

# We Want to Keep You Smiling

**Bone Regeneration with Geistlich Bio-Oss®  
and Geistlich Bio-Gide®**



## Strong Bone for a Healthier Smile

Strong and healthy teeth provide a feeling of well-being, self-confidence and enhance your personal appeal – both in your private and professional life.

Therefore, your dentist takes great care in planning how missing teeth can be replaced and diseased teeth can best be treated to give you back an improved quality of life. The selection of the appropriate materials for your particular case is an important decision for your dentist when considering the treatment option that is right for you. Your dentist wants to keep you smiling – and so do we.

Bone regeneration treatment can improve the function and appearance of your teeth. To do this, your dentist can utilize materials that meet the highest safety standards and have been proven predictable for over 163 years. Geistlich regeneration materials are quality tested, based on scientific evidence and clinical efficacy, making them the natural choice for your regenerative therapy.

## What Are the Causes of Bone Loss?

Bone loss may be due to trauma or inflammation of the gums and bone due to bacteria (periodontitis). Bone loss may also occur following tooth removal; over time the height and thickness of the bone diminishes due to the natural healing process and lack of mechanical loading.

A sufficient amount of bone is essential to ensure the long-term stability of your teeth or dental implants. It can also be critical for ensuring the esthetic appearance of your teeth and gums.

# When Is Bone Regeneration Necessary?

## 1. Dental implants

To support and augment the bone surrounding dental implants, if the existing volume of bone is not sufficient for long-term stability

## 2. Periodontitis

To preserve existing teeth that have lost their supporting structures due to periodontal disease

## 3. Extensive bone defects

To regenerate lost bone due to trauma or missing teeth

## 4. Sinus floor augmentation

To correct a bone defect in the posterior region of the upper jaw (maxillary sinus)

## 5. Root or cyst removal

To regenerate bone in the defect following removal

## 6. Extraction sockets

To support the bone and improve the soft-tissue following tooth extraction



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## How Can Bone Be Regenerated?

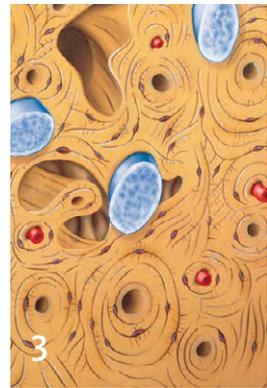
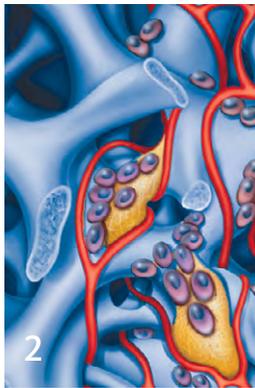
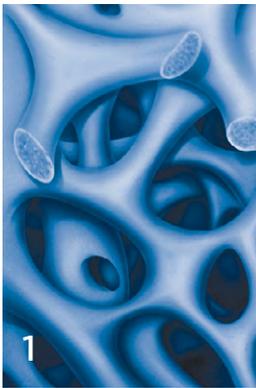
Human bone possesses the ability to regenerate lost bone. In most cases, some assistance may be required to gain an adequate volume of bone.

The properties of Geistlich Bio-Oss® and Geistlich Bio-Gide® support the body's own bone regenerative processes extremely effectively.<sup>1,2,3</sup>

When regenerating new bone, a physical structure is often required to support the ingrowth of blood vessels and bone-forming cells.

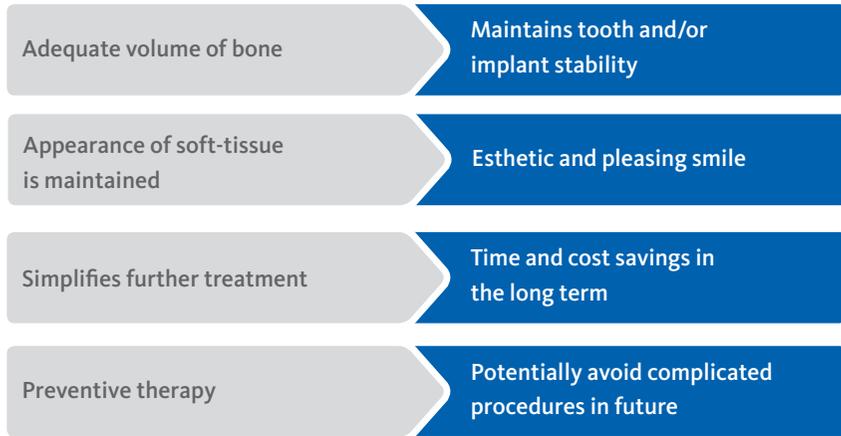
As a bone substitute material, Geistlich Bio-Oss® has the physical properties necessary to promote cellular migration which results in promoting new bone formation.<sup>4</sup>

A membrane (Geistlich Bio-Gide®) is placed over the surgical area and serves as a protective barrier which prevents rapidly growing soft-tissue from invading the space that should be occupied by the slower ingrowth of new bone. In addition, Geistlich Bio-Gide® promotes good wound healing.<sup>5,6,7</sup>



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

# Why Is Bone Preservation Important?



Case: Dr. Behnam Shakibaie-M. (Tehran, Iran)



Case 1: Example of a case following tooth extraction without preventive treatment to support the bone



Case 2: Example of a case 2 years following preventive treatment to support the bone using Geistlich Bio-Oss®

Geistlich Bio-Oss® and Geistlich Bio-Gide® should be used with special caution in patients with:

- Metabolic diseases (diabetes, hyperparathyroidism, osteomalacia)
- Osteoporosis
- Severe renal dysfunction, severe liver disease
- High dose therapy with corticosteroids
- Vascular impairment at the implant site
- Autoimmune disease
- Radiotherapy
- Heavy smoking
- Acute or chronic infection (e.g., osteomyelitis) at the surgical site

Effect on pregnant or lactating women is not known.

Success rates may vary depending on the type of procedure performed.

## What Are Geistlich Bio-Oss® and Geistlich Bio-Gide®?

Geistlich Bio-Oss® and Geistlich Bio-Gide® are naturally derived 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.<sup>8,9,10</sup> They are integrated into the tissue during the healing process<sup>1,2,3,12</sup> and are then degraded gradually by the body's own metabolic processes. This process may take several years for Geistlich Bio-Oss® while Geistlich Bio-Gide® is completely degraded after a few months.<sup>11,12,13</sup>

**Geistlich Bio-Oss®** is made from the mineral part of bovine bone. During manufacturing, 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 porcine collagen. 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.<sup>8,9,10</sup>



## How Are Our Products Made?

The meticulous selection of raw materials and a strictly controlled manufacturing process, allows Geistlich Bio-Oss® and Geistlich Bio-Gide® to conform to the highest quality and safety standards.

### Our criteria:

- Careful selection of raw materials for the manufacture of Geistlich Bio-Oss® and Geistlich Bio-Gide®, using only bone substance or collagen from monitored establishments
- Highly effective cleaning process using chemical and physical treatments and long periods of heating (Geistlich Bio-Oss®)
- Regularly monitored production process by independent and governmental authorities
- Sterilization of end products
- Documented quality assurance system





## Following Your Procedure

Following any surgical procedure some swelling may occur. A damp cold compress placed on the side of the face where the surgery was performed can be used to help alleviate the swelling.

- If you experience pain following your procedure, please contact your dentist.
- For the first 2 weeks, when brushing your teeth, avoid the surgical area and use an antibacterial mouthwash if recommended by your dentist. After this initial period, a toothbrush with soft bristles can be used for cleaning the area around the surgical site.
- Avoid coffee, alcohol and smoking for 2–3 days after the procedure. This reduces the risk of post-surgical bleeding, and promotes better wound healing.
- It is essential to attend the follow-up appointments with your dentist even if healing is uneventful.

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Geistlich Bio-Oss® and Geistlich Bio-Gide® should only be utilized by a licensed dentist. Success rates may vary depending on the type of procedure performed.

### References

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- 7 Becker J. et al., Clin Oral Implants Res. 2009; 20(7) : 742-749
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**CAUTION:** Federal law restricts these devices to sale by or on the order of a dentist or physician.

**Indications:**

Geistlich Bio-Oss® is indicated for the following uses: Augmentation or reconstructive treatment of the alveolar ridge; Filling of periodontal defects; Filling of defects after root resection, apicoectomy, and cystectomy; Filling of extraction sockets to enhance preservation of the alveolar ridge; Elevation of the maxillary sinus floor; Filling of periodontal defects in conjunction with products intended for Guided Tissue Regeneration (GTR) and Guided Bone Regeneration (GBR); and Filling of peri-implant defects in conjunction with products intended for GBR.

**Warnings:**

Possible complications which may occur with any surgery are swelling at the surgical site, flap sloughing, bleeding, local inflammation, bone loss, infection or pain.

**Indications:**

Geistlich Bio-Gide® is indicated for the following uses: Augmentation around implants placed in immediate and delayed extraction sockets; Localized ridge augmentation for later implantation; Alveolar ridge reconstruction for prosthetic treatment; Filling of bone defects after root resection, cystectomy, removal of retained teeth; GBR in dehiscence defects; and GTR procedures in periodontal defects.

**Warnings:**

As it is a collagen product, allergic reactions with Geistlich Bio-Gide® may not be totally excluded. Possible complications which may occur with any surgery include swelling at the surgical site, flap sloughing, bleeding, dehiscence, hematoma, increased sensitivity and pain, bone loss, redness, and local inflammation.

For more information on contraindications, precautions, and directions for use, please refer to the Geistlich Bio-Oss® and Geistlich Bio-Gide® Instructions for Use at: [www.geistlich-na.com/ifu](http://www.geistlich-na.com/ifu)

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