ReOss
Customized Solutions

Yxoss CBR®

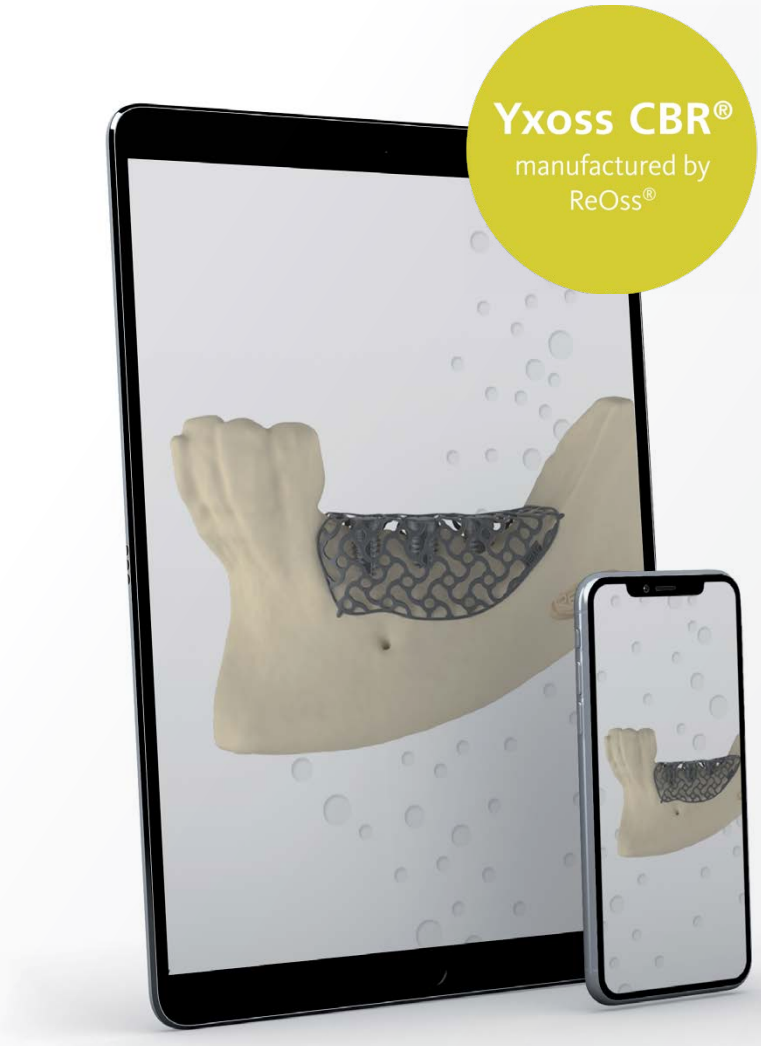
Customized Bone Regeneration

marketed by
Geistlich
the regeneration experts

Yxoss CBR® – The future is now

Discover the first generation of Customized Bone Regeneration (CBR®) for complex bone defects

Yxoss CBR® has revolutionized bone augmentation by customizing titanium scaffold using a digital workflow to fit the individual anatomy of each patient. Cutting edge CAD/CAM technology is utilized to satisfy patient-specific requirements for complex bone procedures.



This patented process results in a contoured, form-stable, 3-D printed scaffold of the purest titanium based on CT or CBCT images.

Time-consuming impressions, cutting, shaping and adapting are no longer necessary. Sharp edges from cutting conventional meshes are entirely eliminated.

The combination of Yxoss CBR® with Geistlich Bio-Gide® prevents soft tissue ingrowth and particle migration while adding Geistlich Bio-Oss® to the graft provides long-term stability.

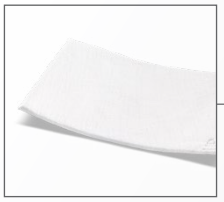
Now, with the recent introduction of Yxoss CBR® protect, you have even more choice when developing your treatment plan.

It's a solution made just for you.
Exactly.

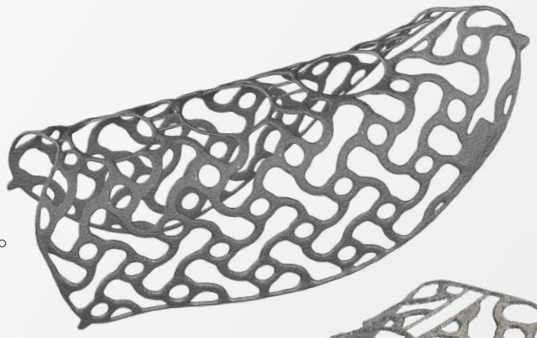
Best-in-class biomaterials

Create an unmatched combination

Geistlich Bio-Gide®



Yxoss CBR® classic

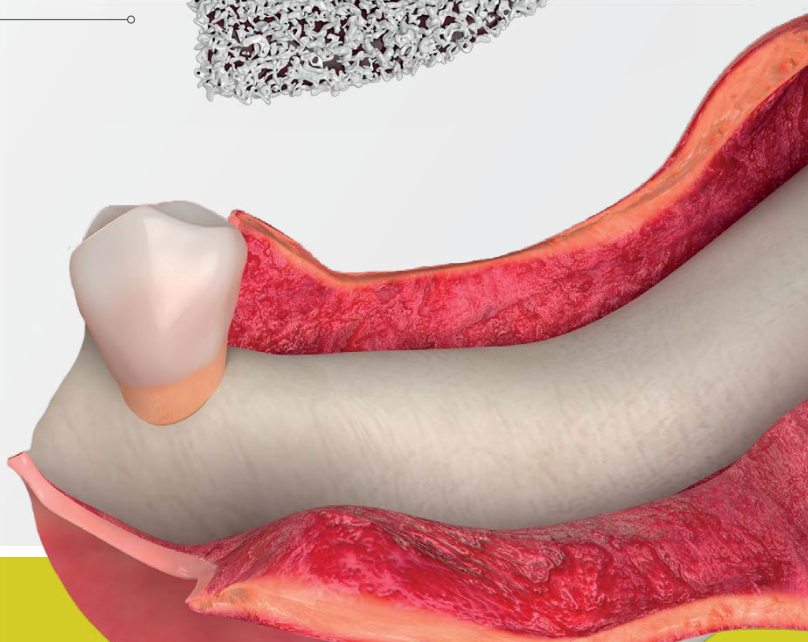


OR

Yxoss CBR® protect

Geistlich Bio-Oss®

EXACTLY like no other.



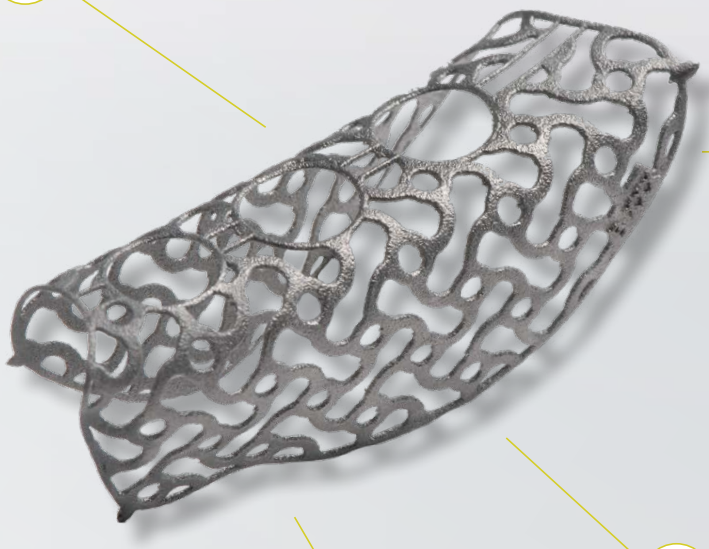
Yxoss CBR® classic

A treatment evolution built on quality and precision

Bring a customized approach to your next planned bone augmentation. The open structure of Yxoss CBR® classic enables periosteal vascularization that is essential for bone regeneration.

Innovative solution for regenerating **complex alveolar bone defects** by taking advantage of CBCT data combined with **3-D printing technology**

For ideal fixation of Yxoss CBR®, a fixation system with diameters from 1.3 to 1.5 mm is recommended.



Optional: Unique **integrated implant positioning** in the surgical planning – **Yxoss CBR® Backward**

Opportunity to **reduce surgery time** without complex adaptations

Easy Removal Design® with pre-defined breaking points for easy removal of Yxoss CBR® on re-entry

High **stability** and space maintenance

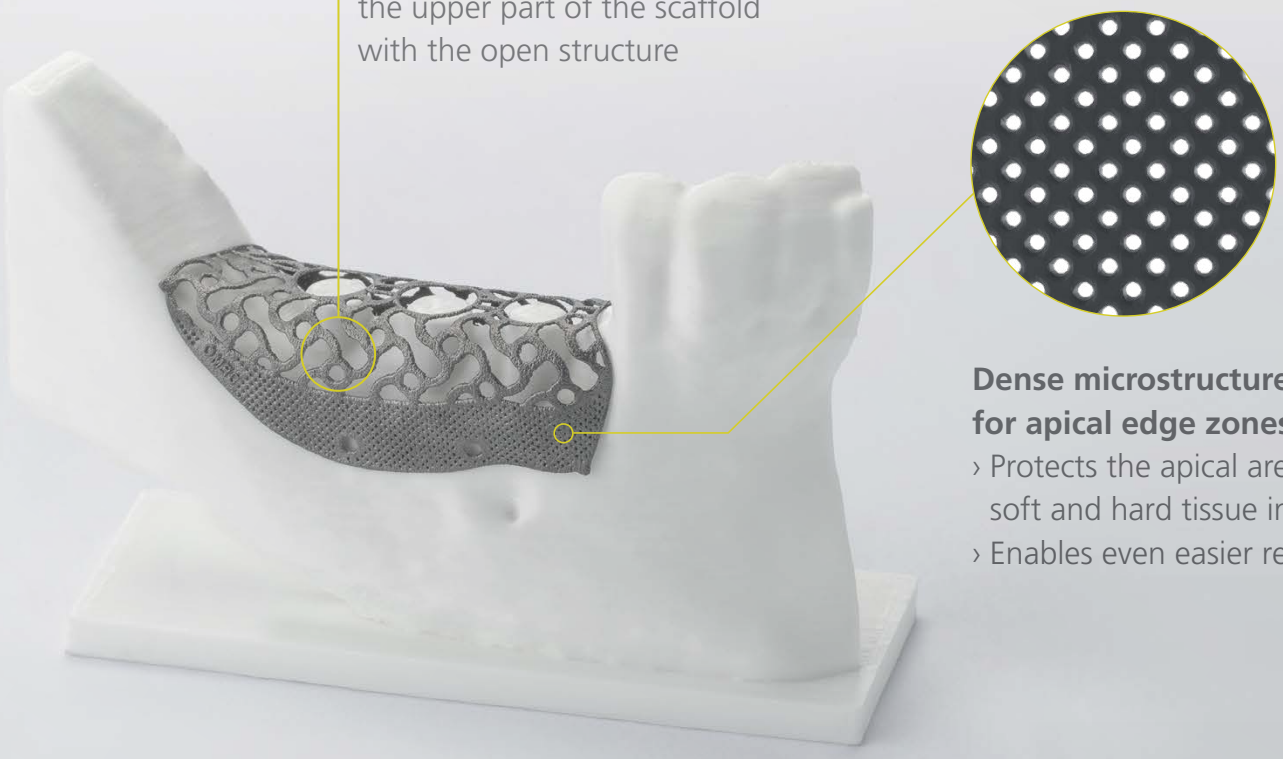
ReOss® calculates the necessary **augmentation volume** for your case planning

Yxoss CBR® protect

An added innovation designed for easy removal

In certain cases, excessive bone formation in the apical part of the titanium scaffold can hamper its removal due to soft and hard tissue ingrowth. To overcome this challenge Yxoss CBR® protect features a dense microporous structure in the apical area which allows an even easier removal.

The periosteal blood supply continues to be promoted in the upper part of the scaffold with the open structure



Dense microstructure for apical edge zones*

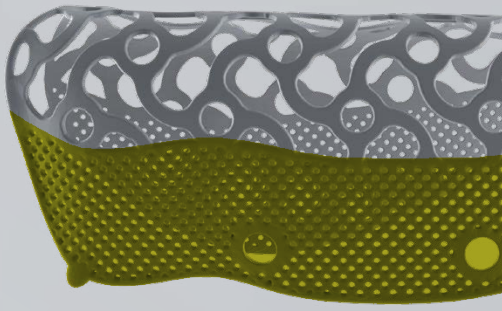
› Protects the apical area from soft and hard tissue ingrowth

› Enables even easier removal

Biological background

Periosteal nutrition:
Maturation of the bone is dependent on the vascularization of the periosteal vessels

No ingrowth of soft and hard tissue:
Higher occlusivity due to denser Yxoss CBR® protect structure leads to less intergrowth with tissue cells

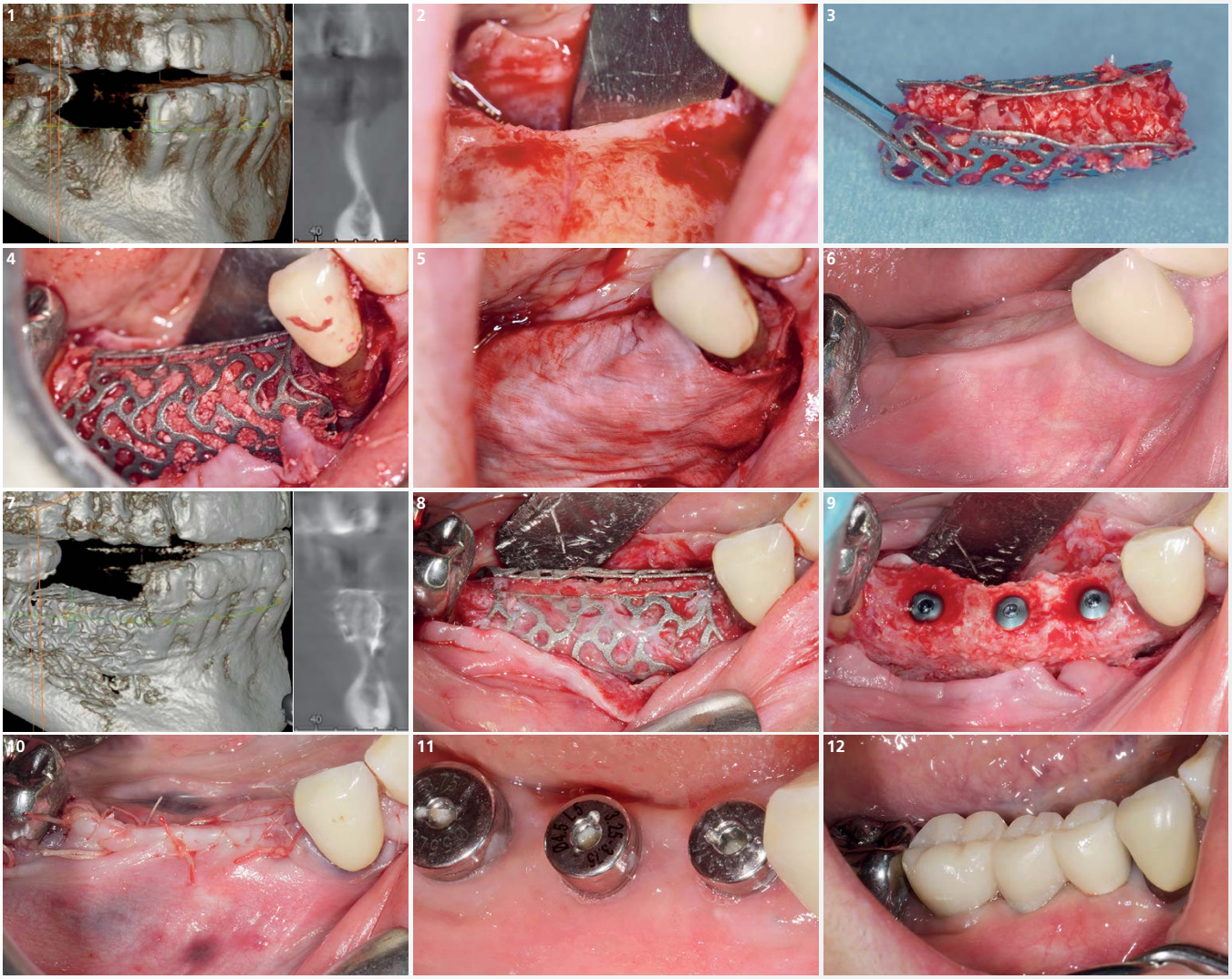


* Manufacturing result may visually differ from rendered microstructure.

Clinical benefit of Yxoss CBR® classic

Horizontal/Vertical Defect (3 teeth gap) – Posterior Mandible

Surgery and concept by
Dr. Philippe Russe
(Reims, France)



1 CBCT of initial situation showing the mandibular knife edge ridge.

2 Bony situation after full thickness flap.

3 Yxoss CBR®, filled with a mixture (50/50) of autogenous bone and Geistlich Bio-Oss® small granules.

4 Yxoss CBR® placed *in situ*.

5 A Geistlich Bio-Gide® collagen membrane is placed on top, covering the titanium scaffold.

6 Healing at 6 months postoperative: The scaffold is visible under the thin lingual gingiva.

7 Control CBCT at 6 months postoperative.

8 Separation of the Yxoss CBR® into two parts.

9 Implants placed in the bony reconstruction (BEGO Semados® SC).

10 Additional GBR with Geistlich Bio-Oss® alone, Geistlich Bio-Gide®, sutured with horizontal mattress (3/0) and crestal X sutures (6/0).

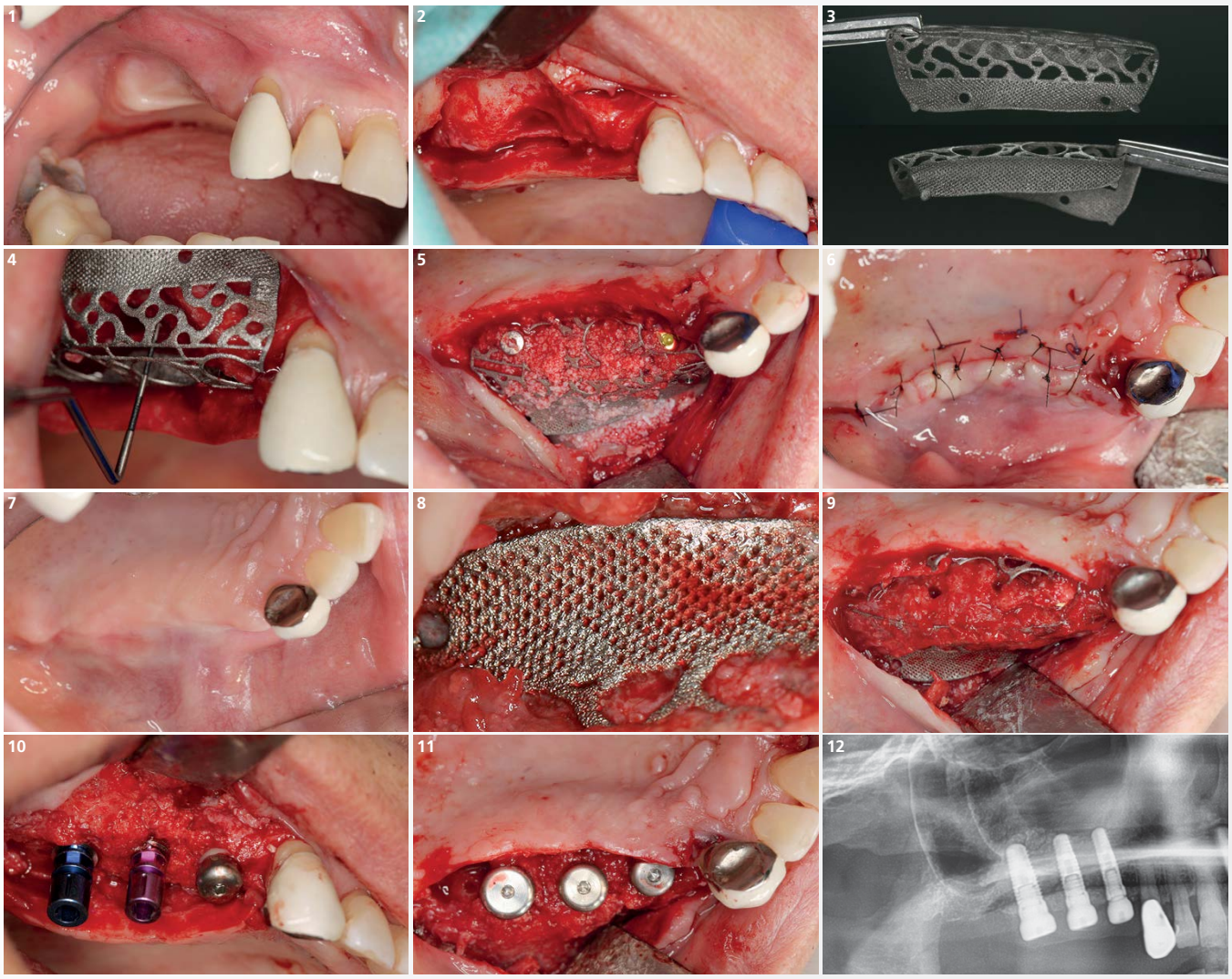
11 Attached gingiva created by a partial thickness flap around the healing abutments post uncovering of implants after a healing period of 6 months.

12 Provisional bridge at time of ceramic try-in.

Clinical benefit of Yxoss CBR® protect

Horizontal/Vertical Defect (3 teeth gap) – Posterior Maxilla

Surgery and concept by
Dr. Marcus Seiler MSc MSc
(Filderstadt, Germany)



1 Clinical baseline situation of the vertical and horizontal defect.

2 Vertical and horizontal bone defect after surgical opening via a mid-crestal incision.

3 3-D printed Titanium scaffold with pre-specified fixation options in the apical area of the "protect" structure.

4 Try-in of Yxoss CBR® protect into the defect region. A bone defect of approx. 6 mm is revealed. Geistlich Biomaterials are prepared for placement.

5 The scaffold is fixed with a single FYxoss screw in the crestal area. In accordance with the backward planning one implant could be inserted immediately (pos.14). In addition an external sinus lift was performed.

6 Tension-free closure of the double layer mucoperiosal flap over Yxoss CBR® protect using resorbable deep mattress and single interrupted sutures.

7 Clinical image shows an irritation-free healing after the extensive horizontal and vertical augmentation.

8 Yxoss CBR® protect successfully prevented hard and soft tissue ingrowth in the apical area. The bone maturation was not affected.

9 Thanks to the Yxoss CBR® protect design the scaffold could be removed more easily after a healing period of 6 months.

10 Fully regenerated and maturated bone with implants.

11 After inserting the two additional implants and the healing abutments the flap is closed once again.

12 Radiographic image visualizes the implant positions within the regenerated bone.

Yxoss CBR®

Easy ordering at
www.reoss.us

ReOss
Customized Solutions

marketed by
Geistlich
the regeneration experts

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Princeton, NJ 08540
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Yxoss CBR® is an innovative solution for the regeneration of complex alveolar bone defects by using CBCT data in combination with 3-D printing technology. It has simplified the surgical technique for gaining new bone height and width by providing accuracy of fit, volume stability, and predictability.

Geistlich Bio-Oss®

Stable scaffold for new bone.[1,2,3,4] The slow resorption of Geistlich Bio-Oss® increases the stability of the augmentation material[5] – the best prerequisite for long-term implant survival rates.[6]

Geistlich Bio-Gide®

Stabilizes the grafted area and protects bone particles from dislocation for optimal bone regeneration.[7] The natural collagen structure allows homogeneous vascularization, supports tissue integration and wound stabilization.[8]

The combination of flexibility, good adhesion, and tear resistance contribute to easy handling, in turn saving time, and simplifying the surgical procedure.[9]

1 Orsini G et al., J Biomed Mater Res, B: Appl Biomater 74B, 2005; 448–57.
2 Piattelli M et al., Int J Oral Maxillofac Implants 1999; 14: 835-40.
3 Sartori S, et al., Clin Implants Res 2003; 14: 369–72.
4 Traini T et al., J Periodontol. 2007 May; 78(5): 955–961.
5 Orsini G et al., Oral Diseases. 2007; 19: 357–368.
6 Jung R et al., Clin Oral Implants Res. 2013 Oct; 24(10): 1065–73.
7 Perelman-Karmon M et al., Int J Periodontics Restorative Dent. 2012 Aug; 32(4): 459-65.
8 Rothamel D et al., Clin. Oral Implants Res. 2005; 16(3): 369-378.
9 Data on File. Geistlich Pharma AG, Wolhusen, Switzerland.

For more information incl. a comprehensive brochure with both Yxoss CBR® versions please visit:
www.reoss.eu
www.geistlich-pharma.com

GB-5019-21P