

# BioNgraft™

## Advanced Dental Solutions

Synthetic Biomaterials  
Dental Barrier Membranes



- Injectable Putty
- Barrier Membrane
- Granules-Sticks
- Flexible Strip



**Biongraft Putty** is an injectable and formable paste bone graft ready to be used, based on hydrogel and Beta-tricalcium phosphate ( $\beta$ -TCP), including  $ZrO_2$  nanoparticles for antibacterial efficacy.

**Biongraft Putty** is a safe and fully biocompatible material which is designed to act as an osteoconductive scaffold to support the ingrowth and fusion of adjacent viable bone when placed in an osseous environment .

## Product Features

- **Ready to Use**

Pre-loaded in a convenient applicator, syringe ready for direct placement in the defect. Easily molded by hand as needed. Requires no mixing.

- **%100 synthetic**

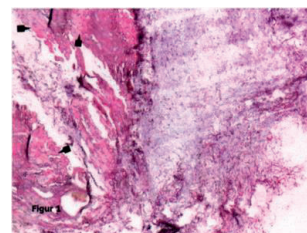
Contains no tissue of human or animal origin therefore carries no risk of disease transmission.

- **Osteoconductive**

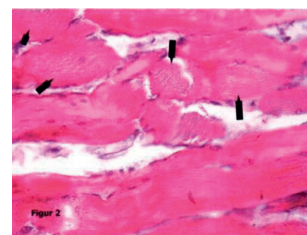
Provides a scaffold for new bone. Highly interconnected porosity with excellent mechanical resistance.

- **Biodegradable**

With its optimized porous structure and chemical composition, our products are suitable for the continuous remodeling cycle of healthy bone.  $\beta$ -TCP resorbs over time and being replaced with bone during the healing process.



Osteoid formation, 2 months after implantation of Biongraft Putty in skeletal muscle



### Indications

- Alveolar bone regeneration
- Lateral and Crestal Sinus Augmentation
- Extraction (with or without implant placement)
- Intraosseous defects
- Guided bone regeneration(GBR)
- Socket Grafts

### General procedure of Biongraft Putty in sinus lifting, lateral augmentation, and socket grafting

#### A Lift a flap

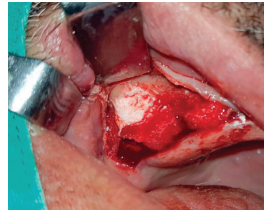
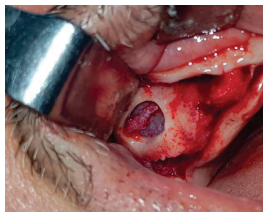
- The flap should be minimally reflected to open up whole graft site.
- Prepare the defect site for grafting

#### B Biongraft Putty application

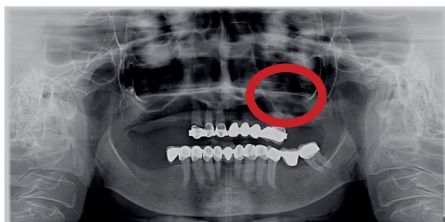
- Inject the Biongraft Putty and press gently for 5 seconds to get the defect shape by using sterile dry gauze.

#### C Flap Closure

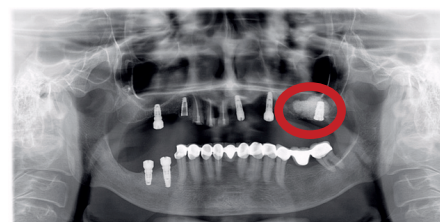
- Reposition the flap and suture them for maximal closure.



Use of Biongraft Putty in sinus lifting operation.



A- Before grafting procedure

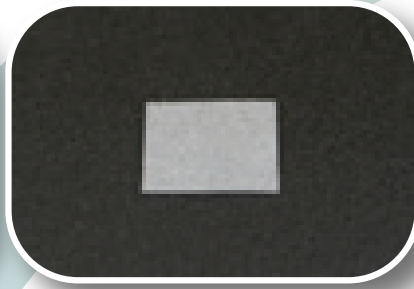


B- 5 months after grafting procedure

The sinus defect filled with Biongraft Putty heals completely after 5 months. Radiological view of before and after grafting application. As it is seen, bone tissue completely regenerated and dental implant was successfully placed.

# BioNgraft™

## Dental Resorbable Barrier Membrane

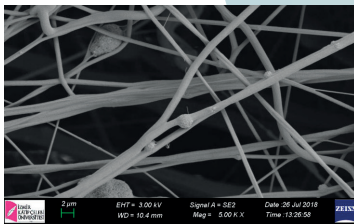
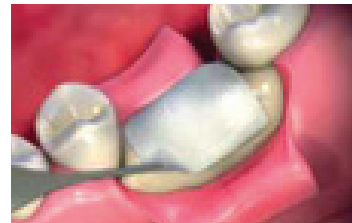


**Biongraft Barrier Membrane** specifically engineered for periodontal restorative surgeries and assists in the regeneration of bone and periodontal support tissues. Fabricated from a biocompatible and bioresorbable medical grade poly(lactic acid) based synthetic polymer with a long history of safe medical use.

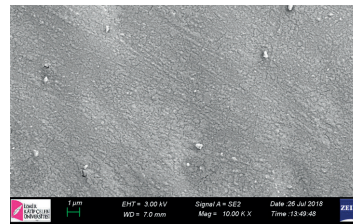
### Product Features

- Fully resorbed after 15-20 weeks after implantation
- Contains no tissue of human or animal origin therefore carries no risk of disease transmission.
- Prevents fibrous tissue growth in bone area
- No requirement for removing membranes due to complete bioresorption

Application of Biongraft  
Dental Barrier Membrane.



Exterior side of Biongraft Dental Barrier Membrane compose of non-porous poly(lactic acid) (PLA) based film to prevent epithelial cells and fibroblast migration.



Interior side of Biongraft Dental Barrier Membrane compose of porous poly(lactic acid) (PLA) based microfibers to enhance mesenchymal stem cells adhesion, proliferation and differentiation.

### Indications

- Ridge augmentation for implant insertions
- Alveolar ridge preservation after tooth extractions
- Sinus elevation procedures
- Infrabony defects
- Treatment of recession defects
- Furcation defects

# BioNgraft™

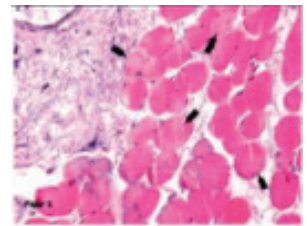
Granules-Sticks



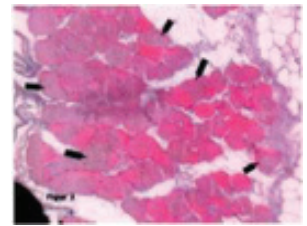
**Biongraft granules and sticks** is a Beta Tricalcium phosphate (b-TCP) based porous bone graft substitutes including  $ZrO_2$  nanoparticles for antibacterial efficacy. The interconnectivity of porous structure and microporosity assist capillary motion of blood and body fluids, enhanced penetration for osteogenic cells, and ossification of the synthetic matrix.

For macroporosity, **Biongraft Granules and Sticks**, allows deep invasion of bone cells into the matrix.

Biongraft polygonal granules have different particle size between 0,25-7 mm. The irregularly shaped granules promote interlocking and improve mechanical stability.

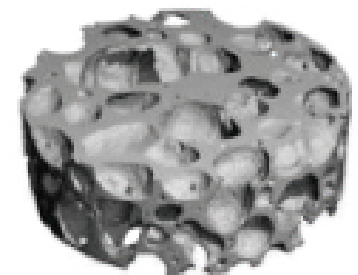
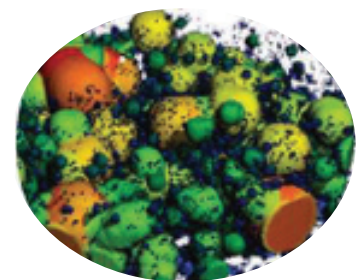


Osteoid formation (Osteoinductive characteristics) 2 months after implantation of Biongraft Granules (Crunch) in skeletal muscle



## Indications

- Ridge augmentation
- Lateral and Crestal Sinus Augmentation
- Sinus lifts
- Filling of defect of endodontic origin
- Cysts or other Osseous defects
- Alveolar bone regeneration



Micro CT analysis of Granules

# BioNgraft™

Flexible Synthetic Bone Substitute



**Biongraft Flex** is composed of b-TCP and resorbable PLA based Synthetic Polymer. The polymer of the Flex is metabolite lactic acid and is degraded to  $\text{CO}_2$  and  $\text{H}_2\text{O}$ .

**Biongraft Flex** has a unique micro and macro porous structure that most closely resemble the architecture of natural human bone.

It gradually dissolves in the body, promoting new bone formation through the release of calcium and phosphate ions. In time, the porous structure becomes completely infiltrated with cells and replaced by healthy viable bone.

## Indications

- Ridge augmentation
- Lateral and Crestal Sinus Augmentation
- Sinus lifts
- Filling of defect of endodontic origin
- Cysts or other Osseous defects
- Alveolar bone regeneration

## Easy Application

- **Biongraft Flex** can be applied directly or in combination with bone marrow aspirate/blood to the surgical site.
- Wetting **Biongraft Flex** increases flexibility.
- **Biongraft Flex** can be cut and fit.

# Specifications

## BioNgraft™ Injectable Putty

REFERENCE CODE	DESCRIPTION	VOLUME	PACKAGING
TBGP005	Putty(Syringe 0.5cc)	0.5 cc	1 unit/Box
TBGP01	Putty(Syringe 1cc)	1 cc	1 unit/Box
TBGP02	Putty(Syringe 2cc)	2 cc	1 unit/Box
TBGP03	Putty(Syringe 3cc)	3 cc	1 unit/Box
TBGP05	Putty(Syringe 5cc)	5 cc	1 unit/Box

## BioNgraft™ Resorbable Barrier Membrane

REFERENCE CODE	DESCRIPTION	VOLUME	PACKAGING
TBGM1520	Barrier Membrane	15X20 mm	1 unit/Box
TBGM1525	Barrier Membrane	15x25 mm	1 unit/Box
TBGM2020	Barrier Membrane	20x20 mm	1 unit/Box
TBGM2025	Barrier Membrane	20x25 mm	1 unit/Box
TBGM2030	Barrier Membrane	20x30 mm	1 unit/Box
TBGM3040	Barrier Membrane	30x40 mm	1 unit/Box
TBGM2530	Barrier Membrane	25x30 mm	1 unit/Box

## BioNgraft™ Granules

REFERENCE CODE	DESCRIPTION	SIZE	VOLUME	PACKAGING
TBGG02501005	Granules	0.25-1 mm	0,5cc	1 unit/Box
TBGG02501010	Granules	0.25-1 mm	1 cc	1 unit/Box
TBGG05001010	Granules	0.5-1 mm	1 cc	1 unit/Box
TBGG05001020	Granules	0.5-1 mm	2 cc	1 unit/Box
TBGG05001050	Granules	0.5-1 mm	5 cc	1 unit/Box
TBGG10002010	Granules	1-2 mm	1 cc	1 unit/Box
TBGG10002020	Granules	1-2 mm	2 cc	1 unit/Box
TBGG10002050	Granules	1-2 mm	5 cc	1 unit/Box

## BioNgraft™ Sticks

REFERENCE CODE	DESCRIPTION	VOLUME	PACKAGING
TBGES44201	Sticks	4x4x20 mm	1 unit/Box
TBGES44202	Sticks	4x4x20 mm	2 unit/Box
TBGES44204	Sticks	4x4x20 mm	4 unit/Box
TBGESC320	Sticks	3x20 mm	1 unit/Box
TBGESC420	Sticks	4x20 mm	1 unit/Box
TBGESC520	Sticks	5x20 mm	1 unit/Box
TBGESC620	Sticks	6x20 mm	1 unit/Box
TBGESC820	Sticks	8x20 mm	1 unit/Box

## BioNgraft™ Flex Flexible Synthetic Bone Substitute

REFERENCE CODE	DESCRIPTION	VOLUME	PACKAGING
TBGF25254	Flexible Strip	25x25x4 mm	1 unit/Box
TBGF25504	Flexible Strip	25x50x4 mm	1 unit/Box
TBGF25505	Flexible Strip	25x50x5 mm	1 unit/Box
TBGF25506	Flexible Strip	25x50x6 mm	1 unit/Box
TBGF25508	Flexible Strip	25x50x8 mm	1 unit/Box
TBGF50504	Flexible Strip	50x50x4 mm	1 unit/Box



Produced Exclusively for

**EOS**

MEDICAL SOLUTIONS

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