

Horizontal and vertical ridge augmentation of a knife-edge ridge



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*“Why do I use the creos xenoprotect membrane?
Because of the improved mechanical properties...for its
effectiveness in many indications.”*



Patient:

Male
54 years old

Clinical situation:

Missing teeth 46, 47.
Late implant placement, bone quality D1.
Poor bone quantity with 2-3 mm thickness at the crest, 8 mm and 6 mm residual bone on top of the nervus alveolaris inferior in region 46 and 47 respectively.

Surgical solution:

creos xenoprotect membrane
Horizontal and vertical augmentation by GBR
using “tenting screw technique”

Surgery date:

GBR: 25.02.2015
Implant placement: 14.08.2015
Free gingival flap: 04.12.2015
Prosthetic restoration: 18.03.2016

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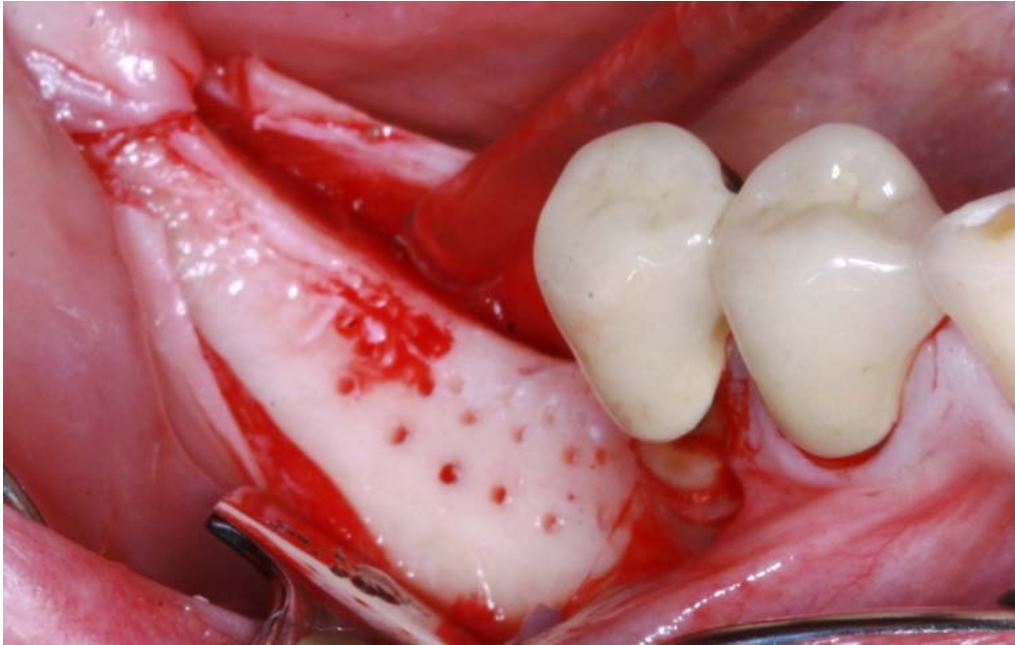


Alveolar ridge in region 46, 47 with horizontal and vertical defect.



Panoramic radiograph prior to the GBR procedure. The radio-opaque objects on top of the ridge in region 46 and 47 are metallic guide sleeves for determining the implant position.

Horizontal and vertical ridge augmentation of a knife-edge ridge

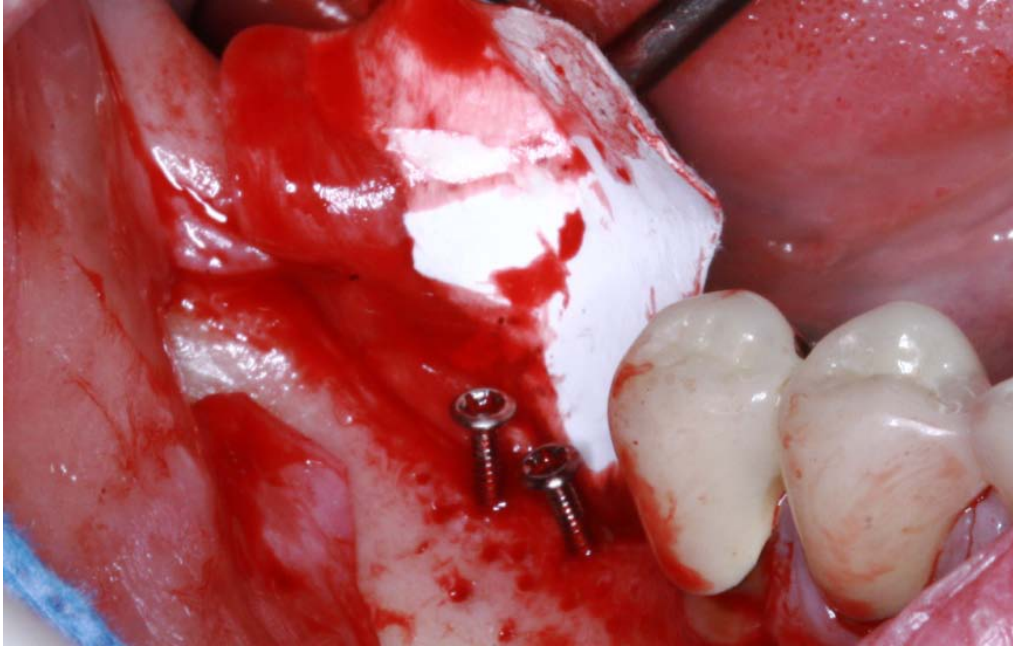


Bone situation after flap elevation with cortical perforations.



To perform the “tenting screw technique”, two 10 mm long osteosynthesis screws were fixed in region 46 and 47 on top of the ridge extending 6 mm above the bone.

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Creos xenoprotect membrane fixed lingually using two titanium pins.

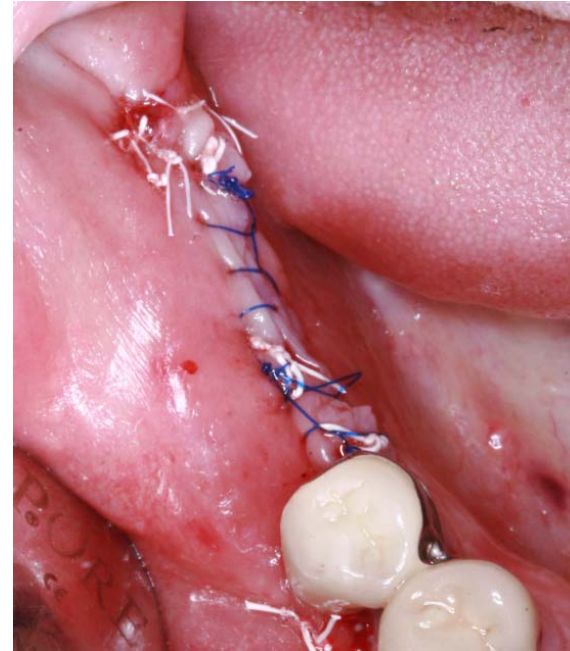


Composite bone graft of about 50% autologous bone chips and 50% DBBM.

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Bone graft successfully immobilized through spanning and fixation of the creos xenoprotect membrane using three additional buccally fixed titanium pins.



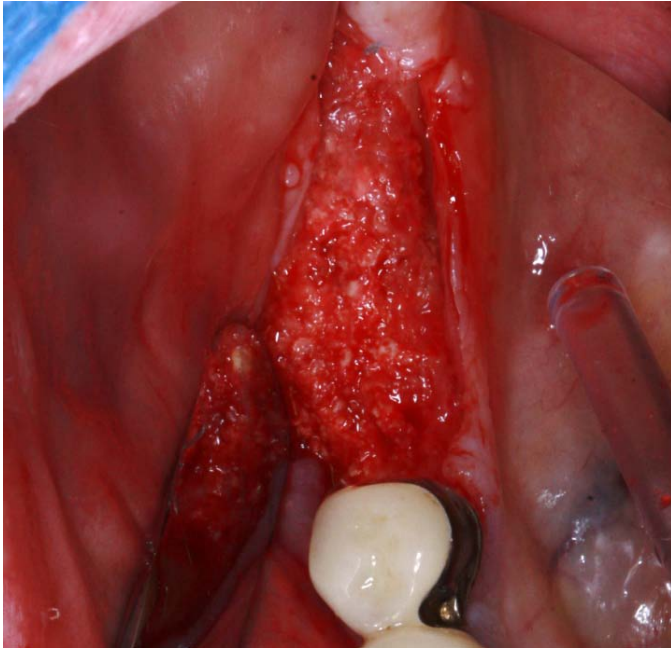
Continuous sutures combined with horizontal mattress sutures for uneventful healing.

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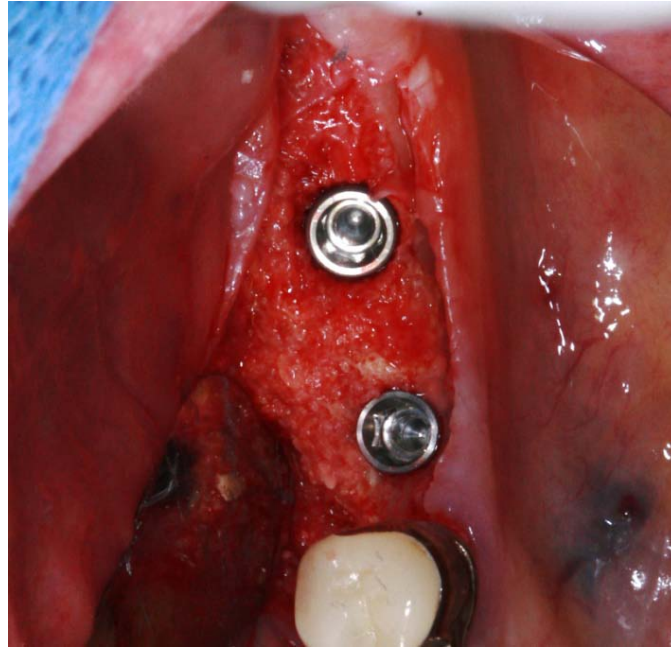


Panoramic radiograph after the GBR procedure.

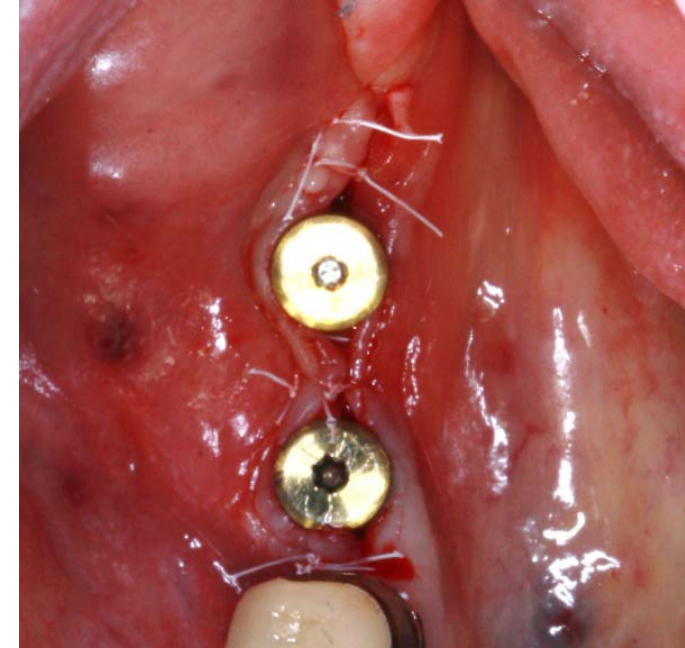
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Alveolar ridge after 6 months of healing, measuring 3 mm vertical and 8 mm horizontal bone gain.



Two NobelActive implants were placed in region 46 (4.3 mm x 11.5 mm) and 47 (5 mm x 10 mm).



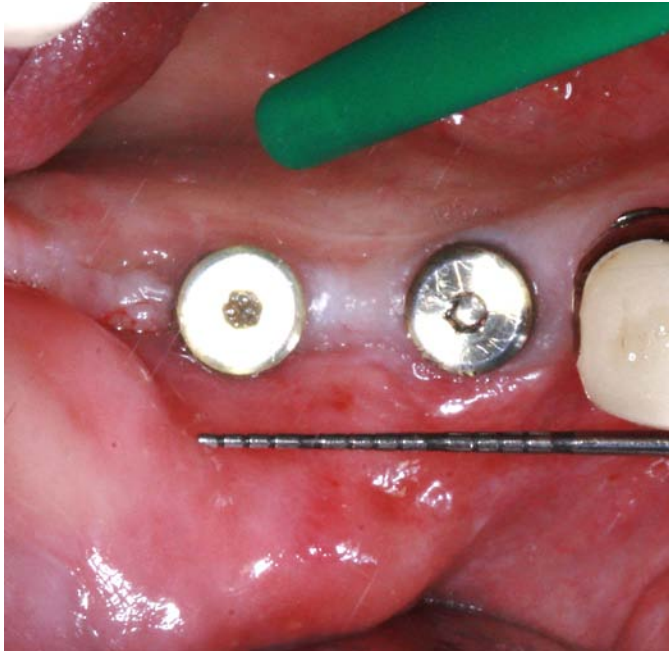
One-stage procedure using two healing abutments 5 mm x 5 mm placed for transgingival healing.

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Panoramic radiograph after implant placement.

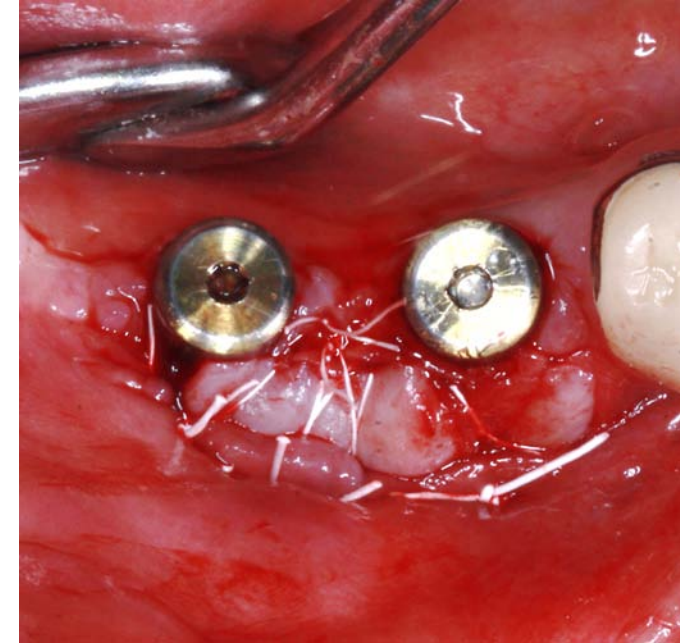
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Situation after four-month healing time. No fixed mucosa on the buccal site requires a free gingival graft.



A free gingival graft from the palate of 15 mm x 5 mm was harvested and the donor site wound was dressed with a collagen matrix.



A mucosal apical repositioning flap with periosteal sutures was performed and the transplant was fixed to the underground with cross sutures.

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Soft tissue healing after 8 weeks.



Nobel Biocare Complete Posterior Solution with two veneered zirconia ASC abutments.



Occlusal view of the full-ceramic crowns 46 and 47.

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Buccal view of the final full-ceramic crowns.