Scientific publications

AUGMENTED BONE. PRELIMINARY RESULTS FROM A PILOT RANDOMISED
POSTERIOR ATROPHIC JAWS REHABILITATED WITH PROSTHESES SUPPORTED

**CLIN ORAL IMPLANTS RES, 2013 MAY; 24(5):523-30. EPUB 2012 JAN 26**
SINUS FLOOR ELEVATION

**CLIN ORAL IMPLANTS RES, 2011 OCT; 22(10):1125-30. EPUB 2011 JAN 20**
AND MINIPLATES: CASE SERIES USING AN INLAY TECHNIQUE WITH A XENOGRAFT WITHOUT MINISCREWS
VERTICAL RIDGE AUGMENTATION OF ATROPHIC POSTERIOR MANDIBLE

**CLIN ORAL IMPLANTS RES, 2011 OCT; 22(10):1131-7**
Scarano A, Piattelli A, Perrotti V , Manzon L, Iezzi G

**JR NOMAL MAXILLOFAC IMPLANTS, 2010 FEB; 92(2):409-19**
Crespi R, Capparè P , Gherlone E

**MED ORAL PATOL ORAL CIR BUCAL, 2010 MAR 1; 15(2):E366-70**
Caputi S

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Used in dentistry as bone substitutes – comparison with human

**INT J ORAL MAXILLOFAC IMPLANTS, 2008 SEP-OCT; 23(5):841-6**
Cardaropoli D, Cardaropoli G

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Atraumatic maxillary sinus elevation using threaded bone

**INT J ORAL MAXILLOFAC IMPLANTS, 2005 JUL-AUG; 20(4):519-25**
Barone A, Ameri S, Covani U

**MAXILLARY SINUS AUGMENTATION USING A PORCINE BONE- DERIVED**
Histology at 3 months. Human mandible grafted with OsteoBiol ® Sp-Block. Biopsy

**J PERIODONTOL, 2012 OCT 29, EPUB AHEAD OF PRINT**
Trubiani O, Scarano A, Orsini G, Di Iorio D, D’Arcangelo C, Piccirilli M, Sigismondo M,

**europaresearch.com**

**Tecnoss s.r.l. is an innovative, globally active company that**
Collagen matrix inside the biomaterial.

**JOSSEOINTEGRATION**
Process that ensures neutralization of antigenic components in

**J OSSEOINTEGRATION 2014;6(2):37-42**
Gheno E, Palermo A, Buffoli B, Rodella LF

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Fischer Kr, Stavropoulos A, Calvo Guirado Jl, Schneider D, Fickl S

**JOSSEOINTEGRATION**
Influence of local administration of pamidronate on extraction

**JOSSEOINTEGRATION**
Socket healing – a histomorphometric proof-of-principle

**JOSSEOINTEGRATION**
Cortico-cancellous porcine bone grafts: a study in rabbit

**JOSSEOINTEGRATION**
The bone tissue responses to prehydrated and collagenated

**JOSSEOINTEGRATION**
 Preservation of the postextraction alveolar ridge: a clinical and

**JOSSEOINTEGRATION**
Tooth removal: a clinical and histomorphometric study

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Xenograft versus extraction alone for ridge preservation after

**JOSSEOINTEGRATION**
A clinical study of the outcomes and complications associated

**JOSSEOINTEGRATION**
Immediate postextraction implants: treatment of residual

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Immediate placement in fresh sockets in association or not with

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The bone lamina technique: a novel approach for lateral ridge

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**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\(^1\).

The combination of these factors allows a consistent new bone formation and a close contact between neo-formed bone and biomaterial (Fig. A).

**COLLAGEN: A KEY FACTOR FOR BONE REGENERATION**

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

a) it acts as a valid substrate for platelet activation and aggregation

b) it serves to attract and differentiate the mesenchymal stem cells present in the bone marrow\(^2\)

c) it increases the proliferation rate of the osteoblasts up to 2/3 times\(^3\)

d) 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:

1) absence of a foreign body response\(^4\)

2) gradual resorption over time\(^5,6\)

3) stimulation/acceleration of physiological tissue healing process\(^2\)

4) protection of the grafting site from infection (membranes)\(^7\)

5) capability of carrying medication to the surgical site\(^8\)

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 highly osteoconductive scaffold

CHARACTERISTICS

Sp-Block and Dual-Block support new bone formation\(^\text{(9,10)}\) because of their extremely osteoconductive surface: thanks to the rigid consistency these blocks are able to maintain in time the original graft volume, which is particularly important in case of large regenerations. Moreover the collagen content facilitates blood clotting and the subsequent invasion of regenerative and repairing cells, favoring restitutio ad integrum of missing bone.

HANDLING

Sp-Block and Dual-Block must be hydrated before use for with sterile lukewarm physiological solution or with antibiotics (5/10 minutes for Sp-Block and Dual-Block Soft, up to 40 minutes for Dual-Block Norm). Afterwards, the block can be adapted to the receiving site which must be accurately decorticated in order to guarantee maximum contact; the blocks should be always fixed with osteosynthesis microscrews. In case of vertical augmentation with inlay technique Sp-Block should be fixed also with miniplates. Protection with OsteoBiol\(^\text{®}\) Evolution membrane is recommended.

CLINICAL INDICATIONS OVERVIEW

Sp-Block is indicated in cases where a vertical gain in posterior mandible is required\(^\text{(11,12,13)}\), to achieve an augmentation of maximum 5 mm, by means of the inlay technique. Dual-Block can be grafted with the onlay technique only to augment horizontally heavily resorbed maxilla. Whatever is the applied technique, it is recommended to fill the gaps around the block with a biomaterial in granules to achieve the desired volume and contour of the augmented recipient site.

**Excellent clinical performances**

CASE REPORT

**VERTICAL REGENERATION**

Vertical regeneration with inlay technique

Sex: **Female** | Age: **60**

**Fig. 1** Pre-operatory x-ray

**Fig. 2** After one horizontal and two vertical osteotomies, the bone fragment is moved towards the coronal direction

**Fig. 3** Space obtained after moving the bone fragment

**Fig. 4** Positioning of OsteoBiol® Sp-Block

**Fig. 5** Post-surgery x-ray

**Fig. 6** Clinical appearance of the graft during re-opening, after 3 months

**Fig. 7** Preparation of implant sites

**Fig. 8** Positioning of the implants

**Fig. 9** Positioning of the implants

**Fig. 10** Histology after 3 months*

**Fig. 11** Histology detail*

**Fig. 12** Histology detail*

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**Fig. 1**

**Fig. 2**

**Fig. 3**

**Fig. 4**

**Fig. 5**

**Fig. 6**

**Fig. 7**

**Fig. 8**

**Fig. 9**

**Fig. 10**

**Fig. 11**

**Fig. 12**

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Data provided by: 
**Prof Ulf Nannmark**
Göteborg University, Sweden

**Sp-Block**: OsteoBiol®
Tecnoss s.r.l. is an innovative, globally active company that develops, produces and documents premium-quality xenogenic biomaterials by the brands Tecnoss® and OsteoBiol®.

Its 20 years of research led to its patent-protected production process that ensures neutralization of antigenic components in order to achieve biocompatibility, while preserving the natural collagen matrix inside the biomaterial.

Tecnoss® products comply with highest quality standards such as ISO 10993, ISO 13485 (notified body Kiwa Cermet) and 93/42/EC (notified body CE 0373).