PENNSYLVANIA CENTER FOR DENTAL IMPLANTS AND PERIODONTICS

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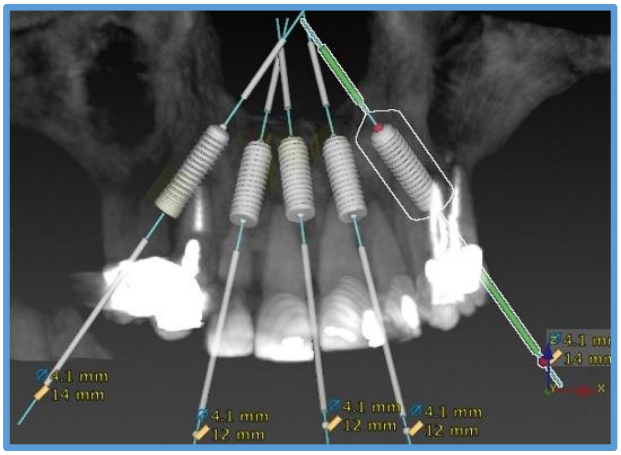
Featured Patient Case #1:
Complete Mouth Reconstruction with Hybrid Restorations

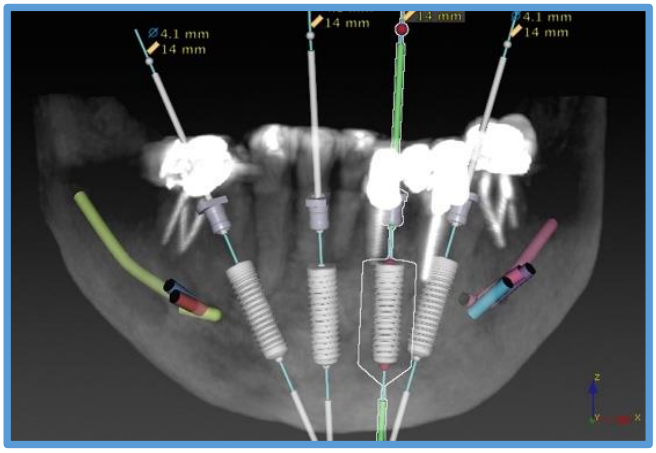
Robert A. Levine, DDS, FCPP, FISPPS (periodontist/implant surgeon)
Harry Randel, DMD (prosthodontist)
NewTech Dental Laboratory

Before Smile

After Smile

Case Featured in the article, *"Team Approach in a Full-Mouth Pro Arch Hybrid Reconstruction Using the Indirect Method for Provisionalization." Compendium of Continuing Education in Dentistry. May 2017; 5-10.*

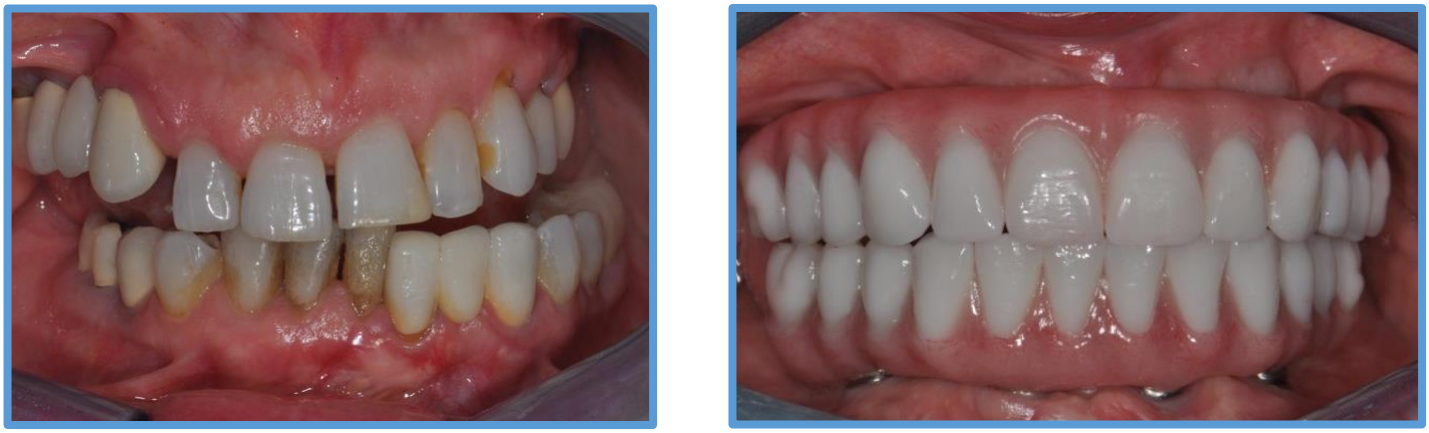




CBCT Planning

Patient Presentation/Chief Complaint:

A 65-year-old female (non-smoker) presents on a 3rd opinion with a history of medication-induced xerostomia (MIX)-resulting in generalized recurrent caries and generalized chronic advanced periodontitis with contributing parafunctional habits ("occlusal periodontitis"). Her chief complaint was a desire to improve her esthetics and comfort and she wanted a quick, permanent solution to replace her failing dentitions. Generalized heavy fremitus and 2-3 degree mobilities were noted with history of parafunctional habits and TMJ symptoms.

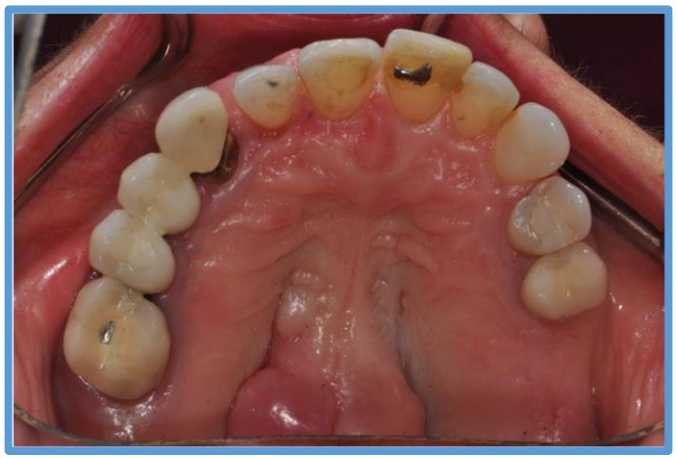


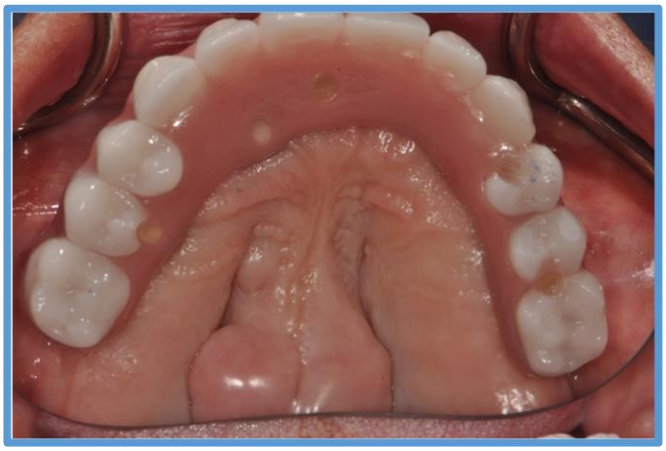
Before & After Anterior Retracted View

Description of Treatment and Surgery:

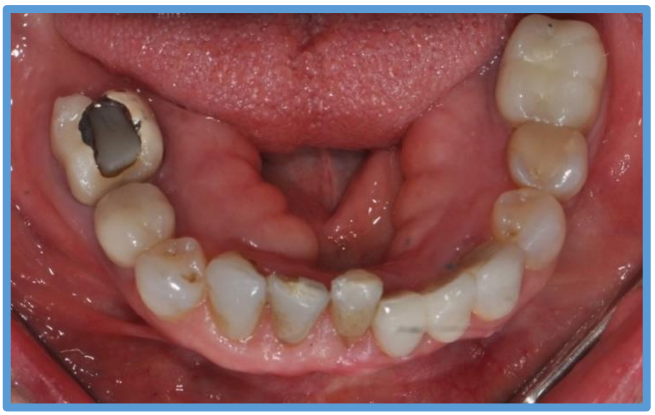
In one coordinated surgical visit with Dr. Levine *(prosthodontist office: Dr. Randel, NewTech Dental Laboratory: Lansdale, PA, Straumann® dental implant rep):*

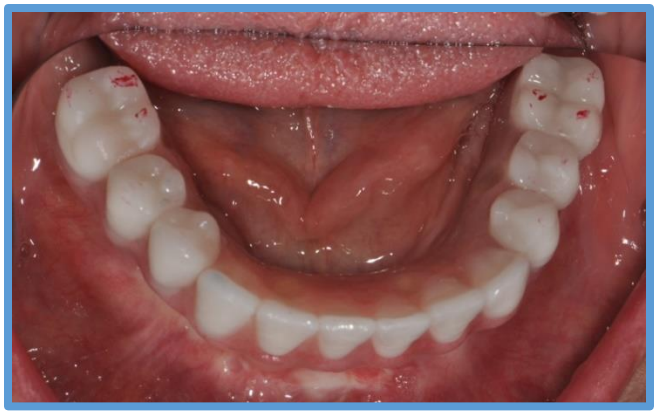
- All remaining teeth were minimally traumatically removed after full-thickness flaps with the aid of the Piezosurgery® (Mectron).
- Significant vertical ridge height reduction completed with the Piezosurgery® saw to provide the ***necessary prosthetic room for a hybrid restoration***.
- Five implants were placed in the maxillae with 4 placed in the mandible.
- Minimally traumatic Piezosurgery-assisted® removal of the mandibular tori (bilaterally).
- Abutments placed & insertion torques measured.
- Impressions of both jaws with bite registrations at the appropriate OVD.
- Delivery of a *screw-retained metal-reinforced fixed provisional prosthesis* (converted from pre-surgically fabricated FUD/FLD) *next day* with occlusal equilibration.
- Coordinated follow-up visits every two to three weeks for three months for full mouth polish and plaque control review as well as occlusal equilibration as needed. A water irrigation device was given at 4 weeks.
- PA digital x-rays taken at 3 months confirmed bone healing.
- Delivery of final screw-retained case with maxillary night guard appliance.
- Periodontal maintenance visits every 3 months with periodic FMX and/or Panorex at 3-years.

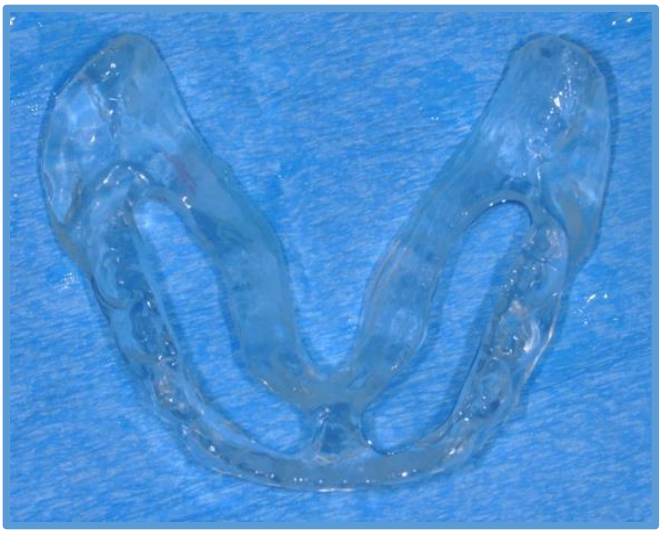




Before and After Occlusal Views

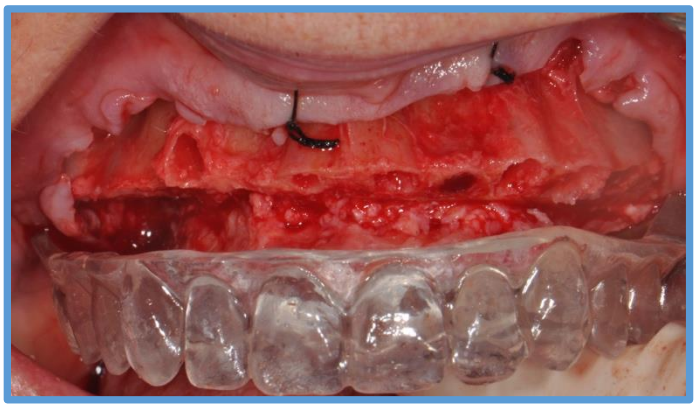


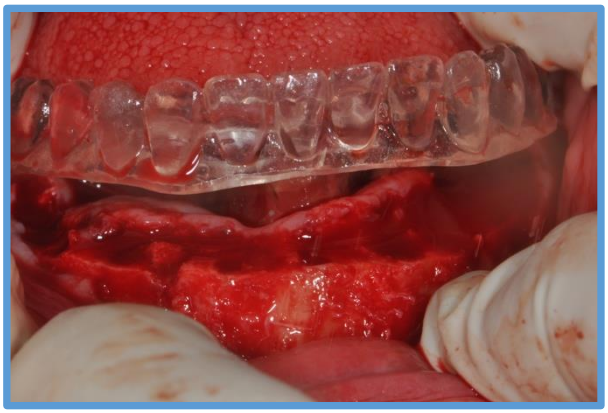




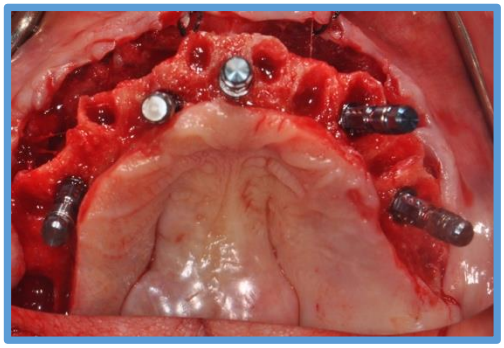
Anatomically-Correct Surgical Guide Templates

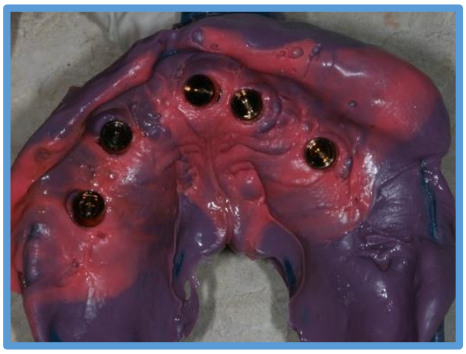
Vertical Ridge Height Reduced for the creation of *adequate prosthetic room of 10-12mm*

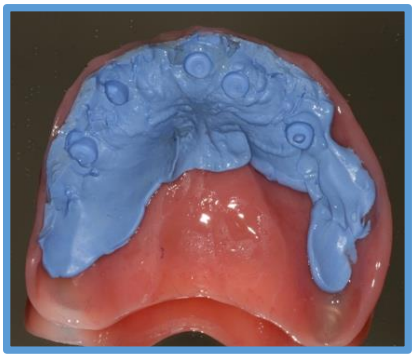




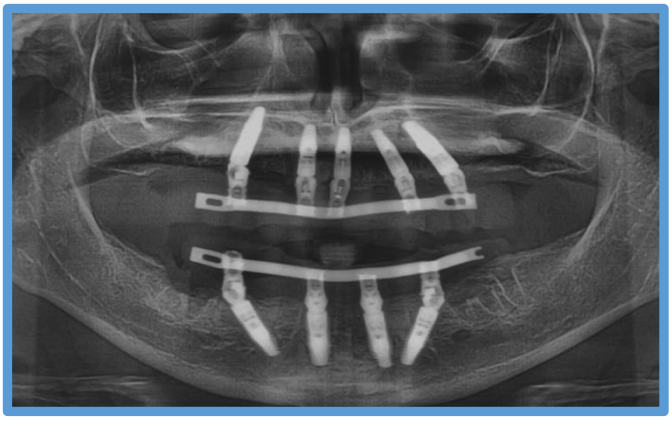
Highlight of the Maxillary Jaw: Five implants in place in good prosthetic position (positions #'s 4, 7, midline, 11 & 13); maxillary impression & bite registrations (below)



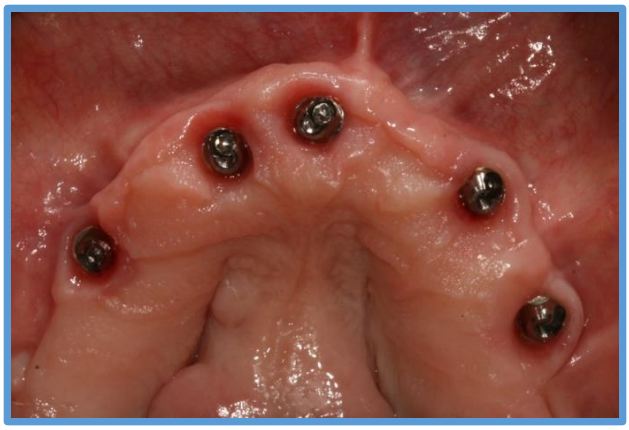


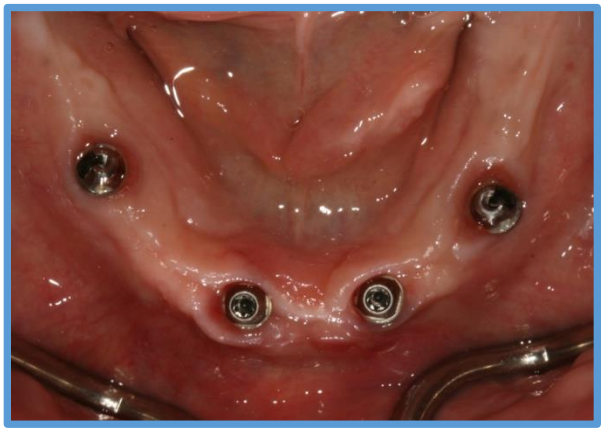


Provisional Restorations in Place at Two Days Post-Surge

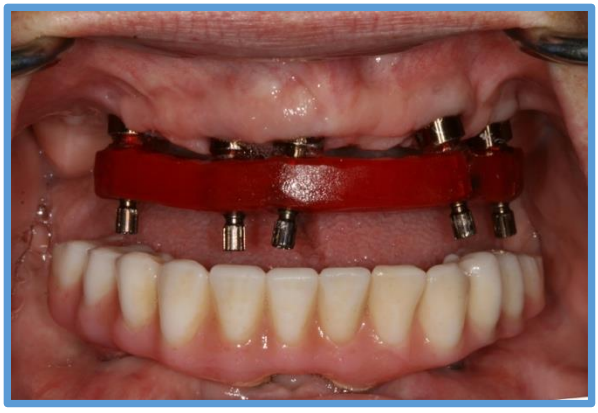


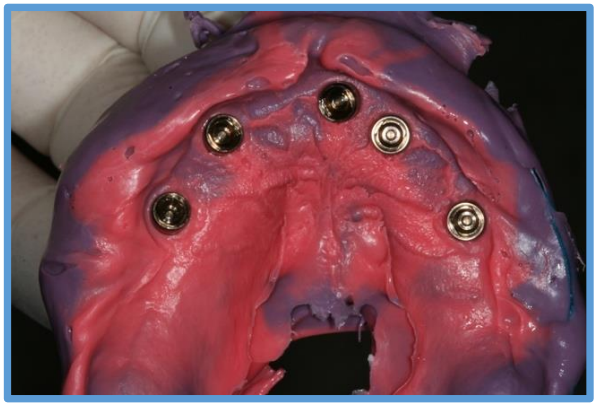
Final Soft Tissue Healing Prior to Final



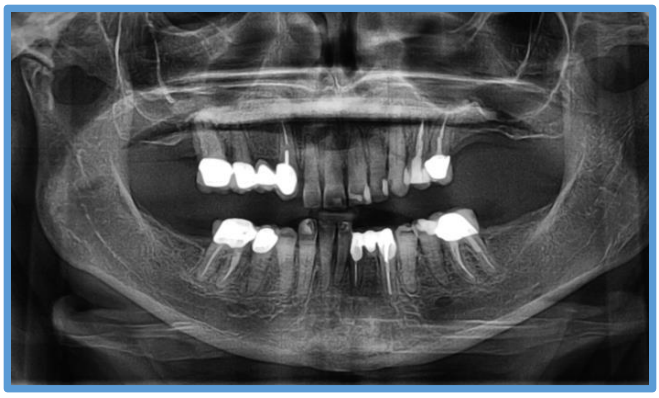


Maxillary Verification Jig in Place & Picked up in the Final Impression

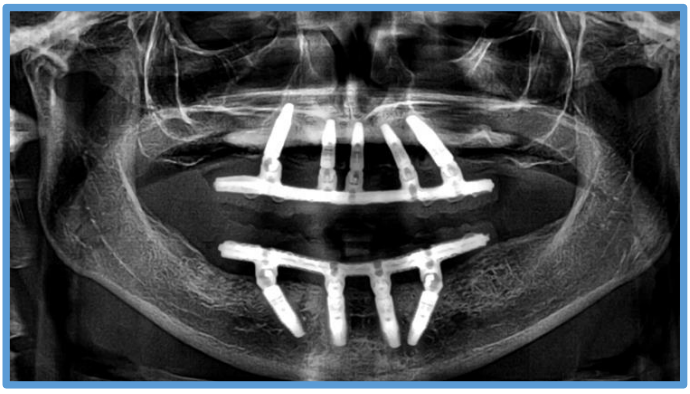




Before



Milled Titanium Bar w/Wrapped Acrylic

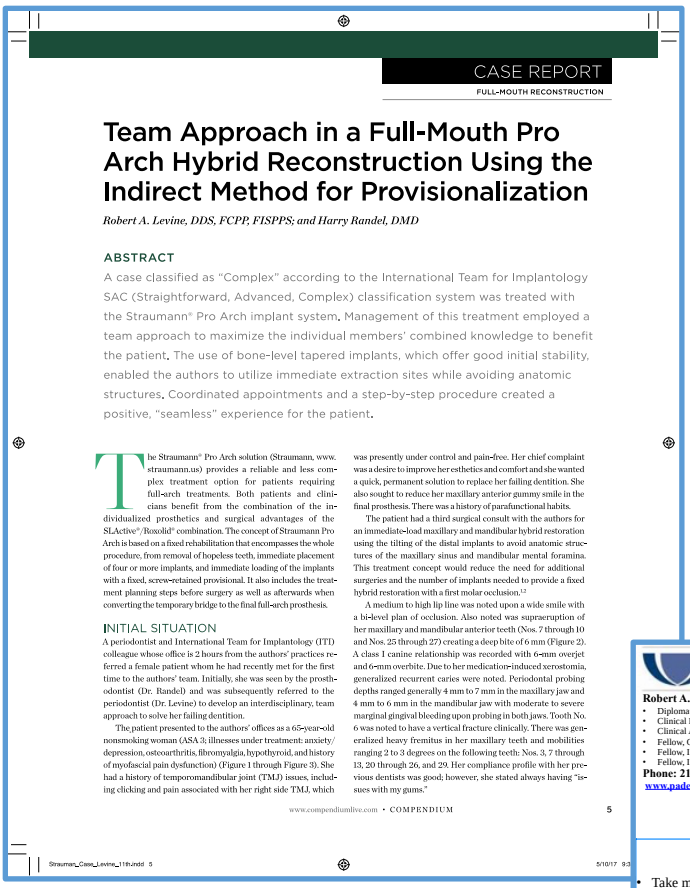


Description of Follow-up and Patient Long Term results and Future Prognosis:

- With history of TMJ, periodontal disease and parafunctional habits, periodontal maintenance program of **every 3 months** was recommended.
- Maxillary **night guard** appliance used daily
- Periodontal maintenance every 3-months; compliance has been excellent and there are no signs of peri-implant mucositis/peri-implantitis.

The Team Approach to her care was "seamless" and she was extremely pleased with her results!

2017 publication referenced for this "*Case of the Month*" with its corresponding four-page prosthetic work-sheet detailing all prosthetic steps for the "Indirect Technique for Provisionalization" are available upon request from *Rlevine@padentalimplants.com.*



CASE REPORT

FULL-MOUTH RECONSTRUCTION

Team Approach in a Full-Mouth Pro Arch Hybrid Reconstruction Using the Indirect Method for Provisionalization

Robert A. Levine, DDS, FCPP, FISPPS; and Harry Randel, DMD

ABSTRACT

A case classified as "Complex" according to the International Team for Implantology SAC (Straightforward, Advanced, Complex) classification system was treated with the Straumann® Pro Arch implant system. Management of this treatment employed a team approach to maximize the individual members' combined knowledge to benefit the patient. The use of bone-level tapered implants, which offer good initial stability, enabled the authors to utilize immediate extraction sites while avoiding anatomic structures. Coordinated appointments and a step-by-step procedure created a positive, "seamless" experience for the patient.

The Straumann® Pro Arch solution (Straumann, www.straumann.us) provides a reliable and less complex treatment option for patients requiring full-arch treatments. Both patients and clinicians benefit from the combination of the individualized prosthetics and surgical advantages of the SLActive®/Roxolid® combination. The concept of Straumann Pro Arch is based on a fixed rehabilitation that encompasses the whole procedure, from removal of hopeless teeth, immediate placement of four or more implants, and immediate loading of the implants with a fixed, screw-retained provisional. It also includes the treatment planning steps before surgery as well as afterwards when converting the temporary bridge to the final full-arch prosthesis.

INITIAL SITUATION

A periodontist and International Team for Implantology (ITI) colleague whose office is 2 hours from the authors' practices referred a female patient whom he had recently met for the first time to the authors' team. Initially, she was seen by the prosthodontist (Dr. Randel) and was subsequently referred to the periodontist (Dr. Levine) to develop an interdisciplinary, team approach to solve her failing dentition.

The patient presented to the authors' offices as a 65-year-old nonsmoking woman (ASA 3; illnesses under treatment: anxiety/depression, osteoarthritis, fibromyalgia, hypothyroid, and history of myofascial pain dysfunction) (Figure 1 through Figure 3). She had a history of temporomandibular joint (TMJ) issues, including clicking and pain associated with her right side TMJ, which was presently under control and pain-free. Her chief complaint was a desire to improve her esthetics and comfort and she wanted a quick, permanent solution to replace her failing dentition. She also sought to reduce her maxillary anterior gummy smile in the final prosthesis. There was a history of parafunctional habits.

The patient had a third surgical consult with the authors for an immediate-load maxillary and mandibular hybrid restoration using the tilting of the distal implants to avoid anatomic structures of the maxillary sinus and mandibular mental foramina. This treatment concept would reduce the need for additional surgeries and the number of implants needed to provide a fixed hybrid restoration with a first molar occlusion.[1]

A medium to high lip line was noted upon a wide smile with a bi-level plan of occlusion. Also noted was supraeruption of her maxillary and mandibular anterior teeth (Nos. 7 through 10 and Nos. 23 through 27) creating a deep bite of 6 mm (Figure 2). A class 1 canine relationship was recorded with 6-mm overjet and 6-mm overbite. Due to her medication-induced xerostomia, generalized recurrent caries were noted. Periodontal probing depths ranged generally 4 mm to 7 mm in the maxillary jaw and 4 mm to 6 mm in the mandibular jaw with moderate to severe marginal gingival bleeding upon probing in both jaws. Tooth No. 6 was noted to have a vertical fracture clinically. There was generalized heavy fremitus in her maxillary teeth and mobilities ranging 2 to 3 degrees on the following teeth: Nos. 3, 7 through 13, 20 through 26, and 29. Her compliance profile with her previous dentists was good; however, she stated always having "issues with my gums."

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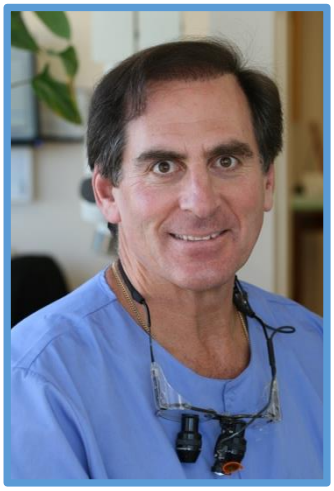
Dr. Robert Levine

Dr. Harry Randel



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Photographs Courtesy of:*
Surgeon: Robert A. Levine, DDS, FCPP, FISPPS*
Prosthodontist: Harry Randel, DMD

Restoring a Reduced Number of Implants Using a Milled Titanium Bar and Acrylic Screw Retained Denture
***Indirect Provisionalization Technique**

Pre-Surgical Visit

- Take maxillary & mandibular impressions for study models
- Bite registration at proper VDO
- Record shade and appropriate clinical photographs

Pre-Surgical Laboratory Step

- Articulate models
- Extract model teeth (if applicable)
- Immediate denture fabricated
- Duplicate denture (clear acrylic) for anatomically correct surgical guide template (ACSGT)
- Custom open tray fabricated
- Occlusal putty matrix fabricated

All above items to be delivered to Dr. Levine prior to day of surgery