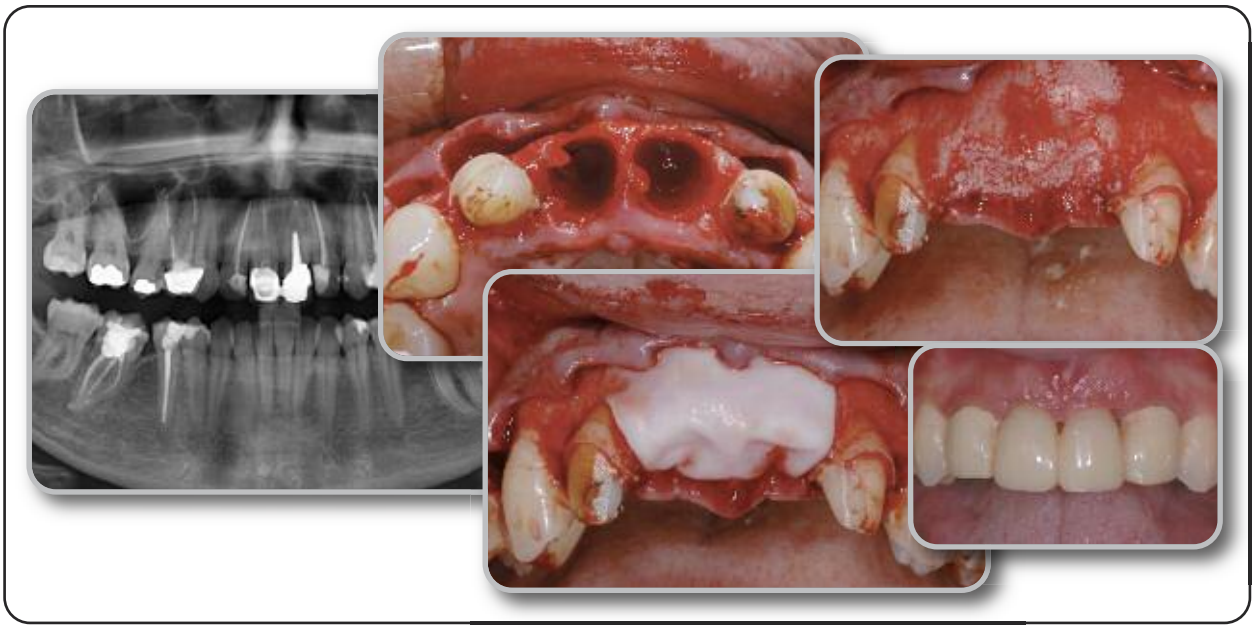

# Clinical Perspectives

***Inside This Issue:***

***Introducing The OsseoGuard™ Resorbable Collagen Membrane For Guided Bone Regeneration***

***Case Presentations By:***
*Xavier Vela, MD, DDS, SPAIN*
*Robert A. del Castillo, DMD, USA*
*Michael K. Sonick, DMD, USA*

***Volume 7, Issue 1***

# *The OsseoGuard™ Resorbable Collagen Membrane—Ideally Suited For Guided Bone Regeneration*

## Guided Bone Regeneration

Guided Bone Regeneration (GBR) has been shown to promote osseous regeneration and to preserve a large percent of grafted material.[1-3] Exclusion of soft tissue at the grafted site is a necessary factor for regeneration of bone. While nonresorbable barriers may provide predictable regeneration due to their inherent structural integrity, use of these membranes typically requires a second surgical procedure for their removal. Additionally, membrane exposure may necessitate premature removal, resulting in less than optimal results.[4] It would be desirable therefore, to use a membrane that is resorbable, but maintains its *barrier function* for as long as possible. Resorbable membranes with a rapid resorption profile may not exclude the connective tissue long enough for bone to completely fill the defect.

Patients with missing teeth often present with less than optimal clinical conditions. However, advancements in regenerative materials provide clinicians with a variety of choices for successfully performing regenerative procedures. Regenerative procedures may be performed in combination with implant therapy to replace lost hard and soft tissues. Simultaneous implant placement and regeneration, may reduce the number of surgical visits and the waiting time to reach the restorative stage.

To meet the demand of clinicians performing regenerative procedures in combination with simultaneous implant therapy, advanced technology in barrier membranes has been developed to improve the success of these procedures.

## Introducing The OsseoGuard Membrane

In response to clinician's growing interest in guided bone regeneration (GBR) in conjunction with implant therapy, BIOMET ***3i*** has introduced the OsseoGuard Resorbable Collagen Membrane. This membrane is made with a unique manufacturing process which creates a longer resorption profile suited to GBR procedures (six months). The material consists of a fibrillar matrix structure to provide strength for tacking or suturing the membrane if desired. This composition provides excellent handling characteristics when hydrated—thus improving adaptability to various defects. Clinicians may feel confident in placing the OsseoGuard Membrane due to its source—Pure Bovine Type I Achilles Tendon Collagen derived from closed herds.

The GBR procedures that may be indicated for placement of a resorbable membrane include:

- Localized Ridge Augmentation/Future Implant Site Preparation
- Periimplant Bone Defects
- Extraction Sockets
- Bone Regeneration After Root Resection
- Sinus Window
- Sinus Membrane Perforations

The clinical case presentations to follow demonstrate the use of the OsseoGuard Membrane in various clinical situations such as: tooth extraction with GBR and delayed implant placement; tooth extraction and immediate implant placement with simultaneous sinus lift and grafting; tooth extraction with immediate implant placement and simultaneous grafting.

Each of these case presentations are representations of the individual clinician's experience in clinical practice and may not be indicative of other cases due to varying patient subsets and clinical scenarios.

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# Regeneration Of A Facial Defect Following Tooth Extraction In the Aesthetic Zone: A Case Presentation

*Clinical Treatment By Xavier Vela, MD, DDS (SPAIN)†*

## INITIAL PATIENT PRESENTATION

A 28-year-old female patient presented with a fistula between the roots of teeth Nos. 8 and 9 (the maxillary central incisors) (Figure 1). Radiographic examination revealed a periapical radiolucency around tooth No. 9 (Figure 2). The patient requested cosmetic reconstruction of the maxillary lateral incisors due to the discoloration of previous restorative treatment. Due to the young age of the patient and the high aesthetic demands, the treatment plan included a staged approach to tooth extraction, restorative reconstruction, regeneration (if required) and implant placement.

## DIAGNOSIS

- Fistula present between the maxillary central incisors (teeth Nos. 8 and 9), secondary to a root fracture on tooth No. 9
- Probable inadequate bone quantity for immediate implant placement without regeneration (secondary to above)
- Healthy periodontium with minimal gingival recession
- Marginal caries and discoloration of the composite resin restorations on the maxillary lateral incisors (teeth Nos. 7 and 10)
- High aesthetic demands with a high smile line
- Adequate interincisal clearance with the opposing dentition

## TREATMENT PLAN

- Fabrication of diagnostic casts, wax patterns, surgical guide and restorative template
- Removal of splinted crowns and extraction of maxillary central incisors teeth Nos. 8 and 9
- Evaluation as to the integrity of the alveolus of teeth Nos. 8 and 9
  - If alveolus intact—proceed with immediate implant placement
  - If alveolus not intact—reflect a full thickness mucoperiosteal flap and proceed with regenerative procedures, followed by delayed implant placement (four months)
- Preparation of maxillary lateral incisors for use as abutment teeth for a provisional prosthesis
- Placement of two NanoTite™ PREVAIL® Implants (4/5/4mm)
- Immediate placement of a provisional fixed partial denture for teeth Nos. 7-10
- Osseointegration and soft tissue maturation period
- Implant level impression two months post implant placement
- Placement of definitive restorations

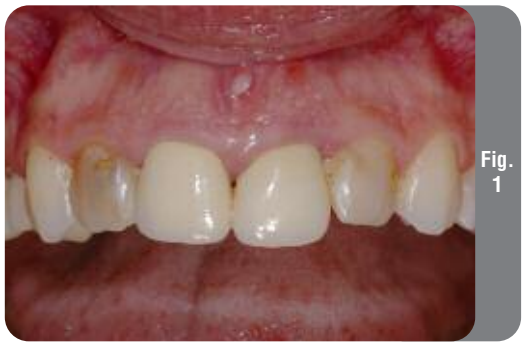
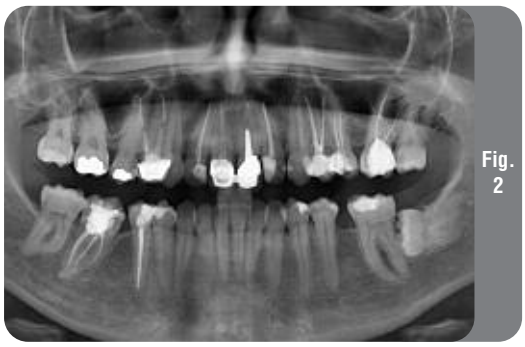


Fig. 1



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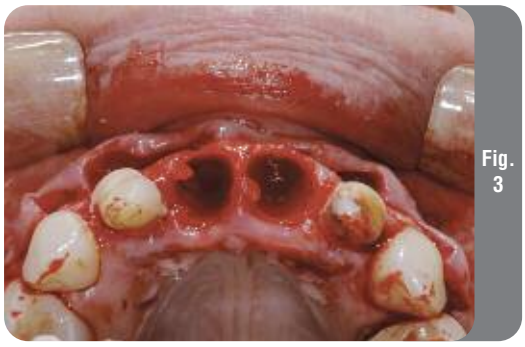

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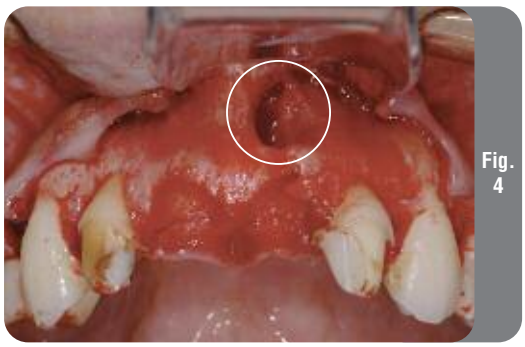

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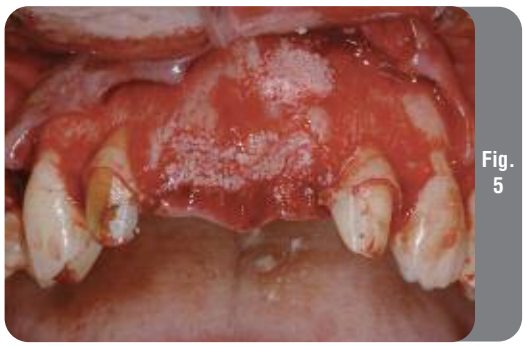


Fig. 5

## SURGICAL TREATMENT

Following acceptance of the treatment plan by the patient, diagnostic casts, wax patterns and a surgical guide were fabricated. On the day of surgery, the patient received local anesthesia by infiltration and the maxillary lateral incisors, teeth Nos. 7 and 10, were prepared to remove the carious lesions surrounding the previous composite resin restorations. The splinted crowns supported by teeth Nos. 8 and 9 were removed, followed by extraction of the tooth roots using periotomes. The socket walls were debrided using hand and rotary instruments and the integrity of the socket walls were evaluated revealing an osseous defect on the facial aspect of the extraction socket of tooth site No. 9.

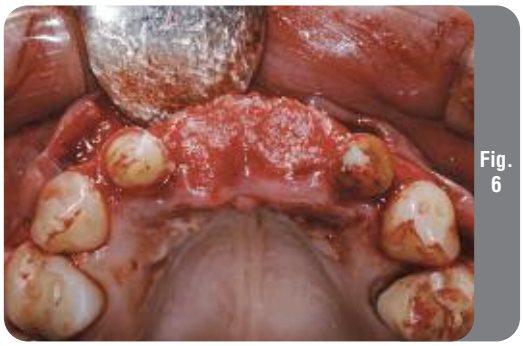
A full thickness mucoperiosteal flap was elevated facially from cuspid to cuspid (Figure 3) to expose the defect (Figure 4). The large facial defect was carefully debrided and grafted with a xenograft (Figure 5), followed by placement of graft material in the extraction sockets (Figure 6). An OsseoGuard™ Resorbable Collagen Membrane was trimmed and hydrated with sterile saline, then tucked under the facial soft tissue flap. The resorbable membrane adapted well to the surgical site and was easily draped over the grafted site, then stabilized under the flaps, without the need for tacking or suturing (Figure 7). Mattress sutures were placed to secure the membrane under the flap and to reduce tension on the flap (Figure 8).

## PROVISIONALIZATION

Autopolymerizing acrylic resin was placed into the template developed from the diagnostic wax patterns and inserted onto the prepared lateral incisors: teeth Nos. 7 and 10. The initial set occurred intraorally and final polymerization occurred extraorally. The provisional restoration was contoured for optimal soft tissue healing around the pontics, polished and placed onto the prepared lateral incisors. The restoration had occlusal contacts in centric and eccentric positions. The patient was dismissed with post-operative medications and instructions.

## IMPLANT PLACEMENT

Four months post extraction and grafting, the patient returned for implant placement. Healing was uneventful around the provisional restoration (Figure 9). The provisional restoration was removed revealing excellent soft tissue dimension and ridge width (Figure 10). Full thickness mucoperiosteal flaps were raised to expose the grafted area. The ridge width was adequately maintained (Figure 11) with complete fill of the osseous defect. Remnants of the membrane were removed prior to preparation of the implant osteotomies in sites Nos. 8 and 9. Two NanoTite™ PREVAIL® Implants (4/5/4mm diameter x 13mm length) were placed into the prepared osteotomies (Figure 12). Cover screws were placed into the internal interface of the implants, followed by a connective tissue graft in the vestibule to maximize soft tissue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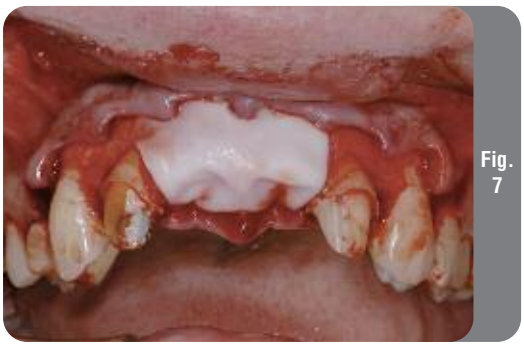
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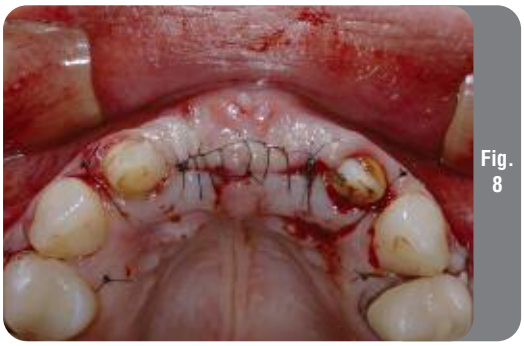
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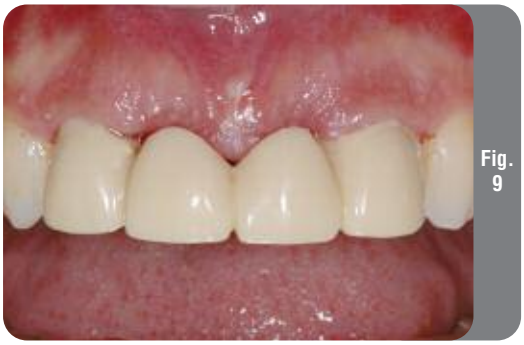
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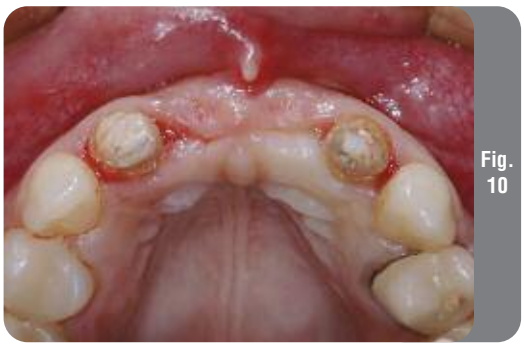
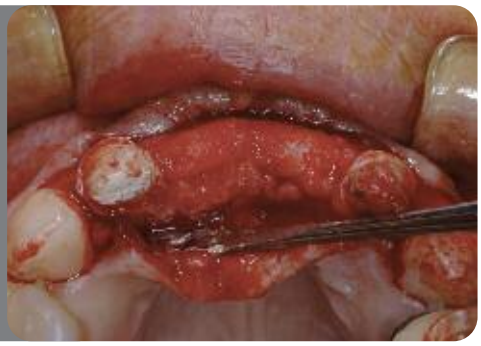


Fig. 10

Fig. 11



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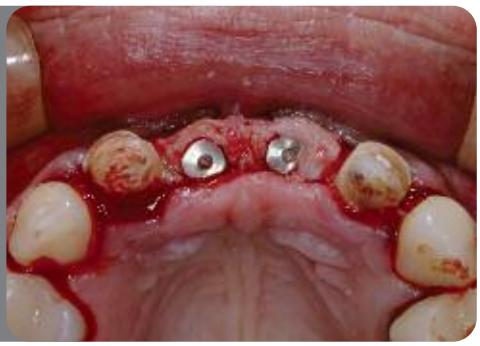

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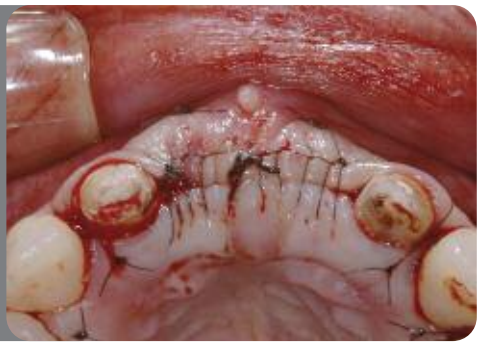

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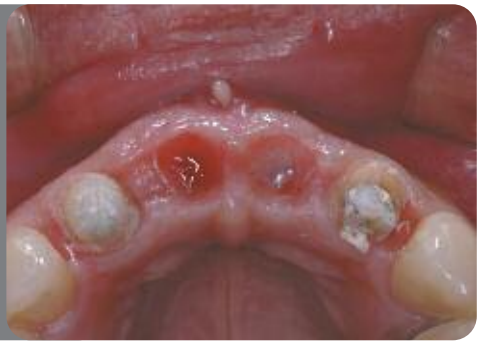

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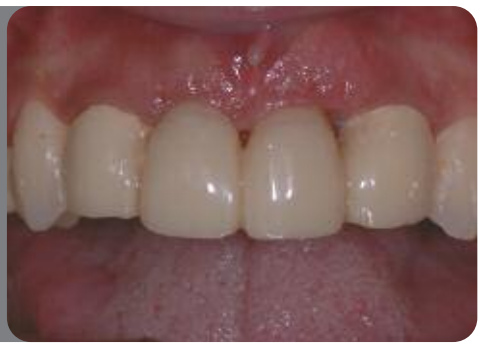
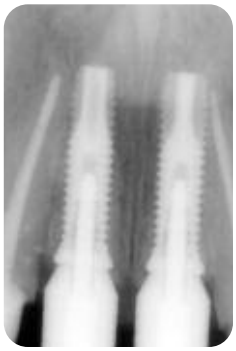


thickness. The soft tissue flaps were secured with continuous sutures ensuring tension free closure (Figure 13). The provisional restoration with ovate pontics was replaced onto the lateral incisors and the patient was dismissed with post-operative instructions and medications.

## RESTORATIVE TREATMENT

Ten weeks post implant placement and grafting, the patient returned for evaluation. The provisional restoration was removed revealing excellent soft tissue healing around the ovate pontics and an adequate zone of attached gingiva (Figure 14). The cover screws, which were slightly exposed during healing, were removed. Certain® Pick-up Implant Impression Copings were placed into the internal interfaces of the implants with audible and tactile clicks to confirm seating. A periapical verification radiograph was taken. An impression was made of the copings with high-viscosity polyvinylsiloxane impression material. An alginate impression was made of the opposing arch and sent to the dental laboratory along with the implant impression, occlusal record and shade selection for fabrication of custom cast definitive abutments and a new provisional restoration. A week later, the original provisional restoration was removed and the custom gold UCLA abutments were placed into the implants, followed by placement of the new provisional restoration (Figure 15). The patient will return in two months for soft tissue evaluation and placement of all ceramic individual crowns on teeth Nos. 7, 8, 9 and 10.



## CLINICAL OVERVIEW

This clinical case presentation demonstrates a staged approach to tooth extraction and guided bone regeneration due to the young age of the patient and high aesthetic demands. Following tooth extraction, the osseous defect was grafted with a xenograft and covered with an OsseoGuard™ Resorbable Collagen Membrane. This resorbable membrane was chosen due to its longer resorption profile (six months), which protected the graft during regeneration. Excellent ridge width and soft tissue dimension was obtained, which provided for implant placement and restoration in the aesthetic zone with optimal results.

†Dr. Vela holds MD and DDS degrees. He has published numerous articles and lectures internationally on Implantology. Dr. Vela is the co-founder of the Barcelona Osseointegration Research Group (B.O.R.G.) and maintains a private practice focused on implant dentistry and implant prosthodontics in Barcelona, Spain.

# *Implant Placement With Simultaneous Sinus Lift And Grafting: A Case Presentation*

*Clinical Treatment By Robert A. del Castillo, DMD (USA)††*

## INITIAL PATIENT PRESENTATION

A 38-year-old male patient presented to the dental clinic missing the maxillary left first molar (tooth No. 14), which was extracted by the restorative dentist two weeks prior due to a fracture (Figure 1). No socket preservation procedures were performed. The patient was referred for an implant consultation. The patient desired replacement of the missing tooth with a fixed, implant supported restoration, which would not involve the adjacent teeth. Radiographic evaluation (Figure 2) revealed a two week post-extraction site defect. The apical aspect of the extraction socket was in close proximity to the floor of the sinus, thus increasing the likelihood that a simultaneous sinus lift and graft procedure would be necessary at the time of implant placement.

## DIAGNOSIS

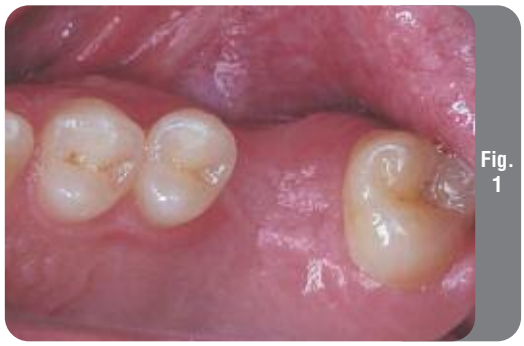
- Missing maxillary left first molar tooth No. 14, due to previous fracture
- Probable inadequate bone quantity for implant placement, without simultaneous sinus lift and grafting
- Healthy periodontium
- Adequate interocclusal clearance with the opposing natural dentition

## TREATMENT PLAN

- Placement of a 5/6/5mm NanoTite™ PREVAIL® Implant with simultaneous sinus lift and grafting (if required)
- Osseointegration and soft tissue healing period
- Implant uncovering and placement of an Encode® Healing Abutment
- Impression of an Encode Healing Abutment
- Scanning, computer design and milling of a final Encode Abutment for fabrication of a Patient Specific Restoration®
- Fabrication of a definitive implant supported porcelain fused-to-metal crown for tooth site No. 14
- Placement of definitive restoration

## SURGICAL TREATMENT

Local anesthetic (2% Xylocaine with 1:100,000 epinephrine) was administered via local infiltration in the maxillary left posterior quadrant. A crestal incision was performed. A small fistula-like communication was noted on the buccal aspect of the flap and



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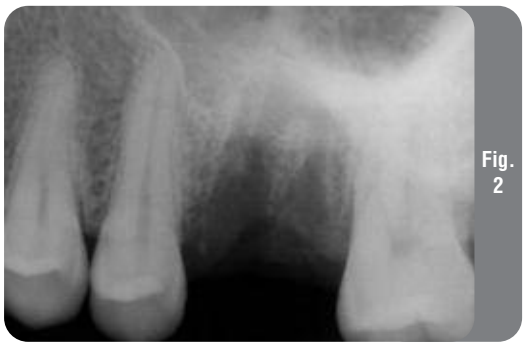

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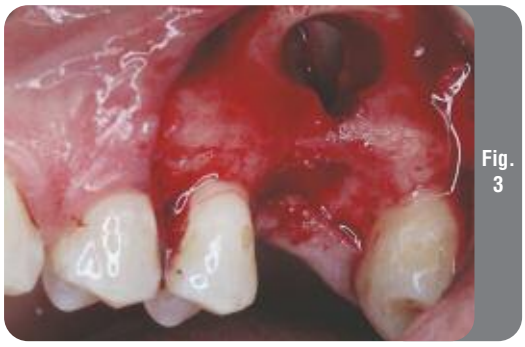

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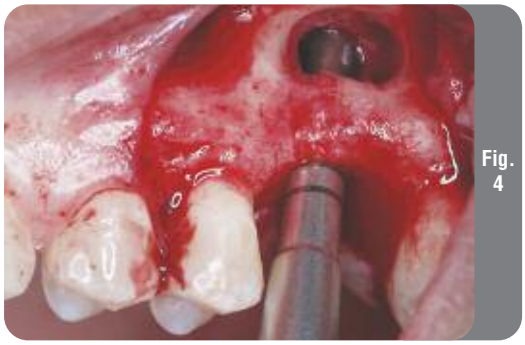

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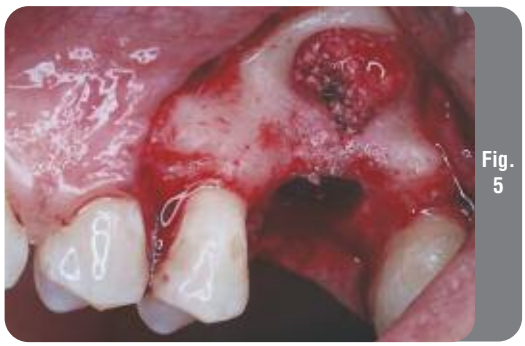

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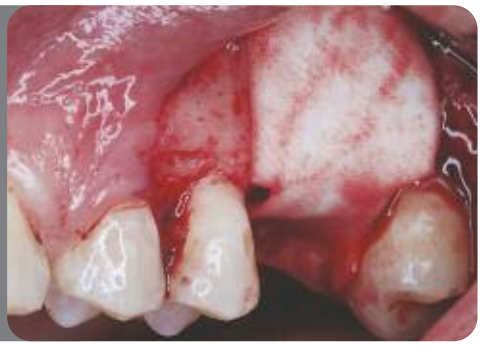

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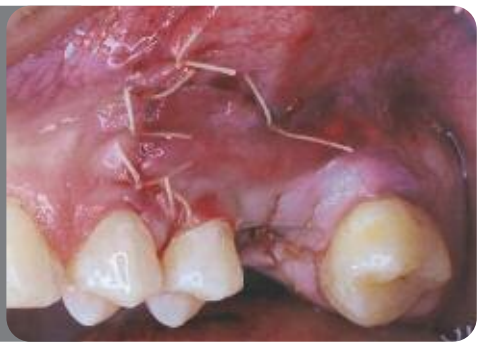

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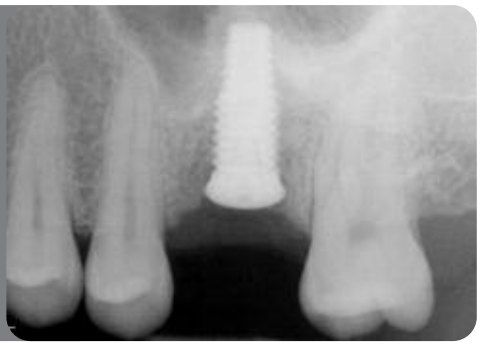

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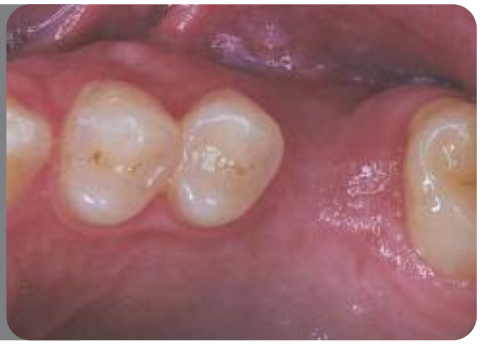

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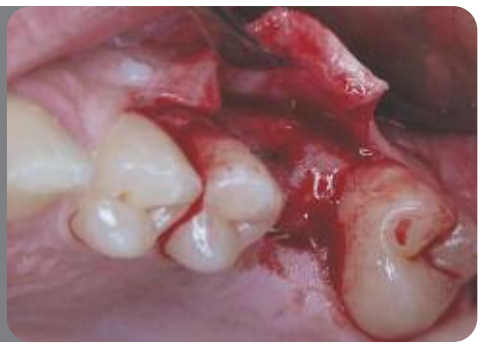


therefore full thickness buccal and palatal flaps were raised with a vertical releasing incision on the buccal aspect. A large buccal dehiscence was noted in the area of the recent extraction site (Figure 3). The granulation tissue was removed using curets and the integrity of the socket walls was examined. During debridement, a small tear in the sinus membrane was noted in the area of the buccal dehiscence. To gain access to the tear in the membrane, the buccal dehiscence was enlarged to create a sinus window. Combination osteotome (Figure 4) and sinus lift procedures were performed. Autogenous bone was collected during preparation of the osteotomy with the osteotomes and placed into the sinus. An OsseoGuard™ Resorbable Collagen Membrane was placed into the sinus window to repair the tear, followed by placement of the collected autogenous bone and a xenograft.

**Note:** OsseoGuard Membranes were chosen to repair the tear in the sinus membrane and to cover the graft in the sinus window, due to the composition of the membrane—resorbable collagen. The longer resorption profile (six months) of this membrane should provide adequate time for the graft to fill in and mature.

A 5/6/5mm diameter x 13mm length NanoTite™ PREVAIL® Implant was placed into the prepared osteotomy, followed by placement of additional autogenous bone and xenograft material (Figure 5).

The decision to place the implant simultaneously was made due to the presence of ample bone height under the sinus, thus resulting in high initial implant stability. The graft material/large sinus window was covered by another OsseoGuard Membrane (Figure 6). The membrane was secured and stabilized with Vicryl® 4-0 (Ethicon, Inc., a Johnson & Johnson Co.) horizontal mattress sutures. The soft tissue flaps were coronally repositioned to obtain primary closure over the membrane with interrupted sutures. The vertical releasing incision was secured with 4-0 chromic gut interrupted sutures (Figure 7). A post-operative periapical radiograph was taken (Figure 8) and the patient was dismissed with post-operative medications and instructions.

Six months post implant placement and grafting, the patient was seen for second stage surgery and healing abutment connection. Healing was uneventful (Figure 9). A full thickness crestal incision and buccal dissection were performed to confirm the success of the regeneration of the buccal bone (Figure 10). Adequate regeneration of the buccal bone was observed (Figure 11). The cover screw on the implant was removed and an Encode® Healing Abutment was placed. The healing abutment was tightened to 20Ncm of torque. The soft tissue flaps were apically repositioned around the healing abutment to enhance the zone of attached gingiva and to properly expose the codes on the healing abutment. The soft tissue flaps were then secured with chromic gut 4-0 interrupted sutures (Figure 12).

## RESTORATIVE TREATMENT

The patient was seen six weeks following stage II surgery and healing abutment connection. An impression of the Encode® Healing Abutment was made with Dimension™ Penta™ H impression material (3M ESPE®, St. Paul, Minnesota). An impression of the opposing arch was made with Penta Quick impression material. An occlusal record and shade selection were sent along with the impressions to the dental laboratory. The impressions were poured in buff colored Type IV die stone (GC Fujirock™ EP, GC America, Alsip, Illinois). The casts were pinned and sectioned per conventional prosthodontics and mounted in the center of the recommended articulator, Stratos 100®, BIOMET ***3i*** Package (Ivoclar Vivadent, Inc., Amherst, New York). The work order for the final Encode Abutment was completed by the dental laboratory technician and the articulated casts were sent to BIOMET ***3i*** for scanning, computer design and milling of a CAD/CAM abutment for fabrication of a Patient Specific Restoration®.

The final Encode Abutment was returned to the dental laboratory for placement on the master cast and fabrication of a definitive PFM crown. The patient was seen for removal of the Encode Healing Abutment, followed by placement of the final Encode Abutment (Figure 13). The abutment was secured with a Gold-Tite® Abutment Screw tightened to 20Ncm of torque. The definitive restoration was tried in and adjusted interproximally for optimal occlusal contacts in centric and eccentric positions. The PFM crown was cemented with GC Fuji Plus Cement (GC America, Alsip, Illinois) (Figure 14). A periapical verification radiograph was taken to confirm complete removal of the cement (Figure 15). The patient was discharged with oral hygiene instructions.

## CLINICAL OVERVIEW

This clinical case presentation demonstrates the combination of a sinus lift and grafting procedure with simultaneous implant placement in one surgical visit. OsseoGuard™ Membranes were chosen for the collagen material composition, which allowed for the repair of the tear in the sinus membrane, as well as the augmentation procedure. The benefits of combining these procedures included a reduction in the number of surgical visits, surgical morbidity and a reduction in the overall treatment time. Oftentimes, in clinical situations such as this, a staged approach would be routinely followed. Typically, clinicians may wait 12 weeks post extraction prior to performing the sinus lift/graft procedure, followed by a six month healing period prior to implant placement. From a restorative perspective, placement of an Encode Healing Abutment at second stage surgery permitted the fabrication of a Patient Specific Restoration.

†† Dr. del Castillo received his dental degree and Certificate in Periodontics from Tufts University, School of Dental Medicine, in Boston, MA. He is an Adjunct Professor, Department of Periodontics, at Tufts University, School of Dental Medicine. Dr. del Castillo maintains a private practice, limited to periodontics, implant dentistry and regenerative therapies, in Miami Lakes, Florida.

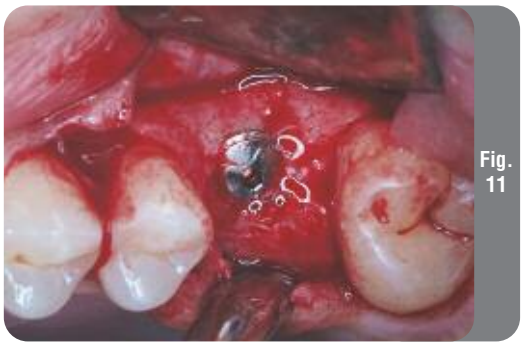


Fig. 11

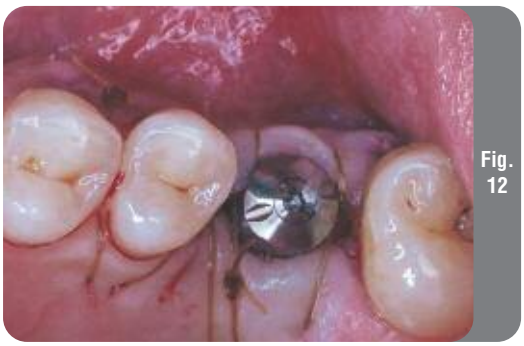
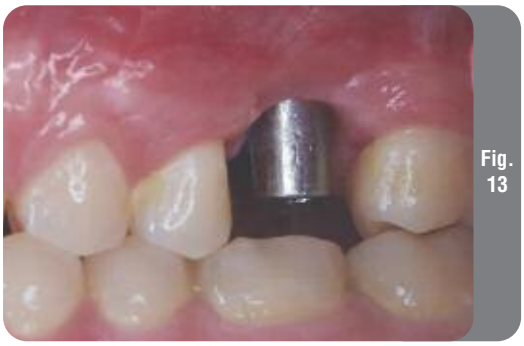


Fig. 12



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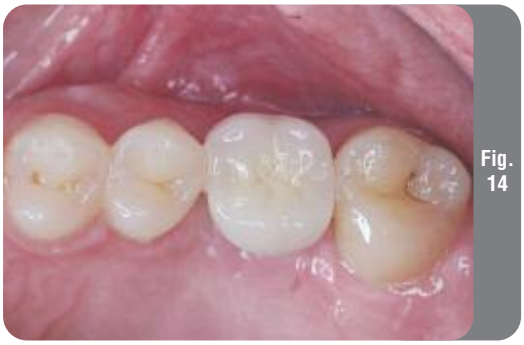

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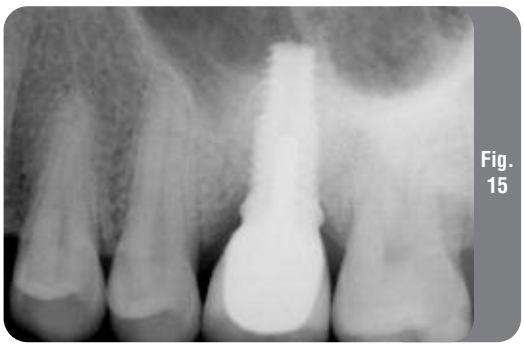


Fig. 15

# Regeneration Of The Posterior Maxillae With Simultaneous Extractions And Immediate Implant Placement: A Case Presentation

*Clinical Treatment By Michael K. Sonick, DMD (USA)†††*

## INITIAL PATIENT PRESENTATION

A 77-year-old female patient presented with partial edentulism—teeth Nos. 4, 5 and 13, and hopeless teeth Nos. 3, 6, 12 and 14 (Figure 1) due to advanced caries. The patient's chief concern regarded replacement of her maxillary posterior teeth. She stated, "I do not want anything that I must take out of my mouth and put in a glass." The treatment plan accepted by the patient included extractions and immediate implant placement with simultaneous grafting. A two-stage implant surgical approach was to be performed with implant exposure four months post extraction and implant placement.

## DIAGNOSIS

- Hopeless dentition due to advanced caries—teeth Nos. 3, 6, 12 and 14
- Missing dentition—teeth Nos. 4, 5 and 13
- Inadequate bone quantity and quality for immediate implant placement, without simultaneous regeneration due to alveolar defects created by immediate extraction
- Healthy periodontium (generalized 2-3mm sulcular depths) with minimal gingival recession
- Adequate interocclusal clearance with the opposing dentition

## TREATMENT PLAN

- Fabrication of diagnostic casts, wax patterns and surgical guide
- Caries control teeth Nos. 2 and 15
- Extraction of teeth Nos. 3, 6, 12 and 14
- Immediate implant placement following extraction for teeth Nos. 6 and 12; implant placement in tooth sites Nos. 4, 5 and 13 with simultaneous grafting and resorbable membrane placement
- Osseointegration and soft tissue healing period
- Implant uncovering and temporary healing abutment connection four months post-surgery
- Implant level impressions and placement of definitive prostheses

## SURGICAL TREATMENT

Following acceptance of the treatment plan, the patient was seen by the restorative dentist for impressions and fabrication of a laboratory processed surgical guide. On the day of surgery, the patient was pre-medicated with ibuprofen 600mg and amoxicillin 500mg. Local anesthesia was administered and teeth Nos. 3, 6, 12 and 14 were extracted using periotomes. The extraction sockets were carefully debrided with

*[Clinical photographs demonstrate treatment of the maxillary left posterior quadrant only]*

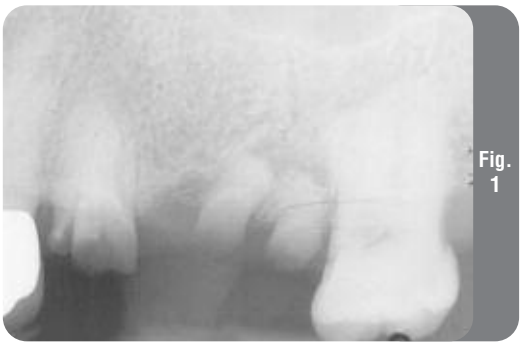
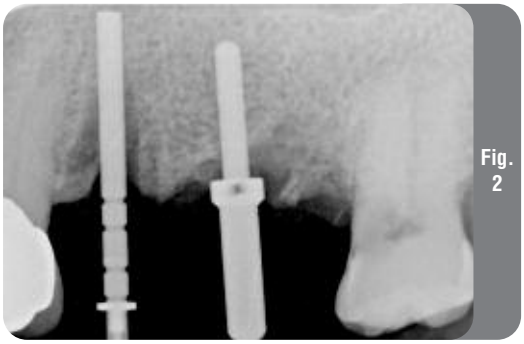


Fig. 1



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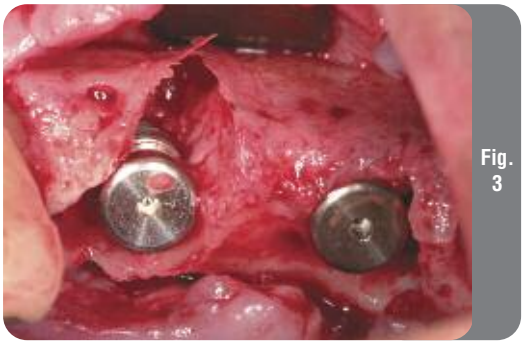

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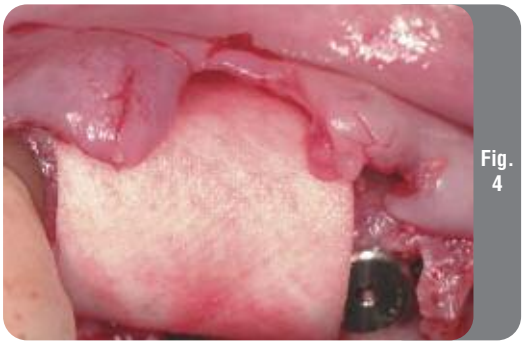

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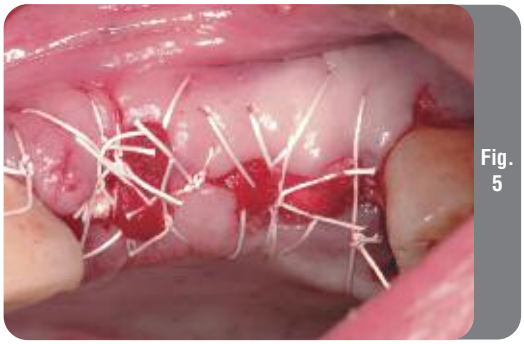


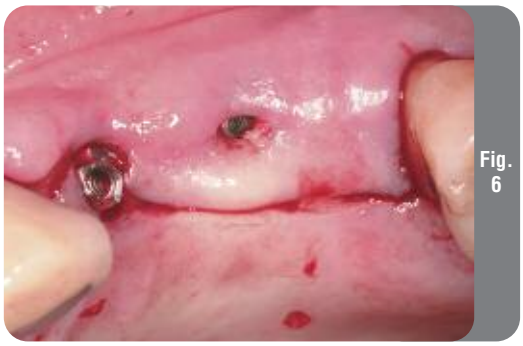
Fig. 5

hand and rotary instruments. Preparation of the osteotomies began in the maxillary left posterior quadrant in tooth sites Nos. 12 and 13. A 2mm twist drill was used first, followed by placement of a Gelb Depth Gauge in site No. 12 and a direction indicator in tooth site No. 13, to verify implant position (Figure 2). After implant direction was confirmed, preparation of the osteotomies continued with the 3mm twist drill and a countersink drill. Osteotomies were prepared for edentulous sites Nos. 4, 5 and 6, followed by placement of 4mm diameter OSSEOTITE® Implants in all five implant sites.

A small circumferential defect was present on the buccal aspect of edentulous site No. 4 and a large circumferential defect was present in edentulous site No. 6. The osseous defects were grafted with freeze-dried bone allograft (FDBA). A very large circumferential defect was present on the buccal aspect of edentulous site No. 12 with no bone to the 8th thread of the implant (Figure 3). The implant placed in edentulous site No. 13 had minimal thread exposure. Both tooth sites Nos. 12 and 13 were grafted with FDBA and covered with an OsseoGuard™ Resorbable Collagen Membrane (Figure 4). The membrane was hydrated with the fluids in the surgical site, draped over the graft and tucked under the soft tissue, without the need for tacking. An OsseoGuard Membrane was chosen in this case to cover the defects, due to its excellent handling characteristics and longer resorption profile (six months). Collagen plugs were then placed over all of the grafted sites, as primary closure was not attainable. Interrupted expanded poly-tetrafluoroethylene (ePTFE) sutures were placed to secure the collagen plugs and the soft tissue (Figure 5). This allowed for epithelialization of the wounds, without the need to place connective tissue grafts or distort the vestibule and normal anatomy.

At the three week post-operative check appointment, the cover screws were exposed over the implants in tooth sites Nos. 5, 12 and 13. No bleeding, inflammation or suppuration was noted. The patient was seen again two months later and healing remained within normal limits.

Four months post-tooth extraction and implant placement, the patient was seen for second-stage surgery. Healing was uneventful. Radiographic examination of the implant sites demonstrated excellent bone regeneration. A palatal approach was used bilaterally in order to augment the volume of soft tissue and the zone of attached gingiva on the buccal aspect (Figure 6). Excellent regeneration of the bony defects was visualized, with complete osseous coverage over all the implants. In tooth site No. 12, 5-6mm of regenerated buccal bone was noted (Figure 7). EP® Titanium Healing Abutments were placed on the implants. The palatal soft tissue flaps were positioned toward the buccal aspect allowing for increased buccal tissue thickness and augmentation. Interrupted resorbable sutures were placed (Figure 8) and periapical radiographs were taken to verify full seating of the healing abutments. The patient was seen for post-second stage evaluation at two weeks and healing was noted to be progressing well. Four weeks later further maturation of the mucosa around the healing abutments was noted (Figure 9). A periapical radiograph was taken (Figure 10) and the patient was dismissed to the restorative dentist for impressions and fabrication of the definitive prostheses.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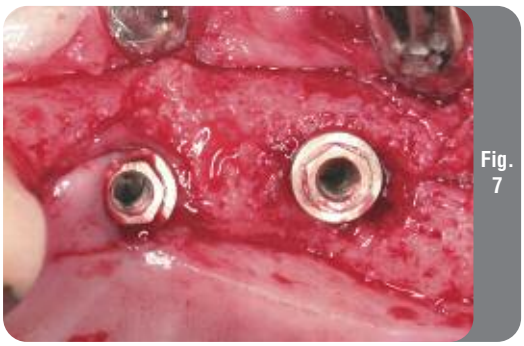
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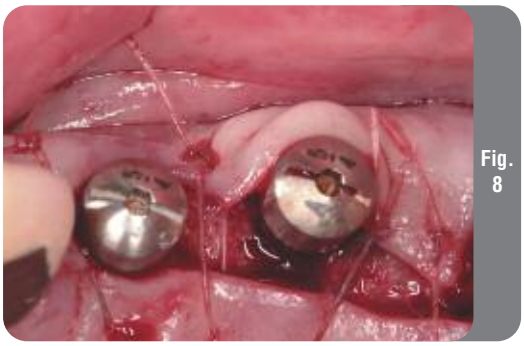
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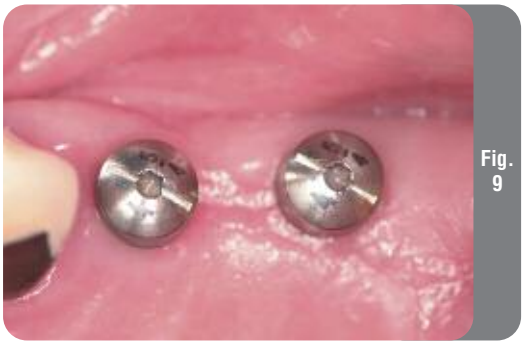
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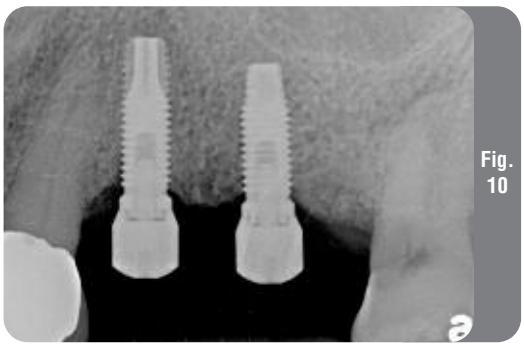


Fig. 10

Fig. 11

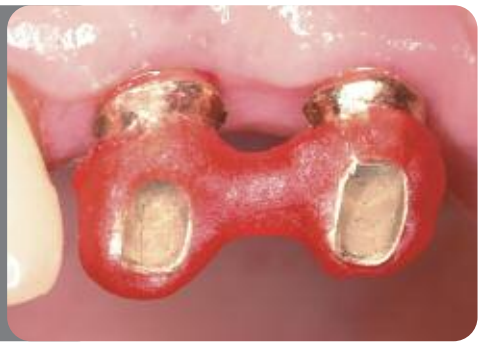
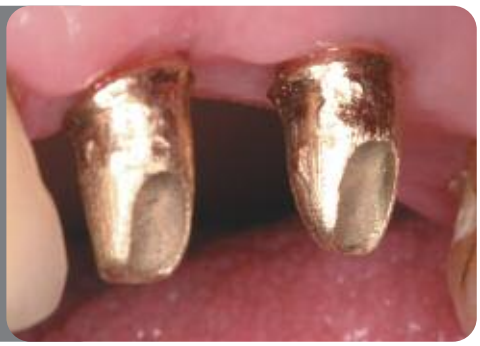


Fig. 12



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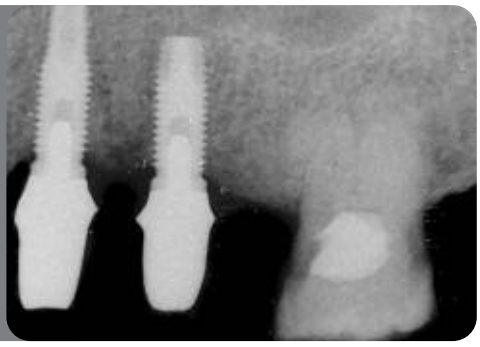

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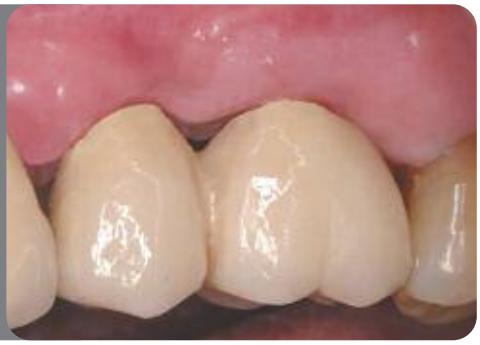

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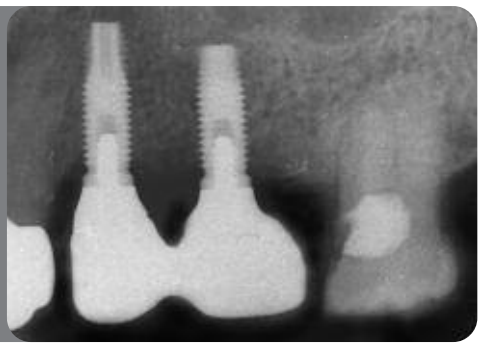


## RESTORATIVE TREATMENT

In the restorative office, the patient presented with excellent soft tissue healing around the titanium healing abutments and adequate attached gingiva for fabrication of the definitive prostheses. Osseous regeneration and second stage surgical design allowed for significant soft tissue enhancement. The healing abutments were removed, impression copings were placed and complete seating was verified via radiographs. An implant level impression was made with polyvinylsiloxane material. An alginate impression was made of the opposing arch and sent to the commercial dental laboratory along with the implant impression, occlusal record and shade selection for fabrication of custom cast abutments. Splinted restorations were chosen for better occlusal load distribution.

The patient returned to the restorative office a few weeks later for abutment and framework try-in. The healing abutments were replaced by the custom cast abutments and oriented with the aid of duralay verification indexes (Figure 11). The frameworks were then seated and the fit was checked clinically and radiographically. Once the fit was verified, the abutments and frameworks were then removed and sent back to the laboratory for porcelain application.

The patient returned to the restorative office two weeks later for abutment seating and placement of the definitive restorations. The healing abutments were removed. The custom abutments were seated and secured with square Gold-Tite® Abutment Screws tightened to 32Ncm of torque (Figure 12). A verification radiograph was taken (Figure 13). The restorations were tried in, adjusted interproximally and contoured for optimal occlusal contacts in centric and eccentric positions, then cemented (Figure 14). Post insertion radiographs were taken (Figure 15) and the patient was dismissed with oral hygiene instructions.

## CLINICAL OVERVIEW

This clinical case presentation illustrates a partially edentulous patient with hopeless teeth due to advanced caries. The treatment plan accepted by the patient included extraction of the hopeless maxillary posterior teeth and immediate implant placement. Due to the severity of the osseous defects created by the extractions, simultaneous guided bone regeneration was necessary. The defects were grafted with freeze-dried bone grafts (FDBG) and the maxillary left defects were covered with an OsseoGuard™ Membrane, which was chosen in this case due to its excellent handling characteristics—drapability and a longer resorption profile (six months). A two-stage surgical procedure was performed with implant exposure four months post extraction, implant placement and regeneration.

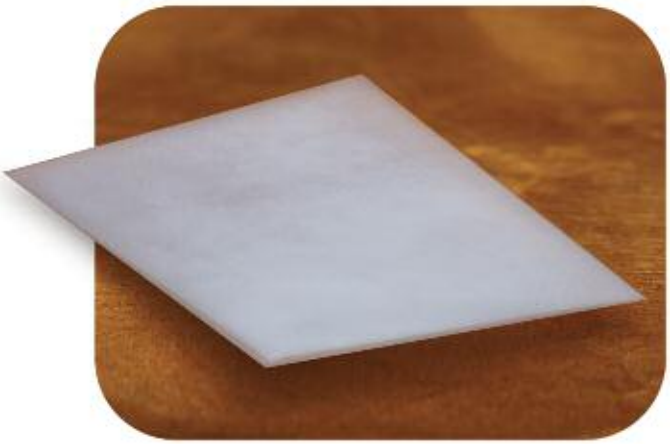
**Restorative Colleague: Dr. Steven Regenstein, Westport, Connecticut**

††† Dr. Sonick received his dental degree from the University of Connecticut, School of Dental Medicine in Farmington, Connecticut, completed his General Practice Residency at Metropolitan Hospital in New York and received his Certificate in Periodontics from Emory University School of Dentistry in Atlanta, Georgia. He later received his Certificate in Implantology from Harvard School of Dental Medicine. Dr. Sonick maintains a private practice, limited to periodontics and implant dentistry in Fairfield, Connecticut.

# *OsseoGuard™ Membrane*

## *Ordering Information*

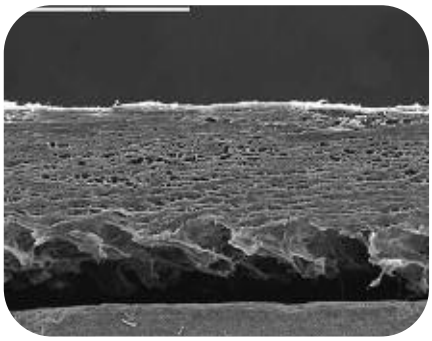
The OsseoGuard Membrane allows for the passage of beneficial fluids and nutrients, yet it remains occlusive to gingival and epithelial cells. The membrane requires no side-specific placement.



- ***Unique Manufacturing Process Creates A Longer Resorption Profile Suited To GBR Procedures***
- ***Fibrillar Matrix Structure Provides Strength For Tacking Or Suturing If Desired***
- ***Double Sterile Packaging For Added Patient Safety***
- ***Excellent Handling Characteristics When Hydrated - Adaptable To Various Defects***
- ***Pure Bovine Type I Achilles Tendon Collagen Sourced From Closed Herds For Increased Security***

**OsseoGuard Resorbable Collagen Membrane***

| Catalog Number | Size (mm) |
|---|---|
| **OG1520** | 15 x 20 |
| **OG2030** | 20 x 30 |
| **OG3040** | 30 x 40 |



OsseoGuard Cross-Section (100x)

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