



## **2016 Member Speaker Forum**

Chair: George H. Clayton, DDS, FACP

Friday, October 7, 2016

1:45 – 3:45 p.m.

Harbor G

2 CE Credits

1:45 – 2:00 p.m.

### **Introduction**

2:00 – 2:15 p.m.

### **Titanium Membrane & L-PRF: Grafted Solutions for Maxillary & Mandibular Arches for Prosthetic/Implant Reconstructions**

Edward M. Amet, DDS, BS, MSD, FACP

Reconstructive & Implant Dental Center, Overland Park, KS

The goal of modern implant dentistry is to return patients to oral health in a rapid and predictable fashion, following a diagnostically-driven treatment plan. If implants cannot be placed due to lack of bone availability, regeneration becomes critical to achieve a totally implant-supported prosthesis and stable prosthesis when minimum bone is available. If implant placement position is required to be in compromised bone sites, the diagnostic phase needs 3D radiographic planning and clinically guided bone regeneration (GBR) for implant placement. A restored alveolar ridge can provide bony implant support with an esthetic stable prosthesis and patient satisfaction. A titanium membrane housing with an L-PRG membrane bone graft can create a biological approach for ridge regeneration when minimal native bone is available, resulting in comfort, function, racial esthetics, and speech after treatment with prosthetic implant reconstruction. This presentation will look at all issues that clinicians involved with implant prosthodontics have need to be knowledgeable of including patient ASA Classification & medications, diagnostic phase for implant planning and placement with 3D radiographs, and stereolithography models for improved placement in compromised bone sites. The surgical prosthetic and laboratory phase of reconstruction with graft loading and interim prosthesis will be discussed. Emphasis of the presentation will be given toward diagnostically-driven GBR and implant placement with loading in compromised bone sites with interim and final prosthesis. Problems that arise during treatment will also be given consideration, as well as laboratory technology. Upon completion of this presentation, participants should understand and be able to discuss indications and limitations for planning and correcting advanced dental implant/prosthetic treatment, indications and contraindications for this type of surgical treatment, benefits and risks for the type of surgical/prosthetic treatment described, and operator considerations for this type of implant surgical/prosthetic treatment.

*No Disclosures*

2:15 – 2:30 p.m.

### **The Retread: Retrospective Analysis of 205 Implant-Supported Fixed Prostheses**

Stephen F. Balshi, MBE

Fort Washington, PA

Purpose: The retread procedure is described and defined. Acrylic resin teeth on fixed implant prostheses are subject to occlusal wear over time. The purpose of this retrospective study is to evaluate and describe the management of such wear according to selected variable: patient gender and age, dental arch location, and opposing dentition. Materials and Methods: A

retrospective database review from a single private prosthodontic practice was performed on all patients who had undergone a retread procedure. The patient sample included 205 arches in 194 patients (70 in men, 135 in women) with a mean age of 57.4 years (range: 19.9 to 80.5 years). Results: The mean time between final prosthesis delivery and retread in the 205 arches was 7.8 years (range: 1.1 to 22.9 years). Statistical analysis was significant according to dental arch and opposing dentition ( $P < 0.5$ ). A statistical significant difference was also noted in patients undergoing multiple retread procedures, with a shortened difference was also noted in patients undergoing multiple retread procedures, with a shortened time between the subsequent procedures. Conclusion: Acrylic resin components of implant-supported prosthesis are important for long-term patient care and maintenance of an appropriate vertical dimension of occlusion. This data has been published in the *International Journal of Prosthodontics* 2016.

*No Disclosures*

2:30 – 2:45 p.m.

**In Office Fabrication of Implant Surgical Guides for Guided Surgery Using a Desktop Stereolithographic Printing**

Sompop Bencharit, DDS, MS, PhD, FACP  
Virginia Commonwealth University

Guided surgery has proven to be the most accurate way to place dental implants. However, the cost limitation and inconvenience of the fabrication of surgical guides limit the use of guided surgery, and often clinicians place implants without any guide or with a guide that has no depth or angulation control. Recent development in three-dimensional stereolithographic technology allows a high precision 3D printing of surgical guides with much lower cost using a desktop stereolithographic 3D printer in the dental office. This presentation describes general clinical and laboratory protocols for in-office 3D printing of implant surgical guides. Case scenarios will be used to discuss the procedure. Advantages and disadvantages of this new technology will also be discussed

*Disclosures: Zimmer Biomet Grant/Research Support and Consultant*

2:45 – 3:00 p.m.

**A Novel Minimally Invasive Approach for Replacing Congenitally Missing Teeth**

Wendy Clark, DDS, MS  
Atlanta

As dental implants have become increasingly routine, resin-bonded fixed partial dentures (RBFDPs) as a final prosthesis have started to fall out of favor. For many patients, however, RBFDPs are still the most viable treatment option. This is particularly true of patients with congenitally missing teeth, with consequently extensive bony defects. In spite of improved bonding materials and protocols, debonding of RBFDPs is still a common clinical complication. To overcome this clinical issue, a novel design concept was developed, integrating resistance form and utilizing both mechanical and chemical retention. This proof-of-concept case

presentation incorporates both CAD/CAM and updated bonding protocols, allowing for minimal preparation.

*Disclosures: Univ. of Penn, GRU (formally MCG), Zimmer Dental, Nobel Biocare, Straumann ITI, 3i Implant Innovations, Brasseler USA, Bisco, Biora, i-CAT, Siemens-Sirona, Premier, DenMat, DentalXP, Shofu, ProDentec, Panasonic, Minolta, Kodak, Canon, Vident, Dentsply, Hu-Friedy, G-C America, Moyco/Union Broach, Masel, Materialise, Luxar, American Dental Technologies, Sunrise Technologies, Kreativ, Biolase, Lifecore, Thommen-Medical, ATitan Inc., Global Microscopes, Stoma, Consult Pro, Zeiss Microscopes, Carestream, Zila, Belmont, Dental Master, Cosmedent, Ultradent, Ritter Dental, 3Shape, Itero, Align Technologies, Kulzer, Phillips, Implant Innovations, Inc., Friadent, BTI, BioHorizons, 3M, Bisco, Biora, Premier, Ivoclar, Piezosurgery, Sony, National Dental Network, Global Surgical, Columbia Scientific, Luxar, Biolase, XCPT, Titan Instruments, OralDNA, Heraeus.*

3:00 – 3:15 p.m.

**Prosthodontic Design to Restore a Micro-Vascularized Free Fibula Graft in the Maxilla Following Tumor Resection**

Louis Marion, DMD, MS  
Philadelphia, PA

Micro-vascularized free fibula (MFF) grafts have become an essential part of reconstructive treatment plans for patients with traumatic or acquired jaw defects. But while the literature is rife with articles describing the MFF grafts in mandibular reconstructions, it has not been that common for treatment plans involving the maxilla. This report demonstrates a case that utilizes both unique and conventional fixed implant prosthodontic techniques for the successful reconstruction of a patient who had a large, destructive ameloblastoma resected from her maxillary right and anterior portions of her maxilla. Special considerations were employed in both design during treatment and post-operative instruction for hygiene to avoid common complications of MFF grafts. Decisions regarding materials and design are also reviewed to demonstrate what factors contributed to the successful function and esthetics for the provisional and final fixed implant-supported prosthesis.

*No Disclosures*

3:15 – 3:30 p.m.

**Comparative Analysis of Various Digital 3D Imaging and Planning Systems in Dental Implantology**

Janghyun Paek, DMD, MS, PhD  
Kyung Hee University, School of Dentistry, Seoul, Korea

Among the fastest-growing segments of implant dentistry is the utilization of CT scan data and treatment planning software in conjunction with guided surgery for implant reconstruction cases. Computer-assisted planning systems and associated surgical templates have established a predictable, esthetic, and functional technique for placing and restoring implants. Specifically, a

philosophy of restoratively driven implant placement has been generally adopted. Guided surgery technology is improving clinical confidence in dental implant therapy. This technology uses digital x-ray combined with specialized software and surgical drilling templates to visualize and plan the placement of a dental implant. Nowadays, it has been much evolved with intraoral scanners, which eliminated conventional impression step and pre-surgical laboratory works. In relation to the rapid progress made in computer-assisted processing technology, the dental CAD/CAM systems have been actively pursued. Recently, a variety of commercial dental fields have released their scanning and fabricating protocols and methods for restorations. Restorations are designed on a computer monitor using CAD software based on the digitized data as a virtual wax-up. Finally, the restorations are processed by a computer-assisted processing machine, usually a milling machine. This process has been investigated and developed for the most precise and predictable outcome. The purpose of this presentation is to compare different, commercially available computer-assisted planning systems: associated surgical templates and the CAD/CAM restorative options. After analyzing each system, a series of clinical cases will be presented.

*No Disclosures*

3:30 – 3:45 p.m.

### **Novel Approach for Fully Edentulous Sleep Appliances**

Mark Montana, DDS

Tempe, AZ

Oral appliance therapy is an alternative to Continuous Positive Airway Pressure (CPAP) in treating patients with mild to moderate Obstructive Sleep Apnea Syndrome (OSAS). Oral appliances have gained popularity and this may be due to their low cost, ease of use and relative comfort which can lead to greater patient compliance as compared to the CPAP. It has been broadly reported in the literature and heard anecdotally that CPAP users suffer from suboptimal patient compliance rates attributed mainly to its side effects and obtrusive nature. Although CPAP is considered the standard of care for the dentate OSA patient, edentulous patients may not tolerate PAP therapies without their dentures in place and the pressure of the extraoral devices may lead to discomfort and instability when the dentures are in place. Mandibular Advancement Device (MAD) therapy has gained recognition as a treatment option for patients with OSAS by maintaining the mandible in a protruded position during sleep, preventing pharyngeal collapse and opening the upper airway. Edentulism, which may exacerbate OSA, reduces the options for available therapeutic strategies, and may be a contraindication to oral appliance therapy as such devices depend upon a fixed structure for retention and stabilization. Bone loss in the edentulous mandible is a chronic, progressive, and irreversible process resulting in difficulties with stability and retention of the complete denture. Attachment of an appliance to the denture can decrease stability further and accelerate the resorptive process. There are two case reports in the literature showing the use of a MAD with a complete denture. Mandibular advancement devices are typically designed to fit onto the existing teeth or restorations in patients with implant reconstruction; however, the appliance increases the vertical dimension of occlusion (VDO) while in place, which may affect the airway

space, comfort for the patient, and temporomandibular joint. Utilizing CONUS abutments on implants for a MAD instead of the denture can create a much more stable device, less tissue trauma, and there is no need to alter the occlusal vertical dimension. It is hoped that this may improve patient tolerance, increase the efficacy of the therapeutic device, and serve as a nice alternative for our fully edentulous patients. Presented is a novel approach for fully edentulous patients with dental implants suffering from OSA, using a mandibular advancement device fabricated without an increase in the vertical dimension of occlusion.

*No Disclosures*