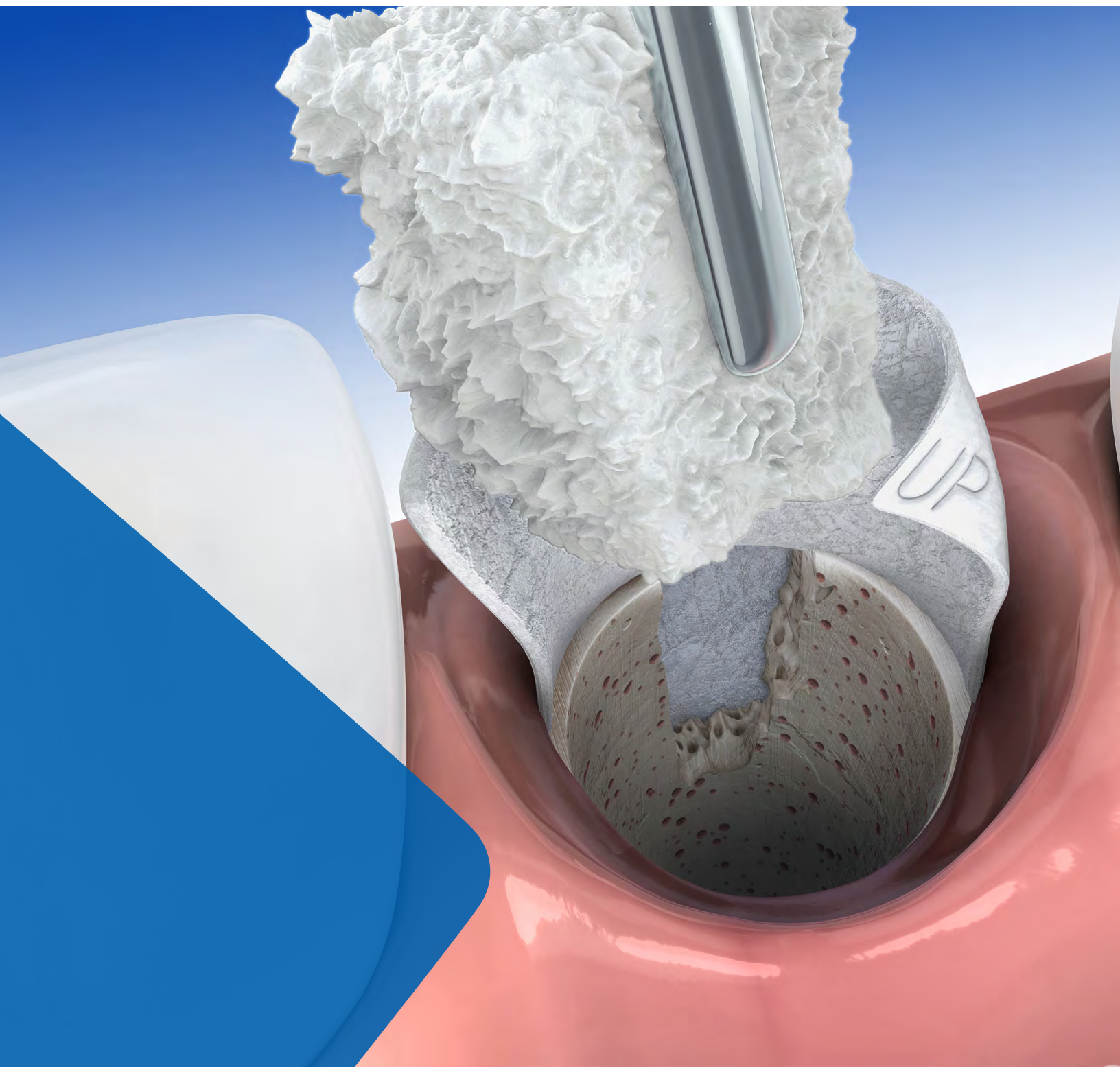


LEADING REGENERATION

Geistlich
Biomaterials

Extraction Socket Management



Extraction Socket Management

The healing of extraction sockets and the resorption processes that take place after tooth extraction have been investigated thoroughly in recent years.

The most recent scientific studies have shown that:

- › After tooth extraction the bundle bone resorbs, and therefore part of the buccal lamina¹
- › Immediate implant placement cannot prevent resorption of bundle bone²

While immediate implant placement does not prevent bone resorption³, the treatment of extraction sockets with Geistlich biomaterials can significantly compensate for bone loss and preserve the contour of the alveolar ridge.^{4,5,6}

Advantages of Ridge Preservation

- › In esthetically challenging regions, an optimum outcome in terms of pink and white esthetics can be achieved
- › Alveolar ridge dimensions are also preserved under conventional crown and bridge restorations⁷
- › The timing for subsequent implant placement can be extended
- › The extent of any future invasive surgery can be reduced

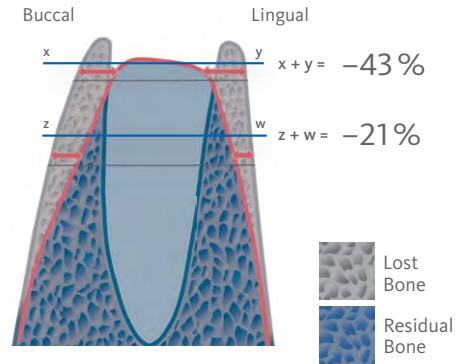
Extraction Socket Treatment Options

The use of a biomaterial such as Geistlich Bio-Oss[®] is crucial to the long-term success and outcome of extraction socket management. After tooth extraction, the slowly resorbing bone substitute Geistlich Bio-Oss[®] and Geistlich Bio-Oss Collagen[®] preserve volume over time and significantly contribute toward the success of treatment when they are used in the following treatment options:

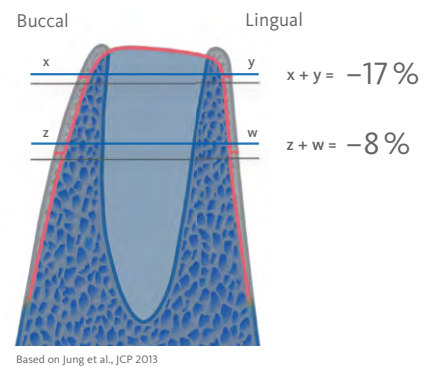
Seal the Socket

Geistlich Mucograft[®] Seal specially designed for soft-tissue regeneration is recommended for use in combination with Geistlich Bio-Oss Collagen[®] after tooth extraction, when the alveolar buccal walls are preserved.⁴

Radiographic Evaluation of Spontaneous Healing Vs. Ridge Preservation Technique After Tooth Extraction:

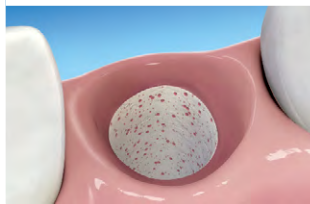


Ridge Preservation With Geistlich Bio-Oss Collagen[®] and Geistlich Mucograft[®] Seal After 6 Months:



Ridge Preservation

Intact Extraction Socket



Compromised Extraction Socket



Geistlich Bio-Oss Collagen[®]



+

Geistlich Mucograft[®] Seal



Geistlich Bio-Oss Collagen[®]



+

Geistlich Bio-Gide[®]

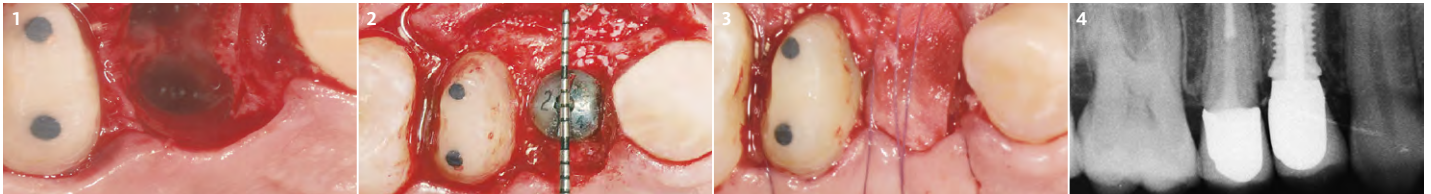


▶ Immediate Implant Placement with Socket Preservation

Dr. Tiziano, Testori, Milan, Italy

Objectives

- › Minimize surgical trauma with atraumatic tooth extraction
- › Immediate implant placement to reduce treatment time
- › Maintenance of mucosa and periodontal architecture with minimal flap elevation
- › Maintenance of buccal and palatal bone volume after tooth extraction
- › Over correct defects anticipating resorption to obtain long-term optimal esthetic results
- › Use of low resorption rate biomaterials to obtain long-term esthetic results



1 Tooth socket after the atraumatic extraction.

2 "Intra-external grafting" with small Geistlich Bio-Oss® particles and covered with a Geistlich Bio-Gide® membrane.

3 Geistlich Bio-Gide® is placed over the healing abutment and left exposed to avoid any secondary mucosal approximation and to increase the amount of keratinized peri-implant mucosa in a single procedure.

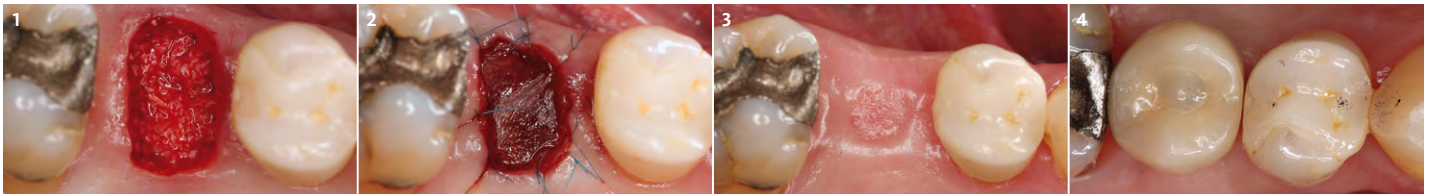
4 Radiograph 6 months after final prosthesis restored with the platform switching concept.

▶ Ridge Preservation in Extraction Socket with Preserved Buccal Bone

Dr. Stefan Fickl, Würzburg, Germany

Objectives

- › Delayed implant placement 4 months after extraction
- › Minimally invasive treatment of the socket



1 The extraction socket is filled with Geistlich Bio-Oss Collagen®.

2 Geistlich Mucograft® Seal in place, sutures single and double interrupted.

3 Clinical appearance after 4 months at the time of implant placement. The amount of keratinized peri-implant mucosa in a single procedure.

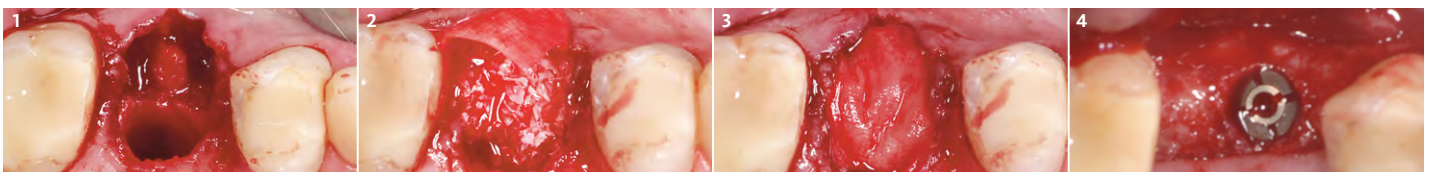
4 Final restoration 11 months after tooth extraction.

▶ Ridge Preservation for Late Implant Placement

Dr. Dietmar Weng, Starnberg, Germany

Objectives

- › Healing of alveolar bone and preservation of the alveolar ridge in its original form
- › Healed and closed soft-tissue coverage at the time of implant placement
- › Avoidance of connective tissue invasion due to dehiscence
- › Implant placement in prosthetically correct position without any additional augmentation



1 Situation after atraumatic extraction of tooth #3. On the buccal side the tooth was already exhibiting recession of hard and soft-tissues.

2 The socket was filled with Geistlich Bio-Oss®, which restores the original contour of the alveolar ridge.

3 On the palatal side, the free end of the Geistlich Bio-Gide® membrane was placed between the periosteum and the bone surface.

4 Implant placement in the region of #3. After Ridge Preservation it was possible to place the implant without any complicated augmentation, despite the original recession defect.



Therapeutic Areas

At Geistlich Biomaterials, we are committed to developing treatments that are uniquely matched to the clinical situations you see every day. That's why we do more than bring you a family of products – we provide proven solutions in specific therapeutic areas.

The recommended Geistlich products below are the ideal biomaterials for use in **Extraction Socket Management** procedures.

Recommended Products for Extraction Socket Management

BONE SUBSTITUTES

Geistlich
Bio-Oss



Geistlich
Bio-Oss Pen



Geistlich
Bio-Oss Collagen



MEMBRANES

Geistlich
Bio-Gide



MATRICES

Geistlich
Mucograft Seal



COMBINATION

Geistlich
Combi-Kit Collagen



The Ideal Geistlich Biomaterials for Extraction Socket Management

When used in combination, these proven and reliable products provide a foundation for long-term clinical success in regenerative dentistry.

Geistlich Bio-Oss® provides a stable scaffold for bone formation leading to long-term volume preservation, while Geistlich Bio-Gide® ensures undisturbed bone regeneration and prevents soft-tissue ingrowth.

Geistlich Mucograft® Seal is a 3D collagen matrix specifically designed for soft-tissue regeneration. Its unique properties make it ideal for ridge preservation when combined with Geistlich Bio-Oss Collagen®.

For additional information about Extraction Socket Management, please visit our website: www.geistlich-na.com

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

For information on indications, contraindications, precautions, and directions for use, please refer to the Geistlich Bio-Oss®, Geistlich Bio-Oss Collagen®, Geistlich Bio-Gide® and Geistlich Mucograft® Seal Instructions for Use at: www.geistlich-na.com/ifu

Geistlich Pharma North America, Inc.
202 Carnegie Center
Princeton, NJ 08540
Customer Care Toll-free: 855-799-5500
info@geistlich-na.com
www.geistlich-na.com

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- 2 Araujo, MG. et al. (2005). J Clin Periodontol. 32: 645-652.
- 3 Wang, RE. et al. (2012). Clin Oral Implants Res. 23 Suppl 6: 147-56.
- 4 Jung, RE. et al. (2013). J Clin Periodontol. 40(1): 90-8.
- 5 Cardaropoli, D. et al. (2012). Int J Periodontics Restorative Dent. 32(4): 421-30.
- 6 Cardaropoli, D. et al. (2014). Int J Periodontics Restorative Dent. 34(2): 211-7.
- 7 Schlee, M. et al. (2009). Eur J Esthet Dent. 2: 209-217.