

# GUIDED **BIOFILM** THERAPY

SUMMARIES OF TOP STUDIES 2020



Enamel: Hunter-Schreger lines, Courtesy of Prof. A. Lussi,  
[www.zahnkunstbilder.ch](http://www.zahnkunstbilder.ch)

SDA   
SWISS DENTAL ACADEMY

# ERYTHRITOL

## 1. AIR POLISHING IN SUBGINGIVAL ROOT DEBRIDEMENT DURING SUPPORTIVE PERIODONTAL CARE: A REVIEW



Janaphan K, Hill RG, Gillam D (2020) Air-Polishing in Subgingival Root Debridement during Supportive Periodontal Care: A Review. *J Orthod Craniofac Res* 2: 113  
<http://doi.org/10.29011/jocr-113.100113>

### CLINICAL RELEVANCE:

► AIRFLOW® with erythritol powder is a new approach to remove subgingival biofilm in patients on supportive periodontal therapy (SPT). AIRFLOW® with erythritol powder is as effective as conventional treatments with shorter treatment times and higher patient comfort.

## 2. ADJUNCTIVE AIR-POLISHING WITH ERYTHRITOL IN NONSURGICAL PERIODONTAL THERAPY: A RANDOMIZED CLINICAL TRIAL

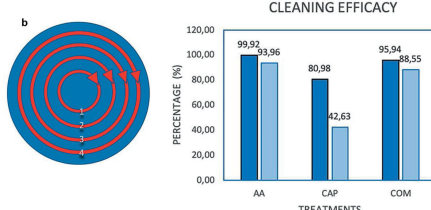


Holger F. R. Jentsch, Christian Flechsig, Benjamin Kette, Sigrun Eick Jentsch et al. *BMC Oral Health* (2020) 20:364.  
<https://bmcoralhealth.biomedcentral.com/track/pdf/10.1186/s12903-020-01363-5.pdf>

### CLINICAL RELEVANCE:

► Subgingival instrumentation with adjunctive AIRFLOW® with erythritol powder adds to the beneficial effects like reducing the number of residual periodontal pocket with PD $\geq$ 5 mm in comparison to subgingival instrumentation. In addition, AIRFLOW® may reduce the need for periodontal surgery.

## 3. NOVEL TECHNIQUE USING COLD ATMOSPHERIC PLASMA COUPLED WITH AIR-POLISHING FOR THE TREATMENT OF TITANIUM DISCS GROWN WITH BIOFILM: AN IN-VITRO STUDY



Wang Lai Hui, Deepak Ipe, Vittoria Perrotti, Adriano Piattelli, Zhi Fang Kostya Ostrikov, Alessandro Quaranta.  
<https://doi.org/10.1016/j.dental.2020.11.027>

### CLINICAL RELEVANCE:

► Decontamination using AIRFLOW® with Erythritol powder is highly effective in biofilm removal from different titanium surfaces  
► No significant post treatment alterations on the surfaces were observed.

# ERYTHRITOL

## 4. CLEANING POTENTIAL OF DIFFERENT AIR ABRASIVE POWDERS AND THEIR IMPACT ON IMPLANT SURFACE ROUGHNESS



Victor H. Matsubara, Bron W. Leong, Marcus J. L. Leong, Zacharij Lawrence, Thomas Becker, Alessandro Quaranta.  
Clin Implant Dent Relat Res. 2020;22:96–104  
<https://doi.org/10.1111/cid.12875>

### CLINICAL RELEVANCE:

- ▶ Sodium bicarbonate had the greatest cleaning capacity, but caused most alterations to the implant surface.
- ▶ Erythritol & Glycine powder showed no significant changes with respect to surface roughness, reinforcing the fact that AIRFLOW® with Erythritol powder is safe.

## 5. COMPARISON BETWEEN FOUR DIFFERENT IMPLANT SURFACE DEBRIDEMENT METHODS: AN IN VITRO EXPERIMENTAL STUDY



Magda MENSI, Lorenzo VIVIANI, Raffaele AGOSTI, Eleonora SCOTTI, Gianluca GARZETTI, Stefano CALZA / DOI: 10.23736/S0026-4970.20.04342-3

### CLINICAL RELEVANCE:

- ▶ AIRFLOW® is the best treatment option for cleaning around implants.
- ▶ Higher the treatment time from 5 seconds to 45 seconds, AIRFLOW® resulted in considerably higher efficiency in simulated-biofilm removal.
- ▶ Both AIRFLOW® powders Erythritol and Glycine have a great cleaning potential and can be suggested for implant surface debridement.



## 6. EFFECT OF AIR-POLISHING ON SURFACE ROUGHNESS OF COMPOSITE DENTAL RESTORATIVE MATERIAL – COMPARISON OF THREE DIFFERENT AIR-POLISHING POWDERS



Joanna Janiszewska-Olszowska , Agnieszka Drozdzik, Katarzyna Tandecka and Katarzyna Grocholewicz  
BMC Oral Health 20, 30 (2020).  
<https://doi.org/10.1186/s12903-020-1007-y>

### CLINICAL RELEVANCE:

- ▶ Sodium bicarbonate-based AIRFLOW® powder has the strongest harmful effect on composite surface in terms of its roughness in comparison to Erythritol and glycine based AIRFLOW® powders.

**EMS RECOMMENDATION:** As per IFU and treatment recommendations, Erythritol based PLUS powder is the preferred powder on composite restorations.

# ERYTHRITOL

## 7. ONE-STAGE FULL MOUTH INSTRUMENTATION (OSFMI): CLINICAL OUTCOMES OF AN INNOVATIVE PROTOCOL FOR THE TREATMENT OF SEVERE PERIODONTITIS [🔗](#)



Magda Mensi, Magda Feres, Stefans Calza, Annamaria Sordillo<sup>1</sup>, Eleonora Scotti, Gianluca Garzetti  
Journal of the International Academy of Periodontology 2020 22/0: 1–8

### CLINICAL RELEVANCE:

- One stage full mouth debridement using AIRFLOW® with Erythritol powder, PERIOFLOW® & PIEZON® therapy was safe and had clinically comparable results like traditional SRP.

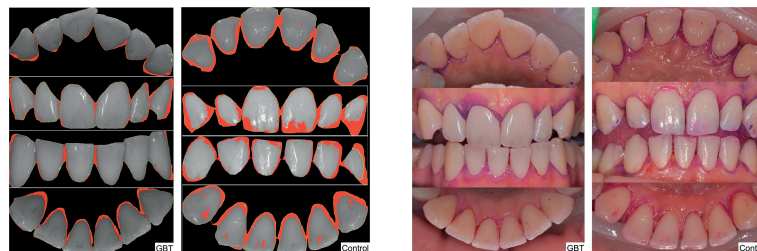
## 8. PLAQUE DISCLOSING AGENT AS A GUIDE FOR PROFESSIONAL BIOFILM REMOVAL: A RANDOMIZED CONTROLLED CLINICAL TRIAL [🔗](#)



Magda Mensi, Eleonora Scotti, Annamaria Sordillo, Raffaele Agosti, Stefano Calza / Int J Dent Hygiene. 2020;00:1–10.  
DOI: 10.1111/idh.12442

### CLINICAL RELEVANCE:

- In line with Guided Biofilm Therapy (GBT), the use of a biofilm disclosing agent before professional mechanical biofilm removal guides the treatment for a more efficient and predictable biofilm removal.



## 9. EFFICIENCY OF CLEANING THE VARIOUS TYPES OF DENTAL IMPLANTS SURFACES (TIU-NITE, SLA, RBM) USING THE AIR-FLOW ERYTHRITOL METHOD [🔗](#)



Furtsev T.V, Zeer G.M - Journal of International Dental and Medical Research, Vol 13, No.2, 2020, page 448  
Efficiency of Cleaning the Various Types of Dental Implants' Surfaces (Tiu-Nite, Sla, Rbm) Using the AIRFLOW® Erythritol Method - ProQuest

### CLINICAL RELEVANCE:

- AIRFLOW® with Erythritol powder is the most effective for cleaning of the RBM (Resorbable Blast Media) surfaces.

# ERYTHRITOL

## 10. CLINICAL OUTCOMES FOLLOWING PERIODONTAL SURGERY AND ROOT SURFACE DECONTAMINATION BY ERYTHRITOL-BASED AIR POLISHING. A RANDOMIZED, CONTROLLED, CLINICAL PILOT STUDY



Cosgarea, R., Jepsen, S., Fimmers, R. et al.

Clin Oral Invest (2020). <https://doi.org/10.1007/s00784-020-03533-9>

### CLINICAL RELEVANCE:

- AIR-FLOWING® with an erythritol powder during periodontal surgery is a valuable, minimally invasive adjunct following calculus removal by hand and ultrasonic instruments or is an appreciated alternative to these for root surfaces without calculus.
- In this study PERIOFLOW® was used and not AIRFLOW®

## 11. RESEARCH ON DENTAL PLAQUE REMOVAL METHODS FOR EFFICIENT ORAL PROPHYLAXIS: WITH A FOCUS ON AIR POLISHING AND RUBBER CUP POLISHING.



Bo-young Park, Minjung Kim, Junghyun park, Ju-Hui Jeong, Hiejn Noh  
Int J Dent Hygiene. 2020;00:1–7. DOI: 10.1111/idh.12481

### CLINICAL RELEVANCE:

- AIRFLOW® is much more efficient in biofilm removal.
- In addition, the study shows, that biofilm removal using AIRFLOW® with Erythritol powder prior to scaling reduced the total scaling time.

### EMS RECOMMENDATION:

- AIRFLOW® using Erythritol powder allows an easier accessibility to tooth surfaces and eliminates biofilm in a much more predictable way in comparison to rubber cup polishing.
- Moreover, biofilm removal using AIRFLOW® with Erythritol powder followed by scaling reduces the total scaling time.
- Dental hygienists' satisfaction level was highest in the AIRFLOW® followed by Scaling (AS) group.
- This study demonstrates that professional biofilm management with AIRFLOW® 1st followed by scaling is an efficient method.

# GLYCINE

## 1. CLINICAL AND MICROBIOLOGICAL EFFECT OF FREQUENT SUBGINGIVAL AIR POLISHING ON PERIODONTAL CONDITIONS: A SPLIT-MOUTH RANDOMIZED CONTROLLED TRIAL



Satoshi Sekino, Tomohisa Ogawa, Etsuko Murakashi, Hiroshi Ito, Yukihiro Numabe  
Odontology (2020). <https://doi.org/10.1007/s10266-020-00493-0>

### CLINICAL RELEVANCE:

Repeated use of subgingival AIR-FLOWING® with PERIOFLOW® at 30-day intermission is safe and leads to clinical improvement in patients with moderately deep pockets undergoing Supportive Periodontal Therapy when used as per recommendation

## 2. RETROSPECTIVE ANALYSIS OF THE LONG-TERM EFFECT OF SUBGINGIVAL AIR POLISHING IN SUPPORTIVE PERIODONTAL THERAPY



Gregor Petersilka, Raphael Koch, Anna Vomhof, Tim Joda, Inga Harks, Nicole Arweiler, Benjamin Ehmke  
J Clin Periodontol. 2020;00:1–9.  
<https://doi.org/10.1111/jcpe.13392>

### CLINICAL RELEVANCE:

Use of low abrasive AIRFLOW® powders maintains periodontal health as effectively as traditional methods of debridement. In cases with furcation involvement conventional modes of therapy are preferred. Please note: PERIOFLOW® which is the recommended choice of therapy for furcations has not been used in this study.

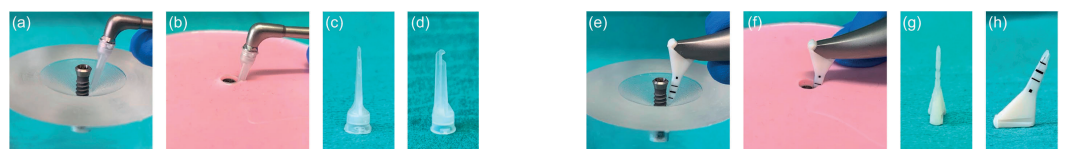
## 3. IN VITRO SURGICAL AND NON-SURGICAL AIR-POLISHING EFFICACY FOR IMPLANT SURFACE DECONTAMINATION IN THREE DIFFERENT DEFECT CONFIGURATIONS



Vivian Tuchscheerer, Peter Eickholz, Bettina Dannewitz, Christoph Ratka, Otto Zuhre, Hari Petsos / Clinical Oral Investigations  
<https://doi.org/10.1007/s00784-020-03476-1>

### CLINICAL RELEVANCE:

► AIRFLOW® is not only an efficient method for surgical and non-surgical implant surface decontamination but also protects the surface in this in vitro model. It is a reliable method for surface decontamination for dental implants.



# BACTERX<sup>®</sup> PRO

## 1. EFFICACY OF COMMERCIAL MOUTH-RINSES ON SARS-COV-2 VIRAL LOAD IN SALIVA: RANDOMIZED CONTROL TRIAL IN SINGAPORE



Chaminda J. Seneviratne, Preethi Balan, Kwan Ki Karrie Ko, Nadeeka S. Udawatte, Deborah Lai, Dorothy Hui Lin Ng, Indumathi Venkatachalam, Kheng Sit Lim, Moi Lin Ling, Lynette Oon, Bee Tin Goh, Xiang Ying Jean Sim  
Infection, <https://doi.org/10.1007/s15010-020-01563-9>

### CLINICAL RELEVANCE:

Cetylpyridinium chloride(CPC) and Povidone Iodine both decrease the viral load in the saliva for a 6h period. BacterX<sup>®</sup> Pro with CPC as the main ingredient may be useful as a pre-procedural rinse to help reduce the transmission of COVID-19.

