

### **PROCESSED HUMAN ALLOGRAFT**

maxgraft<sup>®</sup> maxgraft<sup>®</sup> cortico maxgraft<sup>®</sup> bonebuilder maxgraft<sup>®</sup> bonering

bone & tissue regeneration botiss

### botiss regeneration system



### Development / Production / Distribution



maxresorb<sup>®</sup>

Synthetic biphasic

calcium phosphate

maxresorb<sup>®</sup>

bone paste

Synthetic injectable

iniect





cerabone® plus cerabone<sup>®</sup>

100% pure bovine bone mineral cerabone® mixed with hyaluronate



maxgraft<sup>®</sup>



maxgraft<sup>®</sup> cortico





maxgraft<sup>®</sup>

bonering

Processed

allogenic bone ring

Collagen hemostat (Cone)

maxgraft<sup>®</sup>

bonebuilder

Patient matched

allogenic bone

implant

(Sponge)



Collagen hemostat

Processed human allograft **INTRODUCTION** 

Various bone graft materials are available to replace and regenerate bone matrix lost by tooth extraction, cystectomy or bone atrophy following loss of teeth or inflammatory processes. Of all grafting options autologous bone is considered the "gold standard", because of its biological activity due to vital cells and growth factors.

Yet, the autologous bone from intra-oral donor sites is of restricted quantities and availability, and the bone tissue obtained from the iliac crest is described to be subject to fast resorption<sup>1</sup>. Moreover, the harvesting of autologous bone often requires a second surgical site associated with an additional bone defect and potential donor site morbidity<sup>2</sup>. Thus, application of processed allogenic bone tissue demonstrates a reliable and predictable alternative.

The immunological compatibility of processed allogenic bone is not different from autologous tissue<sup>3,4</sup>. In patients who received allogenic bone grafts for ridge augmentation, no circulating antibodies could be detected in blood samples<sup>5</sup>.

Moreover, several histological<sup>6,7</sup> and morphological studies<sup>8</sup> have well documented that there was no difference in the final stage of incorporation and new bone formation between allograft and autologous graft.

1. Mertens et al. (2013). Clinical oral implants research, 24(7), 820-825. 2. Palmer et al. (2008). West Indian Medical Journal, 57(5), 490-492. 3. Raggatt et al. (2010). Journal of Biological Chemistry, jbc-R109. 4. Turner et al. (1981). Journal of periodontal research, 16(1), 89-99 5. Quattlebaum et al. (1988). Journal of periodontology, 59(6), 394-397 6. Al-Abedalla et al. (2015). Journal of Oral and Maxillofacial Surgery, 73(11), 2108-2122. Laino et al. L. (2014). BioMed research international, 2014.
 Schlee et al. Head Face Med. 2014 May 28;10(1):21.

NOVAMag®

Resorbable magnesium screw NOVAMag® membrane Resorbable magnesium membrane

permamem® High-density PTFE barrier membrane

Jason® membrane Native pericardium GBR / GTR

nembrane



membrane

mucoderm<sup>®</sup> 3D-stable soft tissue

graft (Collagen)





#### Classification

#### **Autologous:**

- Patient's own bone, mostly harvested intra-orally or from the iliac crest
- Intrinsic biological activity

#### **Allogenic:**

- Bone from human donors (post mortem donors or femoral heads of living donors)
- Natural bone composition and structure

#### **Xenogenic:**

- From other organisms, mainly bovine origin
- Long-term volume stability

#### Alloplastic:

- Synthetically produced, preferably calcium phosphate ceramics
- No risk of disease transmission

## Cells+Tissuebank Austria



# Tissue donation and procurement

maxgraft<sup>®</sup> - the allogeneic bone grafting materials from botiss, all originate from the Cells<sup>+</sup>Tissuebank Austria (C<sup>+</sup>TBA). C<sup>+</sup>TBA is a non-profit organization for the medical supply of allografts to surgeons under pharmaceutical conditions. C<sup>+</sup>TBA serves as a platform for the definition of safety standards and assurance of compliance with defined product qualities. As the largest tissue bank in Austria, C<sup>+</sup>TBA specializes in human bone tissue.



The quality standards for donor selection, procurement, processing, quality control, storage and distribution of human tissue and cells are mandatory committed in the European Directives 2004/23/EC, 2006/17/EC and 2006/86/EC. In addition, at the national level, the legal requirements are defined by the Austrian Tissue Safety Act (GSG).



To meet and comply with both European and national requirements, C<sup>+</sup>TBA has implemented a quality assurance system at pharmaceutical level, which is regularly audited by the competent national authority, the Austrian Federal Office for Safety in Health Care (BASG / AGES).

The C⁺TBA is certified as a tissue bank according to §19 and §22 of the Austrian Tissue Safety Act.





maxgraft<sup>®</sup> products basically originate from living donors by explantation of femoral heads (hip replacement surgery). Only cortico-cancellous blocks and cortical struts originate from post mortem tissue donors.

The procurement, standardized by a predefined protocol, is carried out by certified procurement centers according to the European Directives. Tissue donations will only be carried out after the donor's written consent. In addition, the health status of the potential donor is assessed in the context of a risk analysis and the donor is then selected on the basis of strict exclusion criteria. For all donors the highest ethical and safety-related requirements are met.

#### SEROLOGICAL TESTING

Virus	Test	Specification
Hepatitis B Virus (HBV)	HBsAg,HBcAb, NAT	negative
Hepatitis C Virus (HCV)	Ab, NAT	negative
Human Immunodeficiency Virus (HIV 1/2)	Ab, NAT	negative
Human T-Lymphotropic virus (HTLV 1/2)	Ab, NAT	negative
Virus	Test	Specification
Treponema pallidum (Lues)	CMIA, TP Ab	negative





Donor tissue is only approved for processing after having passed a thorough inspection including a strict serological screening protocol

After donor acceptance a series of serological testing is performed. In addition to antibody screening (Ab), nucleic acid tests (NAT) are performed. By using this method infections can be identified before antibodies are detected in the blood<sup>9</sup>.

.....

Blood samples are taken simultaneously to tissue explantation during total hip replacement surgery or within 24h post mortem

## **NATURAL BONE** Composition and structure

Thanks to its natural bone composition consisting of mineralized human collagen, maxgraft<sup>®</sup> shows a high biological regeneration capability in combination with natural remodelling. Therefore maxgraft® is an excellent alternative to autologous bone, meaning that there is no need for an intraoral surgical donor site, which reduces morbidity for the patient<sup>10,11,12</sup>.

#### MINERALIZED HUMAN COLLAGEN

The purification process retains the natural collagen matrix and biomechanical properties of the bone tissue. The natural collagen (~30%) of the organic phase provides the flexibility of the allogenic material; the mineral phase (~70%, mostly hydroxyapatite) provides the stability. The microscopic pores within the material ensure rapid rehydration of the grafting material<sup>13, 14</sup>.

#### SAFETY AND QUALITY

After thorough donor anamnesis, maximum safety is assured via a series of strict serological testing combined with the C+TBA's Allotec® purification procedure. The final sterilization by gamma irradiation guarantees a sterility assurance level (SAL) of 10<sup>-6</sup> while ensuring structural and functional integrity of the product and its packaging within a shelf-life of 5 years at 5-30°C.

# **THE ALLOTEC® PROCESS** maxgraft<sup>®</sup> – Manufacturing process

Gentle purification procedure (only volatile reagents) preserves the material's structure<sup>13,14</sup>



10. Kloss et al. Clin Oral Implants Res 2018, 29(11):1163-1175. Kloss et al. Clin Case Rep. 2020, 8(5):886-893.
 Tunkel et al. Clin Case Rep. 2020, 9(2):947-959.
 Trajkovski et al. Materials 2018, 11(2):215. 14. Barbeck et al. Materials 2019, 12(19):3234.

The defatting of the donor tissue with ultrasonic bath allows moderate penetration of solvents during subsequent processing.

> A treatment with alternating durations of diethyl ether and ethanol leaches out cellular components and denatures non-collagenic proteins, thereby inactivating potential viruses.

An oxidative treatment further denatures persisting soluble proteins, thereby eliminating potential antigenicity.

Freeze-drying preserves the natural structure of the tissue and maintains a residual moisture of <10%, allowing quick rehydration and easy handling.

# maxgraft®

#### INDICATIONS

#### Implantology, Periodontology and Oral and CMF Surgery

- Regeneration of periodontal osseous defects
- Regeneration after cyst and root tip resections
- Regeneration of extraction sockets
- Regeneration of missing bone tissue around dental implants
- Regeneration of gaps around block grafts
- Sinus augmentation
- Horizontal augmentation of alveolar ridges
- Three-dimensional (horizontal and/or vertical) augmentation of alveolar ridges

#### PROPERTIES

- Bone from human donors (living donors: femoral heads, post mortem donors: diaphysis)
- Natural bone composition mineralized human collagen
- High biological regeneration capability and natural remodelling<sup>15</sup>
- 5 years shelf-life at 5-30°C



### **CLINICAL CASE BY** Dr. Algirdas Puišys, Vilnius, Lithuania

### **BUCCAL AUGMENTATION WITH MAXGRAFT® GRANULES AFTER IMMEDIATE IMPLANT PLACEMENT**



Initial situation, 36 year old

lady



Atraumatic extraction



Flapless implant placement



Occlusal view

#### **CLINICAL CASE BY**

Dr. Fernando Rojas-Vizcaya, Castellón, Spain

#### SOCKET PRESERVATION WITH MAXGRAFT® GRANULES





Clinical situation in the maxilla before extraction

Situation after tooth extraction and mobilization of mucosal flap



Rehydrated maxgraft®



Filing the gap with maxgraft®



Soft tissue thickening with mucoderm®



Soft tissue thickening with mucoderm®



Tension-free wound closure



Four months post-operative: bone is at the level of the planned crowns



Immediate temporary



Immediate temporary



After 3 months



3 years after prosthetic delivery



Insertion of four implants



Placement of abutments



After surgery







3 years after







After immediate loading protocol: prosthesis will guide soft tissue during healing process





#### CLINICAL APPLICATION OF MAXGRAFT®



Augmentation of the maxillary ridge and filling of extraction sockets with maxgraft® granules. Placement of mucoderm® to improve soft tissue situation and Jason® membrane to cover surgical site



Mobilization and pre-fixation of the surrounding soft tissue



Clinical situation four months post-operative



Maxillary ridge in situ after preparation of mucosal flap



Positioning of prosthesis



Closure of mucosal flap

### **CLINICAL CASE BY** Dr. Ross Cutts, Cirencester, UK

#### **BLOCK AUGMENTATION WITH MAXGRAFT® IN THE MAXILLA**



Clinical preoperative situation











Covering with Jason® membrane

#### **CLINICAL CASE BY**

Dr. Hassan Maghaireh, Leeds, UK

### **BLOCK GRAFTING IN THE AESTHETIC ZONE WITH** A UNI-CORTICAL MAXGRAFT® BLOCK





Full thickness flap and degranulation

Shaping and preparing the uni-cortical maxgraft® block





PRGF matrices for the promotion Tension-free wound closure of wound healing



Two weeks post operative: complication-free wound healing



Implantation by Straumann BLT implant 3.3 mm



Flap closure using 5/0 monofilaments Prolene sutures



After six months healing healthy soft tissue contour, satisfactory convexity



Application of enamel matrix derivative



Eight weeks post operative: good soft tissue situation



Screw-retained crown with customized CAD/CAM abutment



Fit of final restoration



GBR at re-entry - added cerabone<sup>®</sup> small particles to increase the convexity. Jason® membrane stabilised with titanium pins and sutured palatally



5 year post op CBCT - Axial view at the coronal 2 mm level



Final implant impression with Straumann RC customised impression pick up with an open tray for final screw retained implant crown on UL1 and Porcelain veneer on UR1



5 year post op CBCT - Coronal view showing implant

#### CLINICAL APPLICATION OF MAXGRAFT®



Stabilisation of the bone block with two 10 mm fixation screws placed oblique



Layer of maxgraft<sup>®</sup> cancellous particles used to fill any gaps and covering with Jason® membrane



Post op CBCT shows sufficient augmentation



Prosthetic driven implant placement Straumann Roxolid BLT



Final fit of screw retained implant 5 years clinical review - stable crown with CAD/CAM Ti abutment on UL1 and Porcelain veneer on UR1. Lab work: Guglielmo Parziale - Napoli - Italy



outcome

### maxgraft<sup>®</sup> cortico SHELL TECHNIQUE WITH **ALLOGENIC BONE PLATES**

### maxgraft<sup>®</sup> cortico is a prefabricated plate made of processed allogenic bone. Similarly to the autogenous bone, it can be used for the shell technique.

maxgraft® cortico was developed to avoid the donor-site morbidity and to prevent the time-consuming harvesting and splitting of autologous cortico-cancellous bone plates.

#### Preparation of the augmentation area





The proper size of the plate is estimated after the elevation of the mucosal flap or preoperatively using a digital planning software. Rehydration is recommended (10 min in saline solution). Using a diamond disc, the plate is then cut extraorally.

#### **Fixation and adaption**







To create a fixed compartment, maxgraft® cortico must be positioned immobile in the adequate distance but still in contact with the local bone. Based on the ideal implant position, the strut should be positioned with at least a 1 mm distance to the implant surface when placed laterally. To prevent perforations of the soft tissue, sharp edges need to be removed, e.g. by using a diamond ball.



Augmentation of a frontal mandibular defect

#### **INDICATIONS:**

#### Implantology, Oral and CMF Surgery

- Vertical augmentation
- Horizontal augmentation
- Complex three-dimensional augmentations
- Single tooth gaps
- Fenestration defects

More details on the surgical procedure on:

#### **BOTISS-DENTAL.COM**

### The shell technique with maxgraft<sup>®</sup> cortico

#### Filling and wound closure



The space between local bone and cortical plate can be filled with a variety of different particulated bone grafting materials, autologous or allogenic granules are recommended<sup>10,11</sup>. Then, the augmentation area needs to be covered with a barrier membrane (e.g. Jason® membrane, collprotect® membrane) and a tension-free and saliva-proof closure must be applied.



Six months after augmentation, stable integration of the plate

PROPERTIES - Standardized size - 5 years shelf life at 5-30°C

#### Product Specifications

maxgraft<sup>®</sup> cortico

ArtNo.	Dimension	Content
31251 31253 *: post mo	cortical strut, 25 x 10 x 1 mm* cortical strut, 25 x 10 x 1 mm* rtem donors	1 x 3 x 1
cortico	trimmer	
ArtNo.	Content	

1 x 34000 cortico trimmer



#### **ADVANTAGES**

- Significant reduction of operation time - No donor-site morbidity



### **CLINICAL CASE BY** Dr. Robert Würdinger, Marburg, Germany

#### **COMPLEX THREE-DIMENSIONAL AUGMENTATION**

#### **CLINICAL CASE BY**

Jan Kielhorn, Oehringen, Germany

#### FREE-END SITUATION IN THE MANDIBLE



Preoperative CBCT-scan; vestibular view



Situation after defect uncovering: careful detachment of the lingual mucosa from the suprahyoid muscles for flap mobilization



Combined horizontal and vertical 3D-bone augmentation with the shell technique. Adaptation of the cortical plates and fixation with 1 mm microscrews



Defect fill and contouring using autologous and allogenic (maxgraft<sup>®</sup>) particles. Covering of the augmentation site with Jason<sup>®</sup> membrane



Additional application of L-PRF matrices for improved wound healing



Saliva-tight and tension-free wound closure by a combination of horizontal mattress and single button sutures



Implantation of two implants in accordance to the attachment level of the neighboring teeth



Situation after re-entry via stab incision with soft tissue displacement



Final dental crowns with temporary restoration of the screw channels





Clinical situation

Fixation of maxgraft<sup>®</sup> cortico, taking into account the bone level of the next tooth and





Filling of the defect

Contouring with particles also outside of maxgraft® cortico to prevent soft tissue perforations



Implant insertion eight months after augmentation





Covering with PRF matrix





OPG post-implantation

Emergence profile prior to installation of provisionals



#### CLINICAL APPLICATION OF MAXGRAFT® CORTICO



Adequate distance to the local bone, angulated positioning of the screws and application of thorough removal of sharp edges the groove technique



Mix of allograft and autogenous bone chips



OPG post-augmentation



Uneventful soft tissue healing



Soft tissue improvement with mucoderm<sup>®</sup> crestally and laterally



Tension-free wound closure



Provisional restoration in place

### maxgraft<sup>®</sup> bonebuilder CUSTOMIZED **ALLOGENIC BONE BLOCK**



With maxgraft<sup>®</sup> bonebuilder, harvesting of autologous bone and manual adjustment of the obtained block is no longer required for the treatment of extensive defects. Donor site morbidity, operation time and costs can be significantly reduced.

#### **PROPERTIES**

- Natural mineralized collagen
- Fast graft incorporation and complete remodelling potential
- 5-6 months healing-/ integration time
- 5 years shelf life at 5-30°C

#### **INDICATIONS:**

#### Implantology, Oral and CMF Surgery

- Horizontal and vertical augmentation
- Extensive bone defects

#### Product Specifications

maxgraft<sup>®</sup> bonebuilder

#### Art.-No. Content

Individual planning and production of a bone block max. dimensions 23 x 13 x 13 mm PMIa PMIa2 additional block(s) for this patient

bonebuilder dummy

#### Art.-No. Content

32100 Individual 3D printed model of the patient's defect including the planned maxgraft<sup>®</sup> bonebuilder block(s) for demonstration purposes, material: synthetic filament



The CT/CBCT-data of the bone defect is transfered into a 3D model



Based on this model botiss designs a virtual block, which matches the surface structure of the defect and allows stable implant insertion after 5-6 months healing time



The customized maxgraft® bonebuilder block allows precise horizontal and vertical reconstruction of the atrophic ridge

## The maxgraft<sup>®</sup> bonebuilder technology



#### In-house planning

botiss virtually designs the patient customized allogenic bone block based on the CT/CBCT-scan of the bone defect.

#### 1. Upload of CT/CBCT-data on

www.botiss-bonebuilder.com

After registration, CT/CBCT-data of the patient can be uploaded on

the botiss server. All radiological data have to be single-frame data

images. The only data type suitable for 3D planning is DICOM (\*.dcm).

#### 2. Block design

botiss designers create a three-dimensional model of the radiological images and design a virtual bone block in consultation with the clinical user.

#### 3. Design quality check

The clinical user receives a 3D PDF file containing the virtually constructed maxgraft® bonebuilder block and has to confirm its design.

#### 4. Individual order

The production of the block starts after the clinical user fills in the patient based order form for the bone block to the attention of botiss biomaterials.

#### **5. Production of the individual bone block**

Each individual maxgraft® bonebuilder is milled from a processed allogenic cancellous block under cleanroom conditions, doublepackaged and sterilized using gamma irradiation.



The maxgraft<sup>®</sup> bonebuilder technology allows complex reconstruction in cases of extensive jaw atrophy



Each block is designed individually according to the defect and the desired dimension of the augmentation

### **CLINICAL CASE BY** Dr. Oliver Blume, Munich, Germany

#### **RIDGE AUGMENTATION IN THE MAXILLA**



Pre-operative clinical and radiological situation before augmentation



3D reconstruction of the bone defect and planned maxgraft® bonebuilder blocks



Severe ridge atrophy



Fixation and contouring with allogenic particles



Covering with Jason® membrane and one layer of PRF matrices



Tension-free wound closure



Perfect fit and fixation on right side



CBCT six months post-operative



5 months post-operative clinical situation



Extended alveolar ridge width for Temporary restoration stable implant placement





#### **RIDGE AUGMENTATION IN THE AESTHETIC ZONE**





Clinical situation before augmentation

Complex bone defect of the buccal wall





Contouring with cerabone® and

covering with Jason® membrane



Osseointegrated implants at



Three years follow-up: stable situation



re-entry



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#### CLINICAL APPLICATION OF MAXGRAFT® BONEBUILDER



3D reconstruction of the bone defect and planned maxgraft® bonebuilder



maxgraft<sup>®</sup> bonebuilder





Pre-operative CBCT scan and five months post-operative outcome

# maxgraft<sup>®</sup> bonering

### PROCESSED ALLOGENIC BONE RING

maxgraft<sup>®</sup> bonering is a pre-fabricated cancellous ring of human donor bone, which is placed press-fit into a trephine drill-prepared ring bed. At the same time, an implant is inserted into the ring. The bony integration of both, maxgraft<sup>®</sup> bonering and the implant, occurs via the surrounding vital bone.

#### Preparation of ring bed



After determination of the position of the implant by the planator tip and the pilot drill, the ring bed is prepared with the trephine. Subsequently, the planator allows even paving of the local bone for optimal contact with maxgraft® bonering and in addition, removes the cortical layer for improved graft revascularisation. Rehydration is recommended (10 min in saline solution).

The bone ring technique allows bone augmentation and implantation in a one-stage procedure. The technique is applicable for almost all indications, including sinus lift with limited maxillary bone height.

entry.



The height of maxgraft<sup>®</sup> bonering is adjustable to the defect



The Bone Ring Technique enables vertical bone augmentation and direct implantation

### **ADVANTAGES**

**INDICATIONS:** 

Single tooth gap

Edentulous space

Sinus lift (4 mm – 1 mm

residual bone height)

Vertical augmentation (in combination with horizontal augmentation)

Implantology

- Simultaneous implant placement and bone
- No second surgical procedure

# Simultaneous bone augmentation and implant placement

#### Smoothing



Sharp edges should be smoothened to avoid soft tissue perforation and to support wound healing. Moreover, maxoraft® bonering should be covered with a slowly resorbable bone regeneration material (e.g. cerabone®) to fill the residual defect volume and to avoid potential adaption resorption of the graft

#### Soft tissue management



After covering of the graft with a collagen membrane (e.g. Jason® membrane) a tension-free suturing of the operation site must be assured to avoid tissue perforation and graft exposure

#### maxgraft<sup>®</sup> bonering surgical kit

With this surgical kit, botiss provides all necessary instruments to apply the maxgraft<sup>®</sup> bonering technique. The kit includes two convenient sizes of trephines, which precisely fit together with the maxgraft<sup>®</sup> bonering diameters.

The planators allow paving of the local bone to create a congruent and fresh contact surface of the implant area. The diamond disc and the diamond tulip help to shape the maxgraft® bonering for excellent adjustment to the local bone and for improved soft tissue healing. Altogether, these instruments allow optimal preconditions for the bony ingrowth of maxgraft® bonering. All instruments are made of high quality surgical steel.





Immediate implant insertion through maxgraft<sup>®</sup> bonering ensures primary stability of implant and graft

with i.e. bone blocks, this technique reduces the entire treatment period by several months and saves the re-

- Compared to the classical, two-stage augmentation
  - augmentation
    - Significant reduction of
    - treatment time







3 mm

#### **Product Specifications**

maxgra (Height 10	aft <sup>®</sup> bonering 3.3 mm, recommended for implant diameters from	3.3 - 3.5 mm)
ArtNo.	Dimension	Content
33160 33170	cancellous ring, Ø 6 mm cancellous ring, Ø 7 mm	1 x 1 x
maxgra (Height 10	aft <sup>®</sup> bonering 4.1 mm, recommended for implant diameters fron	n 4.1-4.5 mm)
ArtNo.	Dimension	Content
33174	cancellous ring, Ø 7 mm	1 x
maxgra	aft® bonering surgical kit	
Aut Ma		Contract

ArtINO.	
33000	trephine
	trophino

3000	trephine, 7 mm	1:	×
	trephine, 6 mm	1:	×
	planator, 7 mm	1)	<
	planator, 6 mm	1 >	×
	diamond disc, 10 mm	1)	×
	diamond tulip, 3 mm	1:	X

Content

#### **CLINICAL CASE BY** Amit Patel, Birmingham, United Kingdom

#### **BONE AUGMENTATION AND IMPLANTATION IN SINGLE-TOOTH GAPS**

Restoration of buccal bone lamella with maxgraft® bonering







Initial situation shows bone loss due to lack of physical load of bridge Clinical situation at time of retained region 11

entry shows loss of buccal bone lamella



Pilot drill to determine later implant position



Trephine drill 7 mm for maxgraft® bonering 7 mm



After preparation with the planator, the necessary length of maxgraft® bonering 7 mm is estimated



Cutting maxgraft<sup>®</sup> bonering to the required size with bonering fix



Implant bed preparation through maxgraft<sup>®</sup> bonering



Placing the implant in order to fixate maxgraft<sup>®</sup> bonering



Smoothing the edges of maxgraft<sup>®</sup> bonering



maxgraft<sup>®</sup> bonering and implant in place



PrefGel<sup>®</sup> applied as root surface conditioner



Application of enamel matrix derivative for regeneration of bone around the roots of adjacent teeth

slow down resorption of the bone



Jason<sup>®</sup> membrane to protect the bone graft from soft tissue ingrowth



Rest of enamel matrix derivative applied to support wound healing

Four weeks after surgery eventless healing and healthy



Visit us on: botiss-CAMPUS.com

soft tissue

For more clinical cases, videos and handling tips visit: **INDICATION-MATRIX.COM** 

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#### CLINICAL APPLICATION OF MAXGRAFT® BONERING



cerabone<sup>®</sup> granules for contouring the defect and to help



Mobilization of soft tissue; double layered



Flap is sutured with mattress suture to prevent micromovements



Sutured free of tension





Prosthetic restoration six months after surgery with aesthetical outcome

# **Continuing education**

### **Product Specifications**



# maxgraft®

maxgraft<sup>®</sup> cancellous granules maxgraft<sup>®</sup> cortico-cancellous granules

maxgraft<sup>®</sup> blocks

ArtNo.	Particle Size	Content	ArtNo.	Particle Size	Content	ArtNo.	Dimension	Content
30005 30010 30020 30040	< 2.0 mm < 2.0 mm < 2.0 mm < 2.0 mm	1 x 0.5 ml 1 x 1.0 ml 1 x 2.0 ml 1 x 4.0 ml	31005 31010 31020 31040	< 2.0 mm < 2.0 mm < 2.0 mm < 2.0 mm	1 x 0.5 ml 1 x 1.0 ml 1 x 2.0 ml 1 x 4.0 ml	31111 31112	uni-cortical*, 10 x 10 x 10 mm uni-cortical*, 20 x 10 x 10 mm	1 x Block 1 x Block
30005S 30010S 30020S 30040S	0.25 - 1.0 mm 0.25 - 1.0 mm 0.25 - 1.0 mm 0.25 - 1.0 mm	1 x 0.5 ml 1 x 1.0 ml 1 x 2.0 ml 1 x 4.0 ml	31005S 31010S 31020S 31040S	0.25 - 1.0 mm 0.25 - 1.0 mm 0.25 - 1.0 mm 0.25 - 1.0 mm	1 x 0.5 ml 1 x 1.0 ml 1 x 2.0 ml 1 x 4.0 ml	32111 32112	cancellous, 10 x 10 x 10 mm cancellous, 20 x 10 x 10 mm	1 x Block 1 x Block
30005L 30010L 30020L 30040L	1.0 - 2.0 mm 1.0 - 2.0 mm 1.0 - 2.0 mm 1.0 - 2.0 mm	1 x 0.5 ml 1 x 1.0 ml 1 x 2.0 ml 1 x 4.0 ml	31005L 31010L 31020L 31040L	1.0 - 2.0 mm 1.0 - 2.0 mm 1.0 - 2.0 mm 1.0 - 2.0 mm	1 x 0.5 ml 1 x 1.0 ml 1 x 2.0 ml 1 x 4.0 ml			

Living donors \*: post mortem donors

Tissuebank: Cells+Tissuebank Austria, Krems, Austria

## maxgraft<sup>®</sup> bonering

ArtNo.	Dimension	Content
33160	cancellous ring 3.3 ø 6 mm*	1 x
33170	cancellous ring 3.3 ø 7 mm*	1 x
33174	cancellous ring 4.1 ø 7 mm**	1 x

\* Height 10 mm, recommended for implant diameters from 3.3 - 3.5 mm \*\* Height 10 mm, recommended for implant diameters from 4.1- 4.5 mm

# maxgraft<sup>®</sup> bonering surgical kit

ArtNo.	Dimension	Content
33000	trephine 7 mm	1 x
	trephine 6 mm	1 x
	planator 7 mm	1 x
	planator 6 mm	1 x
	diamond disc, 10 mm	1 x
	diamond tulip, 3 mm	1 x

bonebuilder dummy

#### Art.-No. Content

26

32100 Individual 3D-printed model of the patient's defect and the planned bonebuilder for demonstration purposes made of synthetic



### maxgraft<sup>®</sup> bonebuilder

#### Art.-No. Content

 PMIa
 Individual planning and production of a bone block max. dimensions 23 x 13 x 13 mm additional block(s) for the same patient

# maxgraft<sup>®</sup> cortico

	0	
ArtNo.	Dimension	Conter
31251 31253	cortical strut, 25 x 10 x 1 mm cortical strut, 25 x 10 x 1 mm	1 x 3 x 1

\*: post mortem donors











1 x

# Innovation. Regeneration. Aesthetics.

### soft tissue

education

hard tissue

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