

OXYSAFE® – The Effective Treatment of Periodontitis and Peri-implantitis with Innovative Oxygen Technology

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- 2014 – 2016 education as oral surgeon, OMFS Clinic Essen
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The utmost goal of a successful periodontal and periimplant therapy should not only be the removal of the inflammatory process, but the regeneration of the periodontal tissue as well. Usually, a one-time mechanical measure (debridement), such as scaling and root planning, is insufficient and just the first step in periodontal therapy. OXYSAFE (Hager & Werken) with its superior and effective wound healing properties reduces tooth pocket depths with a new oxygen technology, and offers an individual treatment concept for a long-term periodontal prophylaxis.

More than 11.5 million German citizens suffer from a bacterial inflammation of the periodontium. Not treating this inflammation leads to an extensive infection fast accompanied by reduction of periodontal bone tissue, not rarely ending in tooth loss. Common risk factors promoting this development are poor mouth hygiene, smoking, diabetes, stress as well as a genetic predisposition. Meanwhile, more German citizens lose their teeth due to periodontitis than due to caries. Periodontitis has become the most common chronic disease in Germany. The etiopathology is often underestimated, as it is often painless and even frequent gum bleeding is not taken seriously by the patient. Only when tooth pockets filled with bacteria arise, the patient suffers from strong halitosis and talks about it with the dentist. In extreme cases, we only see the patient at the time when the receded gingiva has already completely exposed the neck of the tooth and/or even the jawbone has been affected.

Similarities can be seen in peri-implantitis. The fact that periimplantitis is a chronic disease that may affect up to 30% of the implants within 5 years and that also causes inflammations is often ignored. Each year, more than 1 million tooth implants are inserted in Germany alone. The scar tissue surrounding the implant offers only reduced protection compared to the natural gingiva, making it much easier for bacteria to penetrate the tissue. Even if a peri-implant mucositis has developed, the inflammatory processes take their course. Without treatment these inflammations often end up in the loss of the implant.

Former treatment concepts, like gingivectomy, are no longer applied nowadays because of the risk of hypersensitivities or of a poor esthetic result. So-called local device delivery systems offer an alternative. These are local applications of anti-inflammatory agents. There is a diversity of different systems varying in the active agents. The penetration of the biofilm is limited physically, when using antibiotics and chlorhexidine preparations. The molecules are too big to pass the biofilm with the causative bacteria. Additionally, a systemic antibiotics should only be performed under strict indication due to the associated and undesirable side effects. Also the administration of chlorhexidine over a longer time period affects the natural oral flora, so the use should be temporarily limited.

Searching for the optimal alternative, we discovered the OXYSAFE products for the first time during at the world leading dental exhibition IDS in Cologne. These products are available in two versions: OXYSAFE Professional Perio Protection Gel for the dentist and OXYSAFE Professional Liquid Mouthwash for domestic after-care.

The patented technology is based on active oxygen (hydrocarbon-oxygen complex) being activated by contact to the mucosa. By doing this, the active oxygen is directly released into the area to be treated thus significantly reducing anaerobic bacteria.

Simplified: The proteins in the biofilm oxidate thus obtaining an enhanced penetrability of the biofilm deeply into the gingival pocket. The anaerobic bacteria are deprived of their nutrition base, they are dissolved in the cell walls thus being destroyed. So, OXYSAFE eliminates harmful anaerobic bacteria (mainly in the tooth pockets), which are responsible for periodontitis and peri-implantitis.

Furthermore, the micro-environment enriched with oxygen has got a verifiably positive effect on the regeneration of the periodontally harmed gingiva and the gingival pockets. The OXYSAFE Perio Protection Gel is available for the dentist in a ready-for-use 1 ml syringe with a fine synthetic application cannula guaranteeing an economic and precise dosage. Although OXYSAFE acts antibacterially and fungicidally, it does not cause cell death in erythrocytes or leukocytes. Mucosa cells and osteoblasts remain untroubled alike.



OXYSAFE Intro Kit, 3 x 250 ml Liquid mouthwash, 3 application cannulas REF 155 040

OXYSAFE Gel, 3 syringes á 1 ml

(without application tips)

OXYSAFE Liquid, 250 ml

REF 155 041

REF 155 042

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A significant diminution of the tooth pocket depth and even a remission of the gingiva can be determined as early as with the first phase of the treatment.

OXYSAFE has also been tested in diverse independent studies. A study of the Nijmegen University proved the reduction of bacteria responsible for periodontitis as well as a reduction of the pocket depth of 56 %. A significant healing effect and partially even a re-osseointegration could be observed in 75 % of all periimplantitis patients (even in smokers).

The treatment of chronic wounds with OXYSAFE has also turned out to be especially effective. A significant improvement and in many cases even a complete wound healing could be observed in 81 % of the diabetes patients.

In summary it can be stated that the therapy concept with OXYSAFE effectively treats the multifactorial character of a periodontitis as gently as possible in a double-stage procedure. Neither antibiotics nor chlorhexidine is used here. OXYSAFE is not cytotoxic and contains no peroxides or free radicals. There is no danger of building of resistances. The dentist applies the highly dosed Perio Protection Gel directly into the gingival pockets by means of a ready-for-use syringe. Additionally, the patient receives the included OXYSAFE mouthwash for after-care (also available in pharmacies). The patient uses this mouthwash following the treatment for domestic care in order to maintain the level of active oxygen and to prevent reinfection.



Picture 1: 50-year old male patient presents himself with a chronic, generalized periodontitis. Apparent hyperplastic gingiva.



Picture 2: Condition after mechanical periodontitis therapy, terminally application of OXYSAFE in region 14 to 24. Patient senses a slight prickling and warmth due to active oxygen reaction.



Picture 3: Clinical result 4 weeks after treatment. Patient uses OXYSAFE mouthwash collaterally to treatment. Apparent rosy gingiva free of inflammation.



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