GUIDED BIOFILM THERAPY

SUMMARIES OF TOP STUDIES 2024 - VOL. 1

Fibroblast on predentin (original magnification ×3800).

Gruber R, Stadlinger B, Terheyden H. Cell–to–Cell Communication: Cell Atlas Visual Biology in Oral Medicine 1st Edition, Quintessence Publishing, Berlin, © 2022 EMS Private Label edition; SEM images: eye of science.

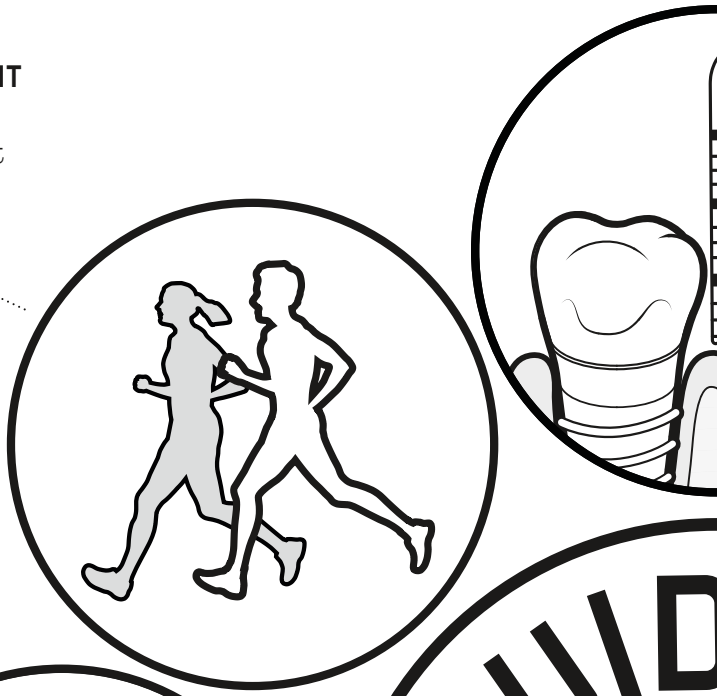
SDA
SWISS DENTAL ACADEMY

THE GBT COMPASS AND ITS

08 RECALL

HEALTHY PATIENT = HAPPY PATIENT

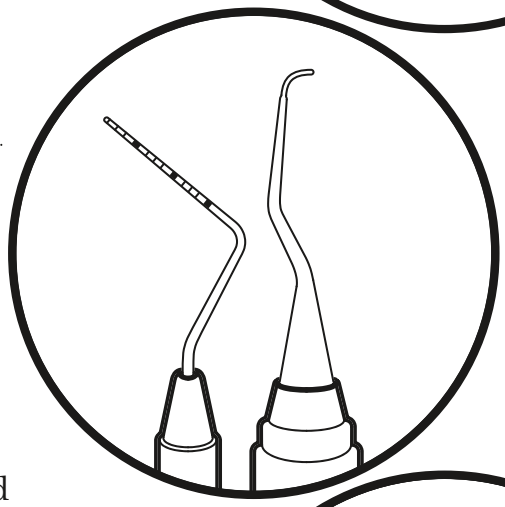
- Schedule recall frequency according to risk assessment
- Ask your patient if he or she liked the treatment



07 CHECK

MAKE YOUR PATIENT SMILE

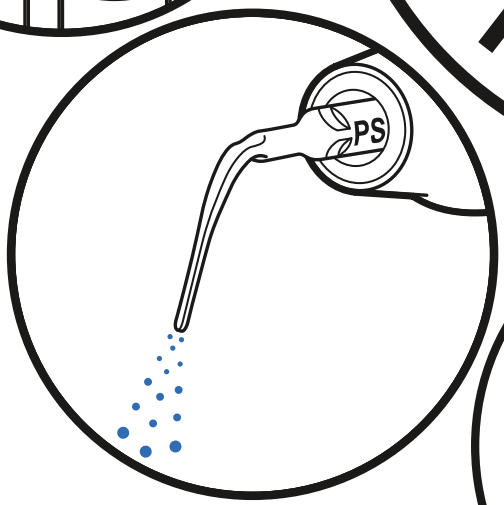
- Do a final check for remaining biofilm
- Ensure calculus is fully removed
- Accurately diagnose caries
- Protect with fluoride
- No polishing anymore

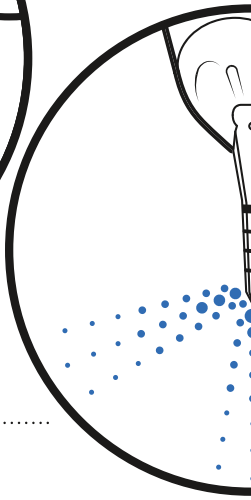


06 PIEZON® PS

REMOVE REMAINING CALCULUS

- Use the minimally invasive EMS PIEZON® PS Instrument supra- and subgingivally up to 10 mm
- Clean > 10 mm pockets with mini curette
- Use EMS PIEZON® PI MAX Instrument around implants up to 3 mm subgingivally and on restorations



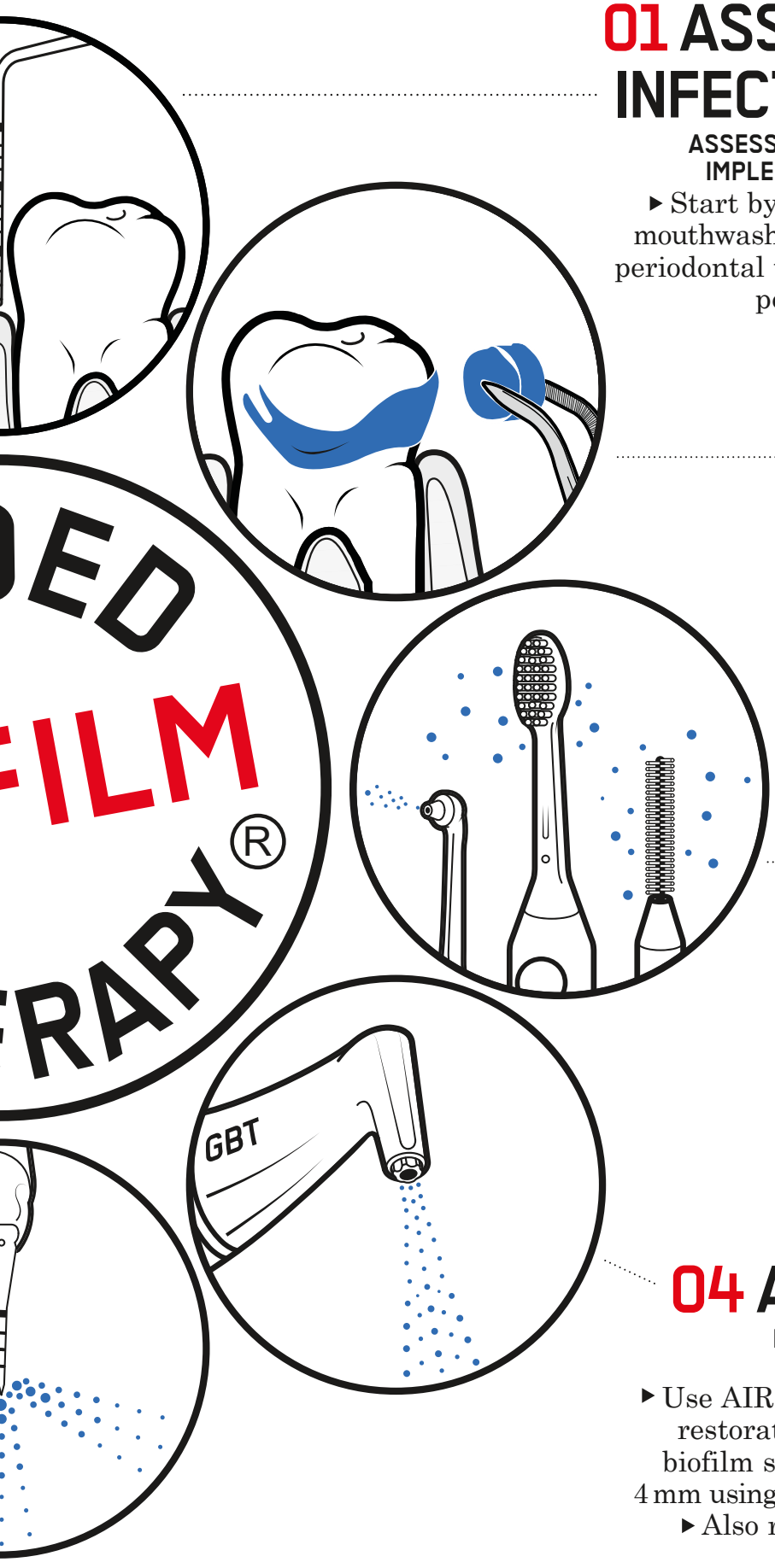


05 PERIOFLOW®

REMOVE BIOFILM IN >4 TO 9 MM POCKETS

- Use AIRFLOW® PLUS Powder on natural teeth in deep pockets and root furcations and on implants
- Use new and slimmer PERIOFLOW® Nozzle

8-STEP PROTOCOL



01 ASSESSMENT AND INFECTION CONTROL

ASSESS EVERY CLINICAL CASE AND IMPLEMENT HYGIENE MEASURES

▸ Start by rinsing with BacterX® Pro mouthwash ▸ Assess teeth, gingiva and periodontal tissues ▸ Assess implants and peri-implant tissues

02 DISCLOSE

MAKE BIOFILM VISIBLE

▸ Highlight to patients the disclosed biofilm and their problematic areas with EMS Biofilm Discloser ▸ The color will guide biofilm removal ▸ Once biofilm is removed, calculus is easier to detect

03 MOTIVATE

RAISE AWARENESS AND TEACH

▸ Emphasize the importance of prevention ▸ Instruct your patients in oral hygiene ▸ EMS recommends interdental brushes or dental floss as well as electric or manual tooth-brushes and AIRFLOW® erythritol toothpaste for daily home care

04 AIRFLOW® MAX

REMOVE BIOFILM, STAINS AND EARLY CALCULUS

▸ Use AIRFLOW® MAX for natural teeth, restorations and implants ▸ Remove biofilm supra- and subgingivally up to 4 mm using AIRFLOW® PLUS 14 µm Powder ▸ Also remove biofilm from gingiva, tongue and palate

GUIDED BIOFILM THERAPY

1. GUIDED BIOFILM THERAPY: A NOVEL APPROACH IN PROFESSIONAL DENTAL BIOFILM MANAGEMENT

Rajesh KS, Sabana N, Hedge S, Boloor V
Journal of Dental Research and Review, Volume 10, Issue 2, April-June 2023
https://www.researchgate.net/publication/373223577

CLINICAL RELEVANCE

- Using the Guided Biofilm Therapy (GBT) protocol during supportive periodontal therapy and non-surgical periodontal therapy was found to have a lower perception of pain and better patient compliance in comparison to scaling and root planning (SRP). GBT as a monotherapy is a successful method for removing biofilm and calculus without affecting the root cementum or the implant surfaces and can be recommended as a basic treatment around teeth and implants.
- GBT also aids in improving patient education and motivation for oral hygiene care at home.



2. CLINICAL EVALUATION OF A NOVEL PROTOCOL FOR SUPPORTIVE PERIODONTAL CARE: A RANDOMIZED CONTROLLED CLINICAL TRIAL

Stähli A, Ferrari J, Schatzmann AS, Weigel LD, Roccuzzo A, Imber JC, Duong HY, Eick S, Lang NP, Salvi GE, Sculean A
J Periodontol. 2024 Jan 31.
https://pubmed.ncbi.nlm.nih.gov/38291892/

CLINICAL RELEVANCE

- Guided Biofilm Therapy (GBT), referred in this article as Guided Biofilm Management (GBM), can be recommended for supportive periodontal therapy (SPT) following active periodontal therapy.
- NOTE: The pain perception as mentioned in the GBM group is misleading because the hygienists performing the ultrasonic treatment with PIEZON® PS were 100% users of hand instruments for decades. Hence we assume that the patients did not have the positive patient experience as expected during GBT treatment due to inadequate clinician training.

MOTIVATION

3. THE EROSIVE EFFECT OF VARIOUS DRINKS, FOODS, STIMULANTS, MEDICATIONS AND MOUTHWASHES ON HUMAN TOOTH ENAMEL

Lussi A, Megert B, R. Peter Shellis
Swiss Dent J 2023 Jul 10;133(7-8):440-455
https://pubmed.ncbi.nlm.nih.gov/36861647/

CLINICAL RELEVANCE

- Dental erosion is the chemical loss of dental hard substances caused by exposure to acids not derived from oral bacteria. In this article, different mouthrinses, dairy products, over the counter medications, sweets, and candy, etc. were compared in terms of pH in the mouth after consumption, after consumption and subsequent safety.
- Data shows that AIRFLOW® mouthrinse can be used as a daily rinse for home care when compared with most of the other mouthrinses available today.

GBT FLOWCONTROL®

4. BACTERIAL CONTAMINATION OF AIR AND SURFACES DURING DENTAL PROCEDURES - AN EXPERIMENTAL PILOT STUDY USING STAPHYLOCOCCUS AUREUS

Franz J, Thomas C. Scheier MD, Aerni M, Gubler A, Peter W. Schreiber MD,
Silvio D. Brugger MD and Patrick R. Schmidlin
Infect Control Hosp Epidemiol . 2024 Jan 24:1-6.
https://pubmed.ncbi.nlm.nih.gov/38263751/

CLINICAL RELEVANCE

- This is the first study with GBT FLOWCONTROL®, the high-volume suction (HVS) canula. Use of a mouthrinse containing CHX resulted in a reduction of staphylococcus aureus in CFU (colony forming unit) counts during AIR-FLOWING® with a saliva ejector. In line with the GBT protocol, GBT FLOWCONTROL® produced the least amount of surface contamination during procedures involving ultrasonics or AIR-FLOWING®. This is of importance when it comes to controlling cross contamination in the dental practice.

5. SUBGINGIVAL USE OF AIR-POLISHING POWDERS: STATUS OF KNOWLEDGE: A SYSTEMATIC REVIEW

Gheorghe DN, Bennardo F, Silaghi M, Popescu DM, Maftei GA, Bătăiosu M, Surlin P
J Clin Med. 2023 Nov 5;12(21):6936.
https://pubmed.ncbi.nlm.nih.gov/37959401/

CLINICAL RELEVANCE

- This systematic review confirms that AIR-FLOWING®, with its minimally invasive nature, effectively removes biofilm but also helps to maintain gum health by reducing inflammation. Subgingival AIR-FLOWING® is a proven, viable alternative to a more traditional approach as a result of novel powder types, nozzle designs, and application methods, which assure patient comfort and satisfaction during treatment.

AIR-FLOWING®

6. AIR POWDER WATERJET TECHNOLOGY USING ERYTHRITOL OR GLYCINE POWDERS IN A PERIODONTAL OR PERI- IMPLANT PROPHYLAXIS AND THERAPY: A CONSENSUS REPORT OF AN EXPERT MEETING

Liu CC, Dixit N, Hatz CR, Janson TM, Bastendorf KD, Belibasakis GN, Cosgarea R, Karoussis IK, Mensi M, O'Neill J, Spahr A, Stavropoulos A, Schmidlin PR
Clin Exp Dent Res 2024 Feb;10(1):e855
https://pubmed.ncbi.nlm.nih.gov/38345462/

CLINICAL RELEVANCE

- An expert consensus report concluded that the use of APWT (air, powder, waterjet technology) with erythritol and glycine powders in non-surgical periodontal and peri-implant therapy, as well as prophylaxis, is effective, patient compliant and safe on natural teeth and implants. This report supports our claims when it comes to AIR-FLOWING® within the GBT protocol.

7. PERIODONTAL AND PERI-IMPLANT DIAGNOSIS: CURRENT EVIDENCE AND FUTURE DIRECTIONS

Francesco D'Ambrosio
Diagnostics 2024, 14, 256.
https://doi.org/10.3390/diagnostics14030256

CLINICAL RELEVANCE

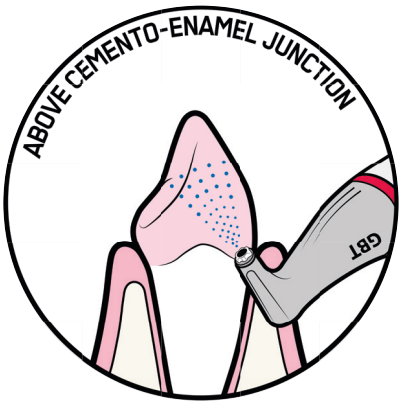
- This editorial reinforces Step 1 of the GBT protocol: assessment is essential, as early diagnosis of periodontal and peri-implant diseases using periodontal screening and recording, detailed amnamnese is crucial in eliminating and helping to prevent periodontal and peri-implant diseases.
- To increase the effectiveness of non-surgical therapy, use of ozone, erythritol chlorhexidine (AIRFLOW® PLUS powder), probiotics, laser therapy, hyaluronic acid, omega-3, omega-6, and drugs, etc. are recommended.

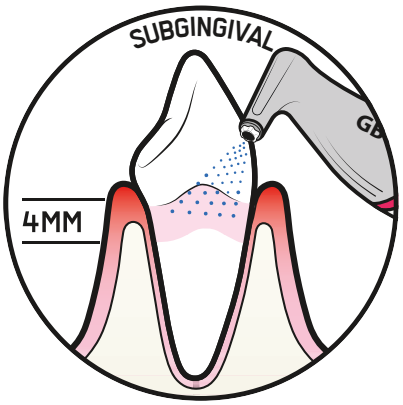
8. IMPACT OF AIR-POLISHING USING ERYTHRITOL ON SURFACE ROUGHNESS AND SUBSTANCE LOSS IN DENTAL HARD TISSUE: AN EX VIVO STUDY

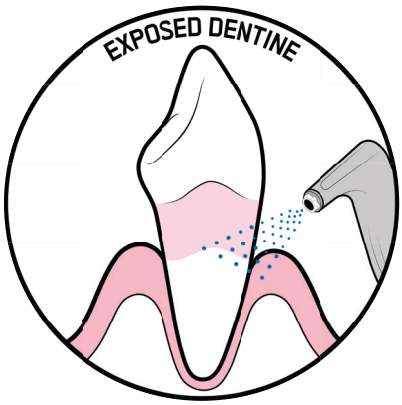
Kruse AB, Fortmeier S, Vach K, Hellwig E, Ratka-Krüger P, Schlueter N.
PLoS One 2024 Feb 26;19(2):e0286672.
https://pubmed.ncbi.nlm.nih.gov/38408064/

CLINICAL RELEVANCE

- Professional teeth cleaning procedures like AIR-FLOWING®, rubber cup and polishing pastes, and curettes were compared as a standalone method and in combination. Greater values with respect to surface roughness and substance loss were found on dentin than on enamel.
- For enamel, the changes were measurable but of limited clinical relevance.
- With dentin, AIR-FLOWING® resulted in a smaller but insignificant roughness increase with less tissue loss compared to the curette. AIR-FLOWING® is a less invasive procedure than using a curette. Polishing with rubber cup and paste offers no advantage in terms of reducing roughness as a final procedure.







9. PREVENTION AND TREATMENT OF PERIODONTAL DISEASES IN PRIMARY CARE

Scottish Dental Clinical Effectiveness Program
Feb 2024

CLINICAL RELEVANCE

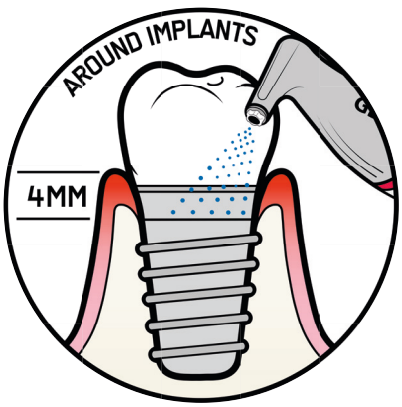
- This dental clinical guidance highlights AIR-FLOWING® in the following: [4:11 PM] Dixit, Neha
  This dental clinical guidance on AIR-FLOWING® highlights the following:
- Can be used during periodontal instrumentation and is as effective as traditional methos to remove biofilm.
- Patient acceptance is high.
- It is safe around implant-supported restorations in healthy patients.
- In addition, the EFP Prevention and treatment of peri-implant diseases guideline recommends PMPR (professional mechanical plaque removal) which can be done as monotherapy with AIR-FLOWING®

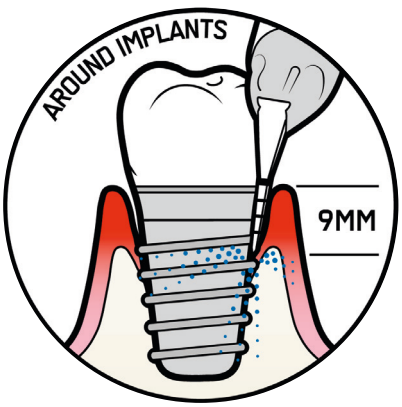
10. NOVEL FLOWCHART GUIDING THE NON-SURGICAL AND SURGICAL MANAGEMENT OF PERI-IMPLANT COMPLICATIONS: A NARRATIVE REVIEW.

Shiba T, Komatsu K, Takeuchi Y, Koyanagi T, Taniguchi Y, Takagi T, Maekawa S, Nagai T, Kobayashi R, Matsumura S, Katagiri S, Izumi Y, Aoki A, Iwata T.
Bioengineering (Basel). 2024 Jan 25;11(2):118.
https://pubmed.ncbi.nlm.nih.gov/38391604/

CLINICAL RELEVANCE

- AIR-FLOWING® with erythritol or glycine-based powders is advantageous for implant decontamination during non-surgical treatments.





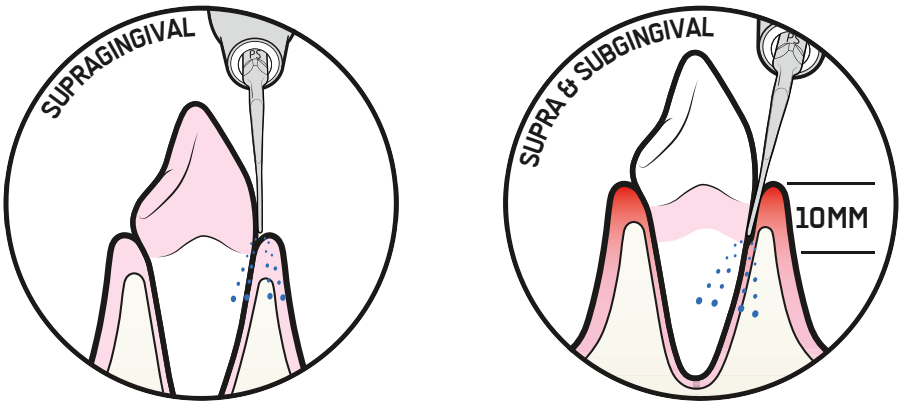
PIEZON® PS

11. EFFECTIVENESS OF ULTRASONIC AND MANUAL INSTRUMENTATION IN NONSURGICAL PERIODONTAL THERAPY: ARE ADDITIONAL THERAPIES MORE EFFECTIVE? A SYSTEMATIC REVIEW

Sabatini S, Maiorani C, Bassignani J, Cotellessa S, Di Trani G,
Fulgenzi E, Iacono R, Mercogliano I, Butera
Appl. Sci. 2024, 14(5), 1950
https://www.mdpi.com/2076-3417/14/5/1950

CLINICAL RELEVANCE

- This systematic review demonstrates that PIEZON® PS (Perio Slim) and hand instruments are equally effective in the treatment of non-surgical periodontal disease. **However, patient comfort should be the main criteria when choosing the type of therapy and instrumentation**. In addition, during non-surgical periodontal therapy, a combination of ultrasonic and hand instruments may be needed. Adjunctive therapies did not demonstrate any further improvement in non-surgical periodontal therapy.
- In line with the GBT protocol, use of the PIEZON® PS Instrument contributes to maximum patient comfort as confirmed in over 330,000 questionnaires globally available today*.



*PATIENTS LOVE GBT

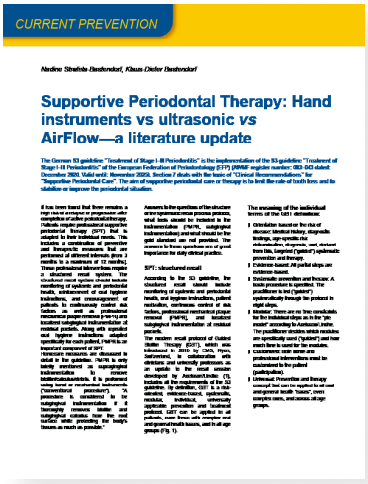
GBT IN THE PRESS

GBT IS A SYSTEMATIC, MODULAR, AND EVIDENCE-BASED PROTOCOL FOR PREVENTION, PROPHYLAXIS, AND THERAPY.

We encourage you to explore the latest articles published globally on this subject from January to March.

SUPPORTIVE PERIODONTAL THERAPY: HAND INSTRUMENTS VS ULTRASONIC VS AIRFLOW® A LITERATURE UPDATE

▶ Dr. Klaus-Dieter Bastendorf, Dr. Nadine Strafela-Bastendorf, Prophylaxe Impuls, March 2024

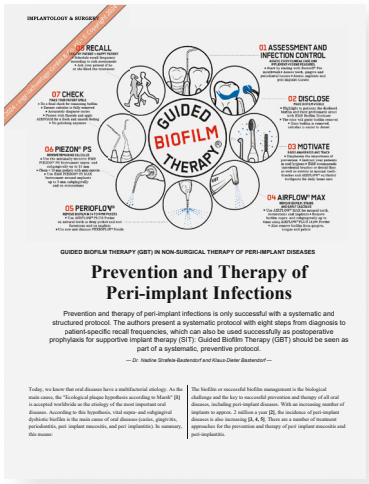

CURRENT PREVENTION

Nadine Strafela-Bastendorf, Klaus-Dieter Bastendorf

Supportive Periodontal Therapy: Hand instruments vs ultrasonic vs AirFlow—a literature update

PREVENTION AND THERAPY OF PERI-IMPLANT INFECTIONS

▶ Dr. Klaus-Dieter Bastendorf, Dr. Nadine Strafela-Bastendorf, Dental Magazin, March 2024



GUIDED BIOFILM THERAPY IS AND REMAINS THE FAVORITE

▶ Dr. Jan Koch, Dental Economics, February 2024


SCIENCE & TECH

Guided Biofilm Therapy is and remains the absolute favorite

Dr. med. dent. Jan Hermann Koch

THE SPECIAL ROLE OF PROPHYLAXIS POWDER IN PROFESSIONAL. MECHANICAL PLAQUE REMOVAL – BECAUSE POWDER ISN'T SIMPLY POWDER

▶ Dr. Marcel Donnet, Quintessenz Zahnmedizin, January 2024


PARODONTOLOGIE

The special role of prophylaxis powder in professional mechanical plaque removal – because powder isn't simply powder

Marcel Donnet

GUIDED BIOFILM THERAPY®

"I FEEL GOOD"

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1260 Nyon - Switzerland
Thank you for your feedback: GBTclinicalcases@ems-ch.com

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