

bone & tissue  
regeneration

botiss  
biomaterials

# maxgraft<sup>®</sup> + HyA

ALLOGENIC BONE SUBSTITUTE MATERIAL  
**WITH HYALURONATE**

+

HyA

biomaterials

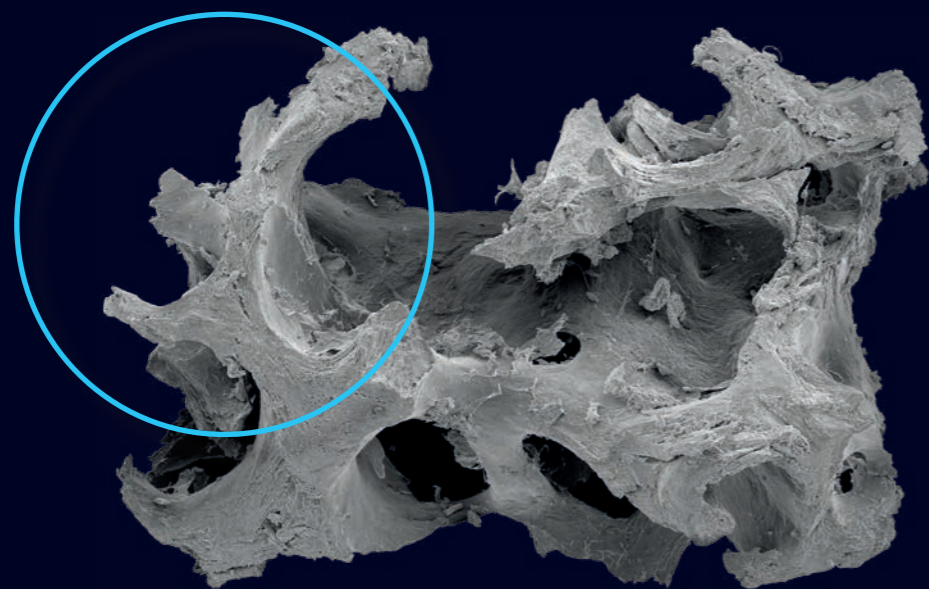


maxgraft®

PROCESSED HUMAN ALLOGRAFT

A unique product combination for unmatched

**ease in handling** and **enhanced clinical outcomes**<sup>1</sup>



NATURAL BONE REGENERATION  
WITH A **PLUS**

<sup>1</sup>Kloss et al. (2024) Int J Implant Dent. 10(1):42.



HYALURONATE

HyA

**Hyaluronic acid (HyA) is a natural polysaccharide found in the extracellular matrix of various tissues, playing a crucial role in hydration, lubrication, and cell signaling**<sup>2</sup>.

**Innovation:** maxgraft® **+HyA** combines the allogenic bone substitute material (maxgraft®) with sodium hyaluronate (NaHyA), a more soluble and stable form of HyA.

**Functionality:** NaHyA exhibits extraordinary liquid-binding properties due to the numerous hydrophilic groups (-OH, -COO-) present in its molecular structure<sup>3</sup>.

**Efficiency:** NaHyA incorporated into the bone graft allows for seamless preparation of sticky bone upon hydration.

<sup>2</sup>Garantziotis et al. (2019) Matrix Biol. 78-79:1-10.

<sup>3</sup>Necas et al. (2008) Vet Med-Czech. 53(8):397-411.

# Four variants for a wide-range of clinical scenarios

**CANCELLOUS** for accelerated remodelling

**Small** 0.25 - 1.0 mm

**Large** 1.0 - 2.0 mm

**CORTICO-CANCELLOUS** app. 70% cortical for improved volume stability

**Small** 0.25 - 1.0 mm

**NEW SIZE**

**CORTICO-CANCELLOUS FINE**

Suited for contained/narrow defects and accelerated graft remodeling, also in combination with bovine bone.

**XS** < 0.25 mm

## SPECIFICATIONS maxgraft® +HyA\*

Art.-No.	maxgraft® Particle Size	Type	Content
34005XS**	< 0.25 mm	fine granules	1 x 0.5 ml
34010XS**	< 0.25 mm	fine granules	1 x 1.0 ml
38005S	0.25 - 1.0 mm	cancellous	1 x 0.5 ml
38010S	0.25 - 1.0 mm	cancellous	1 x 1 ml
38020S	0.25 - 1.0 mm	cancellous	1 x 2 ml
38005L	1.0 - 2.0 mm	cancellous	1 x 0.5 ml
38010L	1.0 - 2.0 mm	cancellous	1 x 1 ml
38020L	1.0 - 2.0 mm	cancellous	1 x 2 ml
34005S**	0.25 - 1.0 mm	cortico-cancellous	1 x 0.5 ml
34010S**	0.25 - 1.0 mm	cortico-cancellous	1 x 1 ml
34020S**	0.25 - 1.0 mm	cortico-cancellous	1 x 2 ml

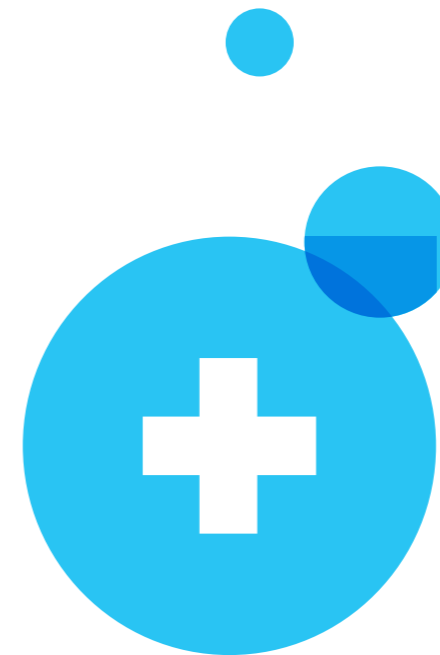
\* Please contact your local distributor to check for availability in your country

\*\* Post-mortem donors

Manufacturer responsible for market authorization:  
Cells + Tissuebank Austria, Krems, Austria



Find your  
**local distributor**  
on [botiss.com](http://botiss.com)



## INDICATIONS

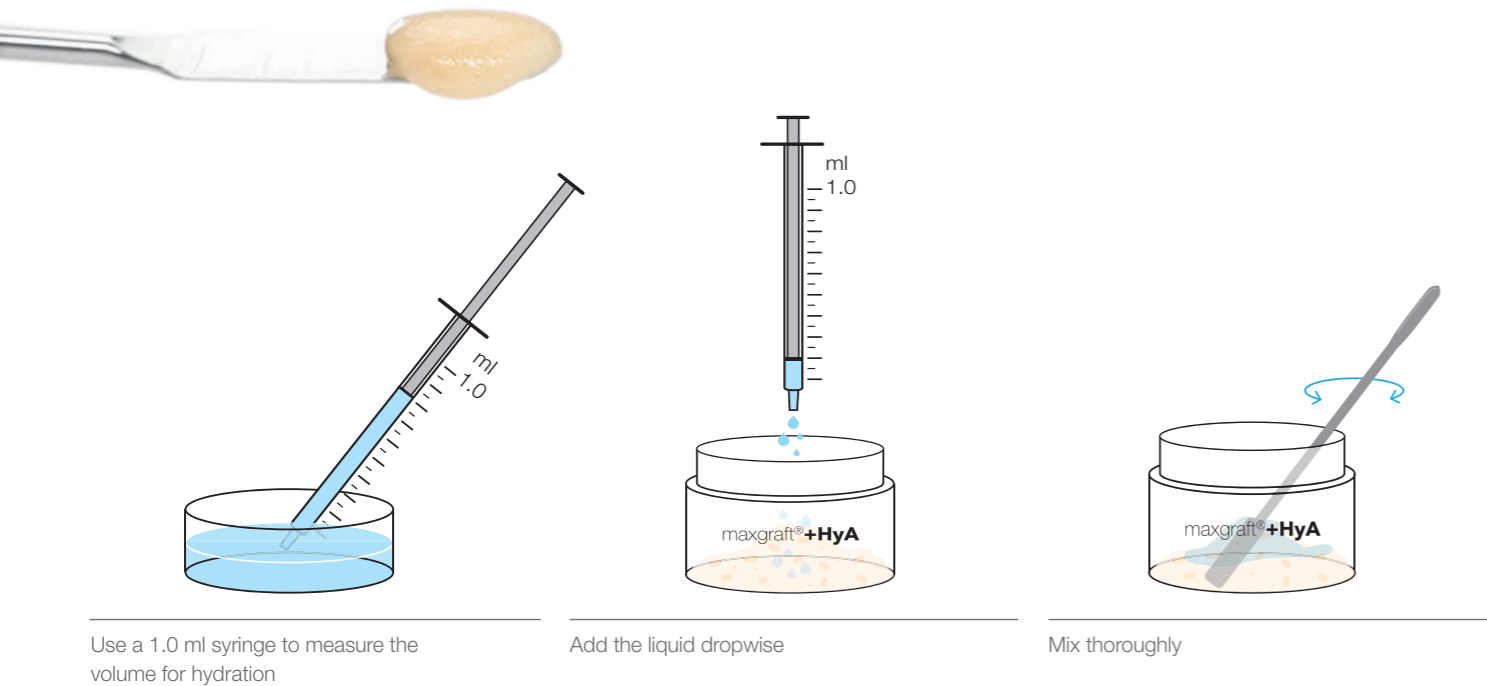
Implantology, Periodontology, Oral and CMF Surgery

- Periodontal osseous defects
- Regeneration of extraction sockets (socket preservation)
- Regeneration of missing bone tissue around dental implants
- Regeneration of gaps around block grafts
- Sinus augmentation
- Horizontal and vertical augmentation

A few drops away to  
your **sticky allograft!**

## HYDRATION

Approx. **0.8 ml saline solution per 1 ml maxgraft® +HyA**  
Check detailed recommendations in the user manual



## HANDLING TIPS

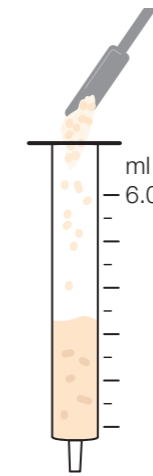
- Use a 1 ml syringe to measure the volume for hydration
- Aim for a sticky and relatively dry consistency rather than a liquid one



See how  
it works

## maxgraft® +HyA (XS) SOLUTIONS FOR YOUR NEEDS

> **OPTION 1**  
maxgraft® +HyA (XS)  
with a **syringe**  
for **small** or **narrow defects**



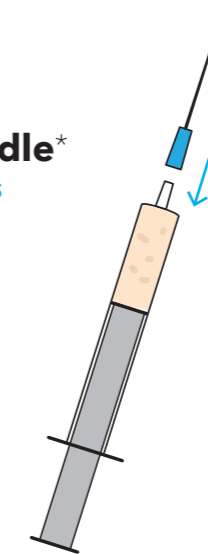
Transfer into a conventional  
5-6 ml Luer tip syringe **after hydration**



Recommended for small defects,  
e.g., periodontal defects

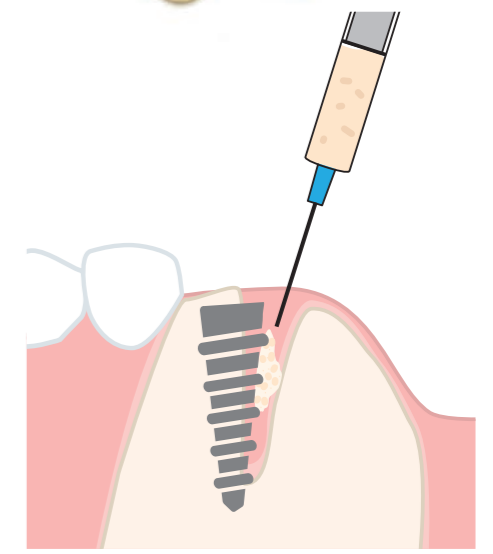
hydrate > **inject** > regenerate

> **OPTION 2**  
maxgraft® +HyA (XS)  
with a conventional **blunt needle\***  
to reach **deeper** into **narrow defects**



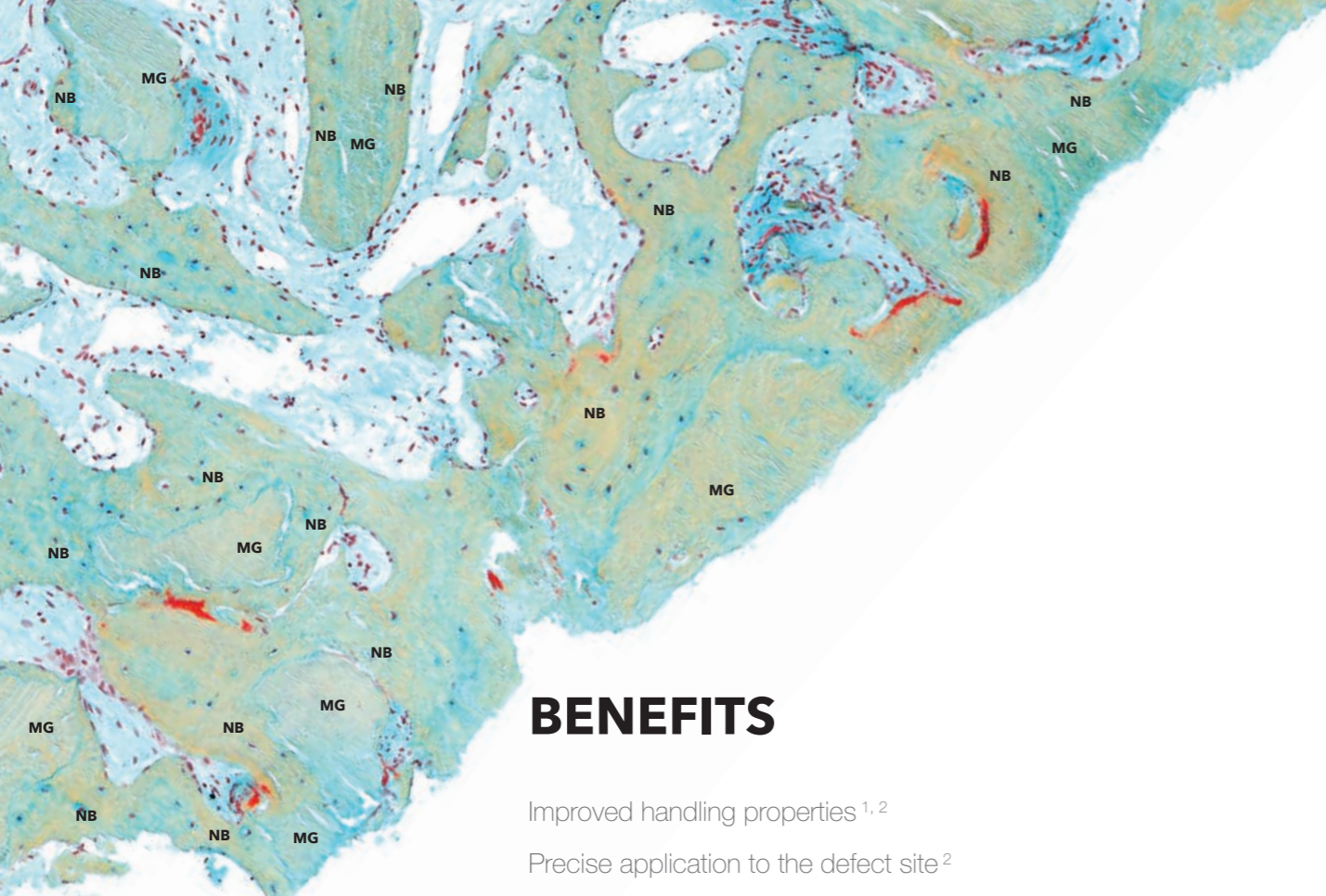
**TIP:** For a smoother flow through  
the needle, add a few extra drops of  
liquid while rehydrating the granules.

Simply connect the needle with the Luer tip  
of the syringe and inject



Recommended for narrow defects,  
e.g., in gaps around immediate implants

\* Ideally 14G/ø 2.1 mm. Example of a suitable needle: transcendent™ Dental Needle 2.1 x 39 mm. Art.No. 162062



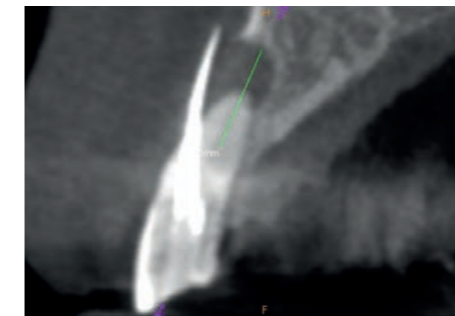
## BENEFITS

- Improved handling properties<sup>1,2</sup>
- Precise application to the defect site<sup>2</sup>
- Enhanced bone regeneration<sup>3</sup>
- Favorable soft tissue healing<sup>1</sup>
- Natural bone structure of bone graft with preserved collagen content<sup>4,5</sup>
- Controlled graft remodeling into native bone<sup>6,7,8</sup>

MG maxgraft®  
NB New bone

## CLINICAL CASE BY PD Dr. Dr. Frank Kloss, Lienz, Austria

maxgraft® +HyA (S) – RIDGE PRESERVATION OF A COMPROMISED EXTRACTION SOCKET IN THE ANTERIOR MAXILLA



Initial situation



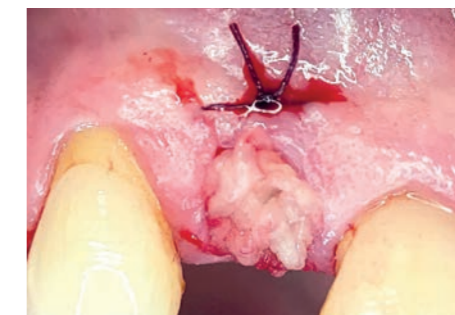
Tooth extraction and socket debridement



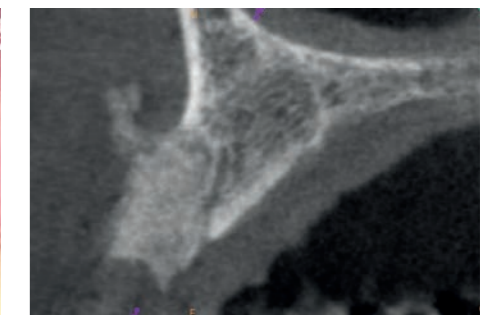
Cancellous maxgraft® +HyA (S) upon rehydration with saline solution



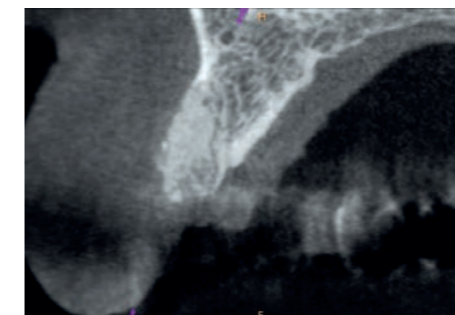
Filling the socket with maxgraft® +HyA (S)



Socket coverage with A-PRF



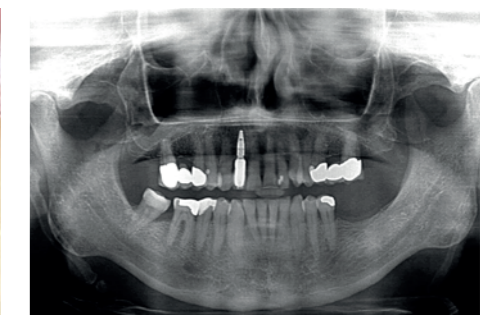
Immediate post-operative x-ray



Four months post-operative



Vital bone and adequate bone volume for implant placement



Control panoramic x-ray one year post-operative



<sup>1</sup> Data on File. Limited Market Release. Users Feedback on Handling and Initial Healing Period 08/2023.

<sup>2</sup> Data on File. Limited Market Release. Clinical Case Documentation.

<sup>3</sup> Kloss et al. (2024) Int J Implant Dent. 10(1):42.

<sup>4</sup> Trajkovski et al. (2018) Materials. 11(2):215.

<sup>5</sup> Barbeck et al. (2019) Materials. 12(19):3234.

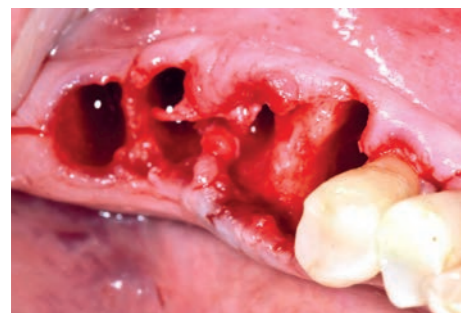
<sup>6</sup> Data on file. Histological analysis.

<sup>7</sup> Solakoglu et al. (2019) Clin Implant Dent Relat Res. 21(5):1002-1016.

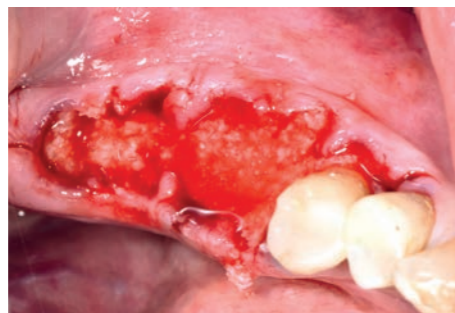
<sup>8</sup> Wen et al. (2020) J Periodontol. 91(2):215-222.

**CLINICAL CASE BY** Dr. Reto Morger, Eschenbach, Switzerland

maxgraft® +HyA (S) – RIDGE PRESERVATION FOLLOWING MULTIPLE TOOTH EXTRACTIONS  
IN THE POSTERIOR MAXILLA IN A BISPHOSPHONATE PATIENT



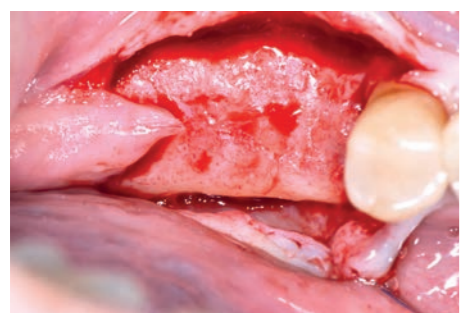
Multiple tooth extractions



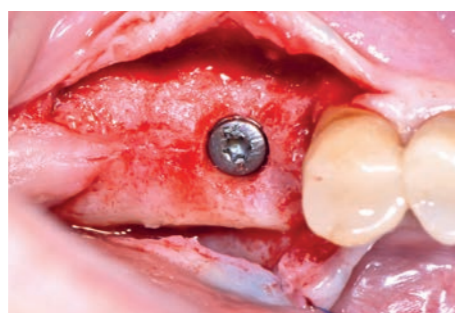
Grafting the defect area with cancellous maxgraft® +HyA (S)



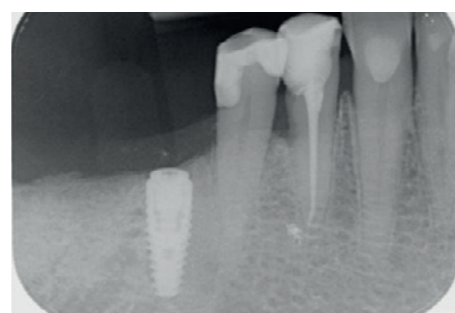
Covering with Jason® membrane and primary closure



Re-entry at four months showing vascularized dense bone



Implant placement



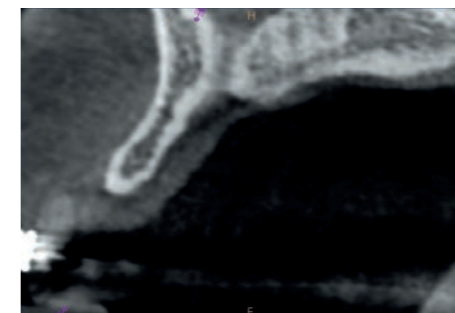
Post-operative control radiograph

**CLINICAL CASE BY** PD Dr. Dr. Frank Kloss, Lienz, Austria

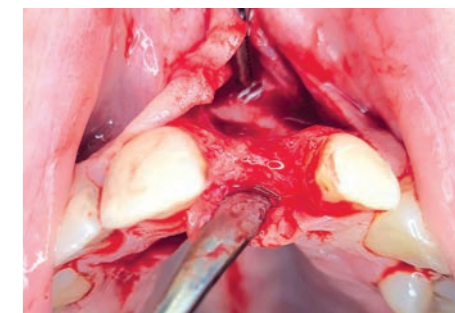
Cortico-cancellous maxgraft® +HyA – 2-STAGE GBR IN THE ANTERIOR MAXILLA



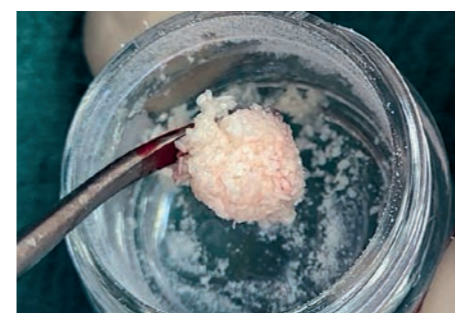
Missing central incisor



Initial situation – severe horizontal deficiency



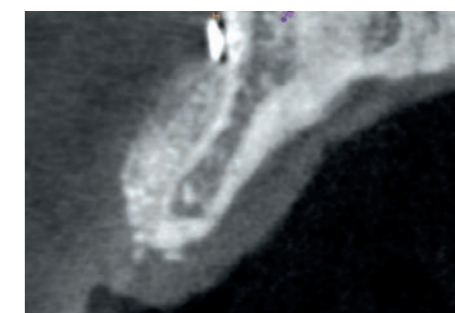
Defect site before grafting



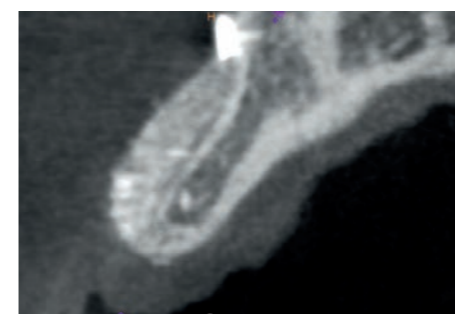
Cortico-cancellous maxgraft® +HyA upon rehydration with saline solution



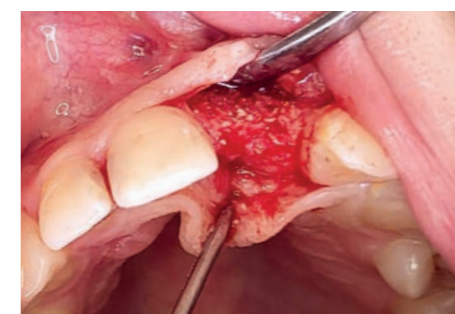
Applying the bone graft followed by coverage with Jason® membrane



Post-operative control radiograph



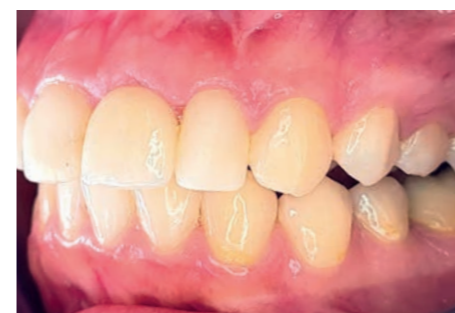
Control radiograph at three months showing stable bone volume and substantial increase in width



Re-entry and implant placement at six months



Stable conditions at one year follow-up



Clinically and aesthetically successful outcome

**CLINICAL CASE BY** Dr. Bartosz Matejkowski, Warsaw, Poland

Cortico-cancellous maxgraft® +HyA – IMPLANT PLACEMENT WITH SIMULTANEOUS LATERAL AUGMENTATION



Initial situation



Implant placement and tacking of Jason® membrane



Cortico-cancellous maxgraft® +HyA upon rehydration with saline solution



Graft application



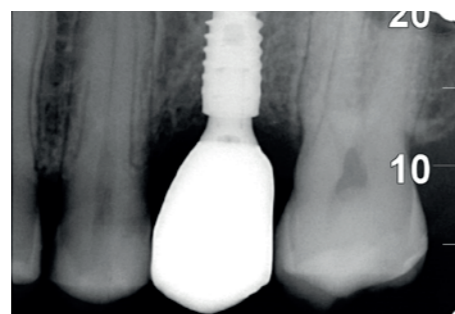
Primary closure



Five months post-operative healthy peri-implant soft tissue



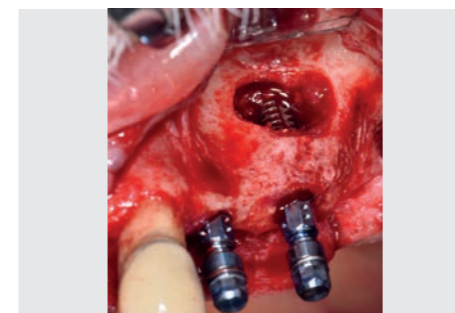
Five months post-operative definitive restoration



Control radiograph

**CLINICAL CASE BY** Dr. Reto Morger, Eschenbach, Switzerland

maxgraft® +HyA (L) and cerabone® plus (L) – SINUS LIFT WITH SIMULTANEOUS IMPLANT PLACEMENT AND LATERAL AUGMENTATION



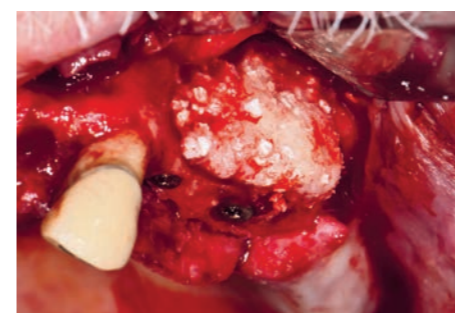
Preparation of the lateral window and implant placement



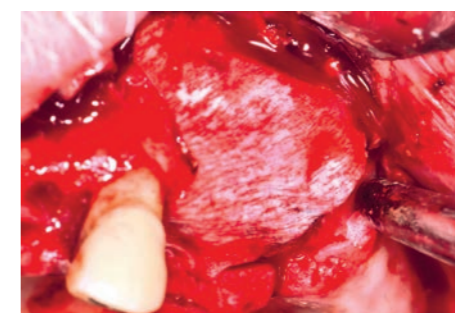
Mixing 1:1 maxgraft® +HyA (L) and cerabone® plus (L)



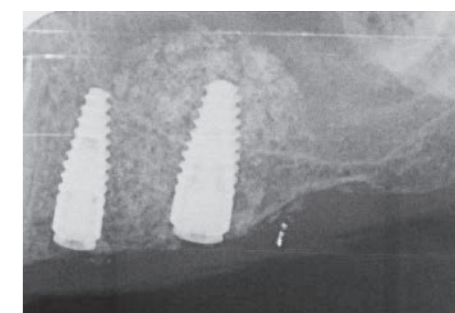
Grafting the maxillary sinus



Lateral augmentation



Coverage with Jason® membrane



Post operative control radiograph

**CLINICAL CASE BY** Dr. Sebastian Jędraszczyk, Szczecin, Poland

maxgraft® +HyA (XS) – FILLING JUMPING GAPS ALONG WITH IMMEDIATE IMPLANT PLACEMENT



Initial situation      Tooth extraction      Immediate implant placement



Filling the gaps with maxgraft® +HyA (XS)      Sealing-socket abutment (SSA) with mucoderm® punch      SSA in place



Immediate post-operative radiograph      Situation four months post-operative      Four months post-operative radiograph showing stable bone levels



Emergence profile      Definitive restoration      Radiograph with definitive restoration

**CLINICAL CASE BY** Dr. Sarah Schneider, Rostock, Germany

maxgraft® +HyA (XS) COMBINED WITH EMDOGAIN® – TREATMENT OF LOCALIZED PERIODONTAL DEFECT



Localized pockets and open furcation on tooth 16      Initial situation      Open flap scaling and root planning



Application of PREFGEL® (24% EDTA) and subsequent cleaning with saline solution      maxgraft® +HyA (XS) was hydrated as per protocol before being transferred to a conventional syringe      Applying Emdogain® on the root surface and augmentation with maxgraft® +HyA (XS)

CLINICAL CASE BY Dr. Sarah Schneider, Rostock, Germany

maxgraft® +HyA (XS) COMBINED WITH EMDOGAIN® – LOCALIZED PERIODONTAL DEFECT



Periodontal defect 36/37



Initial situation



Scaling and root planning



Application of PREFGEL® (24% EDTA) and subsequent cleaning with saline solution



Rehydration of maxgraft® +HyA (XS) and transferring it into a conventional syringe



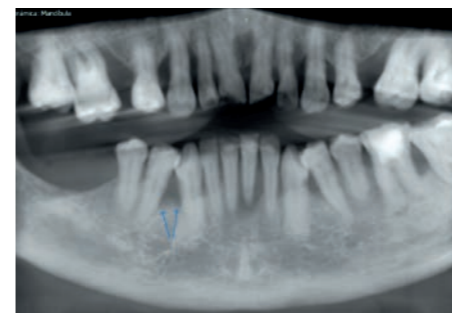
Application of Emdogain® on the roots, augmentation with maxgraft® +HyA (XS), and coverage with Emdogain®



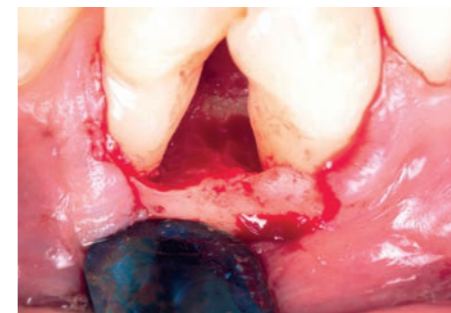
Wound closure with final Emdogain® application

CLINICAL CASE BY Dr. Stuardo Valenzuela Manfredi, Chile

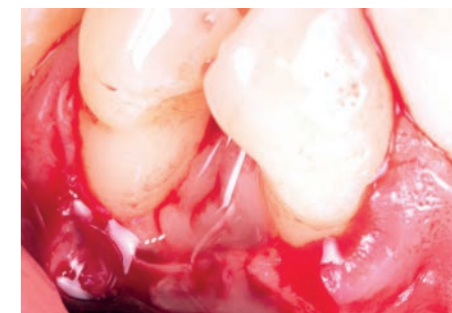
maxgraft® +HyA (XS) MIXED WITH EMDOGAIN® – INTRABONY DEFECT



Intrabony defect at tooth 45/46



Defect site after scaling and root planning



Application of PREFGEL® (24% EDTA) and subsequent cleaning with saline solution



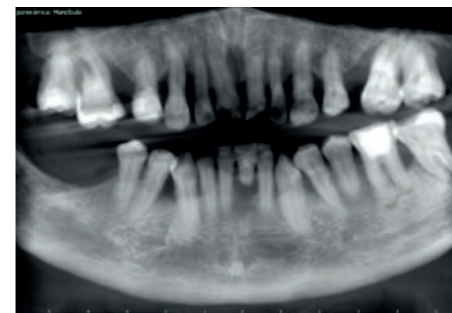
Augmentation with maxgraft® +HyA (XS) mixed with Emdogain®



17 days of healing



Situation six months post-operative showing stable gingival margin



Six months post-operative radiograph showing bone fill in the intrabony defect

boosting  
**dental**  
regeneration

cerabone<sup>®</sup> **plus**

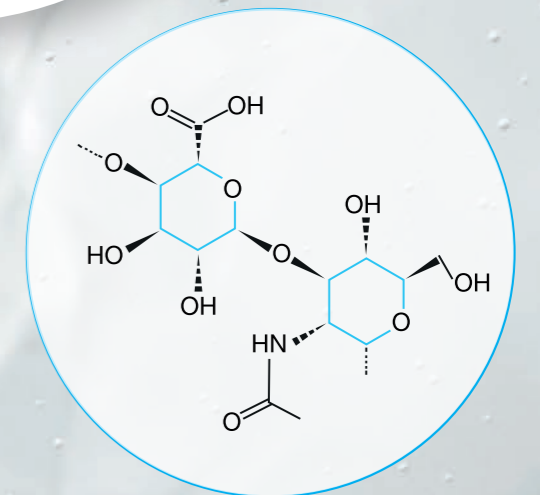
**100% PURE** BOVINE BONE MINERAL  
**WITH HYALURONATE**



maxgraft<sup>®</sup> **+HyA**

**ALLOGENIC** bone substitute material

**HyA**



**Hyaluronic Acid**

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education

hard tissue

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