



5 mm probing depths associated with bleeding (BoP+). Peri-implant mucositis is diagnosed.



It is essential the clinician makes sure that the interproximal spaces are accessible to the interdental brush and that the biofilm is effectively removed, especially in inflamed areas.



PERISOLV® is a new cleaning gel, which is used in addition to mechanical debridement. It is a two component system mixed before clinical application.



The PERISOLV® gel is prepared by mixing the two components, with the subsequent formation of an opaque viscous solution consisting of water, carboxymethyl cellulose, sodium hypochlorite, sodium chloride, amino acids and titanium dioxide



An effective Biofilm Eraser (PERISOLV®) is applied.



After a 30-second reaction, following PERISOLV® application, the biofilm is mechanically removed with a titanium coated stainless steel curette, mainly with horizontal strokes.



The clinician uses site-specific instrumentation including manual curettes and ultrasonic instruments with specific implant inserts.



Any residual biofilm present at the sites of mucositis diagnosis is removed using an ultrasonic device and a specific implant insert, which is held tilted to the long axis of the implant to allow gentle penetration into the peri-implant pocket.



Application of the Biofilm Eraser (PERISOLV®) is repeated and acts by softening the extracellular matrix of the biofilm.⁵ PERISOLV® is applied three fold to the inflamed site, for effective implant surface decontamination.



After an exposure time of 30 seconds, the mechanical debridement using hand instruments, and ultrasonic device is repeated. In the illustrated case, a titanium brush mounted on a slow-speed handpiece was used to achieve additional and effective decontamination.



Each pack of HYADENT BG contains two cartridges, each filled with 1.2 ml of hyaluronic acid at a concentration of 1.8% (1.6% cross-linked, 0.2% natural hyaluronic acid). One cartridge contains sufficient hyaluronic acid for multiple application according to the proposed protocol.



After completion of the non-surgical peri-implant debridement, hyaluronic acid is applied to promote the healing process.^{9,10}



Besides its bacteriostatic action, hyaluronic acid (HYADENT BG) is mainly applied to stabilize blood clotting and promote the healing process based on the concept **CLEAN&SEAL™**.

SEALING EFFECT:

- 1 ATTRACTS BLOOD
- 2 STABILIZES COAGULUM AND SUPPORTS TISSUE REGENERATION
- 3 BACTERIOSTATIC EFFECT PROVIDES PROTECTION
- 4 GROWTH FACTORS ATTRACTED BY HYALURONIC ACID
- 5 COORDINATES INFLAMMATION AND ACCELERATES ANGIOGENESIS



The healing process is supported by the presence of hyaluronic acid, which has been shown to protect the site and up-regulate several growths factors.^{6, 7, 8}

CAUSE-RELATED NON-SURGICAL PERI-IMPLANT THERAPY				
APPOINTMENT TIMES		1.5 h	Two separate appointments if possible on two consecutive days.	
		20 min.		
		20 min.	After approx. 30 days	
		1.0 h	RECALL after 3 months (4 months from baseline)	



Approximately one year after the diagnosis of peri- implant mucositis, probing values within normal range, with no bleeding are assessed.



Peri-implant mucositis has been successfully resolved using non-surgical treatment. An important factor was scrupulous home care and constant patient motivation at each scheduled appointment of the described protocol.



CLEAN&SEAL™

CASE PROVIDED BY DR MARISA RONCATI (ITALY)

EARLY AND EFFECTIVE INTERCEPTION OF PERI-IMPLANT DISEASE

The **CLEAN&SEAL™** concept, which was developed based on scientific data,^{1,2} provides guidance and support for the treatment and control of peri-implant mucositis. It allows clinicians to save implants and prevent the development of peri-implantitis, which helps to further prevent larger procedures required to rebuild peri-implant tissue.

Peri-implant disease is divided into two subgroups: peri-implant mucositis,^{1,3} which is characterized by soft tissue inflammation without bone loss and peri-implantitis, which is characterized by progressive loss of the supporting bone.⁴ If left untreated, in the worst-case peri-implantitis can result in the loss of the affected implant. This problem is relatively new to clinicians and dissatisfying for patients.

It is of great importance to treat peri-implant disease at an early stage, with infection control and extensive debridement being crucial for positive treatment outcomes.^{1,2} The likelihood of success is further increased by the supportive application of sealing agents for protection and regenerative support and by regular follow-up to monitor and control inflammation.⁶

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CLEANING EFFECT:

- SOFTENING OF THE EXTRACELLULAR MATRIX OF THE BIOFILM⁵
- ENHANCING BACTERIAL REMOVAL BY MECHANICAL DEBRIDEMENT
- ELIMINATION OF THE BIOFILM

AVAILABLE PRODUCTS

TISSUE REGENERATOR⁶

hyadENT BG **BS091** **2 x 1.2 ml cylindrical ampulla**

BIOFILM ERASER

PERISOLV® **10500** **5 x 0.6 ml syringe**

LITERATURE

1. Jepsen S, Berglundh T, Genco R, Aass AM, Demirel K, Derks J, Figuero E, Giovannoli JL, Goldstein M, Lambert F, Ortiz-Vigon A, Polyzois I, Salvi GE, Schwarz F, Serino G, Tomasi C, Zitzmann NU. Primary prevention of periimplantitis: managing peri-implant mucositis. J Clin Periodontol 2015; 42 (Suppl. 16): S152–S157. doi: 10.1111/jcpe.12369.
2. Costa FO, Takenaka-Martinez S, Cota LO, Ferreira SD, Silva, GL, Costa JE 'Peri-implant disease in subjects with and without preventive maintenance: a 5-year followup.' Journal of Clinical Periodontology 2012; 39, 173– 183.
3. Heitz-Mayfield LJ, Salvi GE 'Peri-implant mucositis' J Periodontol. 2018 Jun;89 Suppl 1:S257-S266. doi: 10.1002/JPER.16-0488.
4. Berglundh T, Armitage G, et al. Peri-implant diseases and conditions: Consensus report of workgroup 4 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions. J Periodontol. 2018;89(Suppl 1): S313–S318.
5. Jurczyk K, Nietzsche S, Ender C, Sculean A, Eick S 'In-vitro activity of sodium-hypochlorite gel on bacteria associated with periodontitis' Clin Oral Investig. 2016 Nov;20(8):2165-2173. Epub 2016 Jan 12
6. Pirnazar P, Wolinsky L, Nachnani S, Haake S, Pilloni A, Bernard GW. 'Bacteriostatic effects of hyaluronic acid.' J Periodontol 1999;70:370–4.
7. Engstrom PE, Shi XQ, Tronje G, Larsson A, Welander U, Frithiof L, Engstrom GN (2001) The effect of hyaluronan on bone and soft tissue and immune response in wound healing. J Periodontol 72: 1192–1200. doi:10.1902/jop.2000.72.9.1192
8. Asparuhova M, Kiryak D, Eliezer M, Mihov D, Sculean A. 'Activity of two hyaluronan preparations on primary human oral fibroblasts'. J Periodontal Res 2018 Sep 27. Epub 2018 Sep 2
9. Longaker T et al. 'Studies in Fetal Wound Healing: V. A prolonged presence of hyaluronic acid characterizes fetal wound healing' Ann. Surg. 1991; April:292–296.
10. Mast BA et al. 'Hyaluronic Acid Modulates Proliferation, Collagen and Protein Synthesis of Cultured Fetal Fibroblast' Matrix. 1993;13:441–446.

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PARADENT



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