Geistlich
Biomaterials

Strong bone for beautiful teeth

Patient Information | Bone reconstruction with Geistlich Bio-Oss® and Geistlich Bio-Gide®

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Smiling is the most beautiful way to show your teeth

Strong and beautiful teeth boost your feeling of well-being and self-confidence and enhance your personal appeal – both in your private and professional life. Therefore, responsible dentists and dental surgeons today plan very accurately how missing teeth can be replaced and diseased teeth can best be treated so as to give you back the associated quality of life.

Bone reconstruction treatments can ensure the function and beauty of your teeth. To do this, your dentist can utilize natural materials that have been proven for many years and are very well tolerated.

What are the causes of bone loss?

Bone loss can have many different causes – e. g. accidents, or inflammation of the gums and bone due to bacterial tooth plaque (periodontitis). Also after teeth have been removed the height and thickness of the jaw bone diminishes due to the lack of mechanical loading.

However, a sufficient amount of bone is essential to ensure longterm stability of your dental implants or teeth. It can also be critical for ensuring the attractiveness of your teeth and gums.

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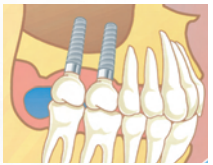
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Under what circumstances is bone reconstruction necessary?

1. Dental implants
To support and augment the jaw bone when using dental implants, if the existing amount of bone is not sufficient for long-term stable tooth anchoring

2. Periodontitis
To preserve existing teeth that have lost their secure anchorage in the jaw bone as a result of periodontal disease (bacterial tooth plaque)

3. Extensive bone damage
Bone reconstruction after extensive bone loss

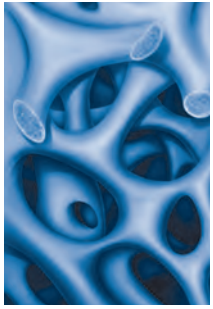
4. Sinus floor augmentation
To correct a bone defect in the posterior region of the upper jaw (maxillary sinus)

5. Root resection or cyst removal
To reconstruct destroyed bone following root or cyst resection

How can bone be reconstructed?

Human bone possesses the ability to regenerate, in other words, to rebuild missing bone. In most of the cases it still needs assistance. The natural products Geistlich Bio-Oss® and Geistlich Bio-Gide® support the body‘s own bone regeneration processes extremely effective.

Newly forming bone requires a scaffold serving as a template. The bone substitute material Geistlich Bio-Oss® meets this requirement perfectly with its highly porous structure. A membrane (Geistlich Bio-Gide®) is placed over the area of bone healing and it serves as a protective barrier which prevents rapidly growing soft tissue from invading the space that should be occupied by the slowly ingrowing bone. In addition, Geistlich Bio-Gide® assists good wound healing.



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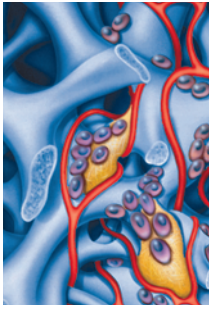

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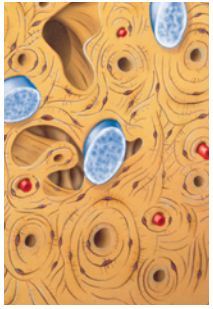

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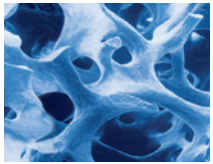
1 Scaffold structure of Geistlich Bio-Oss®
2 Ingrowth of blood vessels and bone-building cells
3 Completed new bone generation

What are Geistlich Bio-Oss® and Geistlich Bio-Gide®?

Geistlich Bio-Oss® and Geistlich Bio-Gide® are natural products. Due to the great similarity to human tissue, these materials are optimally suited to promote new bone formation and tissue healing in the human body. They are integrated into the tissue in the course of healing, and are then broken down gradually by the body's own metabolic processes. This process may take several years for Geistlich Bio-Oss® while Geistlich Bio-Gide® is broken down completely after a couple of months.

Geistlich Bio-Oss® is made from the mineral part of the bones originating from Australian cattle. During manufacture, the organic constituents are removed, so that only the hard bone structure consisting of calcium compounds remains.

Geistlich Bio-Gide® is a membrane prepared from collagen (animal of origin: pig). In the human body the protein collagen is the main component of skin and connective tissue. The natural protein structure of Geistlich Bio-Gide® promotes wound healing and allows optimal bone regeneration by acting as a protective barrier.



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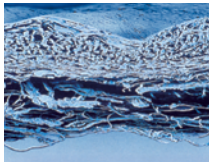

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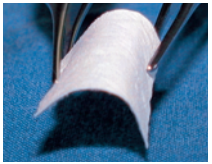

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1 Structure of Geistlich Bio-Oss® in the microscope
2 Geistlich Bio-Oss®
3 Structure of Geistlich Bio-Gide® in the microscope
4 Geistlich Bio-Gide®

How is the treatment performed?

Bone reconstruction and insertion of the dental implant take place at the same time

1a Dental implant
Exposed implant due to lack of bone mass

1b Use of Geistlich Bio-Oss®
Filling of the bone defect with Geistlich Bio-Oss® to form new bone

1c Use of Geistlich Bio-Gide®
To protect bone formation, the wound is covered with the Geistlich Bio-Gide® membrane

1a

1b

1c

The dental implant is inserted only after bone reconstruction is completed

2a Use of Geistlich Bio-Oss®
Filling of the bone defect with Geistlich Bio-Oss® to form new bone

2b Use of Geistlich Bio-Gide®
To protect bone formation, the wound is covered with the Geistlich Bio-Gide® membrane

2c Dental implant
The dental implant is inserted when bone reconstruction has been completed

2a

2b

2c

If a tooth damaged by periodontitis is to be retained, Geistlich Bio-Oss® and Geistlich Bio-Gide® can be used to build new bone, as with dental implants. This stabilises the tooth.

What must I generally be aware of after surgery?

- Swellings can be treated with damp cold compresses.
- If pain occurs, your dentist will prescribe a suitable pain-killer.
- For the first weeks, when brushing your teeth, avoid the area that was operated on, and use an antibacterial mouth-wash. After this, a tooth-brush with special soft bristles can be used for cleaning the area around the wound.
- Avoid coffee, alcohol and cigarettes for 2–3 days after the procedure. This reduces the risk of post-surgery bleedings, and allows better wound healing.
- Heavy smoking and poor oral hygiene can have a massive detrimental effect on the outcome of the therapy.
- It is essential to attend the check-up appointments with your dentist even if healing is proceeding without problems.

What are the manufacturing criteria for Geistlich Bio-Oss® and Geistlich Bio-Gide®?

Meticulous selection of raw materials together with strictly controlled and certified manufacturing processes of Geistlich Bio-Oss® and Geistlich Bio-Gide® conform with the highest safety requirements and ensure extremely high tolerability.

Our strict manufacturing criteria:

- Careful selection of raw materials for the manufacture of Geistlich Bio-Oss® and Geistlich Bio-Gide®, using bone substance or collagen only from monitored establishments.
- Health tests of cattle (Geistlich Bio-Oss®) and pigs (Geistlich Bio-Gide®).
- Highly effective cleaning process with chemical and physical treatments and long periods of heating (Geistlich Bio-Oss®).
- Monitored production process with regular checks by independent institutions and state authorities.
- Sterilisation of end products.
- Documented quality assurance system.

What experience is there with Geistlich Bio-Oss® and Geistlich Bio-Gide®?

Geistlich Bio-Oss® and Geistlich Bio-Gide® have been part of the standard therapy in the field of bone reconstruction by dentists and dental surgeons for many years. They are the biomaterials most frequently used in regenerative dental medicine throughout the world. Geistlich Bio-Oss® and Geistlich Bio-Gide® have been used many million times, so extensive amounts of data and reports of experience exist. In addition, a great number of clinical studies document the reliability of both products.

Notes

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