FISIOGRAFT

NANO HA REINFORCED

A **synthetic biomaterial** used in dental and maxillofacial surgery to **fill bone cavities**, whether natural or pathological, based on hydroxyapatite and polyglycolic-polylactic acid (PLGA).

Hydroxyapatite + PLGA

Osseointegrable in 6-9 months

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FISIOGRAFT NANO HA REINFORCED

Osseointegrable in **6-9 MONTHS**

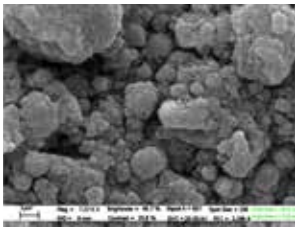
Physical form: solid granular

- Composition: Hydroxyapatite 47% (470 mg), PLGA 5% (50 mg), Dextran 18% (180 mg), PEG 30% (300 mg)
- Granule size: 70><100 nm
- Package: 2 syringes of 1 g (1.5 ml) each (code: PFOF0040)
- Medical Device CLASS III CE0426
- Certified ISO9001, ISO13485, **HALAL**

Hydroxyapatite + PLGA

HYDROXYAPATITE

- Patented processing
- Structural, dimensional and biofunctional characteristics, which replicate those of the natural hydroxyapatite present in the dentin, in the cementum, and in the bone.
- Non-resorbable but osseointegrable
- Less inflammatory than normal hydroxyapatite
- It leads to increased production of bone alkaline phosphatase and osteocalcin, which indicate increased bone production.

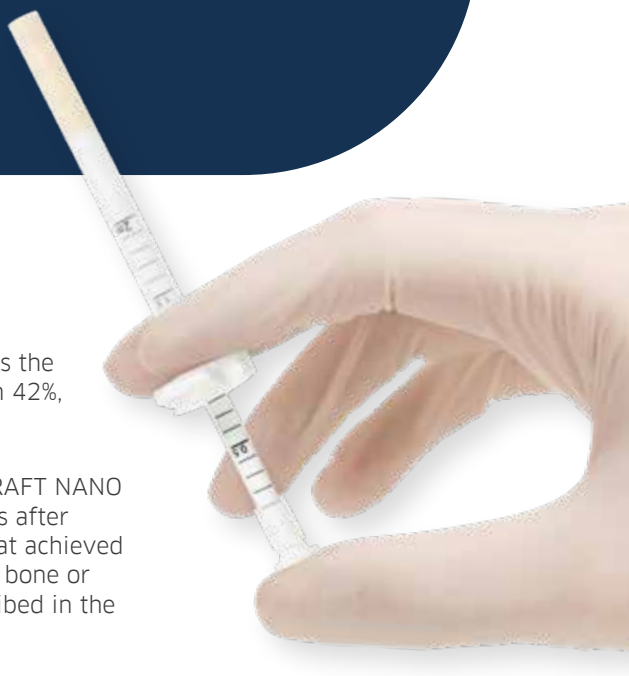


SEM: FISIOGRAFT NANO HA REINFORCED

PLGA

The resorbable PLA-PGA copolymer in FISIOGRAFT NANO HA REINFORCED is the space maintainer intended for guided bone regeneration.

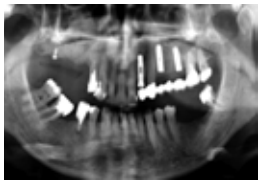
Ready to apply

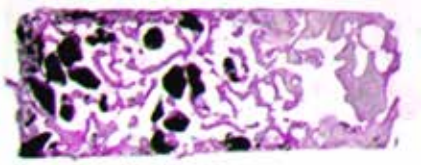


Reliable results

Histomorphometric analysis shows the presence of newly formed bone in 42%, nano-hydroxyapatite in 21%, and medullary spaces in 37%.

This result, achieved with FISIOGRAFT NANO HA REINFORCED only four months after surgery, can be compared with that achieved after 6-8 months with autologous bone or other space-maintainers, as described in the literature 2, 3.



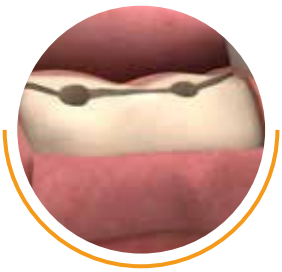


Core removed at the implant site after maxillary sinus elevation

Applications

Maxillary sinus elevation

Maintaining volume



Split crest

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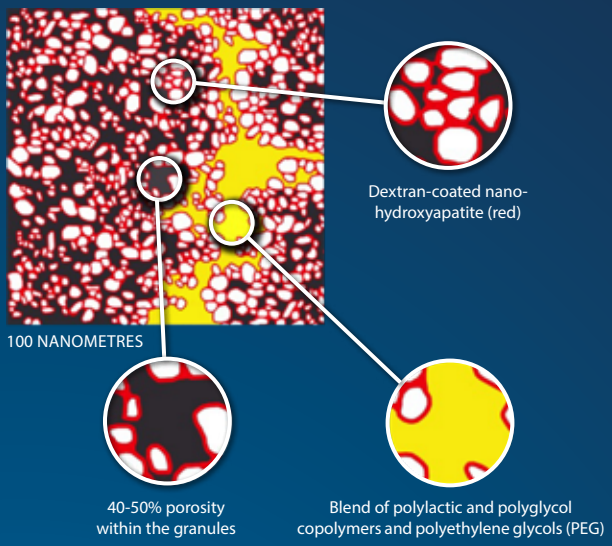
The **ADVANTAGES** of **FISIOGRAFT**
NANO HA REINFORCED

- ✓ RESORPTION + OSSEOINTEGRATION
- ✓ DEGRADATION OF PLGA IN 3-6 MONTHS to make room for the newly formed bone.
- ✓ INTEGRATION OF HYDROXYAPATITE with the mineralised structure of the bone
- ✓ NO ODDS RATIO: BSE - HIV - HBV - SARS
- ✓ HIGH BIOCOMPATIBILITY
- ✓ EASY TO APPLY



FISIOGRAFT: MORE THAN 100 PUBLICATIONS

BIBLIOGRAPHY

1 - Hydroxyapatite Block Produced by Sponge Replica Method: Mechanical, Clinical and Histologic Observations. Antonio Scarano et al; Materials 2019, 12, 3079; doi:10.3390/ma12193079; (IF 2,97).

2 - A Human Clinical and Histomorphometrical Study on Different Resorbable and Non-Resorbable Bone Substitutes Used in Post-Extractive Sites. Preliminary Results. Ilaria De Tullio et al. Materials 2019, 12, 2408; doi:10.3390/ma12152408; (IF 2,97).

3 - Osteogenic magnesium incorporated into PLGA/TCP porous scaffold by 3D printing for repairing challenging bone defect. Yuxiao Lai, Ye Li, Huijuan Cao, Jing Long, Xinluan Wang, Long Li, Cairong Li, Qingyun Jia, Bin Teng, Tingting Tang, Jiang Peng, David Eglin7, Mauro Alini7, Dirk W Grijpma, Geoff Richards, Ling Qin. Biomaterials. 2019 Mar; 197:207-219.

4 - Bone regeneration strategies: Engineered scaffolds, bioactive molecules and stem cells current stage and future perspectives. AntalyaHo-Shui-Ling et al., Biomaterials Volume 180, October 2018, Pages 143-162.

5 - The effect of the type of HA on the degradation of PLGA/HA composites Ashutosh Naik, David V. Shepherd, Jennifer H. Shepherd, Serena M. Best, Ruth E. Cameron Materials Science and Engineering C 70 (2017) 824–831 2017 Elsevier.

6 - Stem cells, growth factors and scaffolds in craniofacial regenerative medicine. Viktor Tollemar et al, Genes & Diseases, Volume 3, Issue 1, March 2016, Pages 56-71.

7 - Apatiti Biomimetiche Per Sostituzione E Fissaggio Osseo: Il Ruolo Delle Nanoparticelle Nel Composito NHAP-PLLA (Biomimetic Apatite for Bone Replacement and Fixation: The Role of Nanoparticles in the NHAP-PLLA Composite) Bachelor's Degree Dissertation of Chiara Giordano.

8 - Alveolar bone dimensional changes of post-extraction sockets in humans: a systematic review. Van der Weijden F, Dell'Acqua F, Slot DE. J Clin Periodontol 2009; 36: 1048-1058.

9 - Valutazione dell'uso di un biomateriale nel trattamento dei difetti parodontali infraossei. (Evaluation of the use of a biomaterial in the treatment of intrabony periodontal defects). Briguglio F, Isola G, Lapi M, Briguglio R, Briguglio E. Italian Oral Surgery I.O.S. 2009; 8 (5): 247-55.

10 - Polylactide/polyglycolide copolymer in bone defect healing in humans. Bertoldi C, Zaffe D, Consolo U. Biomaterials 2008; 29: 1817-23.

11 - Maxillary sinus augmentation with different biomaterials: a comparative histologic and histomorphometric study in man. Orsini G, Piattelli A, Pecora G, Piattelli M, Degidi M, Iezzi G, Scarano A. Best Poster Presentation Abstracts - 19th Annual meeting of the academy of osseointegration 03/2004.

12 - Guided Tissue Regeneration with a Synthetic Co-polymer of Polyglycolic and Polylactic Acid (Fisiograft® gel) in Fenestrations and/or Dehiscences Defects Around Implants: A Clinical Controlled Study at 1 Year. Rocchietta I, Pilloni A, Rasperini G, Simion M. Poster Presentation Abstracts the 19th Annual meeting of the Academy of Osseointegration 03/2004; P118.

13 - Ridge preservation following tooth extraction using a polylactide and polyglycolide sponge as space filler: a clinical and histological study in man. Serino G, Biancu S, Iezzi G, Piattelli A. Clin Oral Impl. Res. 2003; 14: 651-58.

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