



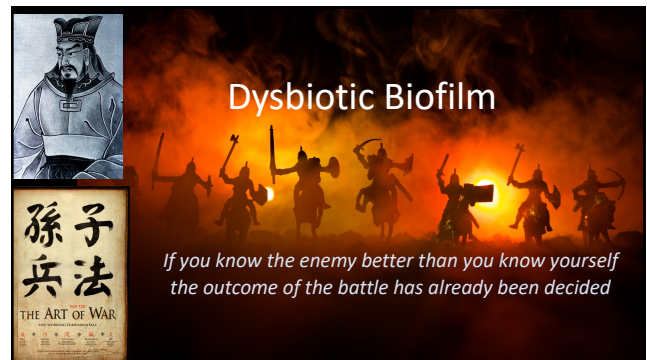
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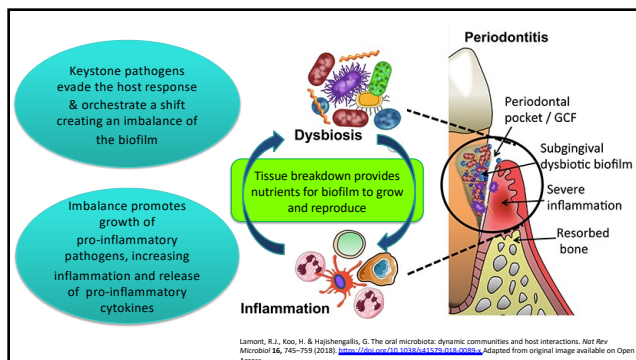
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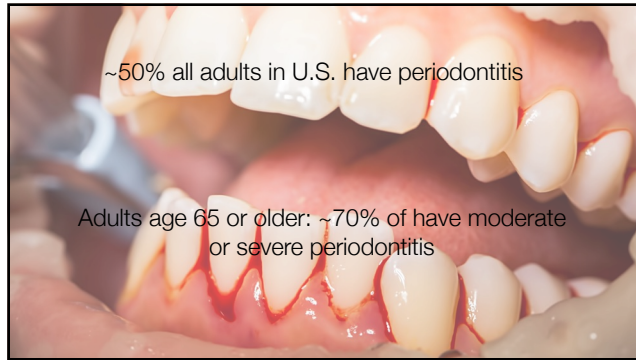
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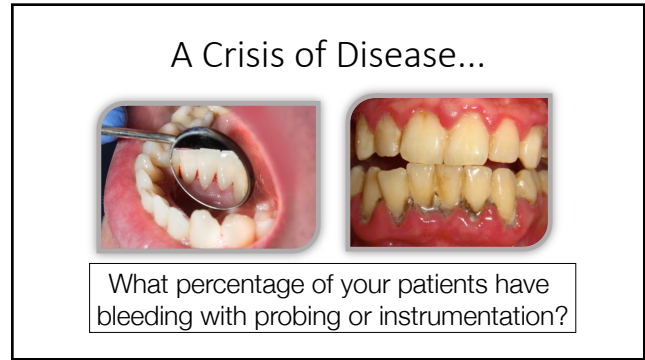
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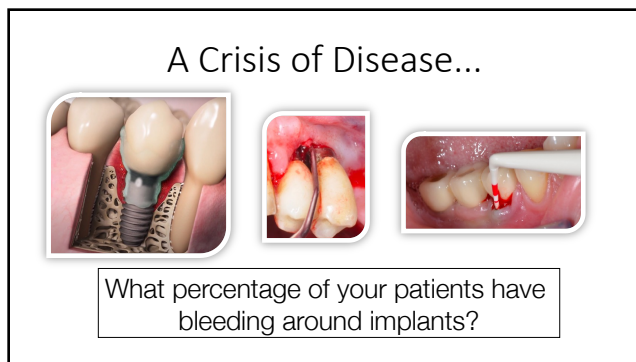
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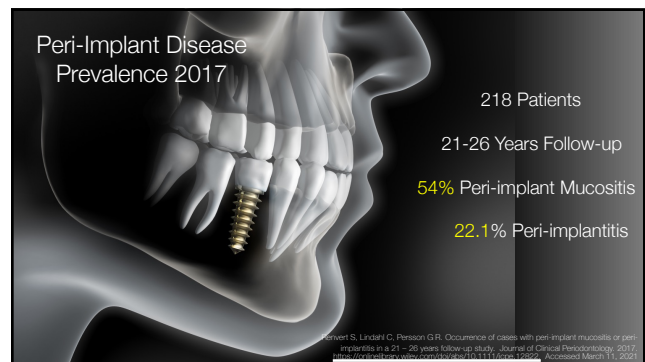
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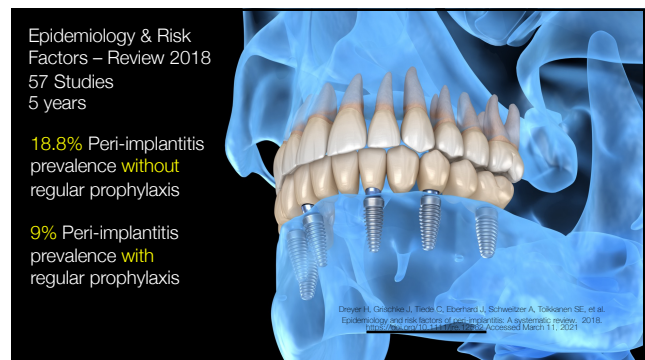
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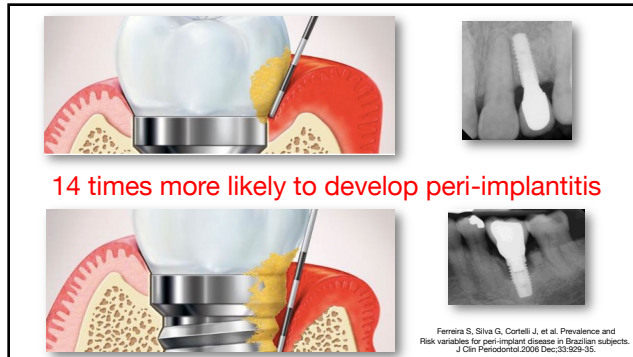
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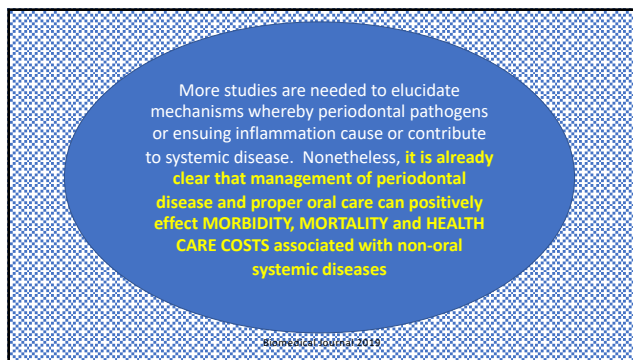
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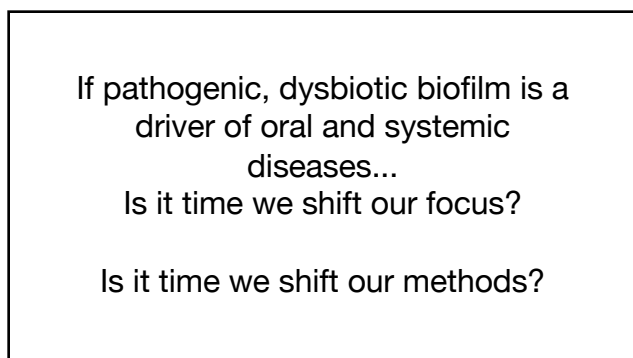
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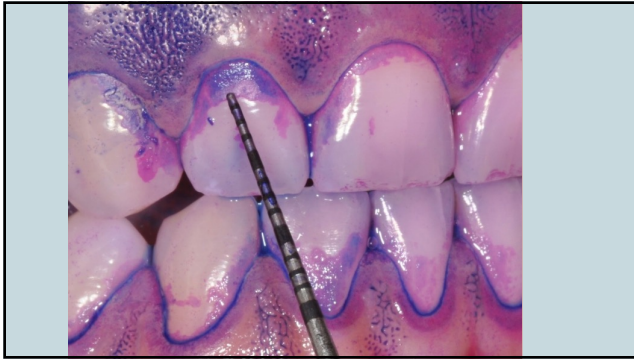
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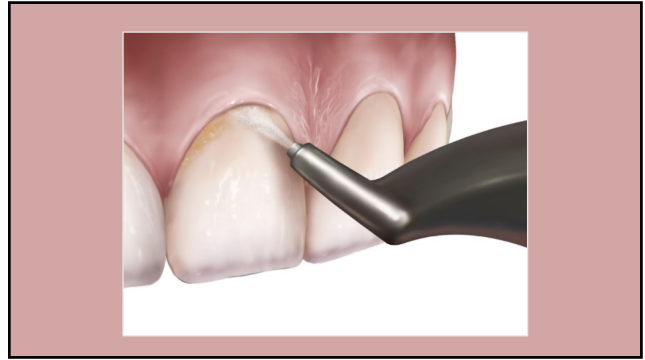
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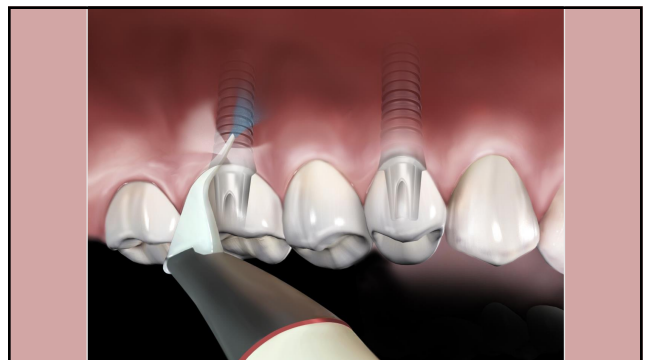
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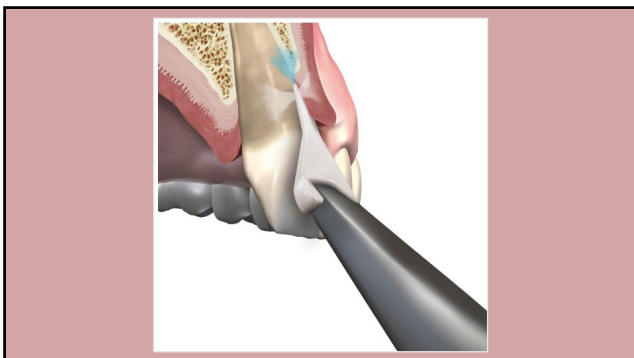
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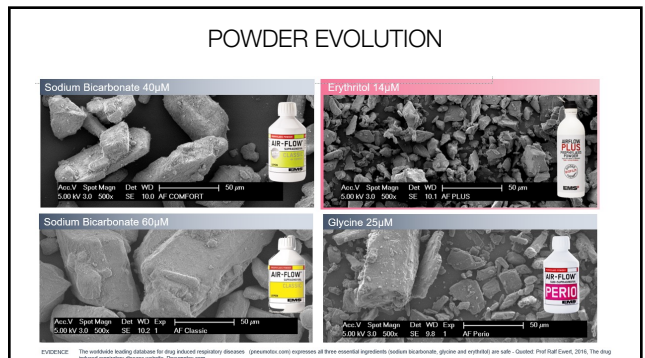
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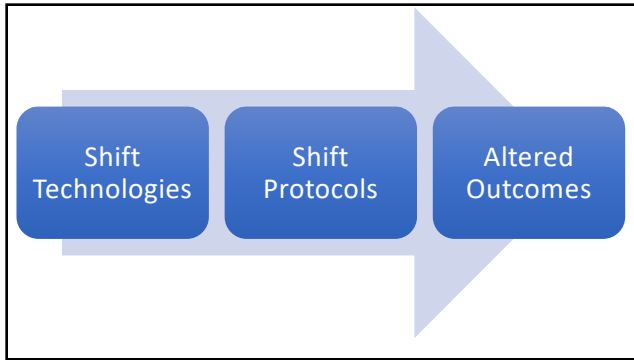
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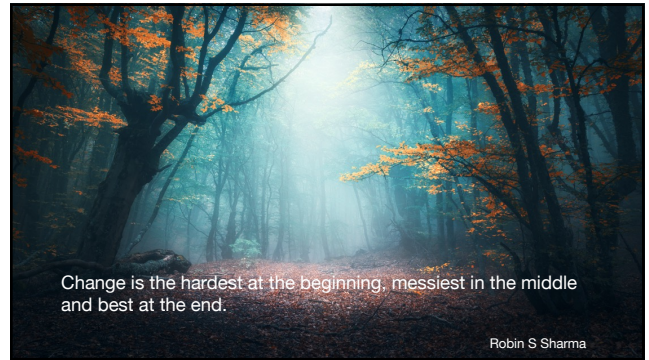
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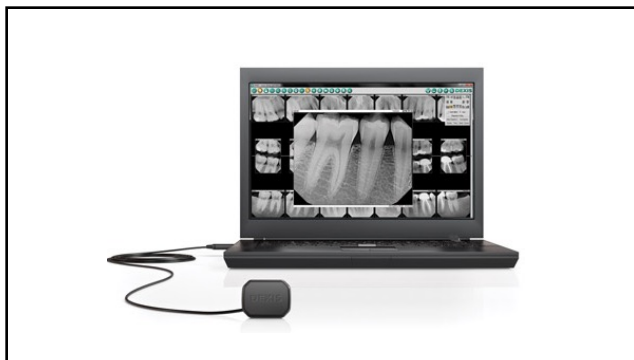
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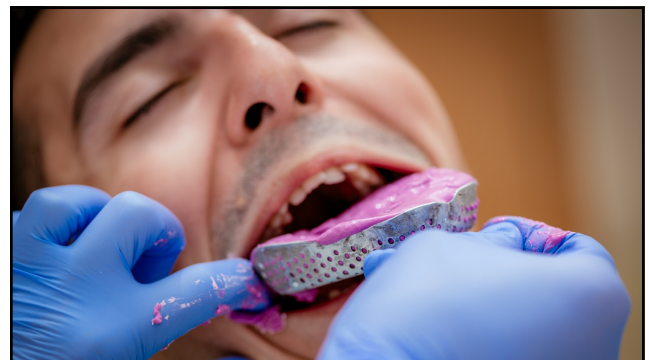
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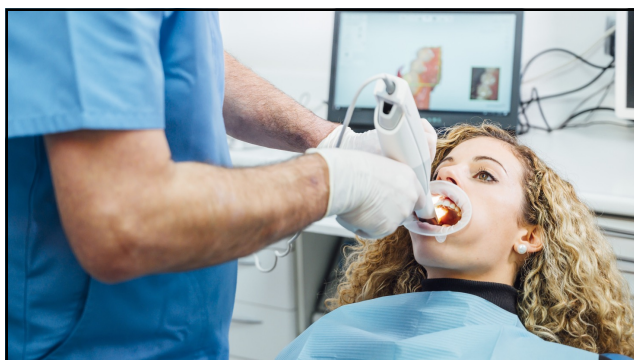
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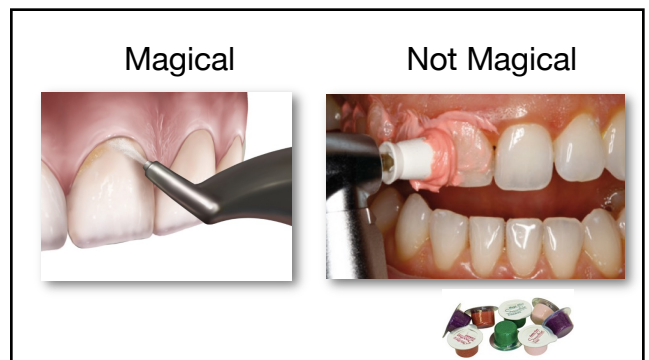
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Magical...



Photos courtesy Prof. Magda Brown

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MAGICAL...



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AIRFLOW® Prophylaxis Master

Heated water for patient comfort

Large powder chambers

360-degree Bluetooth wireless foot pedal

30% Boost feature for harder deposits or stains

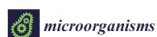
Piezon handpiece LED light

Lightweight & ergonomic design

Evidence...



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Review

Novel Approach to Dental Biofilm Management through Guided Biofilm Therapy (GBT): A Review

"It is beneficial in removing the biofilm around the tooth and implant structures, resulting in better or comparable clinical outcomes than SRP. These results were substantiated with the reduction in the microbial load as well as the reduction in the inflammatory cytokines."

Shrivastava D, Nair D, Shrivastava KC, Alzoubi IA, Nagay AL, Hamza MD, Al-Johani K, Alam MK, Khushf Z. Novel Approach to Dental Biofilm Management through Guided Biofilm Therapy (GBT): A Review. Microorganisms. 2021 Sep 15;9(9):1966. doi: 10.3390/microorganisms9091966. PMID: 34575863; PMCID: PMC8468805.

36

Randomized, controlled, split-mouth clinical study: TREATING PERI-IMPLANTITIS

10 pts. Moderate, contralateral peri-implantitis

PerioFlow PLUS 7 sec. per site / Unlimited time w/ Teflon currettes & EMS PEEK tip

3 mo. Modified Gingival Index (MGI) reduced both groups

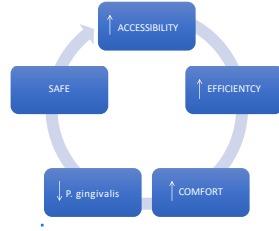
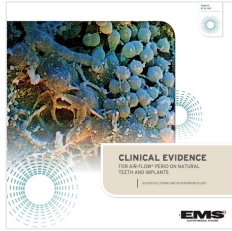
Treatment time: 3.25 min. PerioFlow PLUS / 13.50 min. Mechanical instrumentation

Nasiri L, Miraki G, Rippel R. Treatment of peri-implantitis using an air polishing device with erythritol powder or mechanical debritement: a randomized, controlled Split mouth clinical study. Clinical Oral Implants Research. 2014.



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A Paradigm Shift in Mechanical Biofilm Management? Subgingival Air Polishing: A New Way to Improve Mechanical Biofilm Management in the Dental Practice
Quintessence International 2013

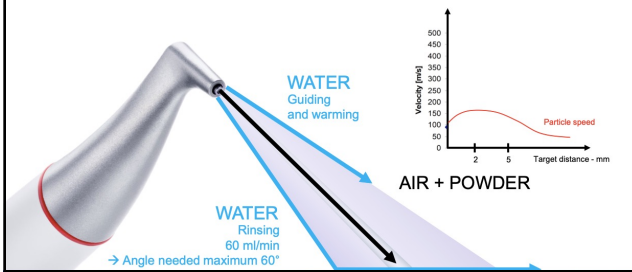


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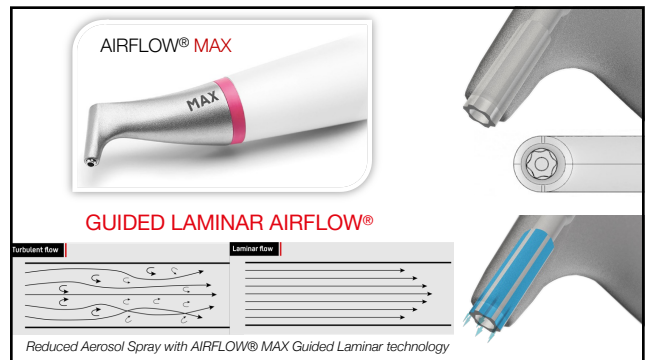


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Water ~100% / Erythritol PLUS powder ~30%



40



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AIRFLOW® MAX

- Higher acceleration of the particles
- 32% wider treatment surface
- Increased efficiency
- Reduced weight (30%) & noise (3X's)

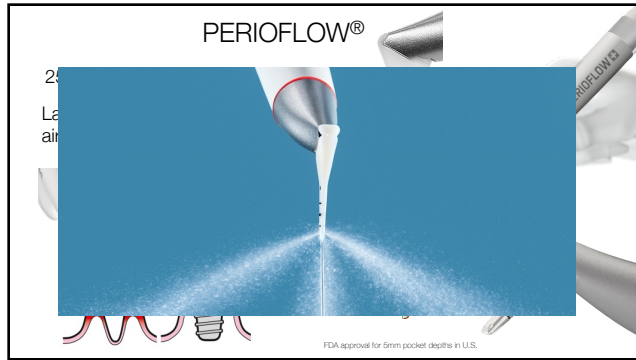


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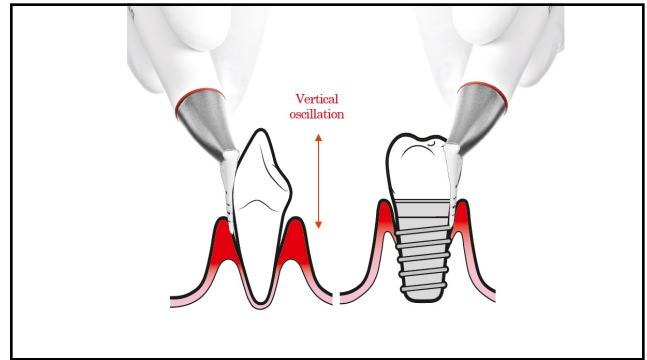
AIRFLOW® MAX



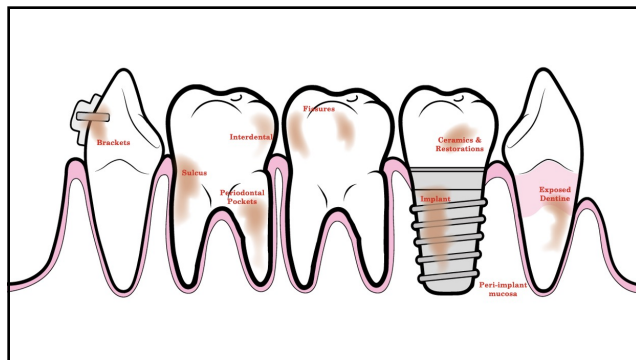
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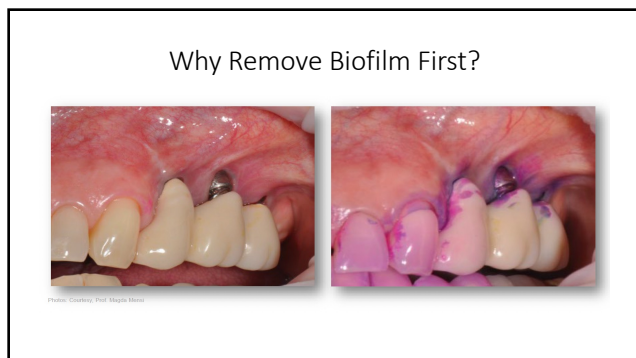
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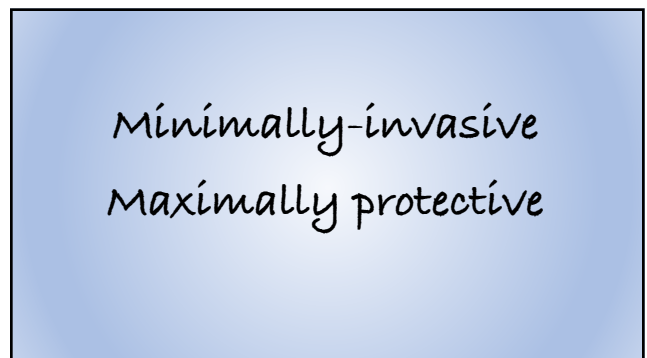
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Subgingival Debridement Efficacy of Glycine Powder Air

Thomas F. Flemmig,¹ Marc Hetzel,² Heinz Topp,³ and Gregor Petersilka¹

¹ Periodontol • June 2007

SPT.⁷ It also indicates that the requirements for subgingival instrumentation in initial and supportive periodontal therapy are distinct with respect to abrasiveness. In initial therapy, highly abrasive instruments such as curets or sonic or ultrasonic scalers are needed for the ablation of hard and tenacious subgingival calculus. In SPT, the abrasiveness of the instrumentation method used should ideally be just high enough for biofilm removal, but low enough to mitigate any deleterious effects to the tooth surfaces and adjacent soft tissues. Abrasion on tooth surfaces might become substantial over time when the cumulative effects of repeated instrumentation in SPT are considered.^{8,11}

With the goal of establishing an efficient and safe technique for subgingival biofilm removal in SPT, a low-abrasive glycine powder⁸ was developed for use in commercially available injection abrasive water jets, also known as air polishing devices. Compared to so-




Photo: courtesy Magda Mersa

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Ever Wonder What Polishing Pastes Do to the Surface?



NATURAL TOOTH
Before cleaning, residual biofilm

AFTER "POLISHING"
With low-abrasive paste RDA 27

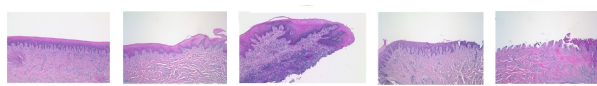
AFTER AIRFLOWING
With AIRFLOW® PLUS Powder

EVIDENCE • J Clin Dent 2016 May 77(1):3-11. Tooth Surface Comparison after Air Polishing and Buffering. Con: A Synthetic Electronic Microscopy Study. Copyright © Copyright 2016. University of Iowa. School of Dentistry. 2016. Reprinted and adapted with permission of the author. All rights reserved. 10.1016/j.cden.2016.04.001

*Tooth enamel x 2000

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Ever Wonder What Treatment Does to the Tissue?

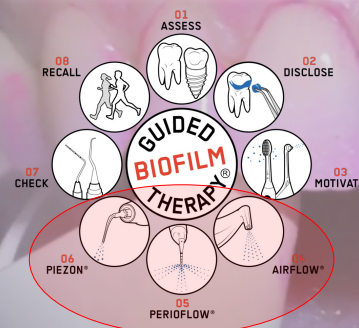


CONTROL GLYCINE ERYTHRITOL PIEZON® PS CURETTE

Clin Oral Invest. 2018 Sep;22(7):2669-2673. Evaluation of an ex vivo porcine model to investigate the effect of low abrasive airpolishing. Petersilka G, Hecker R, Koch T, Elmrich S, Aweidert H.

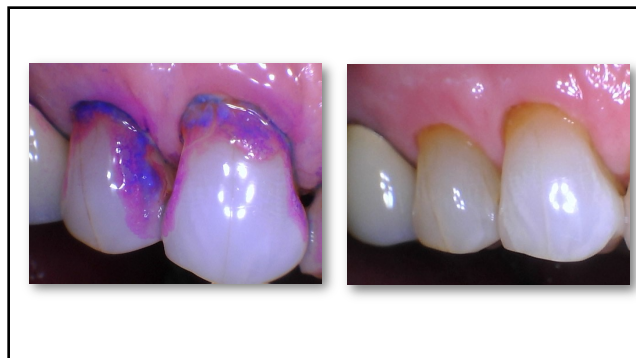
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GUIDED BIOFILM THERAPY



01 ASSESS 02 DISCLOSE 03 MOTIVATE 04 AIRFLOW® 05 PERIOFLOW® 06 PIEZON® 07 CHECK 08 RECALL

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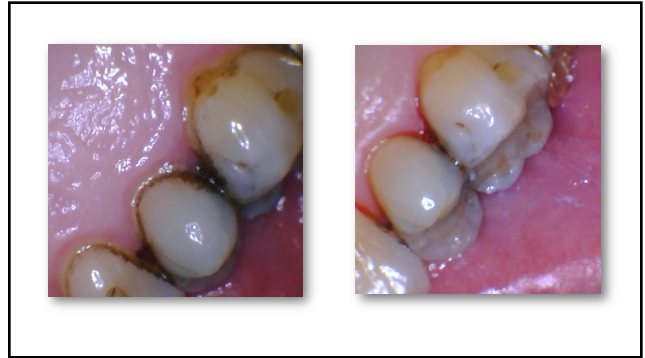
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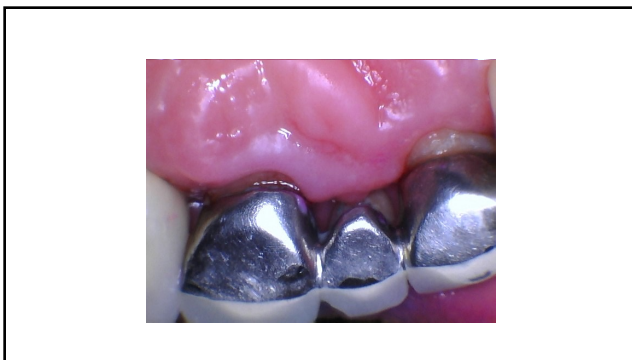
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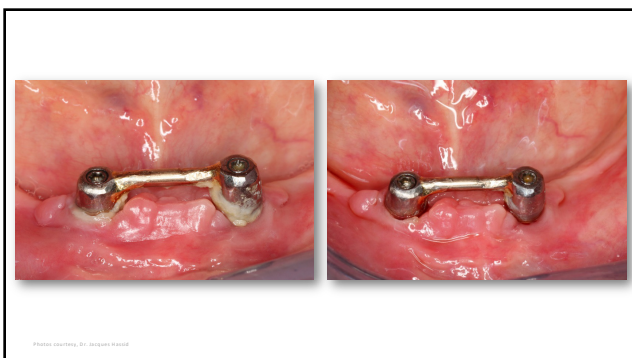
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Photos courtesy, Prof. Magda Miron

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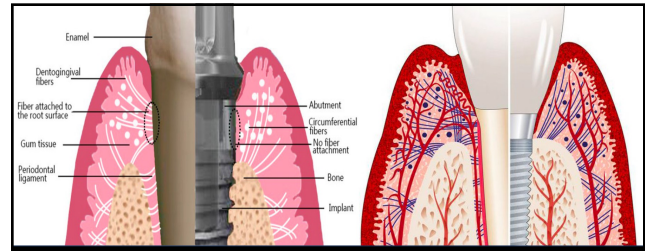
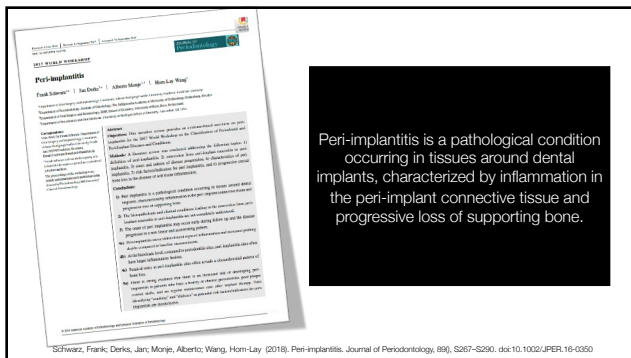


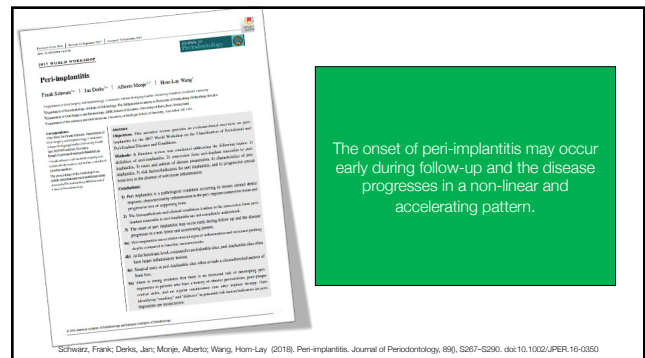
Image: <https://onlinelibrary.wiley.com/doi/10.1111/j.1365-2214.2012.03211.x>

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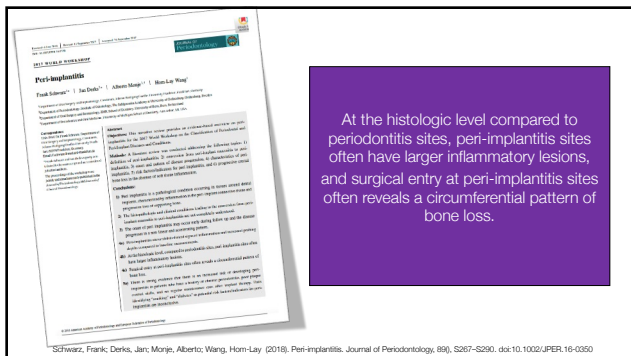
Schwarz, Frank; Derks, Jan; Mörje, Alberto; Wang, Hom-Lay (2018). Peri-implantitis. Journal of Periodontology, 89(9), S267-S290. doi:10.1002/JPER.16-0350

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Schwarz, Frank; Derks, Jan; Mörje, Alberto; Wang, Hom-Lay (2018). Peri-implantitis. Journal of Periodontology, 89(9), S267-S290. doi:10.1002/JPER.16-0350

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Schwarz, Frank; Derks, Jan; Mörje, Alberto; Wang, Hom-Lay (2018). Peri-implantitis. Journal of Periodontology, 89(9), S267-S290. doi:10.1002/JPER.16-0350

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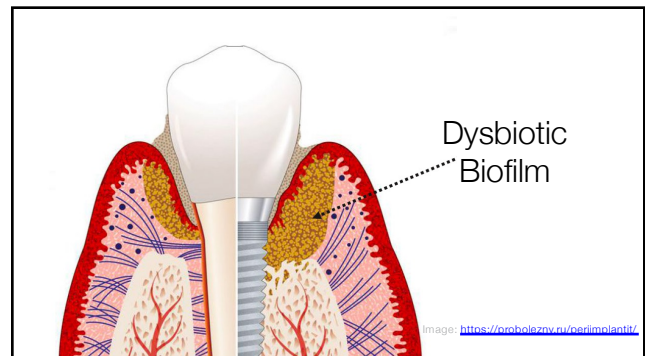



Image: <https://onlinelibrary.wiley.com/doi/10.1111/j.1365-2214.2012.03211.x>

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Peri-implantitis

Frank Schwarz¹, Jan Denks², Alberto Moritz³, Hom-Lay Wang⁴

Abstract

Peri-implantitis is a pathological condition occurring in tissue around dental implants. It is characterized by inflammation and bone loss. The purpose of this study was to explore the evidence for the role of peri-implantitis in the development of peri-implantitis. A systematic review of the literature was conducted. The results of the review are presented in the following table:

Risk Factor	Relative Risk (RR)
History of chronic periodontitis	2.0
Poor plaque control skills	1.5
No regular maintenance care	1.5
Smoking	1.5
Diabetes	1.5

There is strong evidence that there is an increased risk of developing peri-implantitis in patients who have a history of chronic periodontitis, poor plaque control skills, and no regular maintenance care after implant therapy. Data identifying "smoking" and "diabetes" as potential risk factors/indicators for peri-implantitis are inconclusive.

Schwarz, Frank, Denks, Jan, Moritz, Alberto, Wang, Hom-Lay (2018). Peri-implantitis. *Journal of Periodontology*, 89(6), S267-S280. doi:10.1002/JPER.16-0250

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Research

Dental Hygienists' Knowledge Regarding Dental Implant Maintenance Care: A national survey

by R. Zellmer, RDH, MS; Elizabeth T. Couch, RDH, MS; Lisa Torres, DDS, MPE; Donald A. Curtis, DMD

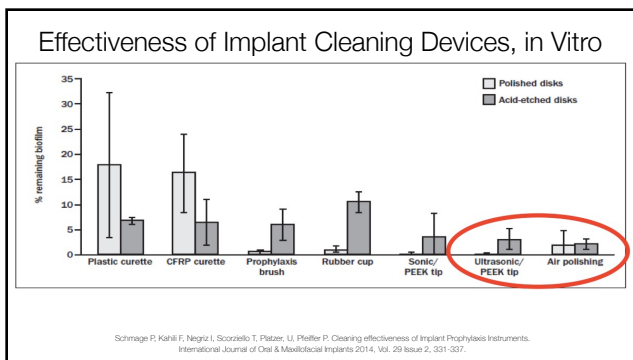
Abstract

Dental hygienists are an important part of the dental team for supporting dental treatment in relation to dental implant maintenance and restoration care. The purpose of this study was to explore the attitudes and practices of dental hygienists in the United States regarding dental implant maintenance and restoration care. A national survey of 2000+ dental hygienists was conducted. The results of the survey are presented in the following table:

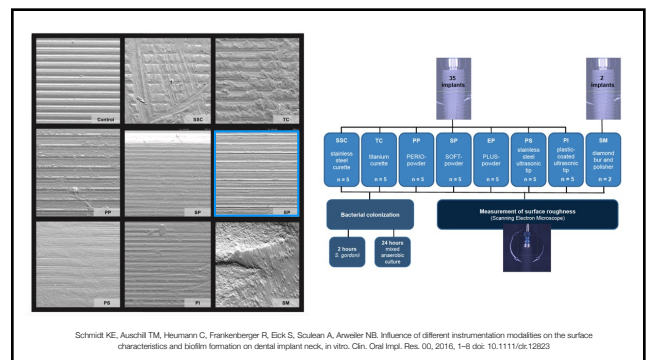
Question	Response
2000+ U.S. RDH surveyed	
44% reported unable to remove plaque biofilm from implants as effectively as natural teeth	
Majority (60%) using plastic scalers; only 7% felt they were effective	
Only 5% using air polishing w/ glycine; but 71% felt it was very effective	

Zellmer RT, Couch ET, Berens L, Curtis DA. Dental hygienists' knowledge regarding dental implant maintenance care: A national survey. *J Dent Hyg*. 2020 Winter;94(4):6-10. <https://doi.org/10.1177/0022049420944848>

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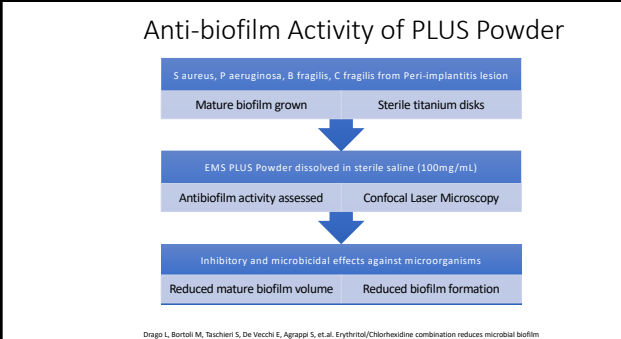
Erythritol and glycine powders had **no significant changes** with respect to surface roughness

Sodium bicarbonate powder caused **the most alterations** to the implant surfaces.

Matsubara V, Leong BW, Leong MJ, Lawrence Z, Becker T, Quaranta A. Cleaning potential of different air abrasive powders and their impact on implant surface roughness. *Clin Implant Dent Relat Res.* 2020;22:96-104 <https://doi.org/10.1111/cid.12875>

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Anti-biofilm Activity of PLUS Powder



S aureus, P aeruginosa, B fragilis, C fragilis from Peri-implantitis lesion

Mature biofilm grown

Sterile titanium disks

EMS PLUS Powder dissolved in sterile saline (100mg/mL)

Antibiofilm activity assessed

Confocal Laser Microscopy

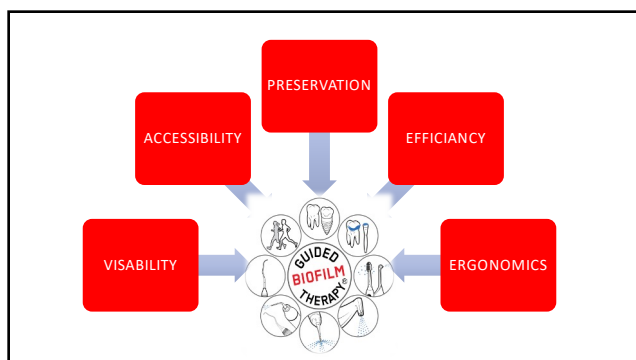
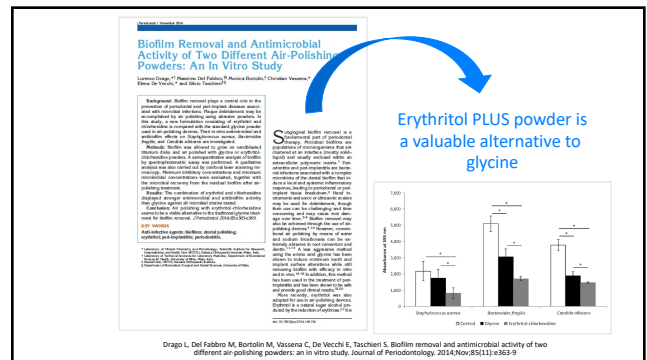
Inhibitory and microbicidal effects against microorganisms

Reduced mature biofilm volume

Reduced biofilm formation

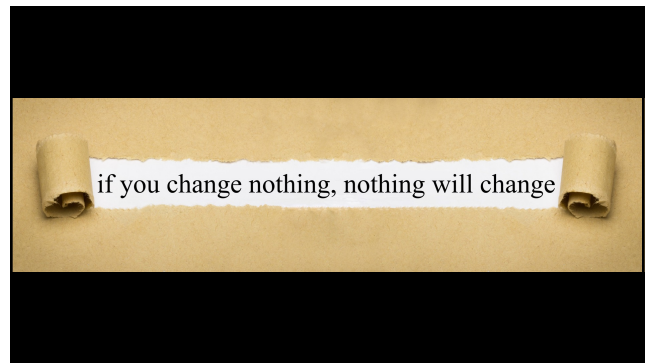
Drago L, Bortoli M, Tracchi S, De Vecchi E, Agrappi S, et al. Erythritol/Chlorhexidine combination reduces microbial biofilm and prevents its formation on titanium surfaces in vitro. *Journal of Oral Pathology & Medicine* 2016. Doi: 10.1111/jop.12336

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