



**OsteoBiol<sup>®</sup>**  
by Tecnos

## Bone Grafting Materials

USED IN MORE THAN 400 000 SURGERIES | DISTRIBUTED IN OVER 60 COUNTRIES  
STRONG SCIENTIFIC BACKGROUND | EXTRAORDINARY CLINICAL RESULTS

REGENERATION SCIENCE

INSPIRED BY NATURE

## TECNOSS®: A UNIQUE PROCESS THAT ACCELERATES AND GUIDES NATURAL BONE REGENERATION

Tecnoss® developed and patented a unique biotechnology that prevents the ceramization phase of natural bone and preserves the tissue collagen, allowing an osteoclastic-type remodelling of the biomaterial similar to physiological bone turnover and delivering a product endowed with characteristics very similar to human mineral bone<sup>(1)</sup>.

**The combination of these factors allows a consistent new bone formation and a close contact between neo-formed bone and biomaterial granules.**

## COLLAGEN: A KEY FACTOR FOR BONE REGENERATION

Collagen has a key role in bone regeneration process in that:

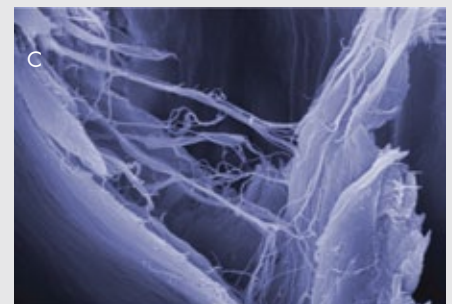
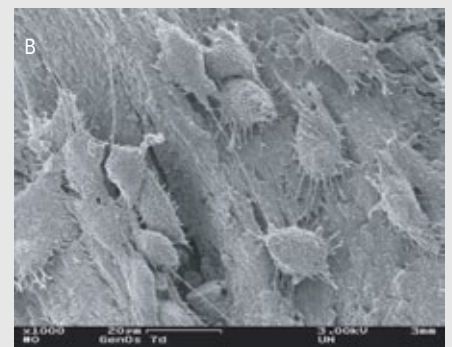
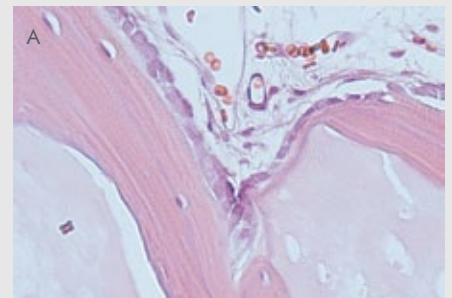
- it acts as a valid substrate for platelet activation and aggregation
- it serves to attract and differentiate the mesenchymal stem cells present in the bone marrow<sup>(2)</sup>
- it increases the proliferation rate of the osteoblasts up to 2/3 times<sup>(3)</sup>
- it stimulates the activation of the platelets, osteoblasts and osteoclasts in the tissue healing process

## OSTEOBIOL®: UNIQUE COLLAGENATED BIOMATERIALS

Thanks to the innovative Tecnoss® technology, the OsteoBiol® line has the following important characteristics:

- absence of a foreign body response<sup>(4)</sup>
- gradual resorption over time<sup>(5,6)</sup>
- stimulation/acceleration of physiological tissue healing process<sup>(2)</sup>
- protection of the grafting site from infection (membranes)<sup>(7)</sup>
- capability of carrying medication to the surgical site<sup>(8)</sup>

The Tecnoss® new generation of biomaterials, thanks to a revolutionary technology, goes beyond the simple role of aiding natural bone regrowth by stimulating and accelerating this vital physiological process.



A | Image showing bone formation on collagenated porcine bone granules (OsteoBiol® Gen-Os®) 2 weeks after implantation in a rabbit. Staining hematoxyline-eosine. Original magnification x40. Courtesy of Prof U Nannmark and L Sennerby, Göteborg University, Sweden

B | SEM image of an OsteoBiol® Gen-Os® granule colonized by osteoblasts from a cell-line (MG63). Courtesy of Prof U Nannmark, Göteborg University, Sweden

C | OsteoBiol® membrane collagenic structure. Courtesy of Nobil Bio Ricerche, Villafranca d'Asti, Italy

(1) Figueiredo M et al. J Biomed Mater Res B Appl Biomater, 2010 Feb; 92(2):409-419

(2) Brunelli G et al. Eur J Inflamm, 2011, Vol. 9, no. 3 (S), 103-107

(3) Hsu FY et al. Biomaterials, 1999, 20:1931-1936

(4) Crespi R et al. Int J Oral Maxillofac Implants, 2011 Jul - Aug; 26(4):866-72

(5) Nannmark U, Sennerby L. Clin Implant Dent Relat Res, 2008 Dec; 10(4):264-70

(6) Barone A et al. Clin Implant Dent Relat Res, 2012 Jun; 14(3):373-9

(7) Barone A et al. Clin Oral Implants Res, 2013 Nov; 24(11):1231-7

(8) Fischer K et al. Clin Oral Implants Res, 2015 Oct; 26(10):1135-42. Epub 2014 Sep 15



# The OsteoBiol® product family

INNOVATIVE TECHNOLOGY PRODUCTS

## Gen-Os®



### COLLAGENATED HETEROLOGOUS CORTICO-CANCELLOUS BONE MIX

Natural replicate of autologous bone, Gen-Os® maintains the same intimate structures (matrix and porous form) and presents high osteoconductive properties providing support in bone neo-formation and helping to preserve the original graft shape and volume.

**Tissue of origin** | Cortico-cancellous heterologous bone mix  
**Tissue collagen** | Preserved  
**Physical form** | Slightly radiopaque granules  
**Composition** | 100% granulated mix  
**Granulometry** | 250-1000 µm  
**Re-entry time** | 4/5 months  
**Packaging** | Vial: 0.25 g, 0.5 g, 1.0 g, 2.0 g  
**GMDN:** 38746

## mp3®



### PRE-HYDRATED COLLAGENATED HETEROLOGOUS CORTICO-CANCELLOUS BONE MIX

Gradually resorbable granules mixed with collagen gel. Available in ready-to-use syringes can be easily grafted avoiding the hydration and manipulation phases decreasing the risk of accidental exposure of material to pathogens.

**Tissue of origin** | Cortico-cancellous heterologous bone mix  
**Tissue collagen** | Preserved plus an additional 10% collagen gel  
**Physical form** | Pre-hydrated granules and collagen gel  
**Composition** | 90% granulated mix, 10% collagen gel  
**Granulometry** | 600-1000 µm  
**Re-entry time** | About 5 months  
**Packaging** | Syringe: 1.0 cc, 3x0.25 cc, 3x0.5 cc, 3x1.0 cc  
**GMDN:** 38746

## Putty



### PRE-HYDRATED COLLAGENATED HETEROLOGOUS CORTICO-CANCELLOUS BONE PASTE

Made with an exclusive process that provides the product with exceptional malleability and plasticity, Putty easily adapts to sockets and peri-implant defects (with walls).

**Tissue of origin** | Cortico-cancellous heterologous bone mix  
**Tissue collagen** | Preserved plus an additional 20% collagen gel  
**Physical form** | Plastic consistency composed of collagen gel loaded with 80% micronized bone mix  
**Composition** | 80% granulated mix, 20% collagen gel  
**Granulometry** | Up to 300 µm  
**Re-entry time** | About 4 months  
**Packaging** | Syringe: 0.5 cc, 1.0 cc, 3x 0.25 cc, 3x 0.5 cc  
**GMDN:** 38746

## Gel 40



### PRE-HYDRATED COLLAGENATED HETEROLOGOUS CORTICO-CANCELLOUS BONE GEL

The characteristics of viscosity and density of Gel 40 facilitate handling of the product by the operator, providing a glue-like support.

**Tissue of origin** | Cortico-cancellous heterologous bone mix  
**Tissue collagen** | Preserved plus an additional 40% collagen gel  
**Physical form** | Collagen gel type I and III loaded with 60% bone mix  
**Composition** | 60% granulated mix, 40% collagen gel  
**Granulometry** | Up to 300 µm  
**Re-entry time** | About 4 months  
**Packaging** | Syringe: 0.5 cc, 3x0.5 cc  
**GMDN:** 38746

## Evolution



### HETEROLOGOUS COLLAGEN MEMBRANE

Obtained from mesenchymal tissue and completely resorbable, its structure is made of dense collagen fibers of high consistency and of extraordinary resistance that offer the specialist surgeon the maximum adaptability to bone tissue and soft tissues.

**Tissue of origin** | Heterologous mesenchymal tissue  
**Tissue collagen** | Preserved  
**Physical form** | Dried membrane with one smooth side and one micro-rough side  
**Thickness** | Fine: 0.3 mm (±0.1 mm), Standard: 0.5 mm (±0.1 mm)  
**Estimated resorption time** | Fine: about 3 months, Standard: about 4 months  
**Packaging** | 20x20 mm, 30x30 mm, 25x35 mm (oval)  
**GMDN:** 38746

## Lamina



### COLLAGENATED HETEROLOGOUS CORTICAL BONE

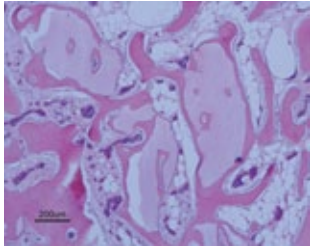
Cortical Lamina is made of cortical bone of heterologous origin produced with an exclusive TecnoSS® process that maintains the typical consistency of the bone tissue from which it originates.

**Tissue of origin** | Cortical bone  
**Tissue collagen** | Preserved  
**Physical form** | Semi-rigid dried lamina, flexible after re-hydration  
**Composition** | 100% cortical bone  
**Thickness** | Fine: 0.5 mm (±0.1 mm), Medium Curved: 1.0 mm (±0.1 mm); Standard 3 mm (±1 mm)  
**Re-entry time** | Fine: about 5 months; Medium Curved: about 6 months; Standard: about 8 months  
**Packaging** | Fine: 25x25 mm, 25x35 mm (oval); Medium Curved: 35x35 mm (curved); Standard: 30x30 mm  
**GMDN:** 38746



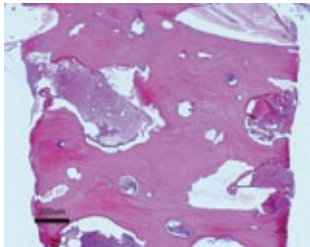
# A strong scientific background

OVER 15 YEARS OF SCIENTIFIC RESEARCH



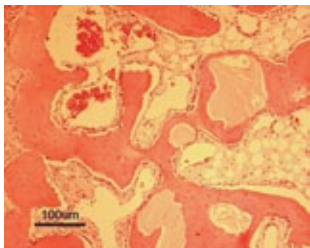
**Histology of OsteoBio® bone matrix**  
Courtesy of Prof Ulf Nannmark, University of Göteborg, Sweden

Barone A et al. Int J Oral Maxillofac Implants, 2005 JUL-AUG; 20(4):519-2  
Cardaropoli D et al. Int J Periodontics Restorative Dent, 2008 Oct; 28(5):469-77  
Nannmark U et al. Clin Implant Dent Relat Res, 2008 Dec;10(4):264-70 2008 Jan 30  
Figueiredo M et al. J Biomed Mater Res B Appl Biomater, 2010 Feb; 92(2):409-419  
Crespi R et al. J Periodontol, 2009 Oct; 80(10):1616-1621  
Crespi R et al. Int J Oral Maxillofac Implants, 2011 Jul - Aug; 26(4):866-72  
Festa VM et al. Clin Implant Dent Relat Res, 2013 Oct;15(5):707-13. Epub 2011 Nov 14  
Cassetta M et al. Int J Periodontics Restorative Dent, 2012 Oct;32(5):581-9  
Bottini LP et al. J of Periodontol, 2012 Oct 29, Epub ahead of print  
Figueiredo M et al. Mater Sci Eng C Mater Biol Appl. 2013 Aug 1;33(6):3506-13  
Kolmas J et al. J Pharm Biomed Anal, 2012 Mar 5;61:136-41 Epub 2011 Nov 25  
Cassetta M et al. Clin Oral Implants Res, 2015 Oct;26(10):1180-4 Epub 2014 May 26  
Fischer KR et al. Clin Oral Implants Res, 2015 Oct;26(10):1135-42 Epub 2014 Sep 15  
Esposito M et al. Eur J Oral Implantology, 2015;8(3):233-244



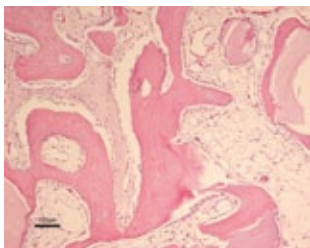
**Histology of maxillary sinus biopsy taken at 24 months. 48% new bone formation, 13% residual granules**  
Biopsy courtesy of Dr Roberto Rossi, Genova, Italy.  
Histology courtesy of Prof Ulf Nannmark, University of Göteborg, Sweden

Barone A et al. J Periodontol, 2008 Aug; 79(8):1370-7  
Nannmark U et al. Clin Implant Dent Relat Res, 2008 Dec;10(4):264-70 2008 Jan 30  
Barone A et al. Clin Implant Dent Relat Res. 2012 Jun;14(3):373-9 Epub 2010 May 11  
Pagliani L et al. Clin Implant Dent Relat Res, 2012 Oct;14(5):746-58 Epub 2010 Oct 26  
Calvo Guirado JL et al. Clin Implant Dent Relat Res, 2013 Feb;15(1):143-51 Epub 2011 Mar 31  
Hinze M et al. Oral Craniofac Tissue Eng, 2011; 1:188-197  
Slotte C et al. Clin Implant Dent Relat Res, 2013 Oct;15(5):714-23. Epub 2011 Dec 6  
Ramirez Fernandez et al. Clin Oral Impl Res, 2013 May;24(5):523-30. Epub 2012 Jan 26  
Barone A et al. J Periodontol. 2012 Jul;83(7):836-46 Epub 2011 Dec 5  
Barone A et al. Clin Oral Implants Res. 2013 Nov;24(11):1231-7 Epub 2012 Jul 12  
Silvestri M et al. Int J Oral Maxillofac Implants. 2013 Mar-Apr;28(2):543-9  
Wachtel H et al. Int J Periodontics Restorative Dent. 2013 Jul-Aug;33(4):491-7  
Felice P et al. Eur J Oral Implantol. 2012 Summer;5(2):149-61  
Thalmair T et al. J Clin Periodontol. 2013 Jul;40(7):721-7



**Part of a biopsy showing newly formed bone after treatment with OsteoBio® Putty. Biopsies were taken 24 months after implantation in rabbit maxillae. The smaller granules are totally covered by newly formed bone and seams of osteoblasts are recorded almost at all bone surfaces. Both the marrow spaces and bone are fully nurtured by neovessels. Htx-eosine. Original magnification x20**  
Courtesy of Prof Ulf Nannmark, University of Göteborg, Sweden

Arcuri C et al. Minerva Stomatol, 2005 jun;54(6):351-62  
Barone A et al. Eur J Implant Prosthodontics, 2006;2: 99-106  
Calvo Guirado JL et al. J Ir Dent Assoc, 2007 Winter;53(4):187-90  
Nannmark U et al. Clin Implant Dent Relat Res, 2010 Jun 1; 12(2):161-3. Epub 2010 Apr 9  
Santagata M et al. J Oral Implantol, 2011 Mar;37 Spec n.1:14-9. Epub 2010 Jun 16  
Cassetta M et al. Int J Periodontics Restorative Dent, 2012 oct;32(5):581-9  
Calvo Guirado JL et al. Implant Dent, 2012 Apr;21(2):112-7



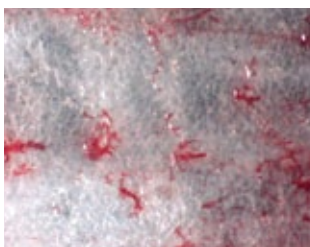
**Part of a biopsy showing newly formed bone after treatment with OsteoBio® Gel 40. Biopsies were taken 5 weeks after implantation in rabbit maxillae. Htx-eosine. Original magnification x20**  
Courtesy of Prof Ulf Nannmark, University of Göteborg, Sweden

Barone A et al. Int J Periodontics Restorative Dent, 2008 Jun; 28(3):283-9  
Covani U et al. Int J Oral Maxillofac Implants, 2008 Sep-Oct; 23(5):841-6  
Cardaropoli D et al. Int J Periodontics Restorative Dent, 2009 Feb; 29(1):59-67  
Nannmark U et al. Clin Implant Dent Relat Res, 2010 Jun 1; 12(2):161-3. Epub 2010 Apr 9  
Pagliani L et al. Clin Implant Dent Relat Res, 2012 oct;14(5):746-58. Epub 2010 Oct 26  
Santagata M et al. J Oral Implantology, 2010; 36(6):485-489. Epub 2010 Jun 16  
Lorenzon G et al. Dentistry, 2015, 5:2



**SEM image showing collagenic matrix of OsteoBio® Evolution**  
Courtesy of Nobil Bio Ricerche, Villafranca d'Asti, Italy

Cardaropoli D et al. Int J Periodontics Restorative Dent, 2008 Oct; 28(5):469-77  
Nannmark U et al. Clin Implant Dent Relat Res, 2008 Dec;10(4):264-70 2008 Jan 30  
Scarano A et al. J Oral Maxillofac Surg, 2010 Aug;68(8):1869-73  
Barone A et al. Clin Oral Implants Res, 2011 Oct;22(10):1131-7  
Scarano A et al. Clin Implant Dent Relat Res, 2011 Mar; 13(1):13-18  
Slotte C et al. Clin Implant Dent Relat Res, 2013 Oct;15(5):714-23. Epub 2011 Dec 6  
Barone A et al. J Periodontol, 2012 Jul;83(7):836-46 Epub 2011 Dec 5  
Barone A et al. Clin Oral Impl Res, 2013 Nov;24(11):1231-7 Epub 2012 Jul 12  
Wachtel H et al. Int J Periodontics Restorative Dent. 2013 Jul-Aug;33(4):491-7  
Pisilli R et al. Eur J Oral Implantol, 2013 Winter;6(4):343-57  
Barone A et al. Clin Oral Implants Res, 2015 Jul;26(7):806-13 Epub 2014 Mar 1  
Barone A et al. Clin Implant Dent Relat Res, 2014 May 22, Epub ahead of print  
Barone A et al. Clin Oral Implants Res, 2015 Feb 26 Epub ahead of print  
Esposito M et al. Eur J Oral Implantology, 2015;8(3):233-244



**LM image of an OsteoBio® Lamina hydrated with blood: vascularisation enhanced by the presence of the original vascular canals**  
Source: Courtesy of Prof Ulf Nannmark, Göteborg University, Sweden

Rinna C et al. J Craniofac Surg, 2005 Nov; 16(6):968-72  
Scarano A et al. J Osseointegr, 2009;1(1):35-40  
Grenge PL et al. Ophthal Plast Reconstr Surg, 2009 Mar-Apr; 25(2):123-5  
Rinna C et al. J of Craniofac Surg, 2009 May; 20(3):881-4  
Hinze M et al. Int j Oral Maxillofac Implants, 2013 Nov-Dic;28(6):e376-385  
Festa VM et al. Clin Implant Dent and Relat Res, 2013 Oct;15(5):707-13. Epub 2011 Nov 14  
Wachtel H et al. Int J Periodontics Restorative Dent, 2013 Jul-Aug;33(4):491-7  
Scarano A et al. Minerva Stomatol. 2014 Oct;63(10):351-9



# Clinical indications

ENGINEERED FOR SPECIFIC CLINICAL INDICATIONS

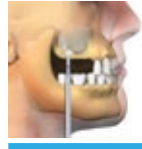
## GEN-OS | THE COLLAGENATED BIOMATERIAL



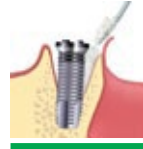
SOCKET PRESERVATION



LATERAL ACCESS SINUS LIFT



CRESTAL ACCESS SINUS LIFT



PERI-IMPLANT LESIONS  
1 OR 2 WALLS MISSING



HORIZONTAL AUGMENTATION  
2-WALL DEFECTS



INTRABONY DEFECTS  
2-WALL DEFECTS



GINGIVAL RECESIONS

## MP3 | ULTIMATE PERFORMANCE AND HANDLING



SOCKET PRESERVATION



RIDGE PRESERVATION



LATERAL ACCESS SINUS LIFT



HORIZONTAL AUGMENTATION  
2-WALL DEFECTS



VERTICAL AUGMENTATION  
INLAY TECHNIQUE

## PUTTY | ENGINEERED FOR PERI-IMPLANT DEFECTS



SOCKET PRESERVATION



PERI-IMPLANT LESIONS  
WALLS PRESERVED



HORIZONTAL AUGMENTATION  
RIDGE SPLIT

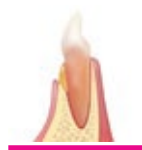
## GEL 40 | A UNIQUE HETEROLOGOUS BONE GEL



CRESTAL ACCESS SINUS LIFT



INTRABONY DEFECTS  
3-WALL DEFECTS



GINGIVAL RECESIONS

## EVOLUTION | THE NATURAL EVOLUTION OF COLLAGEN MEMBRANES



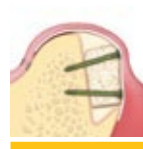
SOCKET PRESERVATION



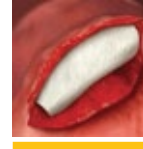
LATERAL ACCESS SINUS LIFT



PERI-IMPLANT LESIONS



HORIZONTAL AUGMENTATION  
2-WALL DEFECTS



HORIZONTAL AUGMENTATION  
RIDGE SPLIT



VERTICAL AUGMENTATION

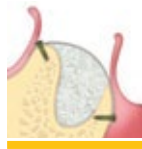


INTRABONY DEFECTS  
FINE MODEL

## LAMINA | A UNIQUE CORTICAL BONE BARRIER



LATERAL ACCESS SINUS LIFT



HORIZONTAL AUGMENTATION  
CURVED MODEL





# Case reports

## CLINICAL EXCELLENCE EVERY DAY

### PERIODONTAL REGENERATION



Intrabony defect



Treatment with OsteoBio® Gen-Os



Covering with OsteoBio® Evolution



CAL gain of 3 mm after 9 months

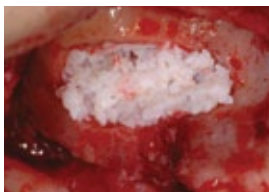
Documentation courtesy of Prof Dr **Sérgio Matos**  
University of Coimbra, Portugal  
e-mail: sergiomatos1@sapo.pt

Bone substitute: **OsteoBio® Gen-Os®**  
Membrane: **OsteoBio® Evolution**

### BILATERAL SINUS LIFT WITH LATERAL ACCESS



Osteotomy performed to access the right maxillary sinus



Sinus filled with OsteoBio® mp3



Antrostomy covered with OsteoBio® Special collagen membrane

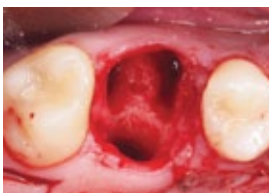


X-ray image 8 months after surgery

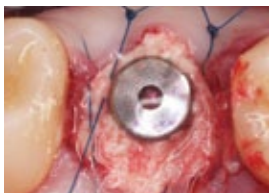
Documentation courtesy of Dr **Antonio Barone**  
Prof **Ugo Covani**  
Odontostomatology Department,  
"Ospedale della Versilia",  
Lido di Camaiore, Italy  
e-mail: barosurg@gmail.com

Bone substitute: **OsteoBio® mp3®**  
Membrane: **OsteoBio® Special**

### ALVEOLAR TISSUE PRESERVATION



Atraumatic extraction of the tooth 2.6



Implant placement and regeneration of the peri-implant gap with OsteoBio® Putty



Result at 3 months after surgery

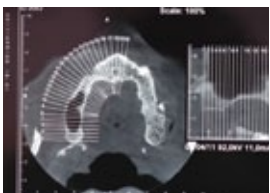


Impression for the realization of the ceramic fixed prosthesis

Documentation courtesy of Dr **Antonio Murillo Rodriguez**  
Prof at University Alfonso X,  
Eibar, Spain  
e-mail: dr\_murillorodriguez@yahoo.es

Bone substitute: **OsteoBio® Putty**

### CRESTAL ACCESS SINUS LIFT



Pre-operative situation



Flap elevation and osteotomized bone



Sinus lift with OsteoBio® Gel 40



Post-operative x-ray with evidence of the graft material

Documentation courtesy of Dr **Roberto Rossi**  
M.Sc.P in Periodontology, Genova, Italy  
e-mail: drrossi@mac.com

Bone substitute: **OsteoBio® Gel 40**

### IMMEDIATE PLACEMENT AFTER TOOTH VERTICAL FRACTURE



Occlusal image of bone alveolus



Intraoperative image after implant Placement (OsteoBio® Apatos)



Evolution membrane in place



Occlusal image of two provisional crowns

Documentation courtesy of Prof Dr **José Luis Calvo Guirado**  
University of Murcia, Spain  
e-mail: josecalvog@gmail.com

Bone substitute: **OsteoBio® Apatos**  
Membrane: **OsteoBio® Evolution**

### HORIZONTAL AUGMENTATION



Alveolar ridge presenting an inadequate width for implant placement



Reconstruction of the alveolar ridge with bone substitute (OsteoBio® mp3)



Covering the augmented area with the OsteoBio® Cortical Lamina



Placement of two implants at 6 months

Documentation provided by Prof Dr **Hannes Wachtel**  
Dr **Tobias Thalmair**  
Private Institute for Periodontology and Implantology, Munich, Germany  
Email: hannes@wachtel.biz

Bone substitute: **OsteoBio® mp3®**  
Barrier: **OsteoBio® Lamina**

- ARCURI C, CECCHETTI F, GERMANO F, MOTTA A, SANTACROCE C  
**CLINICAL AND HISTOLOGICAL STUDY OF A XENOGENIC BONE SUBSTITUTE USED AS A FILLER IN POSTEXTRACTIVE ALVEOLUS**  
 MINERVA STOMATOL, 2005 JUN;54(6):351-62
- BARONE A, CRESPI R, ALDINI NN, FINI M, GIARDINO R, COVANI U  
**MAXILLARY SINUS AUGMENTATION: HISTOLOGIC AND HISTOMORPHOMETRIC ANALYSIS**  
 INT J ORAL MAXILLOFAC IMPLANTS, 2005 JUL-AUG; 20(4):519-25
- RINNA C, UNGARI C, SALTAREL A, CASSONI A, REALE G  
**ORBITAL FLOOR RESTORATION**  
 J CRANIOFAC SURG, 2005 NOV; 16(6):968-72
- BARONE A, SANTINI S, SBORDONE L, CRESPI R, COVANI U  
**A CLINICAL STUDY OF THE OUTCOMES AND COMPLICATIONS ASSOCIATED WITH MAXILLARY SINUS AUGMENTATION**  
 INT J ORAL MAXILLOFAC IMPLANTS, 2006 JAN-FEB; 21(1):81-5
- COVANI U, BARONE A, CORNELINI R, CRESPI R  
**CLINICAL OUTCOME OF IMPLANTS PLACED IMMEDIATELY AFTER IMPLANT REMOVAL**  
 J PERIODONTOL, 2006 APR;77(4):722-7
- BARONE A, COVANI U  
**MAXILLARY ALVEOLAR RIDGE RECONSTRUCTION WITH NONVASCULARIZED AUTOGENOUS BLOCK BONE: CLINICAL RESULTS**  
 J ORAL MAXILLOFAC SURG, 2007 OCT;65(10):2039-46
- BARONE A, ALDINI NN, FINI M, GIARDINO R, CALVO GUIRADO JL, COVANI U  
**XENOGRAFT VERSUS EXTRACTION ALONE FOR RIDGE PRESERVATION AFTER TOOTH REMOVAL: A CLINICAL AND HISTOMORPHOMETRIC STUDY**  
 J PERIODONTOL, 2008 AUG;79(8):1370-7
- COVANI U, CORNELINI R, BARONE A  
**BUCCAL BONE AUGMENTATION AROUND IMMEDIATE IMPLANTS WITH AND WITHOUT FLAP ELEVATION: A MODIFIED APPROACH**  
 INT J ORAL MAXILLOFAC IMPLANTS, 2008 SEP-OCT; 23(5):841-6
- CARDAROPOLI D, CARDAROPOLI G  
**PRESERVATION OF THE POSTEXTRACTION ALVEOLAR RIDGE: A CLINICAL AND HISTOLOGIC STUDY**  
 INT J PERIODONTICS RESTORATIVE DENT, 2008 OCT; 28(5):469-77
- NANNMARK U, SENNERBY L  
**THE BONE TISSUE RESPONSES TO PREHYDRATED AND COLLAGENATED CORTICO-CANCELLOUS PORCINE BONE GRAFTS: A STUDY IN RABBIT MAXILLARY DEFECTS**  
 CLIN IMPLANT DENT RELAT RES, 2008 DEC;10(4):264-70. EPUB 2008 JAN 30
- FIGUEIREDO M, HENRIQUES J, MARTINS G, GUERRA F, JUDAS F, FIGUEIREDO H  
**PHYSICO-CHEMICAL CHARACTERIZATION OF BIOMATERIALS COMMONLY USED IN DENTISTRY AS BONE SUBSTITUTES - COMPARISON WITH HUMAN BONE**  
 J BIOMED MATER RES B APPL BIOMATER, 2010 FEB; 92(2):409-19
- CRESPI R, CAPPARÈ P, GHERLONE E  
**DENTAL IMPLANTS PLACED IN EXTRACTION SITES GRAFTED WITH DIFFERENT BONE SUBSTITUTES: RADIOGRAPHIC EVALUATION AT 24 MONTHS**  
 J PERIODONTOL, 2009 OCT; 80(10):1616-1621
- RINNA C, REALE G, FORESTA E, MUSTAZZA MC  
**MEDIAL ORBITAL WALL RECONSTRUCTION WITH SWINE BONE CORTEX**  
 J OF CRANIOFAC SURG, 2009 MAY; 20(3):881-4
- CARDAROPOLI D, CARDAROPOLI G  
**HEALING OF GINGIVAL RECESSIONS USING A COLLAGEN MEMBRANE WITH A DEMINERALIZED XENOGRAFT: A RANDOMIZED CONTROLLED CLINICAL TRIAL**  
 INT J PERIODONTICS RESTORATIVE DENT, 2009 FEB; 29(1):59-67
- NANNMARK U, AZARMEHR I  
**SHORT COMMUNICATION: COLLAGENATED CORTICO-CANCELLOUS PORCINE BONE GRAFTS. A STUDY IN RABBIT MAXILLARY DEFECTS**  
 CLIN IMPLANT DENT RELAT RES, 2010 JUN 1; 12(2):161-3. EPUB 2010 APR 9
- BARONE A, RICCI M, COVANI U, NANNMARK U, AZARMEHR I, CALVO GUIRADO JL  
**MAXILLARY SINUS AUGMENTATION USING PREHYDRATED CORTICOCANCELLOUS PORCINE BONE: HYSTOMORPHOMETRIC EVALUATION AFTER 6 MONTHS**  
 CLIN IMPLANT DENT RELAT RES, 2012 JUN;14(3):373-9. EPUB 2010 MAY 11
- SANTAGATA M, GUARINIELLO L, TARTARO G  
**A MODIFIED EDENTULOUS EXPANSION (MERE) TECHNIQUE FOR IMMEDIATE PLACEMENT OF IMPLANTS. A CASE REPORT**  
 J ORAL IMPLANTOL, 2011 MAR;37 SPEC N.:114-9. EPUB 2010 JUN 16
- BARONE A, RICCI M, CALVO GUIRADO JL, COVANI U  
**BONE REMODELLING AFTER REGENERATIVE PROCEDURES AROUND IMPLANTS PLACED IN FRESH EXTRACTION SOCKETS: AN EXPERIMENTAL STUDY IN BEAGLE DOGS**  
 CLIN ORAL IMPLANTS RES, 2011 OCT;22(10):1131-7
- CALVO GUIRADO JL, RAMIREZ FERNANDEZ MP, NEGRI B, DELGADO RUIZ RA, MATÉ SANCHEZ DE VAL JE, GOMEZ MORENO G  
**EXPERIMENTAL MODEL OF BONE RESPONSE TO COLLAGENIZED XENOGRAFTS OF PORCINE ORIGIN (OSTEOBIOL® MP3): A RADIOLOGICAL AND HISTOMORPHOMETRIC STUDY**  
 CLIN IMPLANT DENT RELAT RES, 2013 FEB;15(1):143-51. EPUB 2011 MAR 31
- RAMIREZ FERNANDEZ MP, CALVO GUIRADO JL, DELGADO RUIZ RA, MATÉ SANCHEZ DE VAL JE, VICENTE ORTEGA V, MESEGUER OLMOS L  
**BONE RESPONSE TO HYDROXYAPATITES WITH OPEN POROSITY OF ANIMAL ORIGIN (PORCINE OSTEOBIOL® MP3) AND BOVINE (ENDOBON®): A RADIOLOGICAL AND HISTOMORPHOMETRIC STUDY**  
 CLIN ORAL IMPLANTS RES, 2011 JUL; 22(7):767-73. EPUB 2011 JAN 18
- CRESPI R, CAPPARÈ P, ROMANOS GE, MARIANI E, BENASCIUTTI G, GHERLONE E  
**CORTICOCANCELLOUS PORCINE BONE IN THE HEALING OF HUMAN EXTRACTION SOCKETS: COMBINING HISTOMORPHOMETRY WITH OSTEOBLAST GENE EXPRESSION PROFILES IN VIVO**  
 INT J ORAL MAXILLOFAC IMPLANTS, 2011 JUL-AUG; 26(4):866-72
- HINZE M, VRIELINCK L, THALMAIR T, WACHTEL H, BOLZ W  
**ZYGOMATIC IMPLANT PLACEMENT IN CONJUNCTION WITH SINUS BONE GRAFTING: THE "EXTENDED SINUS ELEVATION TECHNIQUE". A CASE-COHORT STUDY**  
 INT J ORAL MAXILLOFAC IMPLANTS, 2013 NOV-DIC;28(6):E376-385
- SLOTTE C, LINDFORS N, NANNMARK U  
**SURGICAL RECONSTRUCTION OF PERI-IMPLANT BONE DEFECTS WITH PREHYDRATED AND COLLAGENATED PORCINE BONE AND COLLAGEN BARRIERS: CASE PRESENTATIONS**  
 CLIN IMPLANT DENT RELAT RES, 2013 OCT;15(5):714-23. EPUB 2011 DEC 6
- BARONE A, RICCI M, GRASSI RF, NANNMARK U, QUARANTA A, COVANI U  
**A 6-MONTH HISTOLOGICAL ANALYSIS ON MAXILLARY SINUS AUGMENTATION WITH AND WITHOUT USE OF COLLAGEN MEMBRANES OVER THE OSTEOTOMY WINDOW: RANDOMIZED CLINICAL TRIAL**  
 CLIN ORAL IMPLANTS RES, 2013 JAN;24(1):1-6. EPUB 2011 DEC 12
- SANTAGATA M, GUARINIELLO L, RAUSO R, TARTARO G  
**IMMEDIATE LOADING OF DENTAL IMPLANT AFTER SINUS FLOOR ELEVATION WITH OSTEOTOME TECHNIQUE: A CLINICAL REPORT AND PRELIMINARY RADIOGRAPHIC RESULTS**  
 J ORAL IMPLANTOL, 2010; 36(6):485-489. EPUB 2010 JUN 16
- FESTA VM, ADDABBO F, LAINO L, FEMIANO F, RULLO R  
**PORCINE-DERIVED XENOGRAFT COMBINED WITH A SOFT CORTICAL MEMBRANE VERSUS EXTRACTION ALONE FOR IMPLANT SITE DEVELOPMENT: A CLINICAL STUDY IN HUMANS**  
 CLIN IMPLANT DENT AND RELAT RES, 2013 OCT;15(5):707-13. EPUB 2011 NOV 14
- RAMIREZ FERNANDEZ MP, CALVO GUIRADO JL, MATÉ SANCHEZ DE VAL JE, DELGADO RUIZ RA, NEGRI B, BARONA DORADO C  
**ULTRASTRUCTURAL STUDY BY BACKSCATTERED ELECTRON IMAGING AND ELEMENTAL MICROANALYSIS OF BONE-TO-BIOMATERIAL INTERFACE AND MINERAL DEGRADATION OF PORCINE XENOGRAFTS USED IN MAXILLARY SINUS FLOOR ELEVATION**  
 CLIN ORAL IMPLANTS RES, 2013 MAY;24(5):523-30. EPUB 2012 JAN 26
- CASSETTA M, RICCI L, IEZZI G, DELLAQUILA D, PIATTELLI A, PERROTTI V  
**RESONANCE FREQUENCY ANALYSIS OF IMPLANTS INSERTED WITH A SIMULTANEOUS GRAFTING PROCEDURE: A 5-YEAR FOLLOW-UP STUDY IN MAN**  
 INT J PERIODONTICS RESTORATIVE DENT, 2012 OCT;32(5):581-9
- BARONE A, ORLANDO B, CINGANO L, MARCONCINI S, DERCHI G, COVANI U  
**A RANDOMIZED CLINICAL TRIAL TO EVALUATE AND COMPARE IMPLANTS PLACED IN AUGMENTED VS. NON-AUGMENTED EXTRACTION SOCKETS. A 3-YEAR EVALUATION**  
 J PERIODONTOL, 2012 JUL;83(7):836-46. EPUB 2011 DEC 5
- BARONE A, RICCI M, TONELLI P, SANTINI S, COVANI U  
**TISSUE CHANGES OF EXTRACTION SOCKETS IN HUMANS: A COMPARISON OF SPONTANEOUS HEALING VS. RIDGE PRESERVATION WITH SECONDARY SOFT TISSUE HEALING**  
 CLIN ORAL IMPLANTS RES, 2013 NOV;24(11):1231-7. EPUB 2012 JUL 12
- BOTTINI LP, RICCI L, PIATTELLI A, PERROTTI V, IEZZI G  
**BUCCO-LINGUAL CRESTAL BONE CHANGES AROUND IMPLANTS IMMEDIATELY PLACED IN FRESH SOCKETS IN ASSOCIATION OR NOT WITH PORCINE BONE: A NON-BLINDED RANDOMIZED CONTROLLED TRIAL IN HUMANS**  
 J PERIODONTOL, 2012 OCT 29, EPUB AHEAD OF PRINT
- SILVESTRI M, MARTEGANI P, DAVENIA F, FARNETTI M, CAPRI D, PAOLANTONI G, LANDI L  
**SIMULTANEOUS SINUS AUGMENTATION WITH IMPLANT PLACEMENT: HISTOMORPHOMETRIC COMPARISON OF TWO DIFFERENT GRAFTING MATERIALS. A MULTICENTER DOUBLE-BLIND PROSPECTIVE RANDOMIZED CONTROLLED CLINICAL TRIAL**  
 INT J ORAL MAXILLOFAC IMPLANTS, 2013 MAR-APR;28(2):543-9
- WACHTEL H, FICKL S, HINZE M, BOLZ W, THALMAIR T  
**THE BONE LAMINA TECHNIQUE: A NOVEL APPROACH FOR LATERAL RIDGE AUGMENTATION - A CASE SERIES**  
 INT J PERIODONTICS RESTORATIVE DENT, 2013 JUL-AUG;33(4):491-7
- FIGUEIREDO A, COIMBRA P, CABRITA A, GUERRA F, FIGUEIREDO M  
**COMPARISON OF A XENOGENIC AND AN ALLOPLASTIC MATERIAL USED IN DENTAL IMPLANTS IN TERMS OF PHYSICO-CHEMICAL CHARACTERISTICS AND IN VIVO INFLAMMATORY RESPONSE**  
 MATER SCI ENG C MATER BIOL APPL, 2013 AUG 1;33(6):3506-13. EPUB 2013 MAY 3
- CALVO GUIRADO JL, GOMEZ MORENO G, GUARDIA J, ORTIZ RUIZ A, PIATTELLI A, BARONE A, MARTÍNEZ GONZÁLEZ JM, MESENGUER OLMO L, LÓPEZ MARÍ L, DORADO CB  
**BIOLOGICAL RESPONSE TO PORCINE XENOGRAFT IMPLANTS: AN EXPERIMENTAL STUDY IN RABBITS**  
 IMPLANT DENT, 2012 APR;21(2):112-7
- BARONE A, BORGIA V, COVANI U, RICCI M, PIATTELLI A, IEZZI G  
**FLAP VERSUS FLAPLESS PROCEDURE FOR RIDGE PRESERVATION IN ALVEOLAR EXTRACTION SOCKETS: A HISTOLOGICAL EVALUATION IN A RANDOMIZED CLINICAL TRIAL**  
 CLIN ORAL IMPLANTS RES, 2015 JUL;26(7):806-13, EPUB 2014 MAR 1
- BARONE A, RICCI M, ROMANOS GE, TONELLI P, ALFONSI F, COVANI U  
**BUCCAL BONE DEFICIENCY IN FRESH EXTRACTION SOCKETS: A PROSPECTIVE SINGLE COHORT STUDY**  
 CLIN ORAL IMPLANTS RES, 2014 MAR 31 EPUB AHEAD OF PRINT
- CASSETTA M, PERROTTI V, CALASSO S, PIATTELLI A, SINJARI B, IEZZI G  
**BONE FORMATION IN SINUS AUGMENTATION PROCEDURES USING AUTOLOGOUS BONE, PORCINE BONE, AND A 50 : 50 MIXTURE: A HUMAN CLINICAL AND HISTOLOGICAL EVALUATION AT 2 MONTHS**  
 CLIN ORAL IMPLANTS RES, 2014 MAY 26 EPUB AHEAD OF PRINT
- FISCHER KR, STAVROPOULOS A, CALVO GUIRADO JL, SCHNEIDER D, FICKL S  
**INFLUENCE OF LOCAL ADMINISTRATION OF PAMIDRONATE ON EXTRACTION SOCKET HEALING – A HISTOMORPHOMETRIC PROOF-OF-PRINCIPLE PRE-CLINICAL IN VIVO EVALUATION**  
 CLIN ORAL IMPLANTS RES, 2014 SEP 15 EPUB AHEAD OF PRINT
- THALMAIR T, FICKL S, SCHNEIDER D, HINZE M, WACHTEL H  
**DIMENSIONAL ALTERATIONS OF EXTRACTION SITES AFTER DIFFERENT ALVEOLAR RIDGE PRESERVATION TECHNIQUES – A VOLUMETRIC STUDY**  
 J CLIN PERIODONTOL, 2013 JUL;40(7):721-7
- ESPOSITO M, GRUSOVIN MG, LAMBERT F, MATOS S, PIETRUSKA M, ROSSI R, SALHI L, BUTI J  
**THE EFFECTIVENESS OF A RESORBABLE BONE SUBSTITUTE WITH A RESORBABLE MEMBRANE IN THE TREATMENT OF PERIODONTAL INFRABONY DEFECT - A MULTICENTER RANDOMISED CONTROLLED TRIAL**  
 EUR J ORAL IMPLANTOL, 2015;8(3):233-244
- OZEL B, FINDIKCIOGLU K, SEZGIN B, GUNAY K, BARUT I, OZMEN S  
**A NEW OPTION FOR THE RECONSTRUCTION OF ORBITAL FLOOR DEFECTS WITH HETEROLOGOUS CORTICAL BONE**  
 J CRANIOMAXILLOFAC SURG, 2015 OCT;43(8):1583-8 EPUB 2015 JUL 4



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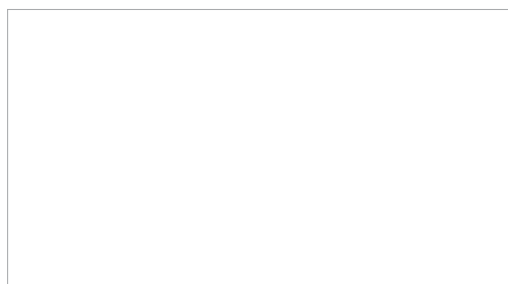
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