fee – **no later than January 7, 2025.**
- If selected, the presenter must register for the 2025 Annual Meeting and present their clinical case in-person on Friday, March 28th in Seattle.

Winners will receive a plaque and complimentary meeting registration to AO's 2026 Annual Meeting. Winners will also be considered for future AO webinars and podium speaking initiatives within AO meetings and events.

To enter the competition or for additional details, please visit osseo.org/emerging-leaders

Deadline to apply is Tuesday, January 7th

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ACADEMY **NEWS**
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President's Message

Building on four decades of excellence

By AO Fellow Joerg Neugebauer, DDS, PhD

Dr. Joerg Neugebauer

As president of the Academy of Osseointegration (AO), I am delighted to reflect on the productive and groundbreaking work that has taken place over the summer.

One of the most significant highlights was the first consensus conference organized in collaboration with the American Academy of Periodontology (AAP), which focused on the timely and critical issue of peri-implantitis. This is not only a challenge for specialists, but also for general dentists, who increasingly encounter these cases in their daily practice. The consensus we reached, and the insights gathered, will undoubtedly serve as a guiding light for the entire dental community. I encourage everyone to explore the initial outcomes (see article, pages 11-12) in this edition of *Academy News*.

As we look ahead, AO is preparing to celebrate a major milestone: our 40th Annual Meeting next year in Seattle. Four decades of scientific advancement and clinical excellence have helped shape and secure the future of implant dentistry. The journey so far has been one of innovation, determination, and dedication to improving patient care. As we reflect on these achievements, it's also a time to envision new paths forward. The meeting's theme, "Controversies in Implant Dentistry: How to Make It Easy," reflects our commitment to simplifying procedures while maintaining excellence in outcomes.

Next year's program in Seattle has undergone a strategic restructuring. In past meetings, we separated surgical and prosthetic tracks, but this division no longer serves the holistic needs of the patient, who must be at the center of all we do. As we move away from more complex and risky surgical procedures and intricate prosthetics, the focus has shifted towards more standardized protocols and predictable, patient-friendly results. In today's dental world, the treatment team strives for streamlined processes that deliver reliable outcomes and patient satisfaction.

Moreover, the role of the general dentist in implant dentistry is expanding. The widespread adoption of implant therapy has made it clear that simple, accessible procedures are necessary — not only to reduce patient stress but also to empower general dentists to perform them with confidence.

However, this does not diminish the importance of specialists. On the contrary, as implant therapy becomes more common, so too do the complex and challenging cases that demand the expertise of seasoned professionals. The increasing acceptance of implant therapy leads to a larger patient base, and with it comes a need for specialists to address more advanced clinical situations.

The program in Seattle will address these evolving needs. The meeting will foster a spirit of collaboration between general dentists and specialists, ensuring that all aspects of implant therapy are explored thoroughly. While controversies will be discussed, the goal remains the same: to simplify and improve the care we provide to our patients.

I am confident with these discussions, the meeting will be a great success, fostering friendships and partnerships across the dental spectrum. This year's program also includes a dynamic new forum within the exhibit hall to encourage interdisciplinary exchange. This collaborative spirit is what will drive us forward as a profession, helping us to learn from one another and grow.

But it's not just about work! We have also ensured that there is ample opportunity for you to enjoy the city of Seattle, known for its innovation and environmental consciousness. The state-of-the-art convention center will surprise and inspire you, offering a blend of cutting-edge technology and sustainability.

And for those looking to explore the city's cultural side, we've planned the President's Reception at the Museum of Pop Culture (MoPOP). This event will provide a chance to reflect on more than four decades of pop culture that has influenced and inspired so much of our modern world. It will be a celebration of creativity, just as much as it is a celebration of AO's history and future.

As we approach our 40th Annual Meeting, I want to thank all of you for your continued commitment to the Academy of Osseointegration. Whether you are a general dentist or a specialist, an academic or a clinician, your contributions to the field are invaluable. Together, we will continue to advance the science and practice of implant dentistry, always with the best interests of our patients in mind.

I look forward to welcoming you all to Seattle, where we will explore new ideas, engage in thoughtful discussions, and celebrate 40 years of excellence in implant dentistry. Here's to many more decades of progress and collaboration!

Facilitating strategic foresight

In August, Academy of Osseointegration (AO) Board members and staff dedicated two days immersed in a strategic planning workshop, setting the stage for a strong future for AO and the field of implant dentistry.

At this session, the group refined AO's mission, vision, goals, and strategies for the next five years. The many outcomes included:

Mission Statement

We exist to serve and support members in their efforts to advance the science and practice of implant dentistry, enhancing patient care and outcomes.

Vision

AO is the most trusted organization, advancing innovations, setting the standards for implant dentistry.

Core Values

Innovation – AO fosters the development of new ideas, platforms and solutions that harness the latest scientific knowledge in implant dentistry.

Integrity – AO upholds the highest standards of professionalism and ethics, ensuring trust and credibility in all its endeavors.

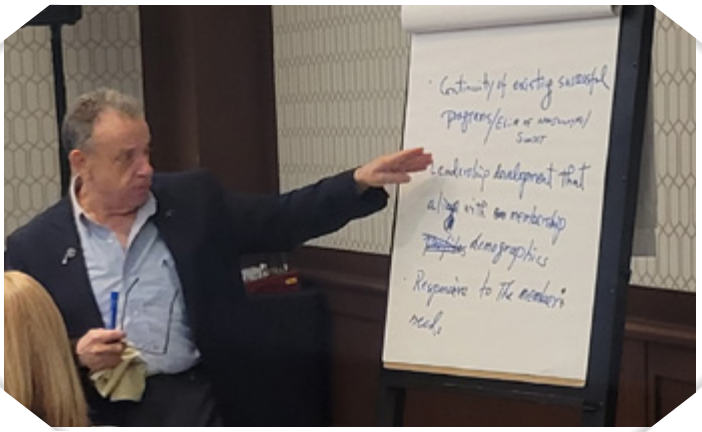
Excellence – AO is dedicated to advancing implant dentistry through leadership, innovation, and the highest standards in education and research.

Collaboration – AO is dedicated to the pursuit of excellence, consistently striving for the best outcomes in patient care, grounded in research and scientific advancements.

Inclusive – AO welcomes dental professionals from diverse backgrounds and areas of expertise, promoting a culture of inclusion and diversity within the organization.

Goals

- AO cultivates a growth mindset by expanding and empowering its membership, fostering leadership, and building strategic alliances to drive innovation and achieve success.
- Elevate AO's status as the foremost trusted authority in implant dentistry, recognized globally for its pioneering leadership and dedication to the highest standards of excellence.



- To provide comprehensive, evidence-based, and unbiased education that equips dental professionals with the latest innovations and best practices in implant dentistry, enhancing clinical expertise and improving patient outcomes.

"I want to extend my heartfelt thanks to the AO board and staff for their active participation and valuable contributions during the recent strategic meeting. Their insights, dedication, and collaborative spirit, thoughtful discussions and collective expertise shared during these meetings have provided us with a strong foundation as we move forward," said AO Fellow and President **Joerg Neugebauer**, DDS, PhD. "It is a privilege to work alongside such a dedicated and talented team. I look forward to continuing our collaboration as we implement the strategies and decisions we collectively made."

Greetings from the 2025 Annual Meeting program chair

By: Program Chair Fouad Khoury, DMD, PhD

The Annual Meeting Program Committee is delighted to invite you to attend the Academy of Osseointegration's 2025 Annual Meeting, March 27 - 29 in Seattle, WA.

This program, "Controversies In Implant Dentistry: How To Make It Easy," has been assembled with key opinion leaders in implant dentistry, including practicing clinicians, support staff, educators, researchers, and students.

The committee has gathered a diverse and relevant variety of topics and evidence-based content to serve and support the dental community to advance the science and practice of implant dentistry, thus enhancing patient care and outcomes.

Thursday morning begins with the popular Corporate Forum Presentations showcasing the latest technologies with at least 20 industry-sponsored sessions. The traditional Opening Symposium returns Thursday afternoon with a focus on "Which Way is the Easiest One?" beginning with our Keynote Speaker, **Michael R. Norton**, BDS, FDS, RCS(Ed), who will discuss "Controversies in Science and the Role of Industry."

Hom-Lay Wang, DDS, MSD, PhD, and **Paul Rosen**, DMD, MS will then provide us with results of the AO/AAP Consensus Conference on peri-implantitis followed by some exciting point-counterpoint discussions on reduced-dimension implants and one-time abutments. This session will be followed by the Welcome Reception and ePoster presentations in the Exhibit Hall giving you the chance to catch up with old friends, meet new colleagues and learn about the latest products and services from our corporate affiliates.

New to our meeting this year will be the Town Hall sessions in the Exhibit Hall offered by our sponsors. Be sure to check these out during the Welcome Reception, lunches and refreshment breaks.

Friday morning will start with our first of four Hands-on Workshops. These sessions are a great opportunity to earn Hands-on Workshop hours toward the AO Masters/ Diplomate Certificate. On the main podium, we will be exploring new options on "How to Treat the Tissue."

Enjoy your lunch in the Exhibit Hall or attend the Young Clinicians Luncheon to hear presentations by the Academy's younger members. In addition to the abstract sessions running all day on Friday, the afternoon plenary session brings us new concepts on "How to Replace Lost Teeth." Afterwards, join us for "Emerging Leaders: AO's Got Talent" where early-career clinicians present their cases in a bid to win "Best Presentation."

The day will close with the President's Reception at MoPOP – the Museum of Pop Culture.

The Saturday morning program will kick off with our internationally-collaborative session on "The Tissue Around the Restoration: AO/EAO Symposium" with some of the most reputed clinicians in the world discussing this topic. Then take the opportunity to have "Lunch With the Masters" to learn directly from the experts in one-on-one round-table discussions. The meeting will close on a high note with the Closing Symposium entitled "Risk Factor: Host or Material?"

We are looking forward to seeing you in Seattle in March!

Excitement awaits in Seattle for AO 2025 Annual Meeting

Known as the "Emerald City," Seattle is home to many local cultural amenities and the largest metropolis of the Pacific Northwest. And in 2025, it will be the site for one more pre-eminent attraction: the Academy of Osseointegration's 40th Annual Meeting!

AO's Annual Meeting will offer several exciting opportunities including:

Conversations with the Masters: A Clinical Town Hall. Get inspired by the latest innovations and product demonstrations by our sponsors in these Town Hall Presentations. Presentations will run in the center of the Exhibit Hall during the Welcome Reception and scheduled meals and breaks. Please note: no CE credit will be provided for these sessions.

Rock Cello. The Annual Meeting will include a spectacular performance by AO members, Emil and Dariel Liakhovetski, world renowned phenomenal cello virtuosos. This young rock cello sensation gained worldwide exposure and catapulted to fame as finalists on NBC's nationally syndicated program America's Got Talent, and other performances such as ADA's Annual Meeting, SMILECON 23.

Pickleball in the Exhibit Hall. Seattle is the birthplace of pickleball and what better place to celebrate this growing sport! We will have courts available in the exhibit hall for pickup games and programming including instructor-led games, workshops and intro classes. These events do NOT require registration. All you need are tennis shoes!

President's Reception. On Friday night, get ready for AO's time-honored President's Reception at the Museum of Pop Culture (MoPOP), complimentary with your Annual Meeting registration. Home to the world's most immersive pop culture experiences, MoPOP showcases iconic moments in TV, rock and roll music, science fiction, and much more. It is home to numerous exhibits and interactive activity stations, activating the world-shaping power of pop culture. Don't miss this spectacular AO event!

Pike's Place Market. Just a few short blocks from the Seattle Convention Center is the famous Pike's Place Market. Identified by its iconic sign and famous fish-tossing tradition, this bustling market features more than 225 local artisans, the original Starbucks café, street performers, and a Market Front open-air plaza providing picturesque views of Elliott Bay.

The Space Needle. One of the most recognizable structures of the Seattle skyline, the tower's 520' saucer-shaped "top house" offers visitors Seattle's only 360-degree indoor and outdoor panoramic views of downtown, Mount Rainier, Puget Sound, and the Cascade and Olympic mountain ranges. Visitors will find floor-to-ceiling glass views including an upper-level outdoor observation deck with open-air glass walls and Skyriser glass benches, and the world's first (and only!) rotating glass floor.

Seattle Aquarium. Located at Pier 59, the Seattle Aquarium is the region's premier resource for hands-on marine experiences and conservation education. Meet and greet sea creatures of the Pacific Ocean and perhaps even touch a sea anemone!

Getting Around. The Seattle Center Monorail, another designated landmark dating back to the World's Fair, provides a memorable means of travel around town. With a top speed of 45 miles per hour, the Monorail takes riders on a unique ride above city streets and between skyscrapers along its one-mile route.

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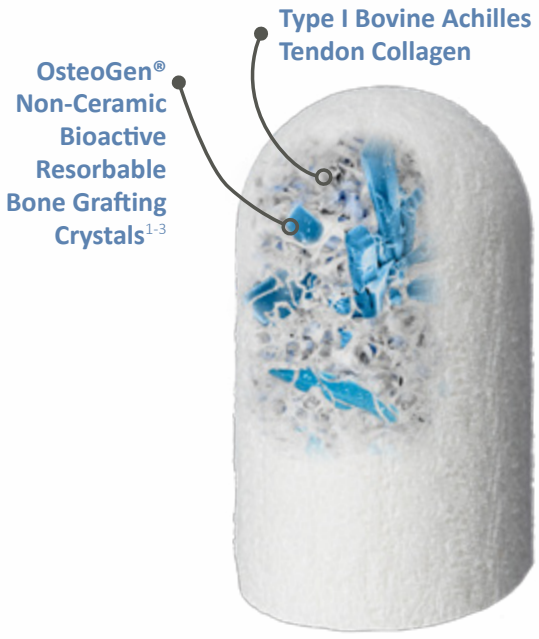

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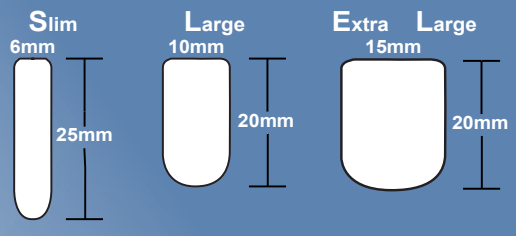

1. Spivak, J Biomed. Mater Research, 1990
2. Ricci, J Oral Maxillofacial Surgery, 1992
3. Valen, J Oral Implantology, 2002

Rome wasn't built in a day, yet what a difference a couple of days make

By: Javier Scarton, DDS; restorative dentist and Irene Marron-Tarrazzi, DMD, MS; periodontist, Academy News *Guest Contributors*

Innovation often occurs at the intersection of disciplines. When specialists from different areas of dentistry come together for continuing education, they bring diverse perspectives and experiences. This diversity of thought can foster creativity and innovation, leading to the development of new techniques, materials, and treatment protocols.

Working as a team, even from different offices, Dr. **Javier Scarton**, a restorative dentist in Aventura, FL, and I, Dr. **Irene Marron-Tarrazzi**, a periodontist, have cultivated a professional relationship that illustrates this concept. By learning together, we have developed a shared treatment philosophy, complementing each other's skills and thriving on mutual growth.

This collaboration has allowed us to improve our understanding of each other's roles, expertise, and challenges. The shared knowledge leads to better coordination and smoother referrals, reducing the risk of miscommunication and errors. When specialists understand the challenges and objectives of their colleagues, they can work more efficiently and effectively as a team, ultimately benefiting patient care.

One of the key aspects of our collaboration is our commitment to continuing education (CE). We both believe that staying on top of new techniques is crucial for providing the best care to our patients. This shared value has led us to attend numerous cutting-edge CE courses together. It's not just about the knowledge we gain, but the inspiration and renewed energy we bring back to our practices. More importantly, these experiences provide us with invaluable opportunities to brainstorm about our cases and patients.

We often say to each other, "We did the same thing for one of our patients," or discuss how a new concept could enhance our treatment plans. Attending meetings together, whether at local study clubs, national gatherings, or international conferences, has become a cornerstone of our professional growth. Reflecting on our journey, it's clear that every meeting, every course, and every experience has contributed to our growth. These moments have reinforced our belief that learning together makes a significant difference in how we approach our work.

As we prepare to attend the next Annual Meeting of the Academy of Osseointegration, we are filled with anticipation and excitement. By attending together, we ensure that we are both on the same page, integrating the latest advancements into our collaborative work. This synergy enhances our ability to serve our patients with the most effective and cohesive care possible.

After all, they say Rome wasn't built in a day, but what a difference a few days of dedicated learning and growth can make in building our professional 'Rome' together. Each day at these meetings is like introducing a new idea or mastering a new technique that strengthens and elevates our practice. This integrated approach ensures that patients receive the most effective and cohesive care, improving outcomes and satisfaction.

We encourage our colleagues to bring their interdisciplinary partners to these meetings. The benefits of learning and brainstorming together are immense. Sharing knowledge and experiences can lead to better patient outcomes and professional satisfaction. This approach to professional development is something we cherish. It's about enjoying the journey, supporting each other, and making a real difference in the lives of our patients. We look forward to many more days of learning together, confident that each day advances our professional journey.

Join us at the Academy of Osseointegration's next meeting. Bring your collaborative partners, share in the learning experience, and see firsthand how much of a difference a few days can make when you attend as a team.

Drs. Javier Scarton and Irene Marron-Tarrazzi

Charitable care grants one part of OF's available funding initiatives

The Osseointegration Foundation's (OF) Charitable Grant Program is a beacon of life-changing implant therapy for patients suffering from severe dental trauma or significant dental deficiencies, and one of several areas to which it provides significant financial support to foster the highest standards of research and education in dentistry.

This extraordinary grant opportunity, available exclusively to patients of AO members, provides up to $10,000 in dental care, materials and lab support, transforming their quality of life. Established in the early days of the Foundation, this program is still going strong and **funds are available**! Charitable grants will be determined based on three major requirements: Care providers, patients, and corporate partners.

One recent case funded with an OF Charitable Grant was performed by **Russell Wang**, DDS, MSD. Dr. Wang provided fixed prosthetic treatment for a 29-year-old female with severe bony deficiency in the upper pre-maxillary area using a fully digital workflow. The patient's condition was as a result of her upper front jawbone partially removed at six-years-old due to tumor surgery.

Previous removable prostheses did not stay in the patient's mouth and she experienced very limited dental function during childhood and most of her adult life. This condition altered her facial structure and expression, leading to a sunken appearance.

After seven months of Iliac bone augmentation, five osseous dental implants donated by BioHorizons were planned and guided by a surgical stent. After six months, once osseointegration was complete, photogrammetry was performed to capture location and direction of each implant. Intraoral soft tissue scans were made upon removal of healing abutments to obtain a single file containing soft-tissue and implant data. This file was then used to digitally design a final screw-retained, nano-composite, 10-unit implant-supported fixed prosthesis.

The OF Charitable Grant is only available to AO member dental professionals. Patients cannot apply for this grant. To review care provider and patient eligibility requirements, as well as other information, please see osseo.org/grant-programs and/or the flyer included with the mailing of this edition.

In addition to its Charitable Grants Program, support of the OF is essential for the continuation of existing research grant programs. These include: Basic Science; Translational and Clinical Science; and Restorative Dentistry.

Grants in the amount of $50,000 are awarded to the Best Basic Science, Best Translational and Clinical Science and Best Restorative Dentistry proposals as determined by the AO/OF Research Grant Committee. Recipients are recognized at AO's Annual Meeting. Applications for the OF 2025 – 2026 Research Grant cycle are being accepted through January 31, 2025.

Last but certainly not least, the OF's Student Travel Grants are awarded to recipients of the top scoring Oral Research and ePoster abstracts submitted for the 2025 AO Annual Meeting (March 27-29, in Seattle, WA). 30 students will each receive a $1,000 grant to be allocated toward travel expenses. This award is open to both AO student members and student non-members who submit an abstract for the 2025 meeting and are currently enrolled in a full-time dental school program at an academic institution at the time of the meeting.

For more details on these OF initiatives and other updates, please see the special insert included with the mailing of this edition of *Academy News*.

AAP and AO Consensus Conference on prevention and management of peri-implant diseases

AAP 2024 CONSENSUS CONFERENCE

By: AO Fellow Mehrdad Favagehi, DDS, MS, Editor-in-Chief, Academy News

The joint consensus conference by American Academy of Periodontology (AAP) and Academy of Osseointegration (AO) convened in Oak Brook, IL August 14-16, 2024. A select group of the world's top experts were invited by both leading dental groups to analyze the best available science to provide practical information for clinicians who treat patients suffering from peri-implant diseases.

Preparations started more than a year ago, when AAP and AO began organizing the AAP/AO Consensus Conference. Conference co-chairs, **Hom Lay Wang**, DDS, MS, PhD, representing AO, and **Paul Rosen**, DMD, MS as the AAP co-chair, led the planning. Two expert panels were formed to gather and analyze the best scientific evidence about peri-implant diseases.

Conference leaders and their expert teams started their monumental task of going through the vast bulk of scientific reports about peri-implant diseases. The scientific value of many thousands of reports was assessed by expert teams to determine if they should be included in the final systematic analysis. The highest level of scientific evidence was obtained from meta-analysis of Randomized Controlled Trials (RCTs) to author a total of eight review articles, which were presented by leaders in each of the two sub-groups.

Special thanks to leadership from AO and AAP for their staunch support of the Consensus Conference (from left): Drs. Robert C. Vogel, AO president-elect; Stephen Meraw, AAP president; Hom-Lay Wang, AO past president and conference co-chair; Paul Rosen, conference co-chair, AAP; Mia Geisinger, AAP president-elect; and Joerg Neugebauer, AO president.

GROUP 1: Risk Factors, Indicators and Determinants of Peri-implantitis

Co-Chairs: ***Joseph Y. K. Kan****, DDS, MS and Dr.* ***Purnima Kumar****, DDS, PhD*

Drs. Purnima Kumar (front left) and Joseph Y.K. Kan (front right) were co-leaders of the 27 expert clinicians in Group 1.

Epidemiology, Systemic Risk Factors and Indicators for Peri-Implant Diseases: An AAP and AO best evidence systematic review and meta-analysis. Led by **Maria Elisa Galarraga-Vinueza**, DDS, MSc, PhD

Surgical- and Implant-related Factors and Onset/ Progression of Peri-implant Diseases. Led by **Alberto Monje**, DDS, MS, PhD.

Prevalence, Incidence, and Risk and Protective Factors for Soft Tissue Dehiscences at Implant Sites in the Absence of Disease: An AAP and AO Best Evidence Systematic Review and Meta-regression Analysis. Led by **Lorenzo Tavelli**, DDS, MS.

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The Influence of Prosthetic Designs and Implant Suprastructures on Peri-Implant Bone Loss: A Systematic Review and Meta-Analysis. Led by **Guo-Hao (Alex) Lin**, DDS, MS.

GROUP 2: Management of Peri-implantitis and Other Implant-related Complications

Co-Chairs: ***Joseph P. Fiorellini****, DMD, DMSc and* ***Tara L. Aghaloo****, DDS, MD, PhD*

The 26 members of Group 2 were led by Drs. Joseph P. Fiorellini (front left) and Tara L. Aghaloo (front right).

Efficacy Of Different Treatment Modalities for Contaminated Implant Surface Decontamination and Potential Re-Osseointegration: AAP-AO Consensus Conference on Peri-Implant Diseases and Conditions. Led by **Andrea Ravida**, DDS, PhD.

Efficacy Of Non-Reconstructive Surgical Treatment of Peri-Implantitis: A Systematic Review and Meta-Analysis Of Access Flap Versus Osseous Surgery Procedures. Led by **Muhammad Saleh**, BSD, MSD.

Treatment of Peri-implant Mucositis: A Systematic Review and Meta-analysis. Led by Dr. Lin.

Effect of Reconstructive Therapy for the Management of Peri-Implantitis: An AAP Best Evidence Systematic Review and Mixed-Model Network Meta-analysis. Led by **Shayan Barootchi**, DMD.

The chief editor of the *Journal of Periodontology (JOP)*, **Effie Ioannidou**, DMD, MDSc, and the editor-in-chief of the *International Journal of Oral and Maxillofacial Implants (IJOMI),* **Clark M. Stanford**, DDS, PhD, MHA, were among the conference participants and assigned a high priority to these submissions to be reviewed by their editorial teams. The conference results will be presented at the forthcoming AO and AAP annual meetings. Publications of the meta-analysis will be in *JOP* and *IJOMI*.

Conference attendees were not limited to experts from AO or AAP. A diverse group of experts included general dentists, periodontists, prosthodontists, oral and maxillofacial surgeons, and others involved in related science and clinical practice. Editors of other implant related scientific journals from around the world were also in attendance.

The first day of the conference involved plenary meetings followed by separate focused meetings by the sub-groups involved in the discussions and debates of the science and practice of implant dentistry as it related to peri-implant diseases. A group of non-voting observers representing various dental organizations, scientific publishers, and implant manufacturers were available in case clarifications or their input was requested by the expert panels.

The discussions among the experts were cordial, but it also included vigorous debates. The experts were very well-informed with the scientific work of each other and used their own original research, as well as the work of the other participants or other published scientific reports as grounds for their scientific deliberations.

The first part of the consensus conference was about the science, the "Forrest plots" of each meta-analysis. The last part of the consensus conference involved expert opinions by expert panels that included the researchers, journal editors, academicians, clinicians, and administrators.

Many of the participants and moderators already had extensive experience as participants or leaders of similar best evidence summits, consensus conferences, or authors of position papers or guideline by AO, AAP or other dental organizations.

At the end, the experts re-assembled to provide their expert opinions about and voted on developing decision trees for management of peri-implant diseases.

This consensus conference as a joint effort by two of the world's premier organizations involved with peri-implant diseases is expected to impact clinical practice by providing both the best scientific evidence and expert opinion to clinicians.

Please plan to attend the 2025 AO Annual Meeting, March 27-29, 2025 in Seattle, as the conference leaders will present the findings of the conference and will go over decision trees for management of peri-implant diseases. This will also be a great opportunity for hygienists to learn the latest about diagnosis and management of patients with peri-implant diseases, so have them attend as well.

Academy News interview with Dr. Hans-Peter Weber, Osseointegration Foundation president

Editor's note: ***Hans-Peter Weber****, DMD, a prosthodontist with a long and stellar career in academics, translational research and private practice in Europe and North America, provides us with a unique perspective about implant dentistry. The full interview can be accessed by simply scanning the QR code at the end of this page. Here are excerpts from the interview conducted by AO Fellow* ***Mehrdad Favagehi****, DDS, MS;* Academy News *editor-in-chief; and* ***Paul A. Fugazzotto****, DDS,* Academy News *Editorial Consultant.*

AN: From your perspectives as an insightful researcher and a comprehensive clinician with more than four decades of experience in Europe and North America, how has your perspective changed over the years regarding:

Treatment planning the complex partially edentulous patient

HPW: In my early years as a dentist (i.e., prior to the availability of osseointegrated dental implants), removable or fixed tooth borne prostheses were the available alternatives, the latter often requiring extensive non-surgical and surgical periodontal and endodontic pre-treatment. After osseointegration was introduced to dentistry and dental implants showed excellent predictability, it became much more favorable to replace missing teeth with implant supported prostheses not attached to remaining teeth. Also important for that shift was the discovery and introduction of guided bone regeneration and other bone augmentation procedures to the field, which allowed to change many edentulous sites with compromised bone volume into favorable ones for dental implants.

AN: Implant specifications most advantageous for maximization of success (length, width, design, etc)?

Commercially available pure titanium implants with a micro-roughened surface that have been well documented in scientific literature and with a machined collar are my clear preference. I still like tissue level implants for posterior sites the best. In the anterior, I prefer bone level implants with a horizontal offset configuration. Length and diameter depend on site and indication specifics.

AN: Major issues of concern in implant dentistry

HPW: The major concern is the prevalence of peri-implant disease, especially peri-implantitis. Depending on the study, the prevalence of peri-implantitis reported in the literature lies between 14-to-25% after five years following implant placement. This problem is in my mind directly related to the over prescription of dental implants in general practice today. If a tooth has a problem, we decide too quickly to replace it with

Continues on page 14

an implant. It is assumed that the implant will have the better long-term predictability than a natural tooth that needs some work. In addition, the ever-increasing trend for immediacy and so-called minimal invasiveness (e.g., immediate placement and immediate restoration without flap elevation), adds to the problem. When placing an implant blindly, (i.e., flapless and without using guided surgery), it is difficult to assure that adequate (labial) bone will be present. And bone augmentation procedures that will predictably result in true bone formation are not easy to do without raising a flap. Consequently, too many cases end up with peri-implant tissue disease because of a lack of sufficient bone coverage and exposure of the rough implant surface underneath the oral mucosa. The situation is further aggravated in many instances by the lack of keratinized peri-implant mucosa.

AN: What topics in implant dentistry should be more emphasized by clinicians in private practice?

HPW: As mentioned above, it is not only my concern that dental implants are overprescribed in general dental practice today. As one of my former students recently stated in a lecture, we have arrived at a point that "when a tooth has a cold, we take it out and replace it with a dental implant." Clinicians should stick to the concept that implants are primarily indicated to replace missing or failed (non-restorable) teeth and should not automatically be seen as the better option compared to saving a tooth. Realizing the problem with peri-implantitis and other implant complications today, one cannot avoid thinking that in many instances, in which a treatable tooth was extracted to make room for an implant, the tooth may have had better long-term prognosis than the implant. It is important that clinicians recognize this fact and put more emphasis on appreciating the risk for complications, especially peri-implant disease down the road. If an implant is chosen as the right alternative to replace a tooth, careful diagnostic, planning, surgical, and restorative techniques should be applied. For this, a sound understanding of biological, biomaterial, and biomechanical principles is necessary.

AN: As its president, can you please describe what the Osseointegration Foundation (OF) does?

HPW: The mission of the Academy of Osseointegration (AO) is to "serve and support its members in their efforts to advance the science and best practice in implant dentistry, enhancing patient care and outcomes." The Osseointegration Foundation is the philanthropic arm of AO and is funded through donations from individual members like you or corporate entities. The OF offers the following unique programs to help execute the mission of AO:

- **Research Grants**
  Dental professionals pursuing groundbreaking dental implant research may be eligible for as much as $50,000 in research grants. Grants are offered on an annual basis.

- **Charitable Grants**
  The Charitable Grant Program provides financial assistance (up to $10,000) to improve the quality of life for those who have been diagnosed with a lifetime dental deficit or suffered from severe dental trauma and are unable to receive needed dental therapy due to economic restraints.

- **Student Travel Grants**
  Thirty $1,000 Student Travel Grants are awarded to the recipients of the top scoring Oral Research and ePoster abstracts submitted for each AO Annual Meeting. The grant is to be allocated toward travel expenses related to attending.

- **Nobel Biocare Brånemark Osseointegration Award**
  This award is given annually by the Osseointegration Foundation to honor an individual's impact on, and leadership in, the field of implant dentistry in any or all the Foundation's mission categories: research, education or charitable causes.

- **Titanium Society**
  The Titanium Society represents some of the most highly respected professionals in the field of implant dentistry. Membership in the Titanium Society is given to individuals who have donated at least $10,000 to the Osseointegration Foundation. It serves as an advisory committee to the OF Board of Directors. Each year, members of the Titanium Society are invited to attend a special presentation at the Academy of Osseointegration's Annual Meeting by that year's recipient of the Nobel Biocare Brånemark Osseointegration Award.

View the rest of interview with Dr. Weber via this QR code.

Dr. Hans-Peter Weber

Photofunctionalization: The missing component in implant success?

By: Robert J. Miller, DDS; Academy News Editorial Consultant

Osseointegration is a complex biologic process that can be affected by patient host factors and surgical protocols.

However, one of the least understood factors in early implant failure or the development of peri-implantitis may be the condition of the metallic oxide surface. Hydrocarbon contamination, also known as oxide aging, can have a deleterious effect on early healing of implanted devices (Fig. 1).[1]

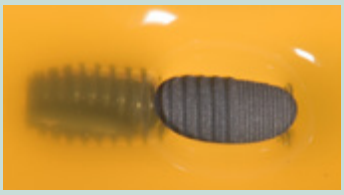

Fig. 1. Untreated implant with hydrophobic surface repelling autologous plasma.

A critical factor in implant integration is biocompatibility, and successful integration and survival of dental implants in function is directly related to the percentage of bone-to-implant contact. It is reported that the percentages of vital bone in successfully integrated implants ranges from 45% to 65%. Early failure of dental implants is most often related to insufficient load-bearing bone, resulting in breakdown and resorption of the remaining bone complex. Therefore, biocompatibility becomes the most important factor in forming the highest percentage of vital bone in direct opposition to the implant surface.[2]

Photofunctionalization is a chemical process where light is used to introduce functional groups onto the surface of certain materials. This technique leverages the energy from this light source to activate specific reactive sites, enabling controlled modification of surfaces, polymers, or organic compounds. The process typically involves UVC energy producing a chemical change in the oxide receptors that facilitates attachment of bioactive functional groups such as hydroxyl, carboxyl, or amine groups.

The main advantages of photofunctionalization are its high spatial precision, controllability, and the ability to operate under mild conditions without the need for harsh chemicals or elevated temperatures. This technique is widely used in fields like material science, nanotechnology, biomedicine, and surface engineering to improve the properties of materials, such as enhancing adhesion, biocompatibility, or catalytic activity. In the case of dental implants, made of either titanium or zirconium, it facilitates the transformation from a hydrophobic to highly hydrophilic state. This enhances the adhesion of biologic fluids and plasma. Consequently, it will enable early cell attachment and implant healing.

Adhesion and motility of osteoblasts can be affected by surface properties of implant surfaces. Reduction of the ability of osteoblasts to adhere to the implant surface and reduction of cell spreading across that surface has a direct effect on bone attachment. Changing the electrostatic condition of the implant surface by removing adherent hydrocarbons produces a surface that is super hydrophilic, enhancing fluid adsorption and cell attachment (Fig. 2).

Fig. 2. Before and after UVC photofunctionalization demonstrating a profound difference in hydrophilicity.

Rho GTPases help to regulate actin fibers in the osteoblast and are responsible for cell mobility. Any reduction of these signaling proteins will interfere with cell attachment and spreading. As hydrocarbon contamination increases, there is a linear reduction in cell migration and spreading. Photofunctionalization helps to indirectly stimulate GTPase gene expression, upregulating osteoblast metabolism.

Measurement of certain bone markers can be used to determine the relative rates of early bone production. These markers include Col-1, RUNx-2, Osterix, Osteocalcin, Osteopontin, and Alkaline Phosphatase. Maturation of the bone complex can be observed by measuring Alkaline Phosphatase Levels (ALP). Elevated ALP levels are directly correlated with osteogenic activity and bone deposition. It can be demonstrated that ALP levels are reduced by up to 50% on aged implant surfaces as a function of inhibition of osteoblast attachment and reduced metabolic activity. Photofunctionalization enhances protein adsorption, osteoblast adhesion, and proliferation.[3]

Bacterial adhesion to transmucosal elements of dental implants is unavoidable. Bacteria use salivary proteins to enhance the colonization on abutment components and may induce an inflammatory response in the peri-implant tissue. Chronic inflammatory response degrades the dentogingival complex leading to even greater bacterial attachment to the implant body. The charged cell surface of bacteria interacts with the oxide surface of implants, enabling colonization of the transmucosal portion of the implant body or the roughened surface of the implant body following bone loss.

Photofunctionalization of prosthetic healing abutments or final abutments enhances fibroblast adhesion and competes with microbial colonization. This effect appears

Continues on page 22

Do you like puzzles? If not, turn the page now.

But, if you desire, and have the intellectual curiosity to increase your ability to enhance the quality of your patients' lives, then please read on.

By: Academy News *Guest Contributors Dayn C. Boitet, DDS, AO past president, 2001-2002; and Edward B. Sevetz, Jr., DMD, AO past president; 2006-2007*

Way back in 1988, AO past Presidents **Dayn C. Boitet**, DDS and **Edward B. Sevetz, Jr.**, DMD began their mutual journey to learn how to use the exciting discipline of osseointegration and its benefits for increased success for patient treatment outcomes by traveling to the third Annual Meeting of the Academy of Osseointegration, held that year in Dallas, TX. There we became awakened to the paradigm shift in understanding of the science which merged not only some new "mechanics" but merged it with the biologic processes of load-bearing bone healing which predictably led to enhanced treatment outcomes.

Left to right: Dr. Edward B. Sevetz, Jr., Prof. P-I Brånemark and Dr. Dayn C. Boitet.

We've all heard the phrase that "hindsight is 20:20." There's more

than a drop or two of truth and wisdom in that old phrase. Why? Because gazing into the future is often myopic, or, short-sighted. This article is written to share the hindsight of decades of combined experience, so that you can all start higher, and less painfully, on the learning curve than any early adopters did.

In those earlier days, published, peer-reviewed scientific articles on osseointegration were few, as the science was still evolving. In fact, it was somewhat like a puzzle to us novices at the time. AO's Annual Meeting provided evidence-based, scientific knowledge benefiting clinicians and researchers on how to piece together this puzzling new, exciting/promising field. AO meeting presentations, and the quality scientific articles published in the *International Journal of Oral & Maxillofacial Implants (IJOMI)*, which has become the world's most cited reference on all things osseointegrated, provided the modern-day metaphoric equivalent of "Rosetta Stone" to sort-out the puzzle pieces for the benefit of all mankind.

Thus, the critical pieces of our puzzle leading to long term successful patient care include:

1.) Our personal education, which wasn't yet widely available in dental school curricula;

2.) Our shared experience in treating our patients;

3.) Being that AO is a global scientific organization, ideas and experiences from all around the world are shared at the Annual Meetings, on and off the main podium. The late Prof. **P-I Brånemark** often told us that the near-miracle that is osseointegration was meant to be shared for the good of all mankind, and not be stopped at any borders; and

4.) The AO membership is a very balanced and diverse group, consisting of restorative members who include prosthodontists and general practitioners, members with surgical expertise, researchers in basic and applied clinical sciences, and laboratory professionals.

But all of the above puzzle pieces of osseointegration remain separated unless, and until, they are properly put together. That happens most completely at an AO Annual Meeting. How? It begins with the evidence-based presentations from the podium and is "catalyzed" by the membership who speak face-to-face with those presenters after their presentations, and discussions with other attendees who become professional friends.

These personal interactions, between experienced clinicians, allows us to glean "insider" information for more in-depth understandings and clarity than podium time might allow. We all want to know how and when to do something, but these personal interactions will also share when not to do something. One of the biggest dangers is "not knowing what we don't know." AO Annual Meetings, and interactions that occur therein, can fill in those gaps in our knowledge and experience.

So, the biggest, and most crucial puzzle piece cannot be placed in its proper alignment, unless you actually commit to doing it. How? By physically attending the AO Annual Meeting. That sounds simple, but it's also true. No online videos or podcasts can match the "up-loading" of knowledge, from OPB's (other people's brains) one can receive by actually being there at the Annual Meeting. Period.

And, the friendships made don't expire at the end of the meeting. No, they don't. You can call one another throughout the course of the year prior to the next AO Annual Meeting, and discuss ideas, challenges and complications with your newly acquired friends.

Another indispensable benefit of meeting attendance is the Exhibit Hall. All corporate entities who have technology to help us help our patients is concentrated in one location for us to examine, learn and acquire what we need. You'll never find so much to see and touch, per unit time, than in the Exhibit Hall.

Despite us all being from different countries, we all speak the same "language," that being: top quality, evidence-based scientific patient care. No one has to feel they must "re-invent the wheel" by themselves. We can share, which we freely do. At the AO Annual Meeting, we all have the opportunity to learn to assemble the puzzle pieces for success through science and applied technology.

If you've read this far, we're looking forward to seeing and sharing with you in Seattle, in March 2025, for your best opportunity to take your osseointegrated patient care, "to the next level!"

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AO Hotseat Podcast

CASE REVIEW

AO podcast puts guests on the "Hotseat"

A little over one year ago, there was an initiative by AO to deliver exciting, new content for the dental community that would raise its voice in the dental podcast space and expand the overall reach of its social media presence.

And so the "AO Hotseat Podcast Case Review" was born. Broadcast live quarterly via AO's YouTube channel, these approximately one-hour episodes put guests on the "hot seat" with cases they have not previously seen and/or questions they have not already been asked ahead of time.

Spearheading this initiative is **Robert A. Levine**, DDS, the podcast's main moderator, a vice chair of the AO Social Media Committee, and director on the AO Board of Directors.

"The AO Hotseat has hopefully been a very enriching experience for all of our viewers," says Dr. Levine. "Our plan is to continue hosting leading experts who offer thought provoking topics and discussions that reach across all specialties."

The next AO Hotseat is scheduled for February 12, 2025 at 8:00 pm EST, featuring special guest **Dennis P. Tarnow**, DDS. Episode 6, entitled "Management of Recession of Maxillary Anterior Single Implants," will be moderated by Dr. Levine and **Joseph Y.K. Kan**, DDS, MS.

Once broadcast live, recordings of each AO Hotseat are released and uploaded to the Academy's YouTube channel for additional viewing. The five previous Hotseat episodes have included:

"Peri-implantitis" on October 17, 2023 with world-renowned subject matter expert and AO past President **Hom-Lay Wang**, DDS, MSD, PhD, AOD was the inaugural AO Hotseat Podcast Case Review. During this 30-minute broadcast, Dr. Levine and co-moderator **Alex Lin**, DDS, MS, presented Dr. Wang with a case he had not previously seen and challenged him on how he would have treated it.

The second installment of the AO Hotseat, "Reflecting on 50 years of Implant Prosthodontics," was an insightful, 45-minute broadcast featuring **Charles J. Goodacre**, DDS, MSD, who ruminated on five decades of implant prosthodontics and clinical experience in the digital age. Co-moderators were Dr. Levine and **E. Armand Bedrossian**, DDS, MSD, FACP.

Episode 3, "Removable Implant Retained Prosthetics: Tips and Tricks" on April 3, 2024 featured special guest AO President-elect **Robert C. Vogel**, DDS, who discussed avoiding complications, patient benefit and how to be successful with removable implant-retained prosthodontics. This Hotseat was co-moderated by Dr. Levine and **Briar E. Voy**, DDS.

Bach T. Le, DDS, MD was the featured guest on June 12 for Episode 4, "Minimizing the use of Pink Porcelain in Implant Dentistry." Moderated by Dr. Levine, Dr. Le discussed his more than two decades of experience with rehabilitating and managing the deficient ridge in the anterior esthetic zone during this session. He also revealed tips and tricks to rebuilding these sites to provide nice, natural aesthetics while minimizing the use of pink ceramics.

The fifth installment, "Building Leadership Qualities, Expanding Clinical Frontiers," featured special guest **William V. Giannobile**, DDS, MD, Dean of Harvard School of Dental Medicine, who brought a wealth of knowledge, insight, and foresight to the podcast. Along with his wisdom and innovative thinking, moderators Dr. Levine and **Lorenzo Tavelli**, DDS, MS, PhD; explored Dr. Giannobile's diverse, personal story, leadership, regenerative medicine, personalized medicine and Artificial Intelligence (AI) in dentistry and healthcare.

If you have not had the opportunity to view the episodes or would like to go back and re-watch them, see the Hotseat playlist on AO's YouTube channel via this QR code.

Top photo: The special guest of Hotseat Episode 6 will be Dr. Dennis P. Tarnow (center) with co-hosts Drs. Robert A. Levine (left) and Joseph Y.K. Kan.

Perspectives gained and lost in implant dentistry

By Stephen M. Parel, DDS, AO past president, 1994-1995; and Academy News *Guest Contributor*

My first thought when I received this kind invitation to create an editorial for *Academy News* was, "What do I have to say that would be of value to today's young clinicians?"

"Nothing, really," was my first response to myself. I am well behind the digital learning curve and haven't treated a patient of my own in years, all of which I am reminded of as I help with our Texas A&M residents once a week. These kids (at my age I can call them that) are tremendously talented and intimately familiar with all the technology I have let pass me by. Case in point: I was surprised when going through our brand new residents lab to find an unused broken arm casting machine buried under our denture tooth file. None of the residents knew what it was or how to use it, so I'm guessing they never made jewelry at Christmas time in dental school.

I believe I was, before retiring, the longest actively practicing clinician who attended the Toronto Conference in 1982, but no one of today's generation can really appreciate how historic that event was. Clinical implant dentistry, still best practiced with an interdisciplinary approach, has allowed all of us to raise the level of long-term care for our patients, especially those in the maxillofacial realm, to levels never before anticipated. The implant patient response I once treasured is routine today, since very few of this generation ever had to suffer with the primitive and unpredictable options, we had prior to Professors Brånemark, Schroeder, and other historical osseointegration groundbreakers.

So the real question is, could there be a learning experience young clinicians are possibly missing that I might have found most important throughout my career?

Retrospectively, I am thinking, maybe it's dentures. Yep, the one clinical procedure we still teach at a high level that causes bone loss predictably and consistently in those individuals afflicted with edentulism. We all know today that this progressive resorption is mitigated almost completely with full arch implant therapy or is at least slowed down to the point that our patients can outlive the ultimate implant failure timeline.

Why would I single out this insidious edentulous treatment option as one of significant importance on my learning curve? The answer to me is because we sometimes forget there is analog value in patient management, a somewhat lost art in the midst of rapidly expanding digital technology. I remember well Alex Koper's Denture Birds, and the way he comically and accurately portrayed the variety of patient presentations we need to recognize and learn to evaluate. It also remains the best opportunity to learn smile design, since no other dental restoration gives you this much control over all of the esthetic parameters in play.

What I hate to see lost in the streamlining of our therapeutic options is the chance to get to know and learn from our patients. That kind of experience comes from the basics of treatment modality like constructing a denture. I have made more of these in my lifetime than I care to remember, and, thinking back, I don't think I have ever made a mandibular prosthesis that was truly retentive. Those days are gone, at least hypothetically, where today no one should suffer from the misery of dentures. But the benefit of learning esthetic design and patient management in the process was invaluable.

I hope we never lose that perspective.

AO Outstanding Dental Student Award honors nearly 1,100 recipients

Students honored at graduation earlier this summer are taking their first steps toward their professional careers, thanks to the Academy.

Since 2005, AO's annual Outstanding Dental Student in Implant Dentistry Award has recognized nearly 1,100 students around the U.S., including 55 from the Class of 2024.

Nominated by their respective schools, each student receives a complimentary year of AO membership, subscription to the *International Journal of Oral & Maxillofacial Implants (IJOMI)*, $500, a certificate, and registration to AO's 2025 Annual Meeting. To view the honorees, please scan the QR code.

Academy News staff (AN) interviewed one of the recipients, **Awaz Yaseen** (AY) from Dental College of Georgia at Augusta University.

AN: What motivated you to pursue dentistry?

AY: I spent a lot of time observing dentists at local offices, and quickly realized how wonderful of a profession it could be. Listening to the dentists and staff explain treatments to patients, observing the personal connections made, enjoying the artistry of dentistry, and making a tangible difference in people's lives by improving their oral health are some of many reasons.

AN: What does the future hold for you? Short and long term?

AY: As I have just begun my career as an associate dentist, I hope to enhance my technical and treatment planning skills, establish a great rapport with my patients in this community, and stay current with the latest developments. Over time, I plan to gain training on more advanced, comprehensive cases to treat patients with more complicated, extensive needs. Ultimately, I hope patients I meet can gain the most optimal oral health achievable.

AN: What are you looking forward to with AO now you have received this award?

AY: I would like to connect with leaders in the field of implant dentistry to learn about the latest advancements, especially at the beginning stage of my career.

AN: What are you expecting or hoping for at your first AO meeting in Seattle?

Todd Schoenbaum, DDS, MS, presents the AO Outstanding Dental Student Award to Dr. Awaz Yaseen, one of 55 recipients in 2024.

AY: I am thrilled to attend the AO Annual Meeting and hope to learn more techniques and treatment planning strategies to attain more successful and straightforward outcomes with implants. I also look forward to the interdisciplinary approach, as general dentists, prosthodontics, periodontists, and oral surgeons will be sharing their expertise.

AN: What do you see as a benefit of being an AO member?

AY: For a field to truly advance, it requires a collaborative approach from professionals all around the world. That is no different the implant dentistry world. Learning from a wide variety of experts across many nations allows us to integrate the most current knowledge into our practices and to share our own insights to further advance the field.

AN: Where do you plan to gain additional knowledge or training in implant dentistry as your career progresses?

AY: AO will be one of my primary sources for knowledge and training in implant dentistry. I will also collaborate with specialists in my local community and in Georgia, including the Georgia Dental Association, to advance my knowledge.

AN: Can you describe the experience of receiving this award? What was your first reaction?

AY: I was honored and pleasantly surprised to receive it. It felt like a triumph after completing several challenging implant restorations, the first of many, I am sure.

AO events and CE calendar

AO 40th Annual Meeting
CONTROVERSIES IN IMPLANT DENTISTRY: HOW TO MAKE IT EASY
March 27 – 29, 2025
Seattle, WA

Early Registration Deadline: January 27, 2025

December 11, 8:00 pm EST
AO Student Webinar Series
Robotics in Dental Implant Surgery: Safety & Precision
Young-Han Koo, DDS

January 15, Noon EST
AO Student Webinar Series
The Implant Prosthetic Interface in Respect to Peri-implant Tissues
Gianluca Paniz, DDS, MS, PhD

AO Online Education Center
The Academy is proud to feature complimentary webinars presented by some of the most respected key opinion experts in the field of implant dentistry. Earn ADA-CERP credit by participating in the live presentations or viewing recordings on demand. Members receive complimentary registration for live webinars and full access to AO's Webinar Library with more than 70 presentations. See osseo.org for details.

Academy News Goes Online!
Starting with Q1 2025, *Academy News* will be published and available online only via AO's website. Stay tuned for more details in the coming weeks about this exciting change.

AO Fellowship provides prestigious level of membership recognition

Have you considered applying for Fellowship in the Academy of Osseointegration?

Fellows are a distinguished group of individuals who have been members of the Academy for a minimum of five years and contributed to the field of implant dentistry via service to AO and other organizations.

As a Fellow, your member benefits continue at the highest level. You are recognized in front of your peers at the Annual Meeting and receive a Fellow Certificate to display in your office. In addition, Fellows receive priority registration for the Academy's Annual Meeting and become eligible to serve in leadership positions.

Time is running out! To determine if you are eligible for promotion to Fellowship, please contact Amanda Wiff, AO's Membership Manager at 847-725-2267 or email membership@osseo.org. Applications are being accepted through December 31, 2024.

Photofunctionalization...

(continued from page 15)

to be long-lasting following treatment, and fewer relapses are seen on treated implant surfaces.[4]

Photofunctionalization appears to be a viable adjunct to implant success by enhancing osteoblast attachment, increasing bone-to-implant contact, and reducing bacterial colonization on transmucosal components. A 10-second application of light on the implant body or prosthetic components using a UVC chamber (Fig. 3) may have profound effects on both early healing and long-term implant maintenance.

Fig. 3. UVC chamber for photofunctionalization.

References for this article are available via scanning this QR code.

Joint AO/AAP 2024 Consensus Conference brings clarity about risk factors and management of peri-implant diseases

Dr. Mehrdad Favagehi

By: AO Fellow Mehrdad Favagehi, DDS, MS; Academy News *Editor*

A staggering number of patients suffer from peri-implant diseases. We see the afflicted patients in our practices every day. However, very few dentists had any formal education about diagnosis or management of peri-implantitis in dental school. There are still no clear guidelines about how to treat peri-implant diseases.

Even the most basic aspects of diagnosis and management of peri-implant diseases have stayed uncertain due to a lack of consensus. For example, basic standards such as the type or frequency of radiographs needed during implant maintenance phase or probing around implants is still unclear for many clinicians. Many dentists still don't have an implant maintenance protocol after their initial mission of placing and restoration of implants is accomplished.

Even the theories regarding the pathogenesis of peri-implant diseases are disputed. One theory attributes peri-implant bone loss to a pathological-physiological equilibrium reached in response to a foreign body reaction in bone tissues. This theory is taken up a notch by those who argue that a "biocompatible-foreign body" is an oxymoron concept.

Others claim that Zirconium implants are more biocompatible than metal (titanium) implants. While others recognize peri-implant diseases as a preventable inflammatory reaction to micro-organisms. Some clinicians advocate for strategies to achieve zero bone loss around implants, while others claim that some bone loss is part of a normal bone remodeling in early stages of osseointegration. Peri-implant diseases have a complex multi-factorial pathogenesis that also involve implant and restorative designs and patient risk factors.

The plot thickens when you look at interventions to treat peri-implant diseases. Non-surgical, conventional treatment may work, but conventional (metal) instruments are prohibited. Surgical, regenerative and laser treatments have mixed results. Implantoplasty, galvanic or laser implant surface treatments may or may not help with implant re-osseointegration, but there is no consensus if re-osseointegration itself is even possible.

If you feel that your head is spinning, you're not alone. Looking at the scientific literature seems like a good idea, but nothing can be more confusing as the literature is as wide and deep as the ocean with countless conflicting reports about peri-implant diseases. As individuals, we typically don't have the time or expertise to systemically analyze all the scientific data to find a solution for our patients.

Here comes AO to the rescue. In partnership with the American Academy of Periodontology (AAP), an initiative was formed to organize a consensus conference to review and systemically analyze the best science about peri-implant diseases.

"Making the impossible, possible" is how **Hom-Lay Wang**, DDS, MSD, PhD, the AO co-chair of the summit, started the plenary meeting, as he and AAP co-chair, **Paul S. Rosen**, DMD, MS gave the opening remarks before the two working groups separated to work on their assigned tasks.

Group 1, under the leadership of **Joseph Y.K. Kan**, DDS, MS and **Purnima Kumar**, DDS, PhD, analyzed the scientific data about risk factors, indicators and determinants of peri-implantitis. Group 2 leaders, **Joseph P. Fiorellini**, DMD, DMSc and **Tara L. Aghaloo**, DDS, MD, PhD led their expert panels to review the management of peri-implantitis and other implant related complications. At the end, the experts re-assembled to provide their expert opinions about developing decision tree algorithms for management of peri-implant diseases.

The expert panels included a diverse group of researchers, academicians and clinicians representing different specialties from around the world.

Please don't miss the opportunity to receive the detailed findings of the consensus conference during the Opening Symposium at the upcoming AO Annual Meeting in Seattle, March 27 - March 29, 2025. Please bring your hygienists as well since the consensus decision tree algorithms will map out an actionable plan for your patients under your care.

The Editor's Editorial is intended to contribute to the dialogue on issues important to implant dentists. The views expressed in the editorial do not necessarily reflect the policy of the Academy of Osseointegration or its board of directors. To provide feedback about this edition, or contribute as a guest author, please contact me at mfavagehi@yahoo.com. We will endeavor to publish pertinent comments or views when space permits.

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1 Norton MR, Astrom M. The influence of implant surface on maintenance of marginal bone levels for three premium implant brands: A systematic review and meta-analysis. Int J Oral Maxillofac Implants 2020;35(6):1099-111

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