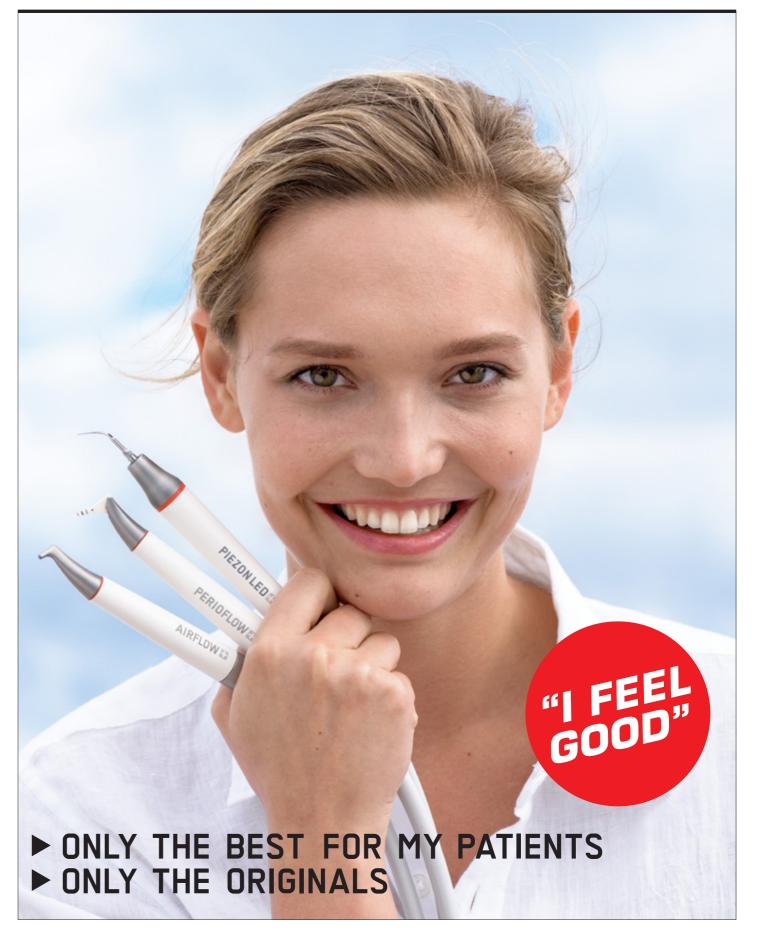


# THE MINIMALLY INVASIVE WAY

# NO MORE RUBBER CUPS NO MORE BRUSHES **ESS USE OF POWER AND** HAND INSTRUMENTATION

# THE NEW AND MODERN WAY





# THE 8 STEPS OF THE GBT PROTOCOL



#### **08 RECALL**

HEALTHY PATIENT = HAPPY PATIENT

► Schedule recall frequency
according to risk assessment

► Ask your patient if he
or she liked the treatment

#### **07 CONTROL**

MAKE YOUR PATIENT SMILE

Do a final check for remaining biofilm

Ensure calculus is fully removed ▶ Accurately diagnose caries ▶ Protect with fluoride

#### **06 PIEZON®**

REMOVE REMAINING CALCULUS

► Use the minimally invasive
EMS PS instrument supraand sugingivally up to 10 mm

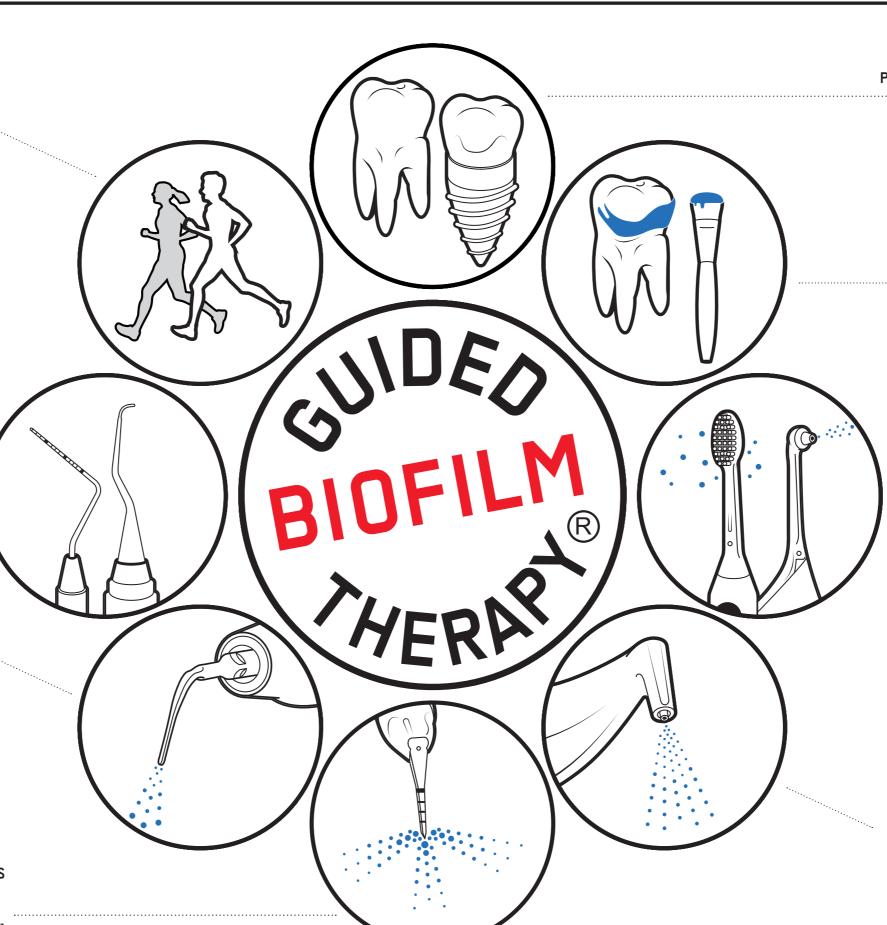
► Clean > 10 mm pockets with
mini curette ► Use EMS
PI instrument around implants

and restorations

#### **05 PERIOFLOW®**

REMOVE BIOFILM IN >4 TO 9 MM POCKETS

► Use PLUS Powder on teeth and implants ► Also remove biofilm interdentally ► Use depth marked PERIOFLOW® nozzle



#### **01 DIAGNOSE**

PROBE AND SCREEN EVERY CLINICAL CASE

→ Healthy teeth, caries, gingivitis, periodontitis
 → Healthy implants, mucositis, peri-implantitis
 → Start by rinsing with BacterX mouthwash

#### **02 DISCLOSE**

MAKE BIOFILM VISIBLE

▶ Show patient disclosed biofilm ▶ The color will guide the biofilm removal ▶ Once biofilm is removed, calculus is easier to detect

#### 03 MOTIVATE

RAISE AWARENESS AND TEACH ► Emphasize on prevention

- ► Instruct your patients on oral hygiene ► Recommend
- Sonicare toothbrushes
  ▶and interdental brushes
  or Airfloss Ultra

#### 04 AIRFLOW®

REMOVE BIOFILM, STAINS AND YOUNG CALCULUS

- ► Natural teeth, restorations and implants ► Remove biofilm supra- and subgingivally up to 4 mm using PLUS 14 µm powder
- ▶ Remove remaining stains on enamel using
   CLASSIC COMFORT powder.
   ▶ Also remove biofilm from gingiva, tongue and palate

# WHY GBT IS A...

# GAME CHANGER



▶ Dental biofilm is the main etiologic factor for caries, periodontal and peri-implant infections. Periodontitis can increase the risk of systemic diseases, such as cardiovascular and respiratory disease, arthritis or diabetes. ▶ Regular oral hygiene, combined with professional measures keeps the biofilm under control – for a better oral and systemic health. Axelsson and Lindhe established preventive dentistry in the 1970<sup>ies</sup> with studies and clinical protocols based on prophylaxis in "recall hours".→1-2 ▶ GBT follows the recommendations on Professional Mechanical Plaque Removal (PMPR) and Oral Hygiene Instructions (OHI) for Home Care of the European Federation

▶ "Periodontal Health – for a better life!"

# DENTAL PROPHYLAXIS IS TRADITIONALLY PERFORMED IN THIS ORDER:

Removal of calculus with hand instruments and scalers, which may be painful and invasive and scratch dental and implant surfaces.

of Periodontology (EFP). →3-5

**2** Polishing with rotary rubber cups and brushes, which is time-consuming and often messy. Many

areas cannot be reached and the gingiva will be affected mechanically. Dental hygienists and assistants know that traditional cleaning can be a painful experience. For this reason, patients may not return for follow-up appointments. Now, almost fifty years later it is time for change.

1. Axelsson P. Preventive Materials, Methods and Programs: Quintessence Publishing, 2004. → 2. Axelsson P, Nystrom B, Lindhe J. The long-term effect of a plaque control program on tooth mortality, caries and periodontal disease in adults. Results after 30 years of maintenance. Journal of Clinical Periodontology 2004;31:749-757. → 3. Tonetti MS, Chapple ILC, Jepsen S, Sanz M. Primary and secondary prevention of periodontal and peri-implant diseases. Journal of Clinical Periodontology 2015;42:S1-S4. → 4. Tonetti MS, Eickholz P, Loos BG, Papapanou P, van der Velden U, Armitage G, et al. Principles in prevention of periodontal diseases. Journal of Clinical Periodontology 2015;42:S5-S11. → 5. Sanz M, Bäumer A, Buduneli N, Dommisch H, Farina R, Kononen E, et al. Effect of professional mechanical plaque removal on secondary prevention of periodontitis and the complications of gingival and periodontal preventive measures. Journal of Clinical Periodontology 2015;42:S20.

# GUIDED BIOFILM THERAPY IS THE NEW AND STATE-OF-THE-ART APPROACH

Before removal the biofilm is always disclosed with a dye solution. Then biofilm and young calculus are easily removed with AIRFLOW® and PERIOFLOW® — supra and subgingivally.

2 If needed this is followed by debridement with PIEZON® PS No Pain piezoceramic instruments.

► Guided Biofilm Therapy means that the clinician is guided by the disclosed biofilm during professional tooth cleaning procedures. ► Guided Biofilm Therapy is truly minimally invasive and reduces the need of hand and sonic/ultrasonic instrumentation. It is safe, effective and gentle to teeth and soft tissues, implants and restoratives. \*1-4

▶ GBT is also very comfortable for patients and practitioners. → 5 It is efficient and time saving. → 6 This also applies to primary caries and perio prevention in children and teenagers.

▶ GBT is part of a comprehensive preventive concept — to preserve your patients' oral health — and to make the patients feel good.

#### GBT IS A CLINICALLY SOUND AND PATIENT-ORIENTED CONCEPT

- ► Since 1982 EMS has provided dental practices all over the world with AIRFLOW® air polishing and PIEZON® PS No Pain piezoceramic scaling technology
  ► In 2003 EMS invented PERIOFLOW® for subgingival biofilm removal—in combination with the AIRFLOW® powder PERIO on a glycine basis. → 7 This was an important paradigm shift in perio and preventive dentistry.
- ▶ In 2012 EMS added the hightech erythritol-based AIRFLOW®

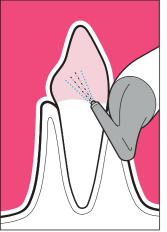
- powder PLUS with a particle size of only 14  $\mu$ m.
- ▶ Guided Biofilm Therapy is based on the clinically proven technologies invented by EMS. It was developed in cooperation with highly respected and experienced periodontologists, cariologists and dental hygienists.
- ▶ GBT is a systematic, predictable, risk-oriented and user-friendly treatment which can be adapted to all age groups and each individual patient.

1. Wennstrom JL, Dahlen G, Ramberg P. Subgingival debridement of periodontal pockets by air polishing in comparison with ultrasonic instrumentation during maintenance therapy. Journal of Clinical Periodontology 2011;38:820-827. → 2. Ronay V, Merlini A, Attin T, et al. In vitro cleaning potential of three implant debridement methods. Simulation of the non-surgical approach. Clinical Oral Implants Research 2017;28:151-155. → 3. Bühler J, Amato M, Weiger R, Walter C. A systematic review on the effects of air polishing devices on oral tissues. International Journal of Dental Hygiene 2016;14:15-28. → 4. Barnes CM, Covey D, Watanabe H, et al. An in vitro comparison of the effects of various air polishing powders on enamel and selected esthetic restorative materials. The Journal of Clinical Dentistry 2014;25:76-87. → 5. Aslund M, Suvan J, Moles DR, et al. Effects of two different methods of non-surgical periodontal therapy on patient perception of pain and quality of life: a randomized controlled clinical trial. Journal of Periodontology 2008;79:1031-1040. → 6. O'Hehir TE. How subgingival air polishing will turn dental hygiene upside down. Interview with Prof. Dr. Thomas Flemmig. dentaltown.com 2014:94-96. → 7. Flemmig TF, Arushanov D, Daubert D, et al. Randomized controlled trial assessing efficacy and safety of glycine powder air polishing in moderate-to-deep periodontal pockets. Journal of Periodontology 2012;83:444-452.

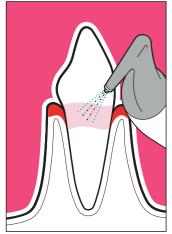
# **GBT APPLICATIONS**

# ► MINIMALLY INVASIVE, PAIN FREE, GENTLE AND SAFE

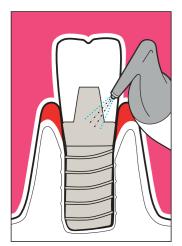
BIOFILM, STAINS, COLORATIONS AND YOUNG CALCULUS REMOVAL



ABOVE CEMENTO-ENAMEL JUNCTION

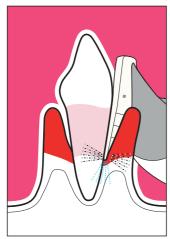


SUBGINGIVAL UP TO 4MM

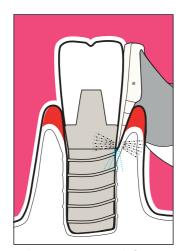


SUBGINGIVAL UP TO 4 MM AROUND IMPLANTS

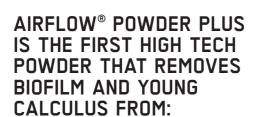
BIOFILM REMOVAL IN POCKETS UP TO 9 MM



SUBGINGIVAL UP TO 9MM



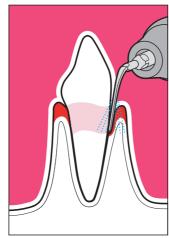
SUBGINGIVAL UP TO 9 MM AROUND IMPLANTS



- ► ENAMEL
- ► DENTINE
- ► SOFT TISSUES
- ► TONGUE AND PALATE
- ► PRIMARY TEETH
- ► ORTHODONTIC APPLIANCES
- ► IMPLANT SURFACES
- ► RESTORATIONS

REMAINING CALCULUS

REMOVAL



SUPRA AND SUBGINGIVAL UP TO 10MM.



AROUND IMPLANT ABUTMENTS



# PREVENTION, MAINTENANCE AND TREATMENT TO REMOVE BIOFILM, STAINS AND CALCULUS FROM NATURAL TEETH, RESTORATIONS AND IMPLANTS.





#### GENERAL DENTISTRY

- ▶ GBT is the standard procedure for teeth, gums and implants maintenance.
- ▶ Helps to detect caries early and with accuracy.
- ▶ The standard procedure before placing implants.



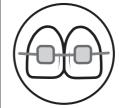
#### PEDODONTOLOGY

- ▶ GBT is NO PAIN. It helps to motivate young patients and get higher compliance.
- ▶ A tool for patient education, caries prevention and early detection.
- ▶ A unique solution for maintenance of orthodontic appliances.



#### GERODONTOLOGY

▶ GBT is adapted to the elderly with combined critical situations: implants, recessions, inflamed tissues, restorations etc.



#### ORTHODONTOLOGY

- ►AIRFLOW® is the systematic orthodontic appliances procedure for each patient visit.
- ▶ GBT is a recommended tool for patient education and motivation.

**AESTHETIC** 

**DENTISTRY** 

restorations.

minimally invasive

procedure to maintain

veneers and aesthetic

▶ GBT is an effective and

restorations in general.

▶ It should be used prior

to bleaching and placing



#### **IMPLANTOLOGY**

- ▶ GBT is the unique differentiating procedure for implant maintenance.
- ▶ It is part of the preparation procedure before placing implants or any surgical act.



#### PERIODONTOLOGY

- ▶ GBT is key for maintaining teeth, gum and implants.
- ▶ It reduces bleeding and pain in critical cases of periodontitis and periimplantitis.
- ►It is part of the preparation procedure before placing implants or any surgical act.



#### **ENDODONTOLOGY**

- ▶ GBT is recommended to maintain and control endodontic crowns.
- ▶ It is also used for endo ultrasonic preparations.



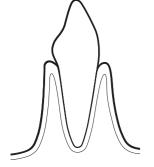
#### **ORAL SURGERY**

▶ GBT is recommended before and after any surgical act, to remove biofilm.

# THE AIM OF GBT



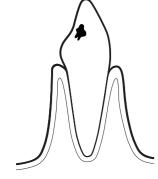
#### PRESERVE HEALTHY TEETH



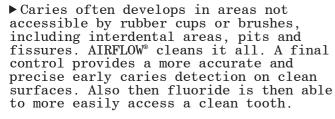
▶ Biofilm is not always visible to the naked eye. Disclosing biofilm helps to remove all of it. AIRFLOW® is minimal invasive on all types of dental tissues: dentin, cementum, enamel and gums. GBT prevents caries and gum disease on children and adults.

### PREVENT CARIES

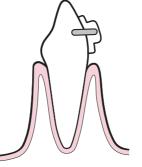
▶ Biofilm is not always visible to the naked eye. Disclosing biofilm helps to remove all of it. AIRFLOW® is minimal invasive on all types of dental tissues: dentin, cementum, enamel and gums. GBT prevents caries and gum disease on children and adults.



# DETECT CARIES AT AN EARLY STAGE

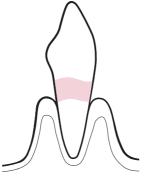


#### MAINTAIN ORTHODONTIC PATIENTS



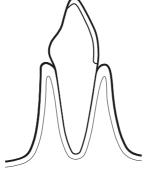
▶ Orthodontic appliances increase biofilm growth in areas not accessible by daily brushing and traditional prophylaxis. Biofilm creates wire friction, gingivitis and caries. AIRFLOW® with PLUS powder removes biofilm with full access to critical areas, being safe and effective on teeth and brackets. It prevents caries and hyperplasia.

#### TREAT GUM RECESSIONS



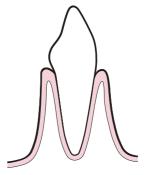
▶ Remove exposed biofilm on dentine with AIRFLOW® PLUS powder and stop when the color is gone. GBT is the only protocol which guarantees minimal invasiveness by direct visual control. AIRFLOW® PLUS powder with heated water provides maximum comfort and minimal sensitivity.

# PRESERVE AESTHETIC RESTORATIONS

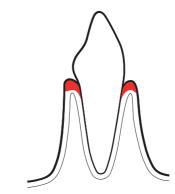


▶ Gum recession is critical on aesthetic restorations. To avoid this, biofilm must be removed regularly.GBT protects your smile by effective biofilm removal around the margins of restorations while being gentle.GBT keeps stains and colorations away.

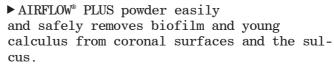
#### PRESERVE HEALTHY SOFT TISSUES



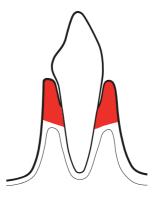
▶ GBT step 04 AIRFLOW® removes biofilm in a minimally invasive way. AIRFLOW® powder PLUS has been proven to be gentle on the gingiva and other soft tissues, while rotary and hand instruments may damage them.



#### TREAT GINGIVITIS



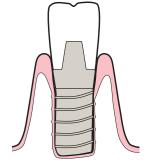
 $PIEZON^{\circ}$  PS No Pain instrument removes the remaining calculus in a minimally invasive way.



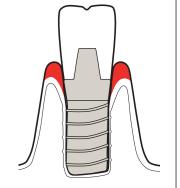
### TREAT PERIODONTITIS

▶ PERIOFLOW® and PLUS powder preserves cementum during periodontal maintenance. It effectively removes subgingival biofilm in residual deep pockets. PIEZON® PS No Pain instrument removes the remaining calculus in a minimally invasive way. Final control exploration ensures that no calculus is remaining.





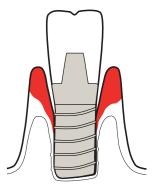
▶ GBT steps provide a minimally invasive method to protect implant surfaces. 04 AIRFLOW® and 05 PERIOFLOW® with powder PLUS are gentle on implant surfaces, while metal instruments may scratch them.



#### TREAT MUCOSITIS

▶ AIRFLOW® and PLUS powder safely reaches and cleans the least of asperities on implant surfaces for an optimal biofilm removal while also being gentle to perimplant tissues. GBT is the state of the art approach for implant maintenance.





▶ PERIOFLOW® with powder PLUS removes sub-gingival biofilm with unequalled limitation of peri-implant bleeding.PIEZON® PI instrument removes the remaining abutment calculus preserving the implant surface.

# THE ORIGINAL.

# THE MASTER.



#### THE AIRFLOW® PROPHYLAXIS MASTER



The original from the Inventor. Guaranteed Swiss Precision and superb design. Reliability and know-how since 1981.

#### THE INDEPENDENT AIRFLOW® STATION



The Swiss Made AIRFLOW® Prophylaxis Master was developed in the EM Research Centre with more than 100 000 hours of technical and clinical testing in collaboration with leading dental professionals from all over the world.

# 04 AIRFLOW®

#### AIRFLOW® REMOVES BIOFILM, STAINS AND YOUNG CALCULUS. CLEANS AND POLISHES IN ONE SINGLE PROCEDURE.

- ▶After the use of AIRFLOW® no extra polishing with rubber cups/paste is necessary anymore.
- ▶ Dental offices using AIRFLOW® and GBT have more and happier recall patients.
- ▶ Professional prophylaxis is becoming an important economic factor. →1



With rubber cups and polishing paste it is impossible to clean:

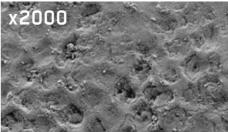
- Interdental spaces, especially in patients with mal-aligned teeth
- Exposed tooth necks
- ▶ Pits and fissures
- ▶ Orthodontics brackets

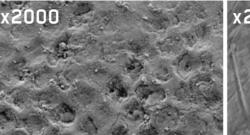
AIRFLOW® will remove biofilm and young calculus in all these situations. It also cleans the gingival or peri-implant sulcus to a depth of 4mm.→2-4 At the same time AIRFLOW® is fast, efficient and comfortable for the patient.

1. O'Hehir TE, dentaltown.com 2014(1):94-96. → 2. Patil SS, et al. J Intern Soc Prev & Commun Denti2015;5:457-462. → 3. Flemmig TF, et al. J Periodontol 2007;78:1002-1010. → 4. Botti RH, et al. Eur J Paediatr Dent 2010;11:15-18.

# MINIMALLY ABRASIVE POWDER BIOFILM

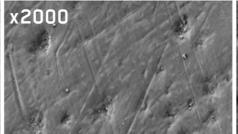






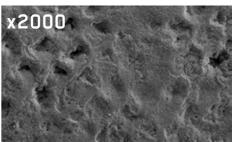
#### TOOTH ENAMEL SURFACE WITH RESIDUAL BIOFILM BEFORE CLEANING.

▶ The enamel prisms of the natural tooth enamel are easily recognizable - The photo shows the remnants of the bacteria killed off with sodium hypochlorite.→5



#### TOOTH ENAMEL AFTER **POLISHING WITH** LOW-ABRASIVE PASTE (RDA 27).

- ▶ The vital enamel prisms have been polished away. Pastes have caused scratches. Biofilm has been spread into natural crevices.
- ▶ Overall abrasive pastes cause a loss of valuable enamel. No improvement of the dental surface. → 5



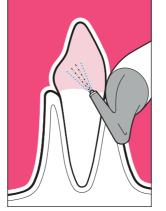
#### **TOOTH ENAMEL** AFTER CLEANING WITH AIRFLOW® **POWDER PLUS**

▶ The biofilm has been completely removed with AIRFLOW®. The surface is clean down to the pores. No abrasion. The enamel prisms remain intact and the surface is perfectly smooth. The tongue no longer feels any roughness and there is no need for polishing with (abrasive) pastes. This saves enamel - and treatment time. → 5

5. Camboni S, Donnet M. The Journal of clinical dentistry 2016;27:13-18.



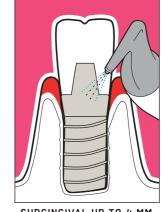




**ABOVE CEMENTO-ENAMEL JUNCTION** 



SUBGINGIVAL UP TO 4MM



SUBGINGIVAL UP TO 4 MM AROUND THE IMPLANT



AIRFLOW® PLUS

# AIRFLOW® POWDERS

# AIRFLOW® POWDER PLUS IS THE FIRST HIGH TECH POWDER WHICH REMOVES BIOFILM AND YOUNG CALCULUS IN A MINIMALLY INVASIVE WAY FROM:

- ▶ Enamel
- **▶** Dentine
- ▶ Soft tissues
- ► Tongue and palate
- ▶ Primary teeth
- ▶Orthodontic appliances
- ► Implant surfaces
- ▶ Restorations





#### COMPETITOR CALCIUM CARBONATE

EMS POWDER PLUS ERYTHRITOL

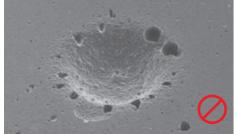
EMS SODIUM BICARBONATE→2



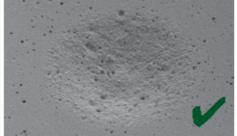




#### EFFECT OF 5 SEC AIR POLISHING ON HUMAN ENAMEL→1,2







EFFECT OF 5 SEC AIR POLISHING ON GLASS IONOMER →1,3

1. Barnes CM, et al. J Clin Dent 2014;25:76-87.  $\Rightarrow$  2. Note: In the study by Barnes, J Clin Dent 2014, the EMS sodium bicarbonate had a particle size of 65  $\mu$ m. New Powder CLASSIC COMFORT has 40  $\mu$ m particle size, for more smoothness and patient comfort.  $\Rightarrow$  3. Note: For Powder PLUS complimentary tests have been submitted to the J Clin Dent (Barnes CM, et al.)

#### THE EMS POWDER GUIDE



▶ EMS is the only company that has its own powder manufacturing with 2 chemical laboratories in Germany and Switzerland. With more than 30 years of research, clinical testing, scientific studies and hundreds of millions of patients treated, EMS recommends the following 2 powders for 100% of clinical cases.

#### RECOMMENDED



#### OTHER EMS POWDERS

Name		PLUS	CLASSIC COMFORT	CLASSIC 65µ	SOFT	PERIO	••••
Ref		DV-082	DV-048/LEM	DV-048/ LEM/65	DV-071	DV-070	
Flavor		NEUTRAL	LEMON/LEM MINT/MIN CHERRY/CHE NEUTRAL/NEU	LEMON	NEUTRAL	NEUTRAL	
Composition		ERYTHRITOL	SODIUM BICARBONATE	SODIUM BICARBONATE	GLYCINE	GLYCINE	
Particle size		~14µm	~40µm	~65µm	~65µm	~25µm	
PH		-7	-8.1	-8.1	-6	-6	
Tooth	Stains and young calcu	lus 🖊	~	<b>V</b>	<b>/</b>	0	
	Enamel	<b>/</b>	~	<b>V</b>	<b>/</b>	<b>/</b>	
	Enamel white spots	<b>/</b>	0	0	$\oslash$	<b>/</b>	
	Dentine	<b>/</b>	0	0	$\oslash$	<b>/</b>	••••
Gum	Gum	<b>/</b>	0	0	0	<b>/</b>	••••
	Tongue and Palate	<b>/</b>	0	0	$\bigcirc$	<b>/</b>	••••
Restoration	Hybrid composite	<b>/</b>	0	0	<b>/</b>	<b>/</b>	••••
	Glass Ionomer	<b>/</b>	0	$\bigcirc$	$\bigcirc$	<b>/</b>	
Implant	Implant and mucositis	<b>/</b>	0	0	0	<b>/</b>	
Orthodontics	Brackets and appliance	s	0	0	0	<b>/</b>	

# **05** PERIOFLOW®







- ▶ Subgingival biofilm removal (debridement) in >4 to 9 mm\*
- periodontal→¹ and peri-implant→² pockets

  ► Initial and follow-up (SPT) periodontal therapy→³

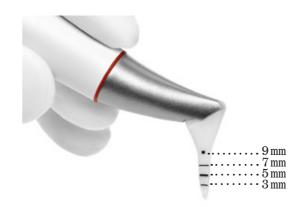
  ► Prevention of mucositis / peri-implantitis→⁴
- ▶ Initial and follow-up treatment of mucositis/ peri-implantitis→5

#### **POWDER SPRAYS**

+ water rinsing

1. Sculean A, et al. Quintessence Int 2013;44:475-477. → 2. Schwarz F, et al. Quintessence Int 2016;47:293-296. → 3. Flemmig TF, et al. J Periodonto 2012;83:444-452. → 4. Muller N, et al. J Clin Periodontol 2014;41:883-889. → 5. Riben-Grundstrom C, et al. J Clin Periodontol 2015;42:462-469

#### PERIOFLOW® NOZZLE





PERIOFLOW® nozzles are flexible, adapting to the pocket's natural curves.

#### PERIOFLOW® APPLICATIONS



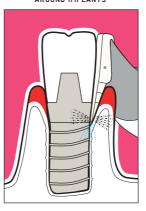




**ROOT FURCATION** 



SUBGINGIVAL UP TO 9 MM



**IMPLANT** 



**IMPLANT BRIDGE** 



# 06 PIEZON® PS NO PAIN

#### AFTER USING AIRFLOW®, REMOVE REMAINING SUPRA AND SUBGINGIVAL CALCULUS WITH THE PIEZON® NO PAIN\* PS INSTRUMENT. ▶Linear movement of the PS Instrument = no damage to tooth surfaces and soft tissues. Minimally invasive to root cementum. Dynamic

power setting. ▶ "EMS Perio Slim instrument had the best interproximal and subgingival

access."\*\*

\*No PAIN: when used in accordance with EMS instructions and/or the training by the Swiss Dental Academy.

\*\*CRA, Clinical Research Associates, USA

### THE INSTRUMENT







COURTESY OF PROF. MAGDA MENSI

#### SUBGINGIVAL CALCULUS REMOVAL WITH EMS PIEZON® PS INSTRUMENT







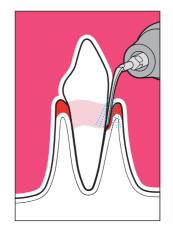


#### **ACCURATE CARIES DIAGNOSIS**













# GBT IS COOL...\*



### ALSO FOR HOME CARE



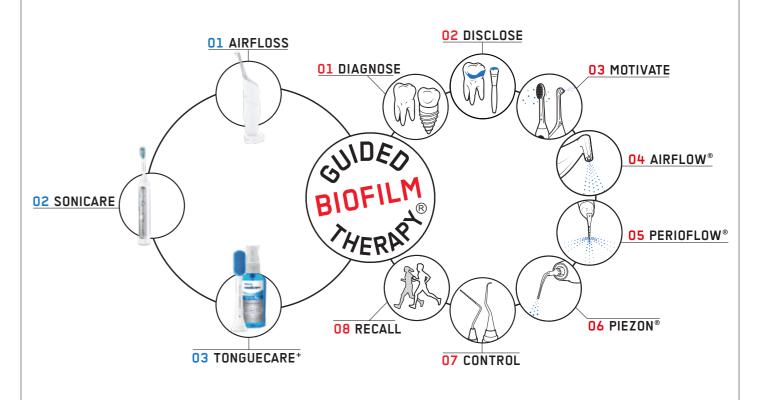
#### EMS AND PHILIPS COOPERATE

▶ The European Federation of Periodontology (EFP) Consensus: Combining home and professional care is a must to preserve natural teeth and implants.

▶EMS and Philips have harmonized their concepts to optimize oral care.

#### **HOME CARE**

#### **PROCARE**



# EMS RECOMMENDS PHILIPS SONICARE BECAUSE OF ITS SONIC SPEED AND ITS MINIMALLY INVASIVE EFFICIENCY.

- ▶For interdental cleaning Philips AirFloss may be an option. It is an easy-to-use device based on air-water micro-burst technology for interdental areas. AIRFLOSS as efficient as Dental Silk but easier to use.
- ▶Philips Sonicare Tonguecare effective cleaning of the tongue.





