

# BioBrief

GUIDED TISSUE REGENERATION &  
ALVEOLAR RIDGE PRESERVATION

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## Selecting Biomaterials for Combined Complex Defects

leading regeneration

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Geistlich

## The Situation

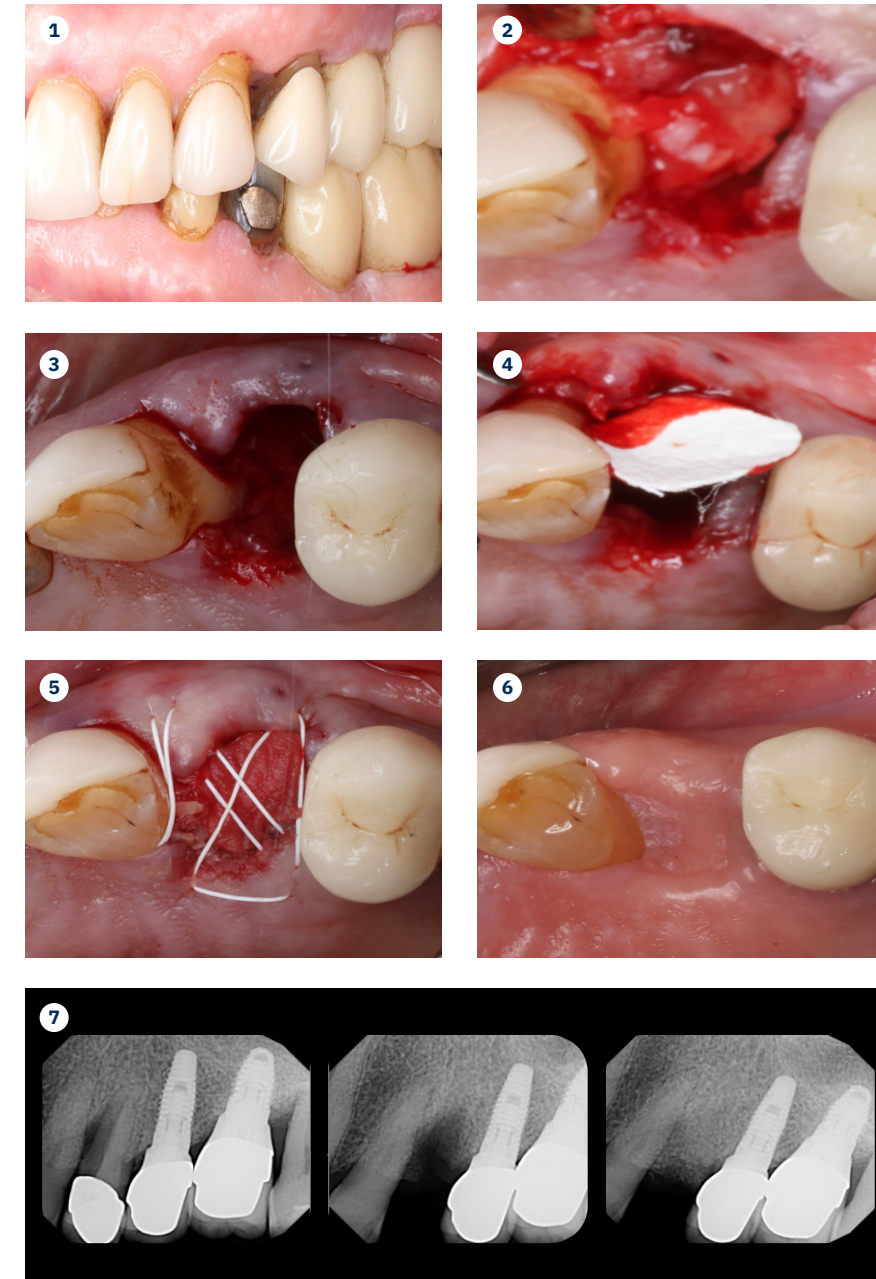
The patient called the office complaining of sensitivity and swelling in the maxillary left quadrant. He was seen and prescribed an antibiotic. Tooth #12 was deemed hopeless, and the peri-apical and radicular lesion presented on the radiograph extended significantly on the mesial aspect, impacting the interproximal bone level for tooth #11. Patient presents with implant supported restorations distal to the affected area and was concerned about the infection spreading to that area as well. The area was treated successfully, and the patient was pleased with the outcome, allowing him to preserve the tooth, on the mesial aspect of the lesion and the implant distally.

## The Risk Profile

	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 sight	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

## The Approach

The goals of the procedure were to eliminate infection, the source of pain, and reduce periodontal problems to the adjacent tooth and implant. Full thickness flap was reflected, #12 was removed and the socket was debrided and irrigated. A peri-radicular lesion was removed and submitted for histopathological exam.



## The Outcome

The combined defect: #11 distal guided tissue regeneration and #12 alveolar ridge preservation for #12. This area was treated with vallos®, Geistlich Bio-Oss Collagen®, and Geistlich Bio-Gide®. The xenograft was placed in the apical portion of the socket and the allograft towards the coronal surface.

- 1 Initial presentation - buccal view.
- 2 Full thickness flap elevation exposing the complex clinical situation.
- 3 Alveolar socket after the tooth removal exposing the loss of bone on the distal of tooth #11, prior to the debridement of the granulation tissue and root preparation.
- 4 Adaptation on the buccal defect prior to placement of bone grafting with vallos® mineralized cortical cancellous mix granules (bottom) followed Geistlich Bio-Oss® (top).
- 5 Post adaptation with Geistlich Bio-Gide® for alveolar ridge preservation and guided tissue regeneration, followed by final suturing of the site using ePTFE material.
- 6 Post-operative healing of the site, 4 weeks after the procedure was completed.
- 7 Radiographic overview of the clinical procedure: initial presentation with the bony defect impacting distal of #11 and #12 - mesial and inter-radicular, site after the tooth #12 was extracted, radiographic bone fill of the defect post-operative.

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Dr. Irina Dragan is board certified and an examiner for the American Board of Periodontology and Implant Dentistry. She is part-time faculty in postgraduate periodontics at Harvard School of Dental Medicine and an adjunct associate professor of periodontology at Tufts University School of Dental Medicine. She is a periodontist and clinical researcher at The Perio Studio, a practice limited to periodontology and implant dentistry in Boston, MA.



“A localized infection can easily spread and impact adjacent teeth and implants. It is critical for clinicians to intervene as soon as possible to prevent further complications. Patient education and motivation is key to successfully treat these types of clinical situations encountered in a daily practice.”

“Considering today’s advancements in regeneration we are able to successfully treat complex clinical scenarios that involve combined therapeutic applications, such as guided tissue regeneration and alveolar ridge preservation.”

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## Keys to Success



- Careful management of the flap
- Adequate debridement of the granulation tissue
- Bone graft selection using latest evidence available



“ Periotomes were able to support with an atraumatic extraction of tooth #12 and maintaining as much as possible the soft and hard tissue present in this compromised area.”



For more information, please visit:  
[www.geistlich.us](http://www.geistlich.us)

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<https://www.geistlich-na.com/dental-professionals/instructions-for-use>