

MIRACLE

11 341

## Oxygenate to regenerate

Oxygen treatment: from chairside to home care solutions.



# **Born in the** *dental clinic* in the Netherlands (2009)

Conceived in the brilliant mind of Dutch maxillofacial surgeon, dr. Peter Blijdorp, the award-winning oral care essentials are supplied to the world's leading dental professionals and their patients worldwide.









We are



blue<sup>®</sup>m is a leading oral health company, based in The Netherlands and Brazil. Helping people in over 70 countries to improve their oral health. *From minus to zero and from zero to hero.* 

It is our mission to elevate health & well-being through oral care.

We empower people with revolutionary oral care products and healthy day-to-day routines. We believe the mouth is the entry point of the digestive, respiratory and nervous system and therefore crucial for the quality and quantity of our lives.







### Problem

The success goal of periodontal therapy and dental implants should not only be eliminate the infection, but also the regeneration of soft/bone tissues as well.

- Usually, scaling and pocket debridement are insufficient in periodontal therapy.
- Many antiseptic agents for the treatment of periodontitis and peri-implantitis are active for only a short period of time.
- Both, antibiotics and chlorhexidine have difficulty in penetrating the biofilm because of their molecular size.





### Solution

blue®m oral gel is based on the slow release of oxygen

- Oxygen molecule can quickly and easily penetrate the oral biofilm.
- The anaerobic bacteria are destroyed and a regenerating effect is activated in the inflamed tissue.
- blue<sup>®</sup>m oral gel has anti-bacterial and anti-fungal properties, and supports the regeneration of periodontal tissues due to its oxygen-release content.
- blue<sup>®</sup>m oral gel does not adversely affect the oral flora. It causes no cytotoxic of mucosal cells or osteoblasts.

blue<sup>®</sup>m oral gel is available in a **ready-for-use 3 ml syringe** (for clinical use) and in a **15 ml tube** (for patient at-home use).





### Advantages of blue®m oral gel

- Effective application in periodontal disease and peri-implantitis
- Rapid reduction of pocket depth
- Disinfection of gingival tissues
- Faster wound healing
- Long-term effect
- Without antibiotics and CHX
- Scientifically and clinically tested
- Not cytotoxic
- Simple and productive application





### How does the oral gel work?

- The topical oxygen technology (hydrocarbon-oxygen complex), becomes activated by contact with the oral mucosa. It results in slow and dosed release of oxygen.
- This formula releases the active oxygen in the area to be treated.
   This immediately reduces the number of Gram-negative bacteria.
- Furthermore, the oxygen-enriched micro-environment has a proven positive effect on the treatment of inflamed gums.
- It supports the treatment of peri-implantitis.
- When using antibiotics and chlorhexidine products, the penetration
  of the biofilm is physically limited. blue®m oral gel with their active
  oxygen technology can oxidize the proteins in the biofilm, which is
  why they achieve an improved permeability deep into the inflamed
  pockets.
- The anaerobic bacteria are deprived of their nutrition base, they are dissolved in the cell walls thus being destroyed. This eliminates harmful anaerobic bacteria, which are responsible for periodontitis and peri-implantitis.





### About hydrocarbon–oxygen complex

#### Activation by contact with oral moisture:

The complex is activated upon contact with a wet oral mucosa.

#### • Slow oxygen release:

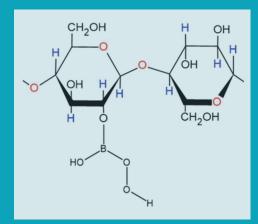
The novel therapeutic properties of hydrocarbon-oxygen complex are enhanced and prolonged via the slower, controlled release of active oxygen.

#### • Inhibition of pathogenic bacteria:

Oxygen deprives anaerobic bacteria of their nutrient source, leading to their destruction.

#### Control oral microbial biofilms:

The oxygen complex can penetrate and eradicate harmful biofilms. It is less harsh and potentially more specific anti-biofilm agent than other conventional oral antiseptic products.



Hydrocarbon-oxo-borate



### It is available in forms...



**Oral Gel** +/- 100 mg O<sub>2</sub>/L



Oxygen Fluid +/- 40 mg O<sub>2</sub>/L



Mouthwash +/- 20 mg O<sub>2</sub>/L



Oral Foam +/- 20 mg O<sub>2</sub>/L



#### **DENTAL IMPLANTS**

The using of blue®m oral gel is recommended by oral implantologist to decontaminating and promoting the healing of soft tissues after placing dental implants.

- After placing dental implant, apply blue<sup>®</sup>m oral gel for 5 min directly onto the implantation site to enhance the levels of oxygen locally and improve the healing of soft tissues.
- After closing the flap and sutures, apply blue<sup>®</sup>m oral gel for 5 min onto the surgical wound
- Instruct patient to apply blue<sup>®</sup>m oral gel twice a day on the surgical site for 2 weeks





#### **IMMEDIATE IMPLANTS**

Immediate placement of dental implants in fresh extraction sockets offers important advantages over early and late placement. Therefore, blue®m oral gel is a valid treatment option to clean and disinfect the socket before immediate implant placement.

- After tooth extraction, clean socket with saline.
- Apply blue®m oral gel for 5 min to treat the extraction site.
- Irrigate with blue®m oxygen fluid or with saline.
- After placing dental implant, bone grafts, healing abutment, and sutures, apply blue<sup>®</sup>m oral gel for 5 min onto the surgical wound
- Instruct patient to apply blue<sup>®</sup>m oral gel twice a day on the surgical site for 2 weeks





#### **HEALING ABUTMENTS**

Many clinicians have using blue<sup>®</sup>m oral gel for decontaminating the implant compartments and abutment surfaces, and to promote the healing of the peri-implant soft tissues surrounding healing abutments and provisional restorations.

- After placing dental implant, apply blue<sup>®</sup>m oral gel on the healing abutment (HA) screw.
- Then, insert HA on implant fixture.
- After sutures, apply blue<sup>®</sup>m oral gel for 5 min onto the surgical wound
- Instruct patient to apply blue<sup>®</sup>m oral gel twice a day on the surgical site for 2 weeks





#### **PERI-IMPLANTITIS**

Many patients with peri-implantitis were successfully managed using blue<sup>®</sup>m oral gel an adjunct to non-surgical or surgical therapy.

- Ultrasonic/sonic cleaning of the implant surface with a titanium tip
- Apply blue<sup>®</sup>m oral gel directly in the defect and on implant surface for 2-3 minutes
- Rinse thoroughly with blue<sup>®</sup>m oxygen fluid
- Repeat above procedures 3-5 times
- For surgical flap, apply another amount of blue<sup>®</sup>m oral gel over the sutures
- Instruct patient to apply blue<sup>®</sup>m oral gel at the surgical site, 2-3 times daily
- Daily, advice patient to rinse with blue®m oxygen fluid (2-3 times)
- When the wound is healed, the patient can rinse with blue<sup>®</sup>m mouthwash for daily maintenance.





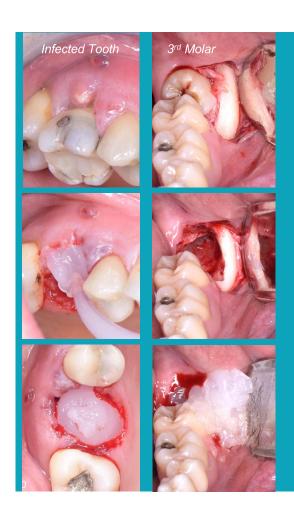




#### **AFTER TEETH EXTRACTIONS**

Topical application of blue<sup>®</sup>m oral gel can help the decontamination of fresh extraction sockets and treat complications (e.g., dry socket).

- After tooth extraction, clean socket with saline
- Apply blue<sup>®</sup>m oral gel (2-3 min)
- Irrigate with blue<sup>®</sup>m oxygen fluid
- Repeat above procedures 3-5 times
- Apply blue<sup>®</sup>m oral gel and let patient bit on sterile gauze for 10 min
- Daily, advice patient to rinse with blue®m oxygen fluid (2-3 times)
- When the wound is healed, the patient can rinse with blue<sup>®</sup>m mouthwash for daily maintenance.





#### **CARE OF SURGICAL WOUNDS**

blue®m oral gel plays an essential role in healing of oral wounded tissues, promoting neovascularization, collagen synthesis and re-epithelialization of open surgical wounds.

- To care of the surgical site, apply blue<sup>®</sup>m oral gel directly on wound for 2-3 min
- Irrigate the surgical wound with blue®m oxygen fluid
- Repeat above procedures 3-5 times
- Instruct patient to apply blue<sup>®</sup>m oral gel twice a day on the inner surface of the provisional partial denture
- Daily, advice patient to rinse with blue®m oxygen fluid (2-3 times)
- When wound is healed, the patient can rinse with blue<sup>®</sup>m mouthwash for daily maintenance.









#### **BONE GRAFTS**

Biologically, the optimal healing of bone grafts requires growth factors, nutrients, and oxygen to support the process of osteogenesis. Therefore, employing blue®m oral gel in conjunction with bone grafting techniques should be predicted to provide a number of clinical benefits.

- Debride the defected site of all soft tissues
- Apply blue<sup>®</sup>m oral gel inside bony defect for 5 mins
- Rinse with sterile saline
- Subsequently, graft bone defect with bone substitute, close flap and suture
- Apply blue®m oral gel on surgical site for 5 min
- Instruct patient to apply blue<sup>®</sup>m oral gel twice a day on the surgical site for 2 weeks









#### **GINGIVAL GRAFTS**

Gingival recession can resulting from sublethal cell aggression, due to hypoxia, mechanical compression, and reduced vascularization. Therefore, it is recommended to applying blue<sup>®</sup>m oral gel for faster and optimal healing of donor and recipient bed of free gingival grafts.

- Apply blue®m oral gel for 5 mins directly onto donor and recipient bed of free gingival grafts.
- Rinse with sterile saline.
- Use palatal stent on donor site after free gingival graft.
- Instruct patient to apply blue<sup>®</sup>m oral gel once a day on the surgical site for 2 weeks.









#### **CARE OF SUTURES**

The use of blue®m oral gel is controlling the biofilms accumulated on the sutures. This can prevent postoperative inflammation, infection and wound dehiscence.

- To take care of sutures, apply blue<sup>®</sup>m oral gel directly on the wound for 2-3 min
- Irrigate the surgical wound with blue®m oxygen fluid
- Repeat above procedures 3-5 times
- Instruct patient to apply blue<sup>®</sup>m oral gel twice a day on the sutures for 2 weeks
- Daily, advice patient to rinse with blue®m oxygen fluid (2-3 times)
- When the wound is healed, the patient can rinse with blue<sup>®</sup>m mouthwash for daily maintenance







#### **PERIODONTITIS AND GINGIVITIS**

Local therapy by blue®m oral gel is recommended to treat gingival inflammation. Also, studies reported a significant reduction in probing pocket depth in patients with chronic periodontitis treated with blue®m oral gel.

- Scaling and curettage
- Apply blue®m oral gel (2-3 min)
- Irrigate with blue®m oxygen fluid
- Repeat above procedures 3-5 times
- Daily, advice patient to rinse with blue®m oxygen fluid (2-3 times)
- When the tissue is healed, the patient can rinse with blue<sup>®</sup>m mouthwash for daily maintenance.





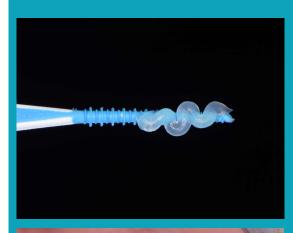




#### **LONG-TERM MAINTENANCE**

Applying blue®m oral gel is suggested to restore and maintain a healthy microbial homeostasis around dental implants and periodontal tissues.

- When the tissue is healed around dental implants, the patient can apply blue®m oral gel using proxa-brush.
- Advice patient to rinse with blue<sup>®</sup>m mouthwash for daily maintenance.







### References

- Shaheen MY, Abas I, Basudan AM, Alghamdi HS. Local Oxygen-Based Therapy (blue®m) for Treatment of Peri-Implant Disease: Clinical Case Presentation and Review of Literature about Conventional Local Adjunct Therapies. Medicina. 2024 Mar 8;60(3):447.
- 2. Basudan AM, Abas I, Shaheen MY, Alghamdi HS. Effectiveness of Topical Oxygen Therapy in Gingivitis and Periodontitis: Clinical Case Reports and Review of the Literature. Journal of Clinical Medicine. 2024; 13(5):1451.
- 3. Niveda R, Kaarthikeyan G. Effect of oxygen releasing oral gel compared to chlorhexidine gel in the treatment of periodontitis. Journal of Pharmaceutical Research International. 2020 Aug 26;32(19):75-82.
- 4. Deliberador TM, Weiss SG, Rychuv F, Cordeiro G, Ten Cate MC, Leonardi L, Brancher JA, Scariot R. Comparative analysis in vitro of the application of blue® m oral gel versus chlorhexidine on Porphyromonas gingivalis: A pilot study. Advances in Microbiology. 2020 Apr 24;10(04):194.
- 5. Ngeow WC, Tan CC, Goh YC, Deliberador TM, Cheah CW. A narrative review on means to promote oxygenation and angiogenesis in oral wound healing. Bioengineering. 2022 Nov 2;9(11):636.
- 6. Deliberador TM, Macalossi JM, Tenorio C, Dall' Agnol GD, Boia MF, Zielak JC. An oxygen-releasing agent promotes healing of skin wounds in rats. Journal of Wound Care. 2023 Nov 2;32(11):738-47.
- 7. Shibli JA, Rocha TF, Coelho F, de Oliveira Capote TS, Saska S, Melo MA, Pingueiro JM, de Faveri M, Bueno-Silva B. Metabolic activity of hydro-carbon-oxo-borate on a multispecies subgingival periodontal biofilm: a short communication. Clinical Oral Investigations. 2021 Oct 25;5945-53.
- 8. Tanka K, Alshehri FA. Surgical management of peri-implantitis in adjunction with BlueM oxygen therapy: a case report with 5-years follow-up. Int J Community Med Public Health [Internet]. 2023 Sep. 12.



# Want to stay up to date or even go beyond?

Join our professional community on Facebook:

Bluem International Community for Craftsmanship (BICC)
an online platform where you can share cases and discuss
procedures and treatment with peers from all over the world.

facebook.com/groups/bluembicc



