



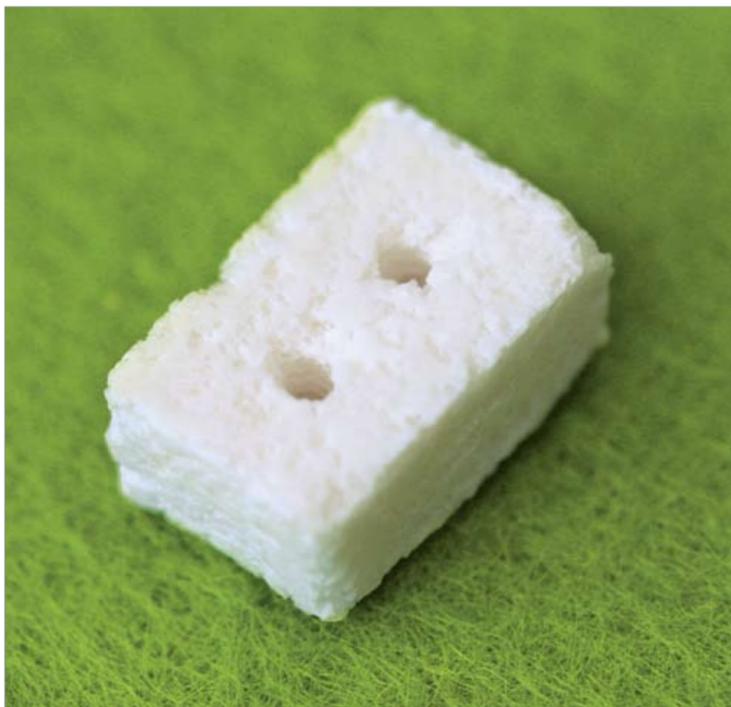
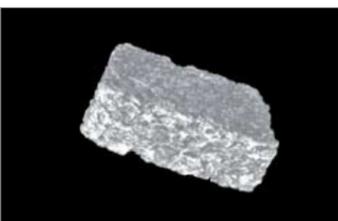
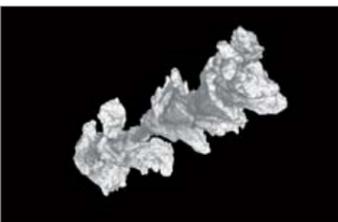
NanoBone®

NanoBone®

NanoBone®

block

- If you have questions about using this product, the product itself and/or wish to order **NanoBone®**, simply contact us!



2 | The synthetic bone grafting material NanoBone® is available in granulate or block form

3 | New - the NanoBone® | block is the alternative to autogenous bone blocks

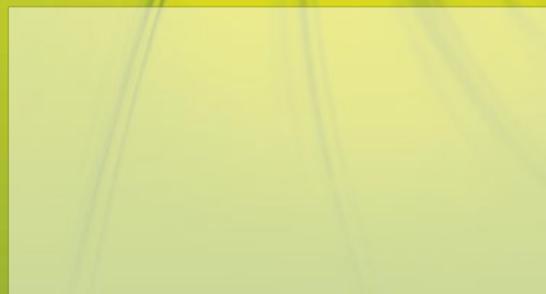
NanoBone® Technology

The NanoBone® | block is made of nanocrystalline hydroxylapatite (HA) embedded in silica gel. The bone grafting material is produced using the sol-gel process at temperatures of around 700°C and is non-sintered. This makes the material highly porous. Proteins such as fibrins adsorb on the nanostructures. This makes them more "attractive" for the cells which initiate bone formation. The body accepts the NanoBone® | block as if it were endogenous, so the material produces no foreign body reactions or inflammation.

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PRESENTED BY:



The alternative to autogenous bone blocks

Information on the NanoBone® | block



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The alternative to autogenous bone blocks

Information on the NanoBone® | block

NanoBone®

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NanoBone® | block

The NanoBone® | block offers a safe and rapid bone formation solution in the case of vertical and horizontal bone deficits. It has been developed from the synthetic bone grafting material NanoBone® | granulate and also consists of nanocrystalline hydroxylapatite embedded in silica gel. The NanoBone® | block is the alternative to the autogenous bone block. The synthetic block offers doctors a rapid operating procedure which places a minimum of strain on patients. There is no need for a second operation to remove bone.

Product Description

The NanoBone® | block comes with a microplate and two titanium microscrews. In view of the product's properties, we recommend the block be fixed using the additional materials included in the kit.

- Block dimensions: 5 x 10 x 15 mm
- Pre-drilled holes Ø 1.7 mm, 6 mm apart
- Special attributes
 - Porosity approx. 80 %
 - Brittle, also non-elastic subsequent to moistening
- Packaging: Double-sterile
- Additional material (included):
 - 2-hole microplate with 6 mm base
 - 2 titanium microscrews Ø 1.5 mm x 10 mm* self-tapping, recessed head**

* Shorter screws may be needed depending on the underlying bone tissue and the thickness of the shaped block
 ** Screw manufacturer: Helmut Zepf GmbH, additional equipment can be purchased from DCV Instrumente GmbH Tel. +49 (0)7464-2200

The alternative to autogenous bone blocks

With the NanoBone® | block, doctors can spare patients the second operation needed to remove autogenous bone blocks. The 5 x 10 x 15 mm block can be shaped to fit the underlying bone tissue using rotating instruments. The low risk of complications and simple operation are two more advantages of the NanoBone® | block.

Recommendations for use

1 OP instructions

1. For rapid bone development, as large as possible a contact area between the underlying bone tissue and the NanoBone® | block is recommended. This contact area can be achieved by:
 - a. contouring the block with rotating instruments, although care must be taken to ensure the resulting shape is not too complex, or
 - b. adapting the underlying bone tissue in line with the shape.
2. Drill Ø 1.2 mm holes in the underlying bone tissue (the microplate can be used as a template).
3. Perforate the underlying bone tissue.
4. Adapt block to the underlying bone tissue in congruence with the shape.
5. Soak the NanoBone® | block in blood.
6. Tighten the two microscrews lightly to fix the block with the microplate.
7. Fully moisten the fixed block with physiological saline solution to ensure that the whole of the block is saturated and there are no air spaces.
8. Surround the contact points with chips of NanoBone® | block or with NanoBone® | granulate.
9. Tension-free and saliva-proof closure of the soft tissue in the augmented area, if necessary periosteal slitting. Absorbable membrane can be used but it is not absolutely necessary.
10. Perioperative antibiotics are to be recommended.



2 | Contouring the block with rotating instruments



3 | Soaking the block in blood



4 | Fixing with a microplate and two microscrews



5 | Tension-free cover

2 Post-operative procedure

All pressure on the augmented material (including through partial prostheses) must be avoided. The wound can be cleaned using an extremely soft short-head brush and

disinfectant solutions (pressure-free!). Do not rinse! Moderate cooling of the surrounding area for the reduction of post-operative swellings is possible.

3 Implant insertion

Insertion of implant subsequent to 3 months' healing time at the

earliest if there is macroscopic evidence of bone regeneration.

Frequently asked questions

When is use of the NanoBone® | block indicated?

The NanoBone® | block was developed in cooperation with users for large augmentations. It offers an alternative to autogenous bone blocks for improving the implant bed in the case of vertical and horizontal bone deficits.

How different is using the NanoBone® | block to using autogenous bone blocks?

The NanoBone® | block is handled very differently from autogenous bone blocks. The biomaterial's efficient nanostructure makes it extremely porous and is therefore at risk of breakage even when moist. It is therefore advisable to fix the block with a microplate. Unlike with the autogenous bone block - which is fixed by pressing - the microplate will keep the block rotation-stable after mere light tightening.

What healing time should I allow for?

Re-entry in case of augmentation with the NanoBone® | block is recommended after 3-6 months if there is macroscopic evidence of bone regeneration.

Does membrane have to be used?

It is not absolutely necessary to use a membrane. Periosteum, if this can be used, provides the best cover. If it is not possible to securely cover the soft tissue even after periosteal slitting, it is advisable to use absorbable membrane as this provides greater security and protection in the event of dehiscence.

Does the augmentation material have to be covered?

Secure, saliva-proof mucoperiosteal stitching is required (if necessary double).

What happens if the NanoBone® | block becomes unusable during the operation (e.g. due to breakage or contamination)?

The manufacturer will send an extra block free of charge with the first order. This second block can be used in the case of breakage or contamination. As a partner of our users, we are doing all we can to ensure the launch of this product innovation runs smoothly, simply and successfully, for we have patients' interests at heart. We will provide another block free of charge with your next order if you send us the block which is no longer fit for use.

Do the plate and screws have to be removed?

The microplate and screws should be removed when settling the implants.