



MIS® | 4MATRIX+

Bone Regeneration at Work

MIS®

What is 4MATRIX+?

4MATRIX+ is a synthetic, fully resorbable bone graft putty, composed of 40% Beta tricalcium phosphate, 60% Hydroxyapatite, and a soluble carrier which acts as a spacer and a binder of the particles.

Benefits



Simple to Use

One syringe, one chamber, one action - for easy handling.



Stabilization

4MATRIX+ is delivered as a sterile, ready-to-use putty, which requires no mixing, moistening or other preparation, and maintains its original graft shape and bone volume.



Bone Regeneration

4MATRIX+ promotes the ideal environment for bone growth, due to its physico-chemical structure. While the β TCP resorbs quickly, the HA acts as a space maintainer for a longer duration.

Fully interconnected porosity.

Porosity rate of 70% similar to cancellous bone. This interconnected network of macropores and micropores enables the colonization of bone cells and biological fluid uniformly within the 4MATRIX+.




Beta TriCalcium Phosphate

For more than 25 years, calcium phosphate (CaP) has been used in various clinical applications and considered to be osteoconductive, achieving coalescence with bone tissue.

4MATRIX+ applications

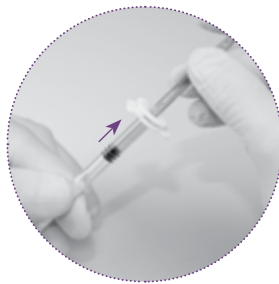
- Periodontal/infrabony defects
- Ridge augmentation
- Extraction sites
- Sinus lifts
- Cystic cavities

 May be used with an autograft as a bone graft extender.
Please read instructions for use for detailed information.

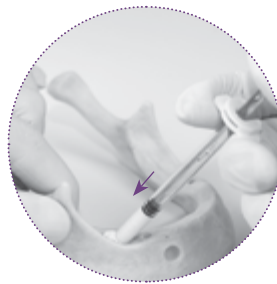
Step-by-step



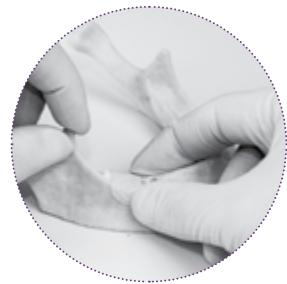
Remove the
black cap



Pull the piston
back 0.5cm



Inject the bone graft putty into
the defect site



Cover with a
membrane

Ordering Information

BS-4MXP5 - 4MATRIX+ bone graft putty 0.5cc

BS-4MXP1 - 4MATRIX+ bone graft putty 1cc



Case Review

Socket preservation - Extraction socket with large buccal bone defect.

Dr. David Norre, Belgium

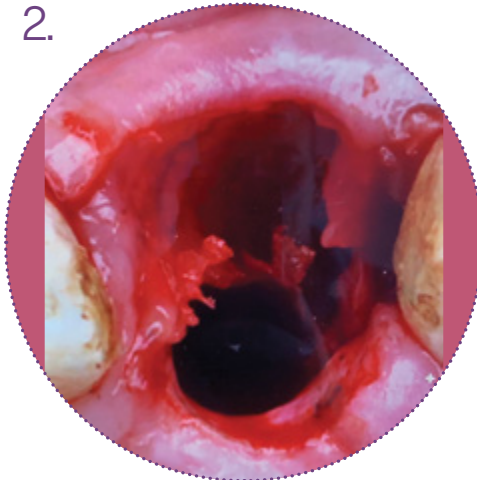
70 year old non-smoker female, presented with severe bone loss in tooth #11. The tooth was extracted and immediate placement was preformed. The implant was placed in conjunction with 4MATRIX+ to correct a buccal bone deficiency. The recommendation is to use a membrane in all surgical procedures. However, due to esthetic reasons, no membrane was used and immediate loading was preformed by using a temporary crown.

1.



Pre-Op

2.

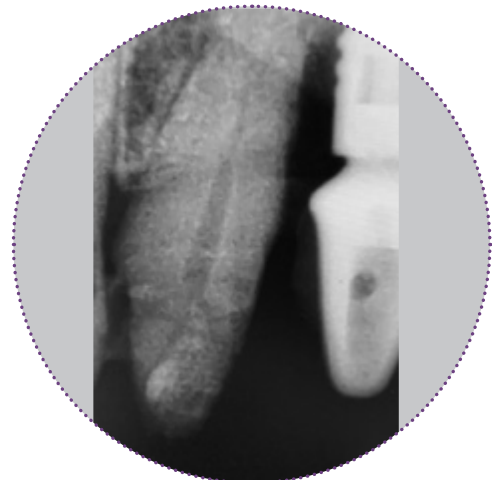


Extraction site with large buccal bone loss

3.



4MATRIX+ injected into the bone defect



Pre op X-ray



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4.

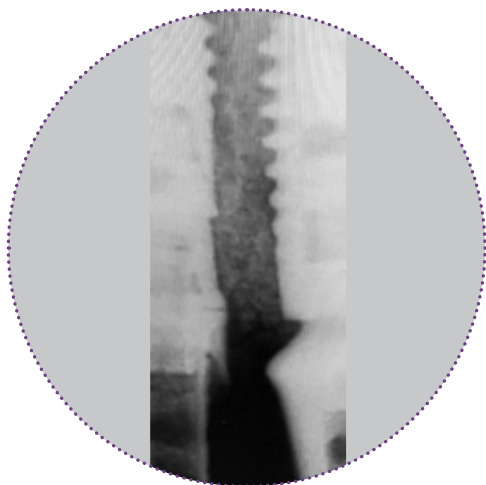


Defect filled with 4MATRIX+

5.



Day of surgery - after



Post op X-ray

Frequently Asked Questions

What is 4MATRIX+?

4MATRIX+ is 100% synthetic, resorbable bone graft putty. It is composed of 40% Betatricalcium phosphate and 60% Hydroxyapatite, with a soluble carrier, which acts as a spacer and binder of the particles. 4MATRIX+ is intended to fill, augment or reconstruct osseous bone defects.

What are the indications for using 4MATRIX+?

4MATRIX+ may be used in maxillofacial applications. Typical uses include, but are not limited to:

- Periodontal / infrabony defects
- Ridge augmentation
- Extraction sites
- Sinus lift
- Cystic cavities

Is 4MATRIX+ resorbable?

Yes. The resorbability of the Hydroxyapatite (HA) is dependent on the process used during production. The process used for the 4MATRIX+ ensures complete resorption of the hydroxyapatite.

What is the resorption rate for 4MATRIX+?

The composition of 4MATRIX+ allows a balanced degradation; while β -TCP (40%) resorbs fast, the HA (60%) granules act as a longer space maintainer. The average resorption rate is expected within 7 months (± 2).

What are the porosity properties of 4MATRIX+?

4MATRIX+ has fully interconnected porosity with 3 different granule sizes ranging from 80 μ m to 1mm. An interconnected network of macropores and micropores enables the colonization of bone cells and biological fluid, uniformly within the matrix.

Is 4MATRIX+ bioactive?

Yes. Bioactivity, by definition, is having an effect upon a living organism, tissue, or cell. 4MATRIX+ promotes the formation of new bone by releasing calcium and phosphate ions into the surrounding area. The tricalcium phosphate dissolution and bone crystal precipitation create a newly bioactive interface with bone cells.

Does 4MATRIX+ have a setting time?

No. 4MATRIX+ is a putty-like bone substitute, not a cement. This non self-setting, moldable material adapts easily to the defect site and allows flexibility during its use.

Can the 4MATRIX+ be used as a composite?

Yes. Due to its properties, 4MATRIX+ may be used with autogenous bone graft.

Should I take any precautions while using this material?

In order to preserve the delicate structure of the material, do not press, jam or compact the putty. Fill the defect without any pressure; do not overfill. It is very important to leave space between the granules to allow for biological infiltration and cellular colonization.

How should I use 4MATRIX+ the first time?

Prior to first use, it is recommended to read the IFU, in order to achieve the desired outcome. The syringe is packed in a double pouch for maximum sterilization. Once the package is opened, remove the black cap of the syringe by twisting it and pulling it out. Pull the piston back approximately half a centimeter. Then push the piston gently, and eject smoothly into the defect. Since the 4MATRIX+ is in putty form, there is no need to hydrate the graft prior to use.

Is it necessary to use a membrane?

To avoid any possibility of leakage out of the cavity of implantation, bone flap or resorbable membrane can be associated. The defect must not be left open.



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Device Directive 93/42/EEC. MIS products are CE marked. Please note, not
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