



FISIOGRAFT

nanoH.A.reinforced

SYNTHETIC BONE GRAFTING MATERIAL MADE WITH
HYDROXYAPATITE AND POLYLACTIC-POLYGLYCOLIC ACIDS (PLGA)

BIPHASIC BONE REGENERATION:

PLGA and HYDROXYAPATITE:

OSTEOCONDUCTION

PLGA is completely absorbed in 4-6 months and substituted by well mineralized trabecular bone



SEM: PLGA

OSTEOINTEGRATION

HYDROXYAPATITE remains at the site and constitutes the aggregation point for the hydroxyapatite produced by the osteoblasts until they are completely incorporated by new bone.



SEM: HYDROXYAPATITE

PATENTED MANUFACTURING PROCESS

The hydroxyapatite is synthesized using a technique developed by Ghimas.

→ The granules are smoothed to eliminate any sharp angles to improve the biofunctionality of the osteogenic cells, which show a preference for rounded surfaces.

EASY TO USE

→ FISIOGRAFT nanoH.A.reinforced comes into a syringe ready to use and it does not require any preparation

SAFE

→ FISIOGRAFT nanoH.A.reinforced is a synthetic product, which means it is absolutely risk-free from cross-contamination: BSE - HIV - HBV

EFFECTIVE

→ 42% of new bone after 4 months

SPECIFICATIONS

CLASS III MEDICAL DEVICE

CE 0426, ISO 9001, ISO 13485, HALAL certified



COMPOSITION	Hydroxyapatite 47% (450 mg), PLGA 5% (50 mg), Dextran 18% (180 mg), PEG 30% (320 mg)
RESORPTION	42% of new bone after 4 months
RE-ENTRY TIME	4 months
UNITS AVAILABLE	2 syringes x 1000 mg

CLINICAL APPLICATIONS

IMPLANTOLOGY

- Post extraction sites
- Dehiscences and bone defects
- Major and minor augmentations of the maxillary sinus

PERIODONTOLOGY

- Filling of pockets with one or two walls
- Treatment of grade II furcation defects

ORAL SURGERY

- Post cystectomy defects
- resections of the root apex
- extractions of impacted teeth and/or multiple extractions

In all the applications, fill the defect with Fisiograft nanoH.A.reinforced by compacting it, but not excessively.

CASE STUDIES

Clinical case of a surgical procedure - filling post extraction sites



Post extraction alveoli 3.5 and 3.6. The yellow color is due to washing with tetracycline.



Filling is facilitated by the ready-to-use syringe of **FISIOGRAFT nanoH.A.reinforced**



Material in position before being compacted into the alveoli



Additional filling of the defect. The syringe makes filling the site very simple and easy.

(Photos courtesy of dr. Bo)

Clinical case of a surgical procedure for treating bone defects



Rx Grade II forcation at 4.6



Probing the grade II forcation



Application of **Fisiograft nanoH.A.reinforced**



Rx Control at 3 months

(Photos courtesy of prof. Andrea Pilloni and dr. Dominici)

Clinical case of a maxillary sinus floor elevation



Rx pre-operative



Filling with **Fisiograft nanoH.A.reinforced**



Rx Control at 4 months



Histology at 4 months of a core taken at the implant site

(Photos courtesy of prof. Antonio Scarano)

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, Xinlun 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 Tesina di Laurea Triennale 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. Briguglio F, Isola G, Lapi M, Briguglio R, Briguglio E. Italian Oral Surgery I.O.S. 2009; 8 (5): 247-55
- 10-Poly(lactide/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, Degiuli 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 Penetrations 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



Via Cimarosa, 85 40033 Casalecchio di Reno - Bologna tel. 051
575353
P. IVA: 00499021202 C. F.: 00290990373 Cap. Soc. : 126.000,00 € I.V.
Registro imprese Bologna - Rea 75369

FOLLOW US ON

