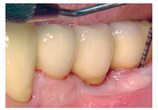
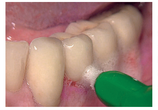
1 DIAGNOSE



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

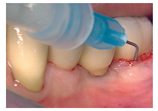


It is essential that the clinician makes sure, that the interproximal spaces are accessible to the interdental brush and that the biofilm is effectively removed, especially in inflamed areas.

2 INJECT

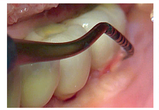
PERISOLV® is a new cleaning gel, which is used in addition to mechanical debridement. It is a two component system that is mixed before clinical application.

The PERISOLV® gel is prepared by mixing the two components. This leads to the subsequent formation of a turbid, viscous solution consisting of water, carboxymethyl cellulose, sodium hypochlorite, sodium chloride, amino acids and titanium dioxide with an alkaline pH.

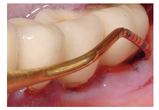


An effective Biofilm Eraser (PERISOLV®) is applied.

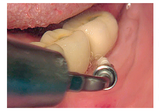
3 CLEAN



After application of PERISOLV® and a reaction time of 30 seconds, the biofilm is mechanically removed with a titanium coated stainless steel curette, mainly with horizontal strokes.



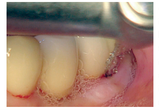
The clinician uses site-specific instrumentation including manual curettes and ultrasonic instruments with specific implant inserts.



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.

4 REPEAT 2-3 TIMES

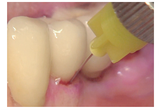
Application of the Biofilm Eraser (PERISOLV®) is repeated and acts by softening the extracellular matrix of the biofilm.[5] PERISOLV® is applied three times to the inflamed site to effectively disinfect the implant surface.



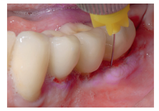
After an exposure time of 30 seconds, the mechanical debridement using hand-held instruments and an ultrasonic device is repeated. In the illustrated case, a titanium brush mounted on a slow-speed handpiece was used to achieve additional and effective decontamination.

1 SEAL

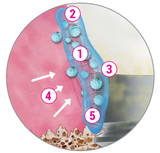
Each pack of HYADENT BG contains two cartridges, each filled with 1.2 ml of hyaluronic acid at a concentration of 1.8% (1.6% cross-linked, 0.2% natural hyaluronic acid). One cartridge contains sufficient hyaluronic acid for multiple applications according to the proposed protocol.



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



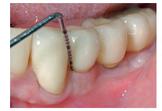
Besides its bacteriostatic action, hyaluronic acid (HYADENT BG) is mainly applied to stabilize blood clotting and promote the healing process based on the concept **CLEAN&SEAL®**.



2 HEAL

SEALING EFFECT:

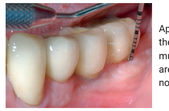
1. ATTRACTS BLOOD
2. STABILIZES COAGULUM AND SUPPORTS TISSUE REGENERATION
3. BACTERIOSTATIC EFFECT PROVIDES PROTECTION
4. GROWTH FACTORS ATTRACTED BY HYALURONIC ACID
5. COORDINATES INFLAMMATION AND ACCELERATES ANGIOGENESIS



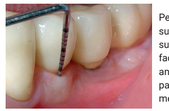
The healing process is supported by the presence of hyaluronic acid, which has been shown to protect the site and up-regulate several growth factors.[6,7,8]

3 RECALL

CAUSE-RELATED NON-SURGICAL PERI-IMPLANT THERAPY			
APPOINTMENT TIMES		1.5 h	
		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, the probing values are within normal range and no bleeding is detected.



Peri-implant mucositis has been successfully resolved using non-surgical treatment. An important factor was scrupulous home care and constant motivation of the patient 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]

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

CLEANING EFFECT:

- SOFTENING OF THE EXTRACELLULAR MATRIX OF THE BIOFILM[5]
- ENHANCING BACTERIAL REMOVAL BY MECHANICAL DEBRIDEMENT
- ELIMINATION OF THE BIOFILM

AVAILABLE PRODUCTS

TISSUE REGENERATOR[6]

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

BIOFILM ERASER

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

LITERATURE

1. Jepsen S et al. Primary prevention of periimplantitis: managing periimplant mucositis. J Clin Periodontol 2015; 42(Suppl. 16): S152-S157. doi: 10.1111/jcpe.12369.
2. Costa FO et al. Peri-implant disease in subjects with and without preventive maintenance: a 5-year follow-up. J Clin Periodontol 2012; 39(2): 173-183. doi: 10.1111/j.1600-051X.2011.01819.x.
3. Heitz-Mayfield LJ and Salvi GE. Peri-implant mucositis. J Periodontol 2018; 89(Supl 1): S257-S266. doi: 10.1002/JPER.16-0488.
4. Berglundh T 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. doi: 10.1002/JPER.17-0739.
5. Jurczyk K et al. In-vitro activity of sodium-hypochlorite gel on bacteria associated with periodontitis. Clin Oral Investig 2016; 20(8): 2165-2173. doi: 10.1007/s00784-016-1711-9.
6. Pirnazar P et al. Bacteriostatic effects of hyaluronic acid. J Periodontol 1999; 70(4): 370-374. doi: 10.1902/jop.1999.70.4.370.
7. Engstrom PE et al. The effect of hyaluronan on bone and soft tissue and immune response in wound healing. J Periodontol 2001; 72(9): 1192-1200. doi:10.1902/jop.2000.72.9.1192.
8. Asparuhova M et al. Activity of two hyaluronan preparations on primary human oral fibroblasts. J Periodontal Res 2018; 54(1): 33-45. doi: 10.1111/jre.12602.
9. Longaker T et al. Studies in fetal wound healing. V. A prolonged presence of hyaluronic acid characterizes fetal wound fluid. Ann Surg 1991; 213(4): 292-296. doi: 10.1097/00000658-199104000-00003.
10. Mast BA et al. Hyaluronic Acid Modulates Proliferation, Collagen and Protein Synthesis of Cultured Fetal Fibroblasts. Matrix 1993; 13(6): 441-446. doi: 10.1016/s0934-8832(11)80110-1.

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REGEDENT smart regeneration

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