

# BioBrief

## Sinus Floor Elevation



Dr. Neel Bhatavadekar

Sinus Augmentation:  
Management of a thin  
Schneiderian Membrane  
with a pouch technique.

## The Situation

A 65year old healthy patient with an edentulous upper left region presented with the chief complaint of not being able to chew from the left side. He had a history of smoking, but currently not smoking. Upon examination, adequate mouth opening and adequate vertical clearance for implant

prostheses was noted. In a recent study published by our team (Padhye, Bhatavadekar, J Max Oral Surg2020), we noted that a large percent (55%) of the study population (Asian) had a compromised vertical ridge height in posterior maxilla, and a possible thin membrane. This case followed this trend.

## The Risk Profile

Risk Factors	Low Risk	Medium Risk	High Risk
Patient's health	Intact immune system	Light smoker	Impaired immune system
Patients 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	≤ 5 mm from contact point	5.6 - 6.5mm 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)	2teeth or more
Soft tissue anatomy	Intact		Compromised
Bone anatomy of alveolar ridge	No defect	Horizontal defect	Vertical defect

Pre-emptive placement of Geistlich Bio-Gide® membrane was important to protect the schneiderian membrane.



### Dr. Neel Bhatavadekar, Pune Periodontist

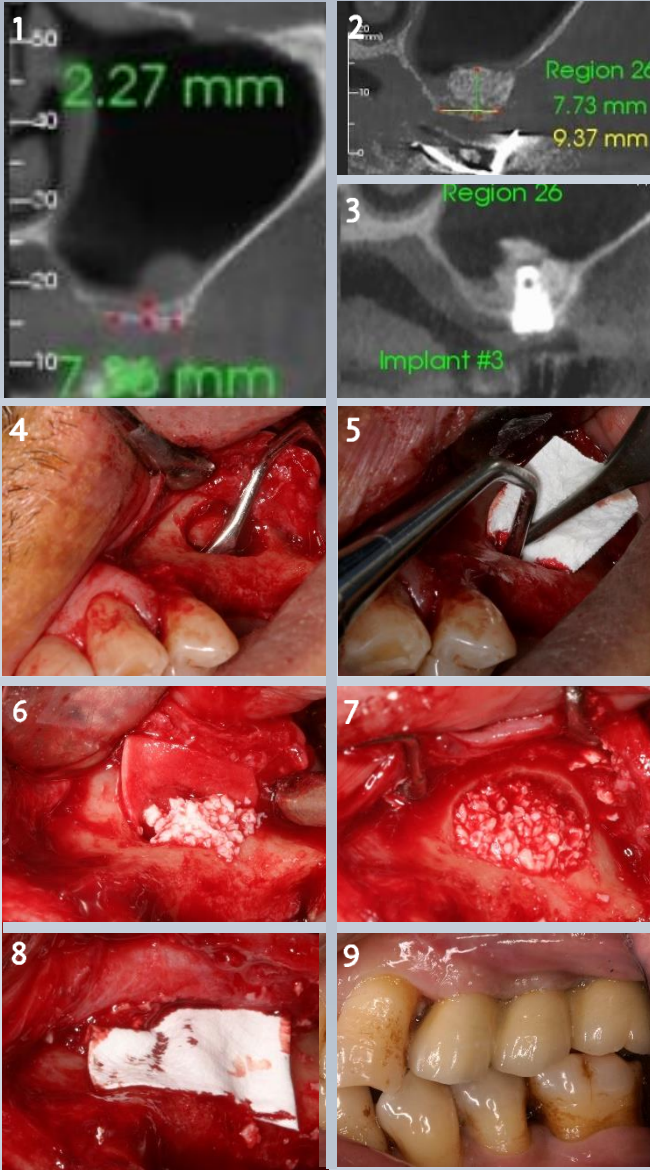
Dr. Neel Bhatavadekar completed a Masters in Periodontology degree at the University of North Carolina Chapel Hill ( US) after graduating from Nair Dental Mumbai. He also holds a MS degree in Biomedical Engineering from University of Florida US. He is the first Diplomate of the prestigious American Board of Periodontology to be practicing in India, and is also the first ITI Fellow from India. His clinical interests are mucogingival surgery, ridge augmentation and biomaterials.

## The Approach

Since the CBCT revealed just 2 mm residual bone height, a phased approach was chosen. In this phased treatment approach, a lateral window sinus grafting would be done first, followed by implant placement 6 months later. CBCT assessment was done at baseline, 6 months after grafting, and after implant placement. Upon full thickness flap reflection, the lateral window was carefully elevated. Geistlich Bio-Gide® membrane was placed within the sinus to form a pouch. Geistlich Bio-Oss® was subsequently packed, and a second Geistlich Bio-Gide® membrane placed over the window.

## The Outcome

The available height of bone was increased from 2 mm to 7.7 mm, thus making it possible to place an implant of adequate length. The Geistlich Bio-Gide® membrane handling characteristic makes it ideal for draping over the window. Since Geistlich Bio-Oss® provides a long term stable scaffold, it provides a predictable platform for bone turnover.



1. Baseline CBCT | 2. CBCT 6 months after grafting | 3. CBCT after implant placement | 4. Elevation of window | 5. Placement of Geistlich Bio-Gide® within the sinus to create a protective 'pouch' to prevent tearing of the thin Schneiderian membrane. | 6. Placement of Geistlich Bio-Oss® within the pouch | 7. Geistlich Bio-Oss® lightly packed | 8. A second Geistlich Bio-Gide® membrane covers the window | 9. 09 months post-op after crown placement



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## Keys to Success

- ✓ Pre-op treatment planning with CBCT
- ✓ Careful bony window detachment
- ✓ Pre-emptive placement of Geistlich Bio-Gide® membrane to protect Schneiderian membrane
- ✓ Monofilament suture
- ✓ Phased treatment approach



Sinus augmentation using Geistlich Bio-Gide® in combination with Geistlich Bio-Oss® provides easy handling characteristics, and excellent bone turnover.

