GUM REGENERATION

DENTAL WOUND DRESSINGS

...g and 4BONE Tape are dental wound dressings ...ing oral surgical procedures to control bleeding, ...od clots and aid in wound healing. Both 4BONE ...BONE Tape are fully resorbable and are engineered ...purified cross-linked type I bovine collagen with ...structure and thickness to allow the absorption ...d and blood at the defect site.

SYNTHETIC BONE GRAFT

4BONE BCH is a fully synthetic bioactive bone substitute composed of chemical synthesis of 60% HA and 40% ß-TCP. With its micro and macro porosity and osteoconductive properties, BCH attracts osteogenic cells and promotes the diffusion of biological fluids, providing a guaranteed homogenous distribution and diffusion of the two phases. 4BONE provides flexibility and a predictable healing process and outcome for a wide range of bone regeneration procedures.

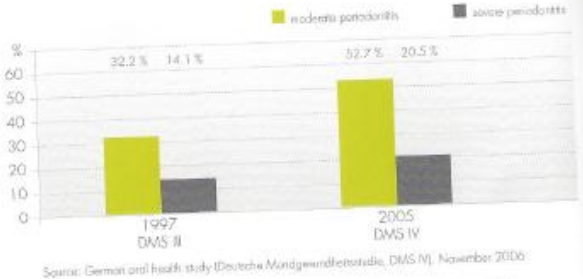
MO-PRESS Rev.2

mis | MAKE IT SIMPLE

mis REGENERATIVE SOLUTIONS

WHAT IS **PERIODONTITIS**?

Pay attention to swollen, reddened or bleeding gingiva – it may be the first sign of periodontitis, an inflammatory disease of the periodontium, which includes the gingiva and jaw bones. The majority of adults is affected. About three in four adults suffer from periodontitis during their lives – many without initially knowing it. The cause of periodontitis is bacteria and their toxins that have time and space to proliferate, preferably in the niches between the teeth and the gingiva, causing bacterial plaque to develop. If plaque is not removed (including removal from between the teeth) by appropriate oral hygiene, tartar develops due to mineral deposits. Due to its rough surface structure, tartar is an ideal foundation for additional layers of plaque. Because tartar adheres very strongly to the tooth surface, a normal toothbrush is no longer sufficient and its removal requires professional cleaning by a dentist or dental hygienist. If tartar is left, the inflammatory process can continue to develop. Continued inflammation means that in the advanced stages of periodontitis, the jaw bone and the fibers retaining the teeth atrophy, which leads to loosening of teeth and, in the worst case, tooth loss.



Source: German oral health study (Deutsche Mundgesundheitsstudie, DMS IV), November 2006

Development of periodontitis in 35- to 44-year-old adults from 1997 to 2005

WHAT ARE THE RISKS OF PERIODONTITIS?

Does periodontitis have adverse effects on the heart? Studies show that chronic inflammation may promote cardiovascular disease as periodontal bacteria do not remain restricted to the oral cavity. Bacteria and their toxins can enter the bloodstream from the tooth socket and endanger the rest of the body. Once in the bloodstream, the immune system is mobilized and tries to neutralize the bacteria.

If the inflammation is not treated, the immune cells remain active. People suffering from periodontitis may therefore be at higher risk of cardiovascular diseases, such as heart attacks and strokes.

FROM **PLAQUE** TO **TOOTH LOSS**

STAGES OF PERIODONTITIS

1. Plaque accumulates on the tooth at the gingival margin. The gum becomes inflamed; it bleeds:

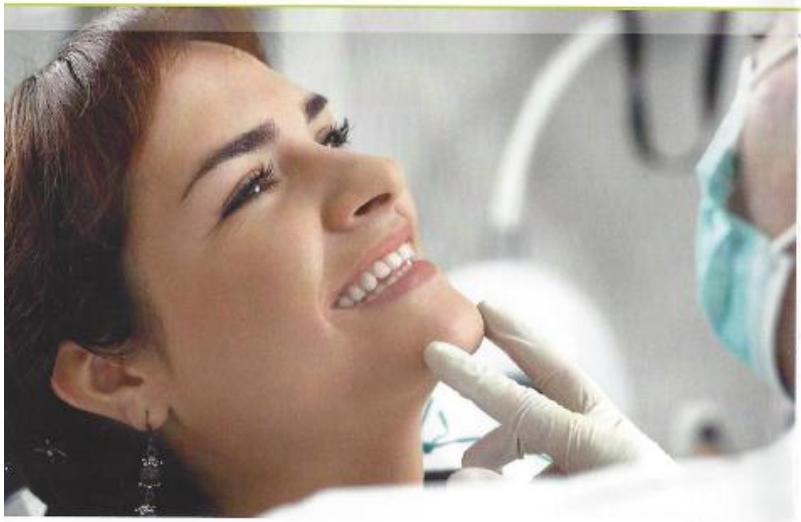
***Mild** gingivitis caused by plaque and tartar formation*

2. The gingival margin is loosing attachment to the tooth, bacteria are multiplying, plaque is adhering to the tartar, the surrounding bone atrophies:

***Severe** gingivitis and inflammation of the periodontium (periodontitis)*

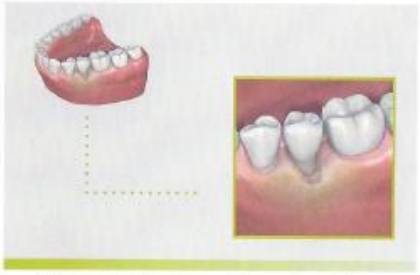
3. The gum recedes, jaw bone and tooth fibers continue to atrophy, the tooth loosens and may fall out:

***Massive** inflammation and atrophy of the periodontium*



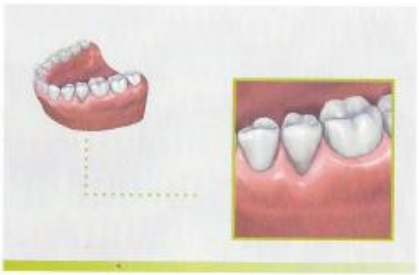
DISEASES OF THE PERIODONTIUM

How severely is the jaw bone affected by periodontal disease, and what is the effect of periodontitis on the entire periodontium?



Loss of bone around teeth with a root, known as bone defect

If periodontitis remains untreated, the inflammatory process will continue into deeper regions at the root of the tooth. Bone defects, mostly funnel-shaped, will develop in the area of the interdental spaces.



Widespread inflammation-free recession of the gingiva and the underlying bone, known as recession defect

There are also diseases in which the gingiva and the underlying bone recede without prior inflammation. There are many reasons for this: incorrect tooth cleaning, displaced teeth, or bruxism are some examples. Gingival recession is not only an esthetic problem but may also be painful for the patient because it exposes the neck of the tooth and causes hypersensitivity.

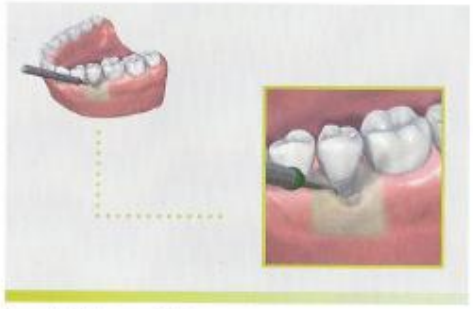
TREATMENT **PROCESS**

The most important aim of treating periodontitis is to heal the inflammatory disease. Therapy starts with the initial treatment, in which the patient is shown how to clean his or her teeth in the best way, even areas that are difficult to reach, such as interdental spaces. The teeth are also professionally cleaned to remove the hard deposits as thoroughly as possible, first above and then below the gingival margin. If this treatment of the root surface in the gingival sulcus is not sufficient, surgical treatment with cleaning will be required.

TREATMENT STEPS

1	2	3	4	STEPS
RESULTS Clinical and radiological	**DIAGNOSIS** Periodontitis	**INITIAL THERAPY** Periodontal pretreatment to establish ability to maintain oral hygiene, removal of plaque and tartar	**REGENERATION** Surgical therapy with Straumann® Emdogain, bone graft material can also be applied for larger defects	

STARTING TREATMENT



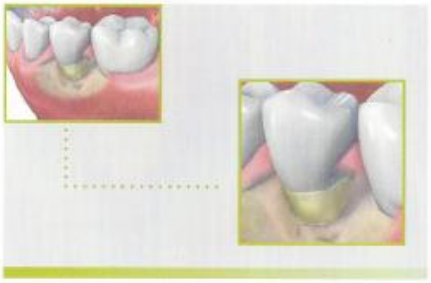
Removal of plaque and tartar

INITIAL THERAPY

In the first phase of periodontitis treatment, the external causes of the disease are eliminated to establish the conditions required for healing. The bacterial infection is treated first in the hygiene phase, with professional tooth cleaning by dental hygienists at the dental practice and instruction of the patient in oral hygiene. Professional cleaning includes removal of plaque, tartar and the bacteria that cause the disease. After the initial therapy, the degree of oral tissue inflammation is reduced.

REGENERATIVE TREATMENT

Regeneration with Straumann® Emdogain*



Straumann® Emdogain is applied to the defect; its gel-like consistency enables it to be applied evenly

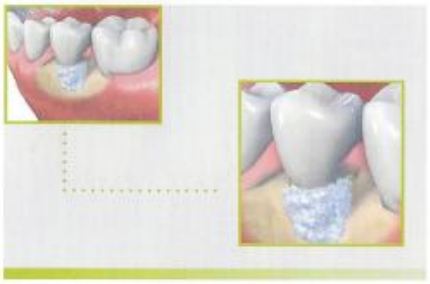
PRINCIPLE OF MIMICRY

Emulating nature – Straumann® Emdogain mimics the biological process of natural tooth development. It promotes regeneration of hard and soft periodontal tissues. The goal of the regeneration is the renewal and complete restoration of the structure and function of the lost tissue. Straumann® Emdogain is scientifically well documented and has already been used in over a million patients worldwide.

THE METHOD

Straumann® Emdogain is applied to the exposed, cleaned root surface in a minor surgical procedure.

Bone regeneration with Straumann® BoneCeramic



Filling with Straumann® BoneCeramic

Bone graft material can be used with Straumann® Emdogain to replace the missing tissue in larger defects. Synthetic materials such as Straumann® BoneCeramic are an established alternative to the patient's own bone. Straumann® BoneCeramic is a fully synthetic bone graft material that supports the growth of new, vital bone. The aim here is also to regenerate as much natural tissue as possible.

THE FIRST WEEKS
AFTER TREATMENT

Treatment with Straumann® Emdogain starts a process of regeneration and healing. The process should proceed as undisturbed as possible. You should follow some general rules during the healing period. To avoid disturbing the healing process, do not clean the teeth in the area of the wound for the first few days after the operation.

The following instructions are for the first few weeks after treatment.

WEEK 1
- Use an antibacterial mouthwash several times a day
- Avoid alcohol, nicotine, coffee, black tea and fresh dairy products
- Avoid the treated area when chewing
- Avoid hard and chewy foods
- Do not clean the treated area with a toothbrush

WEEKS 2–6
- Rinse with an antibacterial mouthwash
- Removal of sutures by the treating dentist
- Cleaning of teeth by dental professionals
- Continue to avoid the interdental spaces

FROM WEEK 6
- Cleaning of teeth by dental professionals
- Clean teeth carefully in treated area, including the interdental spaces

The treating dentist will schedule regular checkups to check the progress of the healing.

Because every surgical procedure involves potential risks, the patient should consult a dentist before treatment. The patient will be given information on the possible risks during a consultation, and advised as to whether this treatment is suitable. The procedure in the first few weeks after treatment may vary depending on the individual patient. The treating dentist must therefore inform the patient of what to do during this period and the patient must follow these instructions.

LONG-TERM EFFECT
WITH STRAUMANN® EMDOGAIN

Straumann® Emdogain supports the regeneration of the body's own tissue that has been lost because of periodontitis. The result can be a solid, functional new attachment in the bone and soft tissue.

EXAMPLE: BONE DEFECT

By courtesy of Dr. Gunnar Heden, Karlstad, Sweden

Initial diagnosis
The loss of periodontium has caused a pronounced bone defect

One year after treatment with Straumann® Emdogain
It has been possible to regenerate the natural structures

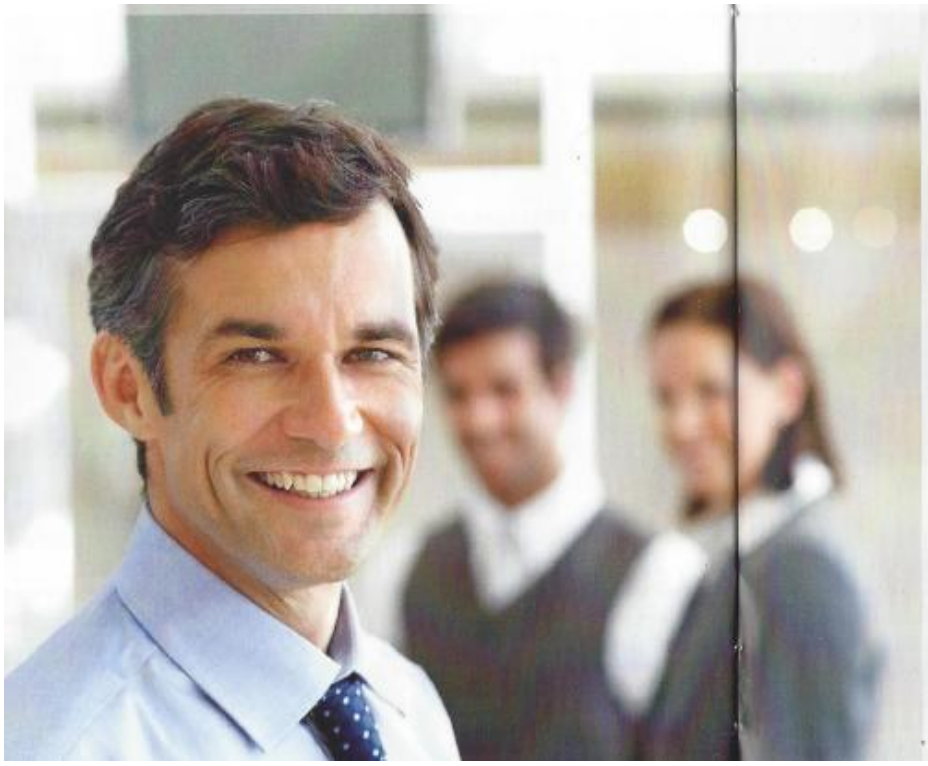
EXAMPLE: RECESSION DEFECT

By courtesy of Prof. G. Zucchelli, Bologna, Italy

Before treatment
5.0 mm recession defect

8 months after treatment with Straumann® Emdogain
Root completely covered

Important: The success of periodontal treatment depends on the active cooperation of the patient. Appointments for treatment and aftercare must be kept. Patients must also practice careful daily oral hygiene.



BENEFITS OF STRAUMANN® EMDOGAIN

- Supports **tooth retention**
- **Biological basis:** Straumann® Emdogain promotes regeneration of the periodontiums
- **Holistic therapeutic approach:** Restoration of natural state
- **Scientifically proven:** Straumann® Emdogain has been documented in over 400 scientific papers
- **Used worldwide:** Straumann® Emdogain has been used in over a million patients