

# HELBO-Treatment

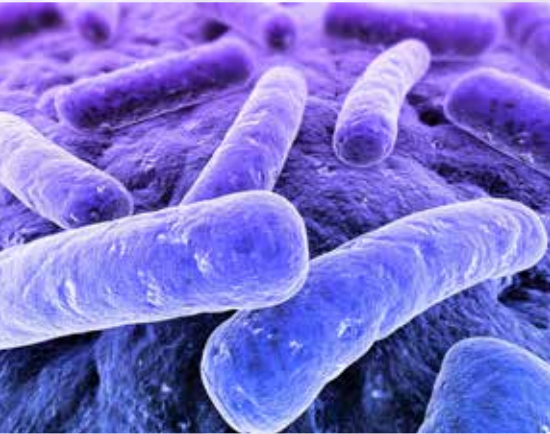
## Infection control



**Treatment success – scientifically documented**



## Biofilm — A habitat for pathological bacteria



Pathogenic bacteria are the main cause of failure in dentistry! Studies have shown that the biofilm provides a safe habitat for them. A phenomenon called „Quorum Sensing“ enables bacteria to communicate with one another and coordinate their activities. The more mature the biofilm, the more resistant the bacteria within it become.

Mechanical cleaning and rinsing solutions do not adequately destroy the bacteria in the biofilm. Even strong antibiotics seldom provide sustainable success. There are, however, side effects, interactions with other medications and the risk of resistance when using antibiotics.

Periodontal pathogenic bacteria increase the risk of numerous diseases:







- Periodontitis and periimplantitis
- Endodontics
- Inadequate healing following root tip resection (RTR)
- Caries
- Alveolar osteitis following tooth extraction
- Residual osteitis (impaired implant healing, particularly in the case of immediate implantation)
- Bone necrosis, for example following administration of bisphosphonates
- Diseases of the skin/mucosa (e.g. aphthae, herpes, candida, suture dehiscence)

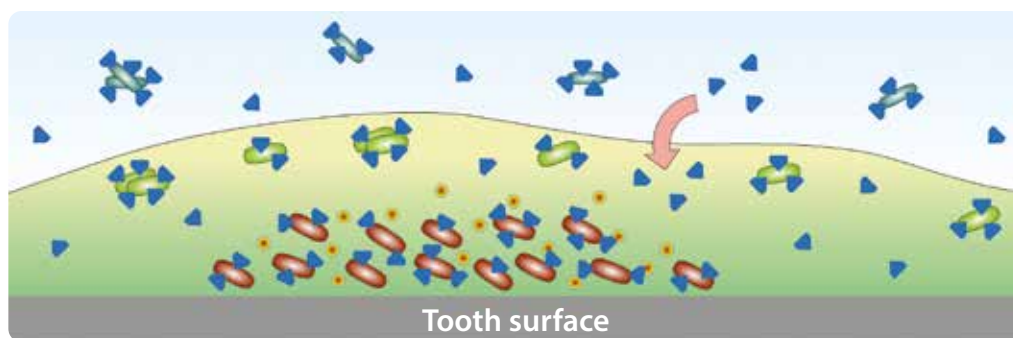
## HELBO Treatment — modern treatment

With HELBO Treatment you can quickly relieve your patients from these inflammations/infections or prevent disturbances to wound healing. The light also accelerates the healing process and has a proven analgesic effect. The treatment integrates exceptionally into existing treatments offered by bredent medical. HELBO therefore ensures treatment success in the context of immediate restoration of whole jaws with SKY fast & fixed or even of individual tooth gaps with SKY elegance. HELBO can also be combined perfectly with bone replacement materials, membranes or even collagen fleeces in the case of augmentative measures and socket preservation. The HELBO treatment can be assigned to adequately trained assistants to reduce the workload for the dentist.

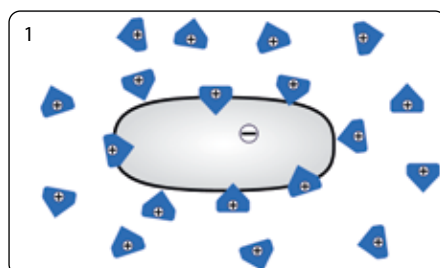
### Singlet oxygen destroys pathogenic bacteria.

The proposed treatment is based upon the marking of the bacterial wall using light-sensitive dye molecules, which diffuse into the biofilm from the *Photosensitizer*. The dye molecules are then activated using laser light and transfer their energy into local oxygen. This creates highly-aggressive singlet oxygen, which destroys more than 99 percent of the bacteria in the biofilm. An efficacy rate as high as this would be unthinkable using conventional treatment methods.

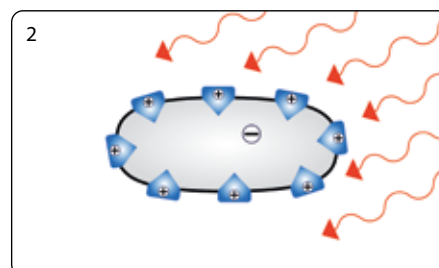
-  Planktonic bacteria
-  Bacteria actively growing in the biofilm
-  Persisting bacteria in the biofilm
-  Photosensitizer (photosensitive color solution)
-  Biofilm matrix
-  Quorum Sensing signal molecules



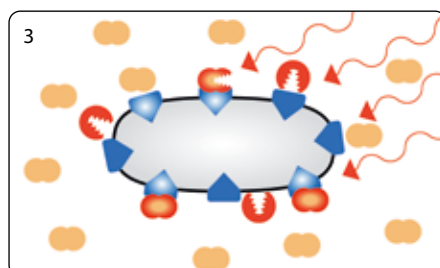
### How it works



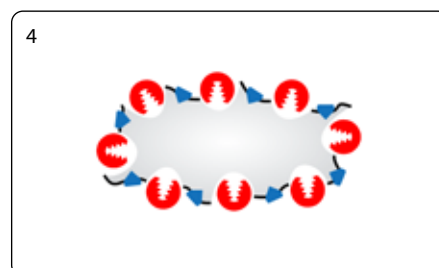
1 Accumulation of light-sensitive photosensitizers on the bacterial membrane



2 Exposure and stimulation of the photosensitizers with the **HELBO TheraLite Laser**



3 Reaction with oxygen, image of aggressive singlet oxygen



4 Damage to bacterial membrane: destruction of the micro-organisms

## Areas of application



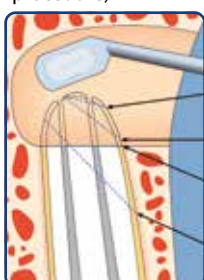
Periodontitis / Periimplantitis  
(closed/surgical procedure)



HELBO therapy is used in initial and maintenance treatment. Depending on the severity of the disease and accessibility, the procedure is carried out by means of a closed or surgical procedure. Studies confirm that the inflammation subsides, healing is promoted and the probe depth is reduced with this treatment.

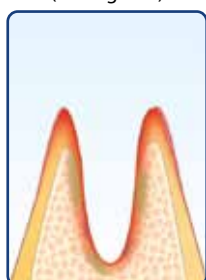


Endodontics  
(orthograde)

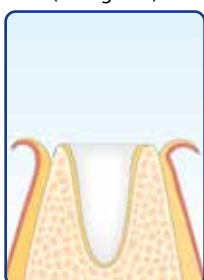


Endodontics  
(retrograde)

Despite mechanical cleaning and chemical disinfection prior to obturation, bacteria remain within the canal, the tubules and the apical delta. With HELBO therapy, even bacteria located deep inside the dentine canal and in the apical bone region can be reduced.



Disinfection of the  
alveoli

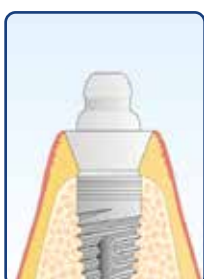


Socket preservation

Teeth are most often removed due to bacterial inflammations. In terms of aesthetics and additional measures such as immediate or even delayed implantation, it is particularly important to disinfect the extraction alveolus accordingly. Collapsing of the vestibular bone lamella can be avoided when using together with suitable materials.



Disinfection of the  
alveoli



Immediate  
implantation

During immediate implantation, HELBO therapy, as a disinfecting measure following tooth extraction, can visibly reduce the occurrence of complications for single tooth restorations (e.g. with SKY elegance) and for full arch restorations (e.g. with SKY fast & fixed).



Disinfection



Augmentation

Chronic inflammations frequently lead to bone loss. Before augmentative measures are carried out, the hard and soft tissue infected with bacteria is decontaminated using HELBO. The bone defect is then filled with bone replacement material and covered with a membrane. By using this procedure, the risk of inflammation is reduced and controlled regeneration is enabled.



Image:  
Dr. Tilman Eberhard, Schwäbisch Gmünd



Image:  
Dr. Matthias Eckl, Frankenthal



Image:  
Dr. Jörg Neugebauer, Landsberg am Lech



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Dr. Jörg Neugebauer, Landsberg am Lech



Image: Dr. Sigurd Hafner, Munich



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Bone necroses



Diseases of the skin/  
mucosa



Caries



Photobiological  
laser effect

Intraoperative staining of the biofilm with sterile *Photo-sensitizer* enables contamination on bones and soft tissue to be visualised and the area to be disinfected using laser radiation. This results in improved wound healing and ensures the success of the surgical measures.



Image:  
Dr. Sigurd Hafner, Munich

Diseases of the skin/mucosa occur, for example, in the form of aphthae, herpes, candida and suture dehiscences. In addition to bacteria, viruses and fungi also play a key role in the development of these diseases. HELBO therapy supports rapid wound healing and also has a pain-alleviating effect.



Image:  
Dr. Jörg Neugebauer, Landsberg am Lech

In the case of treatment of caries profunda, the bases of the cavities close to the pulpa are decontaminated in a punctate manner. This prevents the continuation of the carious process and prevents inflammations in the pulpa. This is particularly beneficial when treating children, especially due to the analgesic effect of the laser light. The procedure can also be used in the event of initial caries, for example in maxillo-orthopaedic treatments.



Image:  
Dr. Gerhard Werling, Bellheim

The so-called Low-intensity laser therapy (and therefore the photobiological effect) increases perfusion where required by the respective indication and conversely inhibits it for those indications where it is not required. The same regulatory behaviour is effected by the laser treatment in the case of the immune reaction too. Synthesis of ADP to ATP and mitochondrial activity are stimulated in the cells, and restricting influences (on metabolism and energy) are reduced. This has an effect that demonstrates inflammation inhibition, acceleration of wound healing and alleviation of pain and is an accompanying feature of using HELBO therapy.



Image:  
Dr. Sigurd Hafner, Munich



## Simple and safe application

HELBO Manual REF 000567GB

The HELBO Manual describes the materials required and the procedure for all areas of application, depicted in words and images – step by step.

## Components required for successful treatment with HELBO



### HELBO TheraLite Laser

Red

REF HE103206

Blue

REF HE103207

Silver

REF HE103208

### HELBO TheraLite Laser including complete battery set

- Ultra-light diode laser with integrated power control, short treatment time due to optimum light output.
- Mobile as can be used independently from the mains supply (changing battery operation), ergonomically perfect, small and light at 80 grams, therefore effortless use.
- Treatment-oriented sterile optical fibre:  
HELBO 3D Pocket Probe for secure 3D exposure of the periodontal/periimplantar pocket, HELBO 3D Endo Probe for 3D channel root canal exposure and HELBO 2D Spot Probe for exposure of two dimensional areas.



### HELBO Cover Sleeve

REF HE106001

### HELBO Cover Sleeve

Sterile Einmalschutzhüllen für den HELBO TheraLite Laser.



### HELBO T-Controller

incl. 1 charger and  
2 AA batteries

REF HE100402

2 AA replacement  
batteries for the  
HELBO T-Controller

REF HE104002

### Der HELBO T-Controller including battery

- Systematic time and treatment checks on quality assurance.
- Aesthetic and functional due to optical and acoustic signalling.
- Simple control of the relevant treatment parameters.



**HELBO 3D  
Pocket Probe**

Set with 5 fibre optic  
light guides  
(1 pack of 5 pieces)

REF HE102006

Set with 15 fibre optic  
light guides  
(3 packs of 5 pieces)

REF HE102007

Set with 30 fibre optic  
light guides  
(6 packs of 5 pieces)

REF HE102008

**HELBO 3D Pocket Probe**

sterile single-use optical fibre for safe three-dimensional exposure of periodontal/peri-implant pockets and alveoli.



**HELBO 3D  
Endo Probe**

Set with 5 fibre optic  
light guides  
(1 pack of 5 pieces)

REF HE102025

Set with 15 fibre optic  
light guides  
(3 packs of 5 pieces)

REF HE102026

Set with 30 fibre optic  
light guides  
(6 packs of 5 pieces)

REF HE102027

**HELBO 3D Endo Probe**

Sterile single-use optical fibre for three-dimensional root canal exposure.



**HELBO 2D  
Spot Probe**

Set with 5 fibre optic  
light guides  
(1 pack of 5 pieces)

REF HE102105

Set with 15 fibre optic  
light guides  
(3 packs of 5 pieces)

REF HE102106

Set with 30 fibre optic  
light guides  
(6 packs of 5 pieces)

REF HE102107

**HELBO 2D Spot Probe**

Sterile single-use fibre optic light guide for exposure of two-dimensional areas.



Detailed information about  
the photosensitizer is available  
from our Sales team.

**Trust the market leader:**

- Diffusion: biofilm is visible.
- Sterile products enable use in the case of haemorrhaging lesions and during surgery.
- More than 100 publications, including many randomised, clinically-controlled studies that have been published internationally, prove efficiency.

# HELBO-Treatment

## Infection control

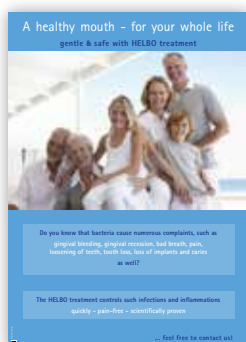


[www.helbo.de](http://www.helbo.de)

„Never underestimate an enemy just because they are small and do not bear sharp teeth. Viruses and bacteria claim more people's lives than lions and crocodiles.“

(Peter Hohl, writer, journalist and publisher, born in 1941)

## Other offers that may be of interest to you



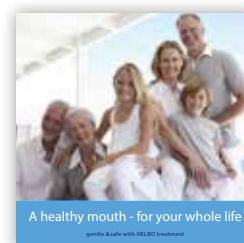
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