

OSTEOXENON®

DENTISTRY

Heterologous
collagen-preserved bone graft



OBTAINED FROM EQUINE BONE

The best alternative to autologous bone

Osteoxenon® is the heterologous bone graft with preserved collagen and unaltered mineral component that most closely resembles autologous bone in its physical and biological features. Native collagen preserved within Osteoxenon® (type I collagen) enhances the natural bone remodeling process within the graft site. The wide variety of available formats makes it possible to avoid the use of autologous tissue even in complex cases.

OSTEOXENON® COMES FROM A PATENTED TECHNOLOGY



PROPERTIES



SUPERIOR
QUALITY RAW
MATERIAL



ENZYMATIC
DEANTIGENATION



UNALTERED
MINERAL
PHASE



PRESERVED
COLLAGEN

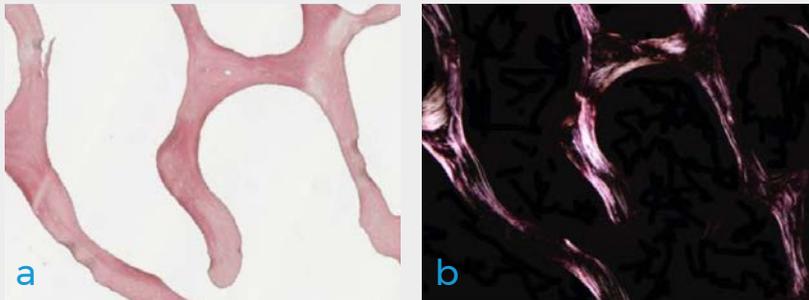


BETA RAY STERILIZATION: allows for perfect sterilization while preserving the physical and biological features of the materials.



OSTEOXENON®: THE BONE GRAFT THAT ENHANCES NATURE

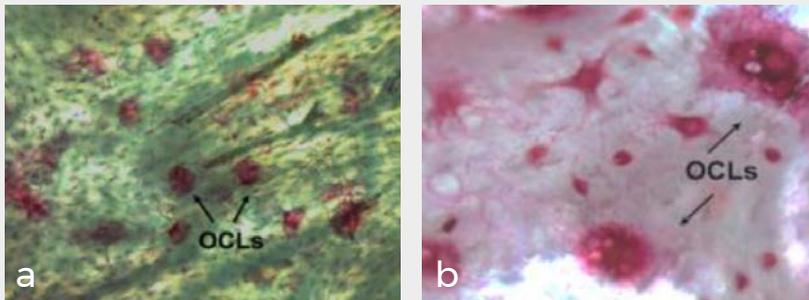
THE NATURAL SCAFFOLD



a) Optical microscope image of Osteoxenon® bone graft trabeculae.

b) The same image, visualized with polarized light, shows the preservation of collagen fibers in pink.

PHYSIOLOGICAL RECOGNITION¹



Osteoclasts (OCLs) physiologically adhere to both natural, untreated bone (a) and Osteoxenon® bone graft obtained by the Zymo-Teck enzymatic deantigenation process (b).

BENEFITS



IT IS MORE NATURAL

Compared with synthetic and heterologous products treated with chemical solvents or heat treatment, the enzymatic process applied for the production of Osteoxenon® allows the mineral component to remain unaltered and the native bone collagen to be preserved without the risk of accumulating chemical residues².



INCREASED PREDICTABILITY OF RESULTS

compared with homologous grafts³. Osteoxenon® is produced through controlled processes and precision instrumentation that allow a high level of reproducibility in size and biological features.



IT ACCELERATES HEALING

Due to the preserved collagen, Osteoxenon® enables the formation of new bone tissue faster than conventional collagen-free grafts while promoting rapid remodeling of the graft⁴⁻⁵.

For uncompromising regeneration

The unique remodeling, mechanical strength and elasticity features of Osteoxenon® products allow even the most complex clinical cases to be addressed with the confidence of using a material that promotes natural tissue regeneration.

WIDE RANGE OF FORMATS

In the Osteoxenon® range, preserved collagen exerts its full potential for strength, elasticity and support of the regenerative process.

	SURGICAL APPLICATION	NOTES
GRANULES 	<ul style="list-style-type: none"> • Periodontal/peri-implant defects • Alveolar ridge preservation • GBR Procedures • Sinus lift (lateral approach) 	<p>The 1-2 mm granules are particularly suitable for lateral sinus lift combined with Biocollagen® collagen membranes.</p>
GRANULES IN SYRINGE 	<ul style="list-style-type: none"> • Sinus lift (crestal approach) • Filling of cavities from post-surgical outcomes (e.g., cysts) • Socket preservation 	<p>The granules in syringe are already hydrated in aqueous solution, can be placed directly from the syringe.</p>
BLOCKS 	<ul style="list-style-type: none"> • Horizontal volumetric increases • Vertical volumetric increases 	<p>Increments up to 5 mm, to be used in conjunction with Heart® pericardium membranes.</p>
FLEX CORTICAL SHEET 	<ul style="list-style-type: none"> • Vertical, three-dimensional volumetric increments (Flex Cortical Sheet of 0.5 and 0.9 mm thickness) • Cortical profile reconstruction in periodontal defects (Flex Cortical Sheet of 0.2 mm thickness) 	<p>Possible fixations: pins, fibrin glue, surgical glue.</p>
FLEX CANCELLOUS SHEET 	<ul style="list-style-type: none"> • Horizontal volumetric increases 	<p>The flexibility of the cancellous bone laminae is particularly advantageous for adapting to the geometry of the horizontal defect to be restored.</p>



YOU CAN STILL DONATE BLOOD

Patients treated with all Bioteck medical devices remain suitable for the donation of blood or blood components, as stated in current legislation.

Clinical applications

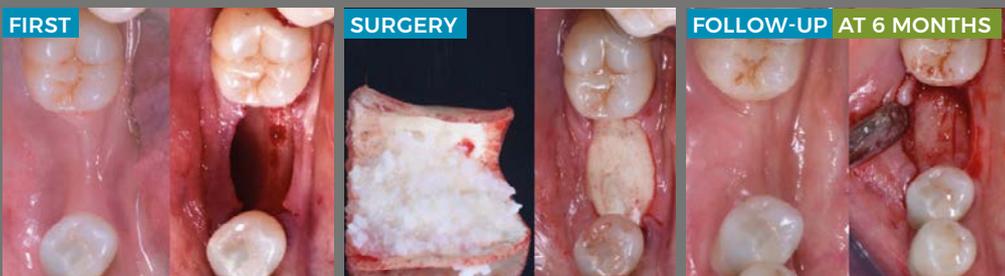
1 POST-EXTRACTIVE SOCKET PRESERVATION



Courtesy of Dr. Riccardo Guazzo - Vicenza - Italy

Osteoxenon® collagen-preserved bone granules are also suitable for post-extractive socket preservation. Note the patient's total bone remodeling in 6 months.

2 ALVEOLAR RIDGE RECONSTRUCTION



Courtesy of Dr. Roberto Rossi - Genoa, Italy

The combination of collagen-preserved Osteoxenon® bone granules with Flex Cortical Sheets allows optimal management of ridge reconstructions. Note the complete remodeling of bone grafts at 6 months after the regenerative procedure.

3 THREE-DIMENSIONAL DEFECTS GBR



Courtesy of Dr. Angelo Comanzo - Avellino - Italy

The features of collagen-preserved Osteoxenon® bone granules are suitable for regeneration of complex bone defects. Note the complete remodeling of the bone graft in 6 months and the complete resolution of the three-dimensional bone defect.

4 SINUS LIFT



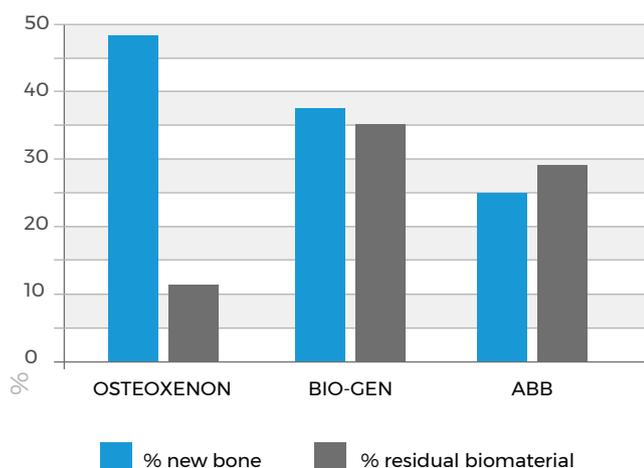
Courtesy of Prof. Danilo Di Stefano - Milan, Italy

Collagen-preserved Osteoxenon® bone granules completely remodel with patient bone and maintain volume over time, as shown in this clinical case, where tissue regenerated with Osteoxenon® granules (white arrow) remains stable at the 11-year follow-up.

Clinical and histological evidence

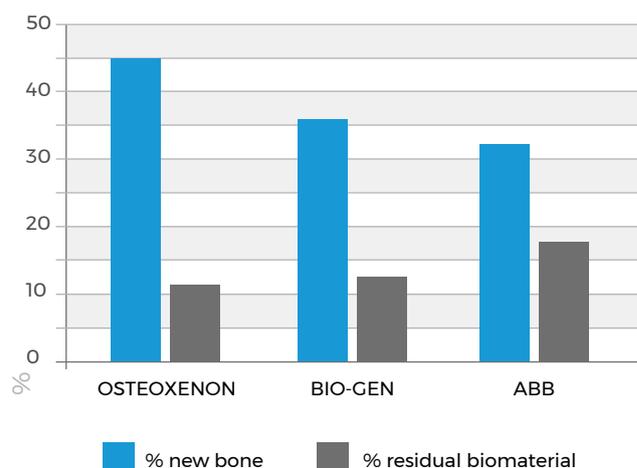
Histological studies show that the use of Osteoxenon® promotes the apposition of high amounts of new bone tissue within the site with progressive replacement of the biomaterial with viable bone within a physiological time frame³⁻⁴⁻⁶.

Sinus lift



Comparison of % neoformed bone and % residual biomaterial for Osteoxenon®, Bio-Gen® and Anorganic Bovine Bone (ABB) in sinus lift at 6 months^{7,4}. Note how Osteoxenon® has the % of neoformed bone almost twice as high as ABB and the % of residual biomaterial about 1/3 as ABB and Bio-Gen®.

Post-extractive socket



Comparison of % newly formed bone and % residual biomaterial for Osteoxenon®, Bio-Gen®, and Bovine Bone Anorganic (ABB) in the post-extractive socket at 4.5 months⁶. Note how Osteoxenon® has the highest % of neoformed bone, almost double that of ABB, while the % of residual biomaterial is about half that of ABB.

The success of Osteoxenon® is documented in more than 100 clinical/scientific publications. Through the dynamic literature available on the Bioteck Academy website, you can always view them and keep yourself updated in real time on new publications.

ACCESS DYNAMIC LITERATURE WITH ONE CLICK



BIBLIOGRAPHY

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2. Pagnutti et al. 2007,
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THE ENTIRE OSTEOXENON® RANGE



OSTEOXENON®

Granules

OSP-OX30	Cancellous Granules - 1 btl / 0.5g ~1cc 0.25-1mm
OSP-OX31	Cancellous Cortical Granules - 1 btl / 0.5g ~1cc 0.25-1mm
OSP-OX32	Cancellous Cortical Granules - 1 btl / 1g ~2cc 0.25-1mm
OSP-OX33	Cancellous Granules - 1 btl / 2cc 2-3mm
OSP-OX34	Cancellous Granules - 1 btl / 1g ~2cc 2-4mm
OSP-OX35	Cancellous Cortical Granules - 1 btl / 0.25g ~0.5cc 0.25-1 mm
OSP-OX36	Cancellous Granules - 1 btl / 1g ~2cc 0.25-1mm
OSP-OX37	Cancellous Granules - 1 btl / 0.25g ~0.5cc 0.25-1 mm
OSP-OX38	Cancellous Granules - 1 btl / 2g ~4cc 0.25-1mm
OSP-OX39	Cancellous Granules - 1 btl / 4cc 2-3mm
OSP-OX40	Cortical Granules - 1 btl / 0.5g ~1cc 0.25-1 mm
OSP-OX41	Cancellous Cortical Granules - 1 btl / 2g ~4cc 0.25-1mm
OSP-OX50	Cancellous Granules - 1 btl / 0.5g ~1cc 1-2mm
OSP-OX66	Cancellous Granules - 1 btl / 1g ~2cc 1-2mm



OSTEOXENON®

Gel Granules

OSP-OX21n	Cancellous Cortical Gel - 1 syr / 0.25 ml
OSP-OX22n	Cancellous Cortical Gel - 1 syr / 0.5 ml
OSP-OX23	Cancellous Cortical Gel - 1 syr / 1 ml



OSTEOXENON®

Flex

OSP-OX01	Flex Cancellous sheet - 1 pc 25 x 25 x 3 mm
OSP-OX08	Flex Cortical Sheet- 1 pc 21-25 x 23-27 x 0.9 mm
OSP-OX09	Flex Cortical Sheet- 1 pc 21-25 x 23-27 x 0.5 mm
OSP-OX03	Flex Cortical sheet - 1 pc 21-25 x 23-27 x 0.2 mm



OSTEOXENON®

Cancellous Blocks

OSP-OX51	Cancellous Block - 1 pc 10 x 10 x 10 mm
OSP-OX52	Cancellous Block - 1 pc 10 x 10 x 20 mm
OSP-OX54n	Cancellous Block - 1 pc 10 x 20 x 3 mm
OSP-OX55n	Cancellous Block - 1 pc 10 x 20 x 5 mm



BIOTECK®. INNOVATING BIOMATERIALS.

Bioteck® is an Italian company that has been producing bone substitutes, protective membranes and regenerative solutions successfully used in orthopedics, neurosurgery and oro-maxillo facial surgery since 1995.

Scientific research and innovation are the guiding principles that have enabled Bioteck® to patent new production processes and to create unique biomaterials of high quality in terms of performance level and safety guarantees. Materials now used in 72 countries worldwide.

At its multi-functional center for research and development and thanks to state-of-the-art production processes, every day **Bioteck®** works to pursue its key objective: to innovate biomaterials.

WWW.BIOTECK.COM

BIOTECK ACADEMY. SCIENTIFIC COMMUNITY FOR THE CULTURE OF THE CONSCIOUS CHOICE.

Bioteck Academy is the innovative scientific community which promotes the circulation and sharing of knowledge in the field of tissue regeneration applied to dentistry, maxillo-facial surgery, orthopedics and neurosurgery.

Established as a hub for the clinical and scientific expertise focussed on by **Bioteck®** spanning twenty years of research, today it is an entity open to all professionals who decide to join and share their own surgical experience.

WWW.BIOTECKACADEMY.COM



BIOTECK®



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