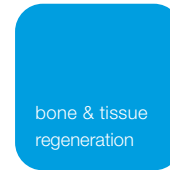


Patient information



## Coverage of exposed tooth roots and gum thickening



Aesthetic

Safeness

Well-being

## A healthy gum for a beautiful smile

For a bright smile, a healthy gum is as important as a beautiful tooth. Shrinkage or alterations of the gum around a tooth or an implant might affect the aesthetics and spoil the pleasure of your smiling. Besides the aesthetics, the gum is particularly important for the protection and preservation of teeth and implants.

The fiber network of mucoder<sup>®</sup> is similar to that of the human tissue (dermis). mucoder<sup>®</sup> acts as scaffold for the ingrowth of cells and blood vessels and thereby supports the regeneration of the tissue (gum).

## Conventional treatment of gum alterations

To regenerate or thicken a receding gum, an autologous tissue graft is typically used. The harvest occurs usually in the palate.

A piece of mucous tissue is superficially removed from the palate (free gingival graft). The donor site can be protected with a wound dressing or left open for healing. As an alternative, tissue can be taken from a deeper part of the palate (connective tissue graft). In both situations, a surgical wound is created.

### Typical drawbacks of this procedure:

- bleeding and higher discomfort at the harvesting site
- limited tissue availability in the palate (multiple recessions)
- due to possible color-texture mismatch, a positive aesthetic outcome is not always ensured

To avoid the tissue harvest from the palate, mucoder<sup>®</sup> can be used instead.

## mucoder<sup>®</sup>

### The alternative to the autologous tissue harvest

mucoder<sup>®</sup> is a natural collagen based soft tissue graft that is derived from porcine dermis. Collagen is a stable, fiber-forming protein. It is ubiquitous in the body, i.e., it is the main component of the skin and the gum. Animal collagen, particularly that derived from pigs, is very similar to the human collagen and therefore is very well tolerated by the body.

mucoder<sup>®</sup> acts as a scaffold for the body's own cells to create a new gum. The ingrowth of cells and blood vessels depends on the tissue that surrounds the matrix as well as on the oral and general health status of the patient. For the production of mucoder<sup>®</sup>, only German pigs are selected that are approved for the food industry.

The multi-stage production process of mucoder<sup>®</sup> guarantees the safety/tissue compatibility of the material and, at the same time, preserves its natural properties. During the whole production process, the material undergoes strict regulatory and quality controls according to the national and international security standards.

## The benefits of using mucoder<sup>®</sup>

- The augmentation carried out with mucoder<sup>®</sup> to cover gum recessions can improve the aesthetics and support the long-term survival of the implants
- With the application of mucoder<sup>®</sup>, the harvest of an autologous tissue graft is avoided, thus preventing a second surgical wound
- The operation time, pain, and risk of complications following surgery are reduced and minimized; this results in a faster recovery

## Treatment of exposed root surfaces



A recession occurs when your gum recedes and the tooth roots become exposed. Recession defects can be caused by aggressive tooth brushing or by mechanical stress, such as teeth grinding.

Gingival recessions may represent an aesthetical problem, because the affected teeth may seem longer than they actually are. In addition, the tooth root becomes sensitive to cold and heat. Furthermore, the shrinkage of the gum hampers the oral hygiene and might cause gingivitis and caries of the exposed root surfaces. To efficiently restore the tissue, an improvement of the oral hygiene and/or modification of the tooth brushing technique are not enough; the only solution is the treatment with a natural tissue graft.

To cover exposed root surfaces and avoid the traditional grafting procedure, mucoderm® can be used in combination with a suitable surgical technique.

In a minor surgery, the gum around the affected tooth root is opened and exposed. Afterwards, mucoderm® is placed on the root, fixed and the gum tissue closed again.



## Broadening the attached gum

The healthy gum around the teeth, also called attached gingiva, is closely connected to the underlying roots and the jaw bone. The attached gingiva forms a barrier around the roots and prevents bacteria or food debris from penetrating the site. In this way, the sensitive tooth root is protected.

Furthermore, the attached gingiva takes away the tensile strength from the lip-, cheek-, and facial muscles, thus reducing the tension around the teeth. In addition, insufficient or missing attached gingiva hampers the oral hygiene of the tooth or crown and may lead to an inflammation of the periodontium (periodontitis). As a result, the gum recedes and the underlying bone further resorbs. This tissue degeneration may in turn cause the loss of a tooth or an implant.

Especially after an implant placement or prior to the placement preparation, the augmentation of the attached gingiva may be necessary. For the augmentation of the attached gingiva with mucoderm®, the gum is opened during a minor surgery and the matrix placed on the wound bed. Afterwards, it is fixed and left open for healing.

mucoderm® acts as a scaffold for cells and blood vessels and supports new tissue formation in the area of the attached gingiva.

**You will find further information in the section "What you should consider after the surgery".**

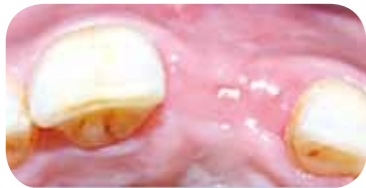


## Gum thickening with mucoderm®

mucoderm® can also be used to thicken the gum. By thickening the tissue or by repairing soft tissue defects (e.g., dents), the visual outcome and the long-term preservation of conservative or implant supported dentures may be improved.

Different studies on gum thickening have shown that a thicker tissue can protect the subjacent bone against degradation and guarantees the long-term stability of the implants.

To thicken the gum, the tissue is removed from the subjacent bone in a surgical procedure. mucoderm® is inserted and the wound closed. Afterwards, mucoderm® is gradually replaced by the body's own tissue; this process results in the thickening of the gum.



Repair of a soft tissue defect to aesthetically improve the implant-supported crown.



## What you should consider after the surgery

Your dentist will advise you on how you should behave after the surgery and which oral hygiene instructions you must follow.

In addition, you will also be advised about possible side effects.

- avoid any mechanical stress on the operated site
- do not clean the affected area for the first four weeks
- follow oral hygiene instructions (mouth rinse)
- in case of persisting pain, please contact your doctor
- swelling can be handled with cold pads
- smoking should be avoided
- follow your control visits

The compliance of the patient is crucial to ensure the aesthetic outcome of the surgical procedure.

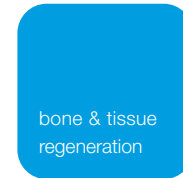
soft tissue

education

hard tissue

Your attending dentist will advise you on the properties and advantages of the presented products.

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Innovation.

Regeneration.

Aesthetics.

botiss biomaterials GmbH  
Hauptstr. 28  
15806 Zossen /Germany

Tel.: +49 33769 / 88 41 985  
Fax: +49 33769 / 88 41 986

[contact@botiss.com](mailto:contact@botiss.com)  
[www.botiss.com](http://www.botiss.com)  
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