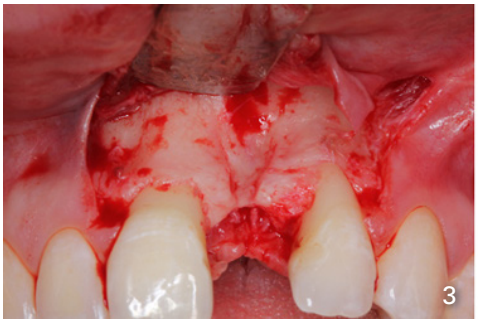
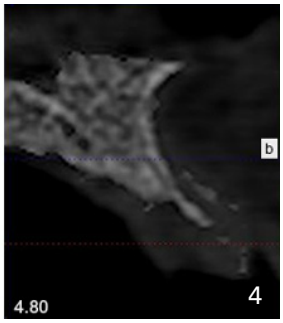
Case of the Month

Single Implant

Regenerating Lost Bone With Guided Bone Regeneration

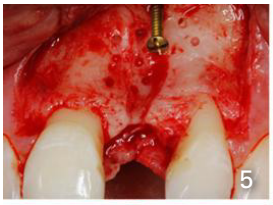
Surgical treatment performed by
Dr. Michael Sonick
Restorative dentistry performed by
Dr. Min-Sung Yoon

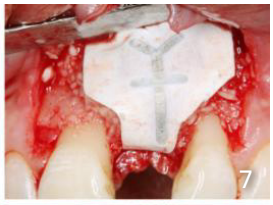




This young female presented to our office after three failed bone grafts. 1. Severe scarring of the gum tissue was present due to the previous surgeries. She was told that a dental implant was not possible. 2. Fortunately, we were able to regenerate the lost bone with tissue engineering and present her with a new tooth supported by a dental implant. She was able to smile with confidence on her wedding day.

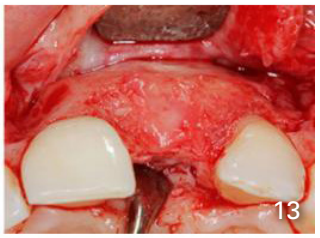
Initial Surgery:
3. A full thickness flap was elevated revealing a paper thin 2 mm ridge. Previous surgeries had left scarring making tissue reflection difficult. 4. A CBCT scan taken prior to the procedure eliminated any surgical surprises. This enabled us to inform the patient that multiple procedures may be necessary.

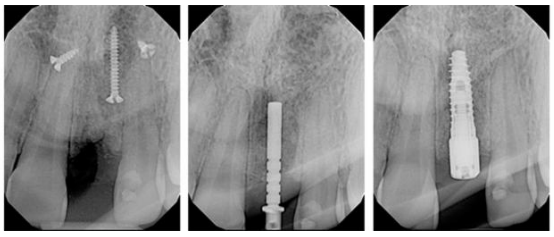




Initial Bone Augmentation Procedure: 5. Two vertical incisions were made to allow access and to assist in flap mobility which would allow primary closure of the surgical site. Following reflection and degranulation, a tenting pin was placed to assist in space maintenance. A combination of Puros Cancellous Allograft with putty and cortical chips was hydrated with rh-PDGF . 6. This growth factor has been shown to increase the amount of vital bone and to speed healing as it aids in angiogenesis. 7. A titanium reinforced e-PTFE membrane was secured with two tacks and a stabilized with a palatal suture. 8. Human pericardium was layered onto the e-PTFE membrane in order to assure adequate tissue thickness as well as to prevent premature membrane exposure. The buccal flap was released to allow for passive primary closure which is essential for ideal bone regeneration (9,10)

Day of Implant Surgery: 11.The patient was allowed to heal for 8 months. Note the increase in vertical height due to augmentation. Healing was uneventful and the tissue remained pink, healthy and thick. 12. At the time of implant placement, the e-PTFE membrane was removed. The pinkness of the membrane is evidence of an infection free site. 13. The occlusal view demonstrates 8 mm of horizontal bone growth allowing a straight forward implant surgery.





Radiographic History: Three radiographs trace the evolution of the case: The bone graft with screws and tacks, a guide pin at the time of implant surgery and the temporary healing abutment at implant exposure.

Restoration: 14. Three months following implant placement, second stage surgery was performed. 15. The patient wore a screw retained provisional for three months to assist in developing ideal tissue contour, thus assuring a nicely contoured final restoration with papilla intact (16).

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Creating Beautiful Healthy Smiles for a Lifetime