

Guided tissue regeneration  
in the esthetic zone of a 34  
year old male

A CASE REPORT BY  
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## The Situation



### Guided Tissue Regeneration

Implant Dentistry

“Guided tissue regeneration is indicated to correct the vertical bone loss around the #9-10 area and stabilize the periodontium.”

A 34 year old healthy male presented with increased spacing between maxillary left central and lateral incisors. Clinical examination showed deep probing depths between #9-10 area. Cone-beam computed tomography (CBCT) showed vertical bone loss #9-10 wrapping around the palatal surfaces. Treatment recommendation included guided tissue regeneration (GTR) to stabilize the periodontium.

Area #9-10 was debrided and showed a wide 1-2 wall defect measuring ~7mm vertical bone loss. GTR procedure using Geistlich vallomix™ bone graft (allograft + xenograft) and a collagen membrane were employed and primary closure obtained. Healing at 2 and 4 weeks and 6 months showed proper bone fill with stable periodontium.

## The Risk Profile

Esthetic Risk Factors	Low Risk	Medium Risk	High Risk
Patient's health	Intact immune system	Light smoker	Impaired immune system
Patient's esthetic requirements	Low	Medium	High
Height of smile line	Low	Medium	High
Gingival biotype	Thick - "low scalloped"	Medium - "medium scalloped"	Thin - "high scalloped"
Shape of dental crowns	Rectangular		Triangular
Infection at implant site	None	Chronic	Acute
Bone height at adjacent tooth site	≤ 5 mm from contact point	5.5 - 6.5 mm from contact point	≥ 7 mm from contact point
Restorative status of adjacent tooth	Intact		Restored
Width of tooth gap	1 tooth (≥ 7 mm)	1 tooth (≤ 7 mm)	2 teeth or more
Soft tissue anatomy	Intact		Compromised
Bone anatomy of the alveolar ridge	No defect	Horizontal defect	Vertical defect

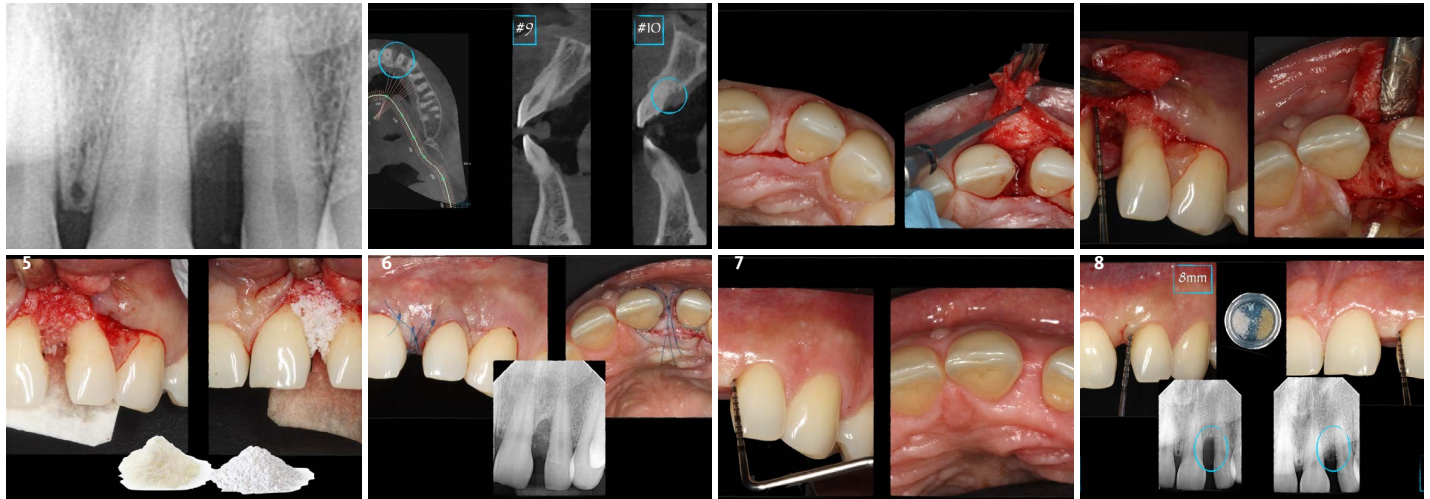
### BASSAM KINAIA, DDS, M.S., DICOI, Sterling Heights, MI Periodontist

Dr. Kinaia is the Associate Director of the Graduate Periodontology Program at the University of Detroit Mercy (UDM). He is also the former Director of the Periodontology Program at UDM in Michigan and Boston University Institute for Dental Research and Education in Dubai. He is a Diplomate of the American Academy of Periodontology (AAP) and International Congress of Oral Implantology (ICOI). He received a certificate of Excellence from the AAP in recognition of teaching-research fellowship.



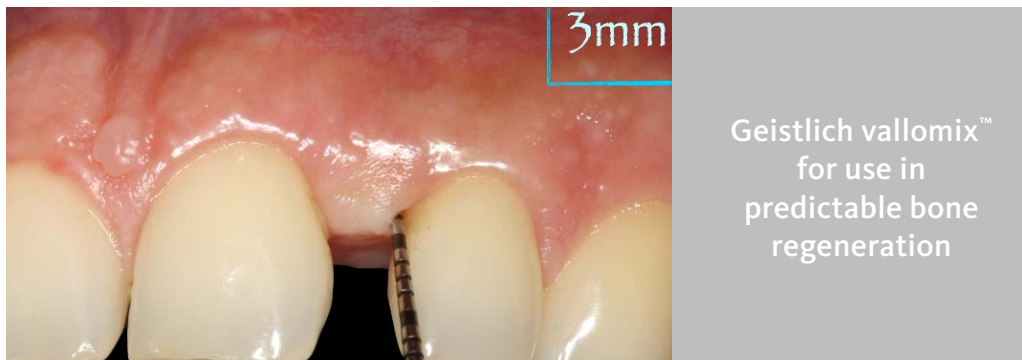
## The Approach

Correct the vertical bone loss around #9-10 and save the dentition. Sulcular incisions with a paracrestal incision around #9-10 were performed. The area was debrided showing a wide 1-2 bony wall defect (measuring ~7mm vertical bone loss). Primary closure was obtained using 6-0 prolene sutures.



- Figure 1: Initial radiographic presentation showing vertical bone loss #9-10 area.
- Initial CBCT presentation showing bone loss between #9-10 wrapping palatally.
- Occlusal clinical views showing sulcular incision with paracrestal incision #9-10.
- Facial and occlusal clinical views showing full thickness flap reflection with wide 1-2 bony wall defect measuring ~7mm vertical bone loss.
- Facial clinical views showing full thickness flap reflection and GTR procedure using Geistlich vallomix™ bone graft (allograft as an internal first layer and xenograft as an outside second layer) and collagen membrane.
- Facial and occlusal clinical views showing primary closure using 6-0 prolene sutures with immediate post-surgical bone addition.
- Facial and occlusal clinical views showing healing at 10 days with tissue granulating in.
- Pre-operative and post-surgical clinical and radiographic views showing adequate bone fill and reduction in probing depths.

## The Outcome



The use of a minimally invasive surgical GTR approach showed excellent radiographic bone fill and reduction in probing depths from 8mm to 3mm at 6 months follow-up. Treatment outcome revealed stable periodontium and the patient was happy with the healthy stable teeth.

“Guided tissue regeneration using Geistlich vallomix™ bone graft (allograft as an internal first layer and xenograft as an outside second layer) and collagen membrane showed predictable periodontal regeneration.”

## Briefly Speaking

### Keys to Success

1. Use of a collagen membrane to reduce epithelial downgrowth during the GTR procedure.
2. Minimally invasive flap design to allow access, bone/membrane adaptation.
3. The use of monofilament non-resorbable mattress sutures to obtain primary closure and protect the grafted area.
4. Recall program (periodontal maintenance every 3 months) is key to monitor the healing for a predictable outcome.

### My Biomaterials

Geistlich vallomix™ combines vallos™ a fast resorbing demineralized allograft with the volume stability of Geistlich Bio-Oss®

### My Instruments

1. Microsurgical blade on a round scalpel handle
2. Hirschfeld elevator for flap reflection
3. Geistlich vallomix™ bone graft with cytoplast collagen membrane
4. Prolene 6-0 mattress sutures for primary closure
5. CBCT scan for pre-operative and post-operative assessments



### The Therapeutic Area

Geistlich biomaterials can play a significant role in the treatment of Minor Bone Augmentation. Geistlich vallomix™ combines vallos™ a demineralized allograft with rapid turnover of new bone, with the long-term volume stability of Geistlich Bio-Oss®.

Geistlich Bio-Oss®  
& vallos™

Provides rapid resorption  
and  
long term stability



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“Understanding the biology of Geistlich vallomix™ to layer the allograft first (internally for better osteogenic potential) and xenograft second (externally due to slower resorption rate) allowed better space maintenance and predictable regeneration.”

**CAUTION:** Federal law restricts these devices to sale by or on the order of a dentist or physician.

For more information on contraindications, precautions, and directions for use, please refer to the Geistlich Biomaterials Instructions for Use at: [www.geistlich-na.com/ifu](http://www.geistlich-na.com/ifu)