# TREATMENT RECOMMENDATIONS

EMS

"I FEEL GOOD"

AIRFLOW

MAKE ME SMILE

10



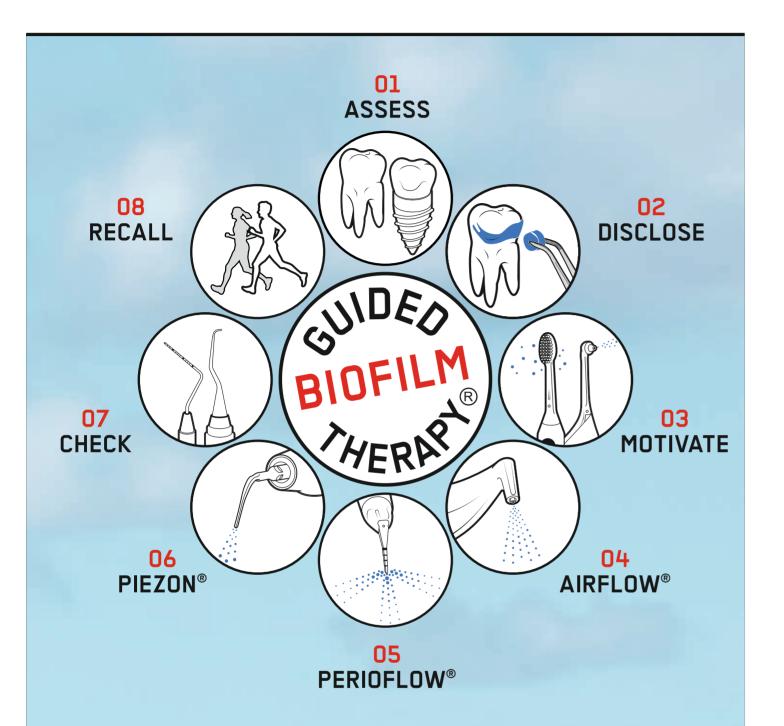
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PIEZONLED

Treatment recommendations for AIRFLOW® Prophylaxis Master and AIRFLOW® One.



| O1 ASSESS                 | 10 |
|---------------------------|----|
| 02 DISCLOSE               |    |
| 03 MOTIVATE               |    |
| 04 AIRFLOW <sup>®</sup>   | 20 |
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| 08 RECALL                 | 40 |
|                           |    |

## **AIM OF THIS DOCUMENT**

▶ This document aims to provide the users of AIRFLOW<sup>®</sup> Prophylaxis Master (REF FT-229) and AIRFLOW<sup>®</sup> One (REF FT-230) with the general precautions and treatment recommendations to remove biofilm, stains and calculus from natural teeth, restorations and implants.

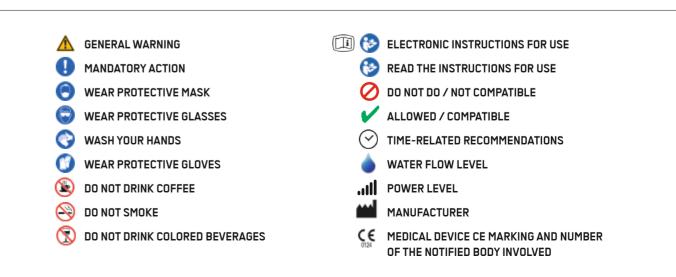
► The correct sequence of AIRFLOW<sup>®</sup>, PERIOFLOW<sup>®</sup> and PIEZON<sup>®</sup> as part of the global protocol delivers optimum efficiency, comfort and safety. For this purpose, our Guided Biofilm Therapy (GBT) summarizes our recommendations. It follows the recommendations for Professional Mechanical Plaque Removal (PMPR) and Oral Hygiene Instructions (OHI) for Home Care of the European Federation of Periodontology (EFP).

▶ Three of the 8 steps detail the use of our technologies individually; the other steps detail how to prepare, diagnose, check and secure biofilm and calculus removal.

▶ The Treatment Recommendations, as well as the Instructions for Use of the devices, are provided in electronic format and are part of the product documentation. To receive a hard copy, available free of charge, please order via our website, by telephone or in writing. Allow 7 days for delivery.

▶ The Treatment Recommendations (document series FB-648), as well as the Instructions for Use of the device, are available for downloading in PDF format at ems-instruction.com using Product/Key Code FT-229 for AIRFLOW<sup>®</sup> Prophylaxis Master and Code FT-230 for AIRFLOW<sup>®</sup> One. A PDF reader is required and is available for downloading from the same website.

► It is essential to first read and understand all the Instructions for Use of the device before operating and using the related accessories. The Treatment Recommendations are an integral part of the device's Instruction for Use. Both documents complement one another.





► We recommend that you visit our website regularly to consult and/or download the latest version of the documentation for your device at ems-instruction.com

► Please contact EMS technical support or your local EMS representative for further information and support.

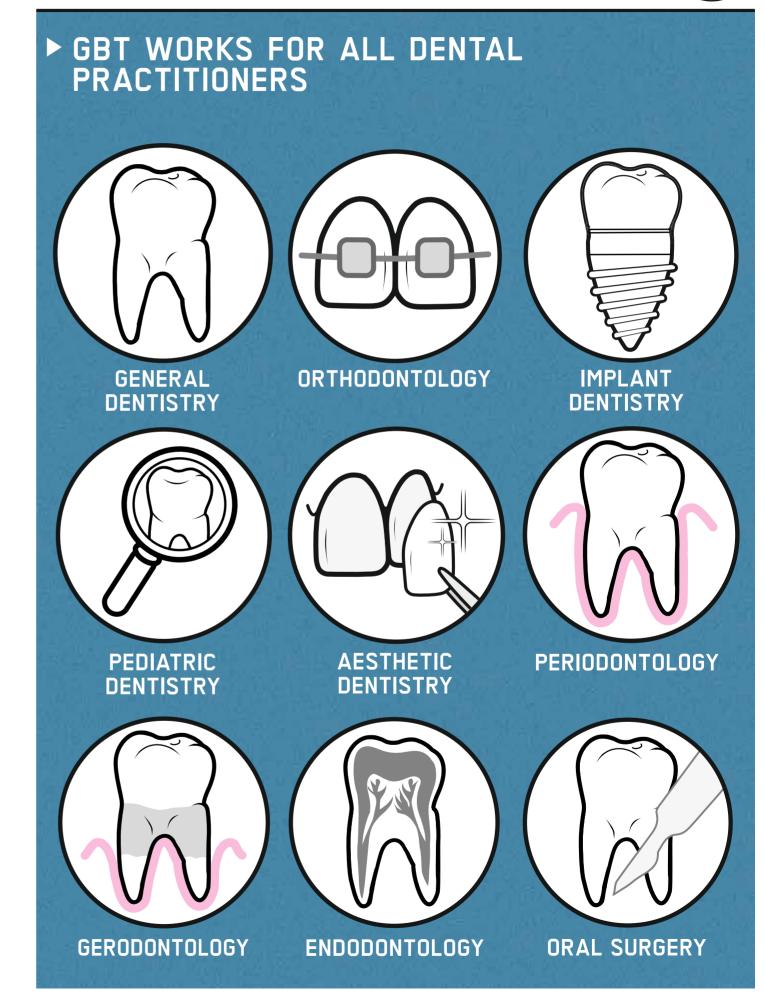
► Always keep this documentation close at hand.

Always read first the Instructions for Use of the specific device in use and refer to those for Intended Use, Intended User, Patient Population, Contraindications, General Precautions and Compatibility. Specific device limitations or deviations may apply.

# **GBT APPLICATIONS**



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



\*Throughout this document, NO PAIN applies when used in accordance with EMS instructions and/or training by the Swiss Dental Academy



# SAVE THE TOOTH

#### PRESERVE HEALTHY TEETH

► GBT minimizes the use of power and hand instrumentation.

AIRFLOW<sup>®</sup> is minimally invasive on all types of dental tissues: dentine, cementum, enamel and gums. Minimal abrasion for maximum comfort: GBT enables the patient to enjoy natural teeth and implants for much longer.

#### MAINTAIN ORTHODONTIC APPLIANCES

► Orthodontic appliances increase biofilm growth in areas not accessible by daily brushing and traditional prophylaxis. Biofilm creates wire friction, gingivitis and caries. AIRFLOW<sup>®</sup> with PLUS Powder removes biofilm with full access to critical areas. Gentle and effective on teeth and brackets, it prevents caries and hyperplasia.

#### PREVENT CARIES

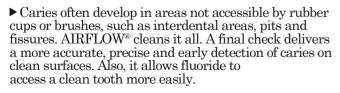
► Biofilm is not always visible to the naked eye. Disclosing biofilm helps to remove all biofilm. GBT prevents caries and gum disease in children and adults.

No biofilm = No caries.

#### TREAT Exposed Dentine

► Remove exposed biofilm on dentine with AIRFLOW® PLUS Powder and stop the procedure when the color has disappeared. GBT is the protocol which guarantees minimal invasiveness through direct visual control. AIRFLOW® PLUS Powder with heated water provides maximum comfort and minimal sensitivity.

#### DETECT CARIES AT AN EARLY STAGE





► To avoid gum recession - critical factor when it comes to aesthetic restorations - biofilm must be removed regularly.

GBT protects your smile through effective but gentle biofilm removal around restoration margins.GBT inhibits stains and colorations.

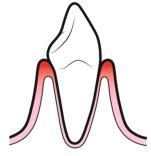
# SAVE THE IMPLANT

#### PRESERVE HEALTHY SOFT TISSUES



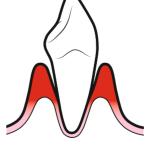
► GBT step 04 AIRFLOW<sup>®</sup> removes biofilm in a minimally invasive way. AIRFLOW<sup>®</sup> PLUS Powder is proven to be gentle on the gingiva and other soft tissues. In contrast, rotary and hand instruments may cause damage.

#### TREAT GINGIVITIS



► AIRFLOW<sup>®</sup> PLUS Powder easily removes biofilm and early calculus from coronal surfaces and sulcus. The PIEZON<sup>®</sup> PS NO PAIN Instrument removes the remaining calculus in a minimally invasive way.

### TREAT PERIODONTITIS



▶ PERIOFLOW<sup>®</sup> with PLUS Powder preserves cementum during periodontal maintenance. It effectively removes subgingival biofilm in residual deep pockets. The PIEZON<sup>®</sup> PS NO PAIN Instrument removes the remaining calculus in a minimally invasive way. Final check ensures that no calculus remains.





#### MAINTAIN IMPLANTS

► GBT steps deliver a minimally invasive method to protect implant surfaces. 04 AIRFLOW<sup>®</sup> and 05 PERIOFLOW<sup>®</sup> with PLUS Powder are gentle on implant surfaces, while metal instruments may scratch.



#### TREAT MUCOSITIS

► While gentle on peri-implant tissues, AIRFLOW<sup>®</sup> with PLUS Powder asily reaches and cleans any ruggedness on implant surfaces for optimum biofilm removal. GBT is the state-of-the-art approach to implant maintenance.



TREAT PERI-IMPLANTITIS

7

► PERIOFLOW<sup>®</sup> with PLUS Powder removes subgingival biofilm with minimal peri-implant bleeding. The PIEZON<sup>®</sup> PI Instrument removes the remaining abutment calculus thereby preserving the implant surface.

# 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** CHECK 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 PIEZON<sup>®</sup> PS Instrument supra- and sugingivally up to  $10 \text{ mm} \triangleright \text{Clean} > 10$ mm pockets with mini curette ► Use EMS PIEZON<sup>®</sup> PIInstrument around implants and restorations

# **05 PERIOFLOW®**

REMOVE BIOFILM IN >4 TO 9 MM POCKETS ► Use AIRFLOW<sup>®</sup> PLUS Powder on natural teeth in deep pockets and root furcations and on implants ► Use depth-marked PERIOFLOW<sup>®</sup> Nozzle



8

HERP





# **O1** ASSESS

#### PROBEANDSCREENEVERYCLINICALCASE

► Healthy teeth, caries, gingivitis, periodontitis ► Healthy implants, mucositis, peri-implantitis ► Start by rinsing with BacterX<sup>®</sup> Pro mouthwash

#### **02** DISCLOSE MAKE BIOFILM VISIBLE

► Show patient disclosed biofilm and problem zones ► The color will guide biofilm removal ► Once biofilm is removed, calculus is easier to detect

#### **03 MOTIVATE RAISE AWARENESS AND TEACH**

► Emphasize prevention ► Instruct your patients in oral hygiene ► EMS recommends Sonicare toothbrushes and interdental brushes or Airfloss Ultra

#### 04 AIRFLOW® **REMOVE BIOFILM. STAINS** AND EARLY CALCULUS

► Use AIRFLOW<sup>®</sup> for natural teeth, restorations and implants ► Remove biofilm supra- and subgingivally up to 4 mm using AIRFLOW® PLUS 14µm Powder

▶ Remove remaining stains on enamel using AIRFLOW® CLASSIC Comfort Powder ► Also remove biofilm from gingiva, tongue and palate

# **O1 ASSESS**

Case history followed by the patient exam is your opportunity to:

- ► Communicate with the patient on the importance of combined professional prophylaxis and home care.
- ► Check potential contraindications the patient could have with AIRFLOW<sup>®</sup>, PERIOFLOW<sup>®</sup> or PIEZON<sup>®</sup>.
- ▶ Diagnose the soft tissues and choose biofilm removal techniques on a case-by-case basis.

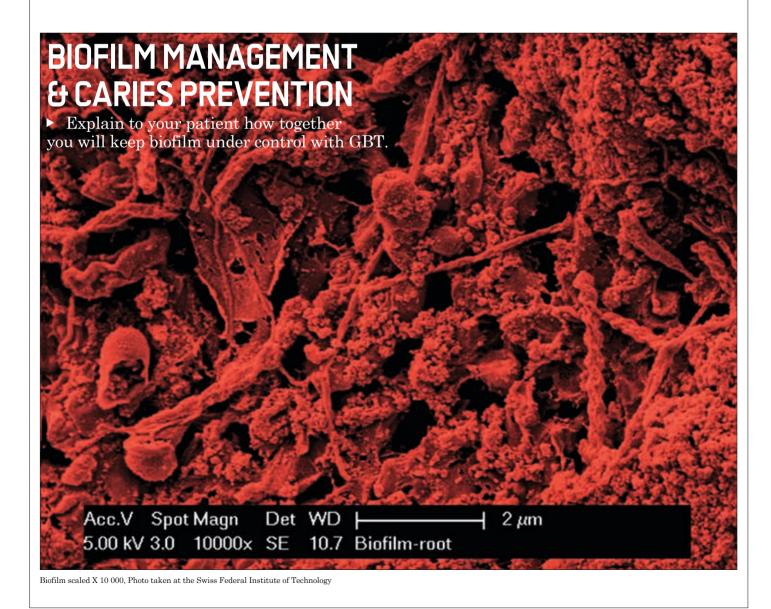
# **CASE HISTORY**

▶ Please find on the next page a "caries risk assessment table".

This table can be completed with your patient in order to raise awareness of factors promoting and preventing caries.

► It follows the recommendations of the FDI World Dental Federation White Paper on dental caries prevention and management\*.

\* Nigel Pitts, Domenick Zéro / 2016.



# **CARIES PREVENTION**

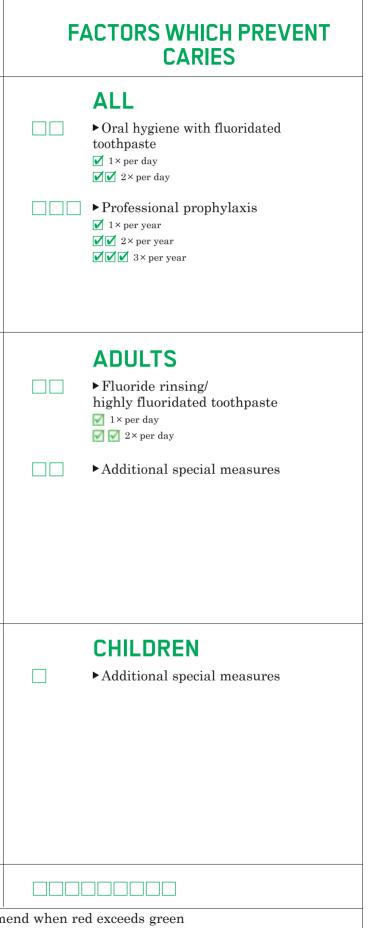
#### FACTORS WHICH PROMOTE CARIES

#### ALL ▶ Sugar input $\square \square$ $\checkmark \ge 4$ $\checkmark \checkmark \ge 6$ ► Active white spots lesion / cavities / fillings ✓ 1× **✓** ✓ 2× $\checkmark \checkmark \checkmark \checkmark \ge 3 \times$ ▶ Medication affecting oral health Sugar-containing drugs, sirups, etc. **ADULTS** ► Salivary flow rate ✓ Subjective xerostomia ✓ ✓ Xerostomia with reduced salivary flow $\square\square$ ▶ Bleeding on probing $\checkmark \ge 10\%$ $\checkmark$ $\ge$ 50% ► Exposed cervical area $\checkmark \geq 2$ $\checkmark \checkmark \ge 5$ ► Additional special factors $\square$ **CHILDREN** ▶ Recent immigrant Child from a family of low socio-economic status ▶ Heavy plaque load on teeth ► Additional preventive home measures ►> age 6: orthodontic appliances $\square$ ►< age 6: nighttime sugar intake $U_{se}$ of bottle containing sugar or mother milk on demand

#### TOTAL DODDODDODD

► Measures to reduce the risk of caries: Always recommend when red exceeds green Courtesy of Prof.dr.med.dent. Adrian Lussi, University of Bern.





# ASSESS

# **ADAPT TO SPECIAL NEEDS:**

 $\triangle$  First read the complete contraindications in the Instructions for Use.

#### THE MAIN CONTRAINDICATIONS ARE SUMMARIZED BELOW:

|                                                                                   | AIRFLOW®         | PERIOFLOW                              | • PIEZON®                      |
|-----------------------------------------------------------------------------------|------------------|----------------------------------------|--------------------------------|
| Severe or unstable upper respiratory tract infections, chronic bronchitis/asthma. | $\oslash$        | $\oslash$                              | ~                              |
| Pregnant and breastfeeding patients.                                              | ~                | $\oslash$                              | <b>v</b>                       |
| Severe inflammation and/or osteonecrosis.                                         | ~                | $\oslash$                              | <b>~</b>                       |
| Cardiac pacemaker, defibrillators and any implantable electronic device.          | $\checkmark$     | ~                                      | $\oslash$                      |
|                                                                                   | AIR-FLOW<br>PLUS | AIR-FLOW<br>Development<br>Development | SUGGESTION                     |
| Low-salt diet patients.                                                           | $\checkmark$     | $\oslash$                              | Use PLUS                       |
| Allergy to flavor aroma.                                                          | ~                | $\oslash$                              | Use PLUS or<br>Classic Neutral |
| Allergy to erythritol Powder or chlorhexidine.                                    | $\oslash$        | ~                                      | Use PERIO                      |
| Allergy to glycine Powder (glycocoll).<br>Do not use PERIO Powder.                | ~                | ~                                      | Use PLUS                       |

**A** For patients undergoing bisphosphonate therapy, the decision to use AIRFLOW<sup>®</sup> and/or PERIOFLOW<sup>®</sup> must be taken by the dentist/medical doctor depending on the oral health of the patient.

# PREPARATION

# **PATIENT PREPARATION:**

START BY RINSING WITH BACTERX® PRO<sup>1</sup> MOUTHWASH.

**(1)** For your protection and the protection of your patient, start by rinsing patient mouth with BacterX<sup>®</sup> Pro mouthwash 20 to 30 seconds.



**EMS BACTERX® PRO** 0.1% CHLORHEXIDINE 0.08% FLUORIDE

A Eve protection is mandatory. It is also recommended to remove the patient's glasses and optical lenses. Lip and cheek retractor protection (for example OptraGate) is recommended for maximum patient comfort and improved access to the treatment field.

If a retractor is not used, place cocoa butter or equivalent on the patient's lips.

## **DENTIST PREPARATION:**

PROTECT YOURSELF WITH THE FOLLOWING MEASURES:



The decision to use AIRFLOW<sup>®</sup> and/or PERIOFLOW<sup>®</sup> on contagious patients or on patients with a risk of infection, must be taken by the dentist/medical doctor on an individual basis following practitioner protection level, patient risk assessment and specific country regulations.

▲ Most dental procedures involve aerosols which represent a risk factor for clinician contamination. Ensure that you are effectively vaccinated.





#### WEAR PROTECTIVE GLASSES



Picture: Courtesy of Mathieu Deudon DDS

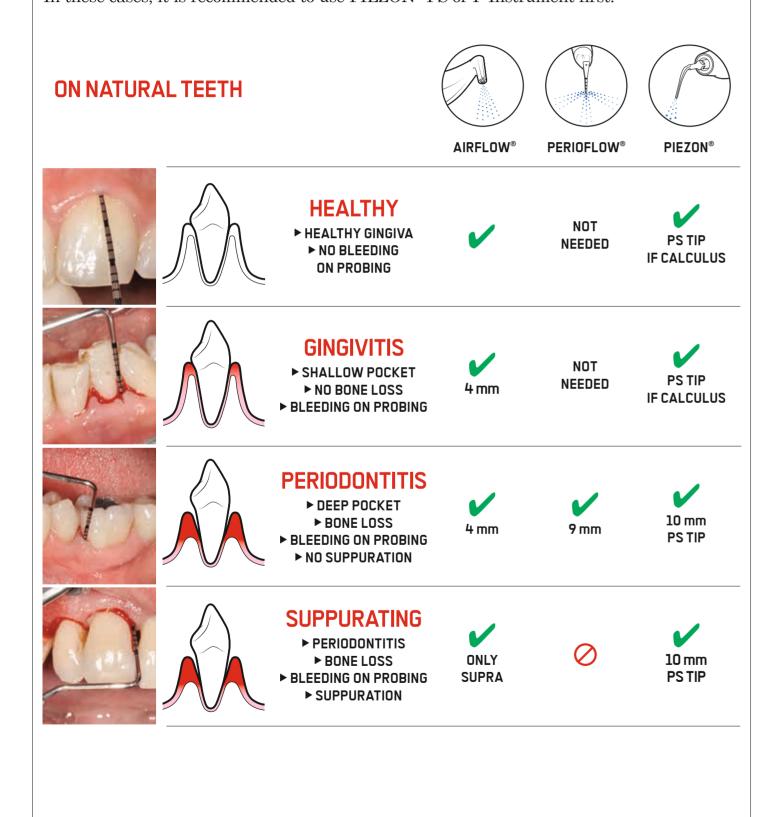




# **ASSESS**

# **INITIAL THERAPY**

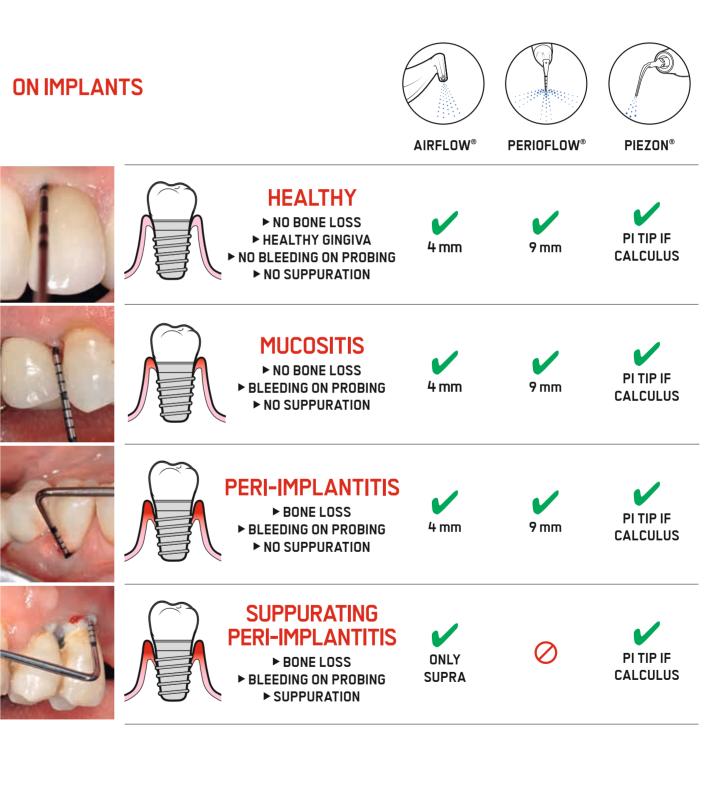
During initial therapy, AIRFLOW<sup>®</sup> may not be the most efficient in case of acute inflammation and general heavy calculus. In these cases, it is recommended to use PIEZON<sup>®</sup> PS or P Instrument first.



PROBE AND SCREEN EVERY CLINICAL CASE. HEALTHY TEETH. CARIES. GINGIVITIS. PERIODONTITIS. HEALTHY IMPLANTS, MUCOSITIS, PERI-IMPLANTITIS.

# **PROBING AND SCREENING**

▲ Subgingival use of AIRFLOW<sup>®</sup> and PERIOFLOW<sup>®</sup> requires a good soft-tissue condition and the absence of pus.





# **O2 DISCLOSE**

- The application of the disclosing agent should be done supragingivally and around implants, restorations and orthodontic appliances.
- Disclosing biofilm is a very important step in the GBT protocol.

## WHY DISCLOSE BIOFILM?

The purpose of GBT is to remove 100% of biofilm. If biofilm is made visible, it is removed much faster and effectively. What you see is what you remove. It also motivates the patient on Oral Hygiene Instructions(OHI). Color removal = biofilm removal.



#### MAKE BIOFILM VISIBLE. THE COLOR GUIDES THE REMOVAL OF BIOFILM. ONCE BIOFILM IS REMOVED. CALCULUS IS EASIER TO DETECT.

# **KEY FACT**

The German independent consumer group "Stiftung Warentest" (test 7, 2015) reports that only 50% of interdental biofilm is removed during traditional professional tooth cleaning.



Biofilm is barely visible to the naked eye; disclosing (see above) makes plenty of biofilm visible.

## ORTHODONTICS

- The biofilm is made visible on the tooth as well as on the brackets.
- ▶ This is a key advantage in terms of patient motivation and complete AIRFLOW<sup>®</sup> biofilm removal.





Pictures: Courtesy of Prof. Magda Mensi

# **RAISE AWARENESS AND TEACH**

# **O3 MOTIVATE**

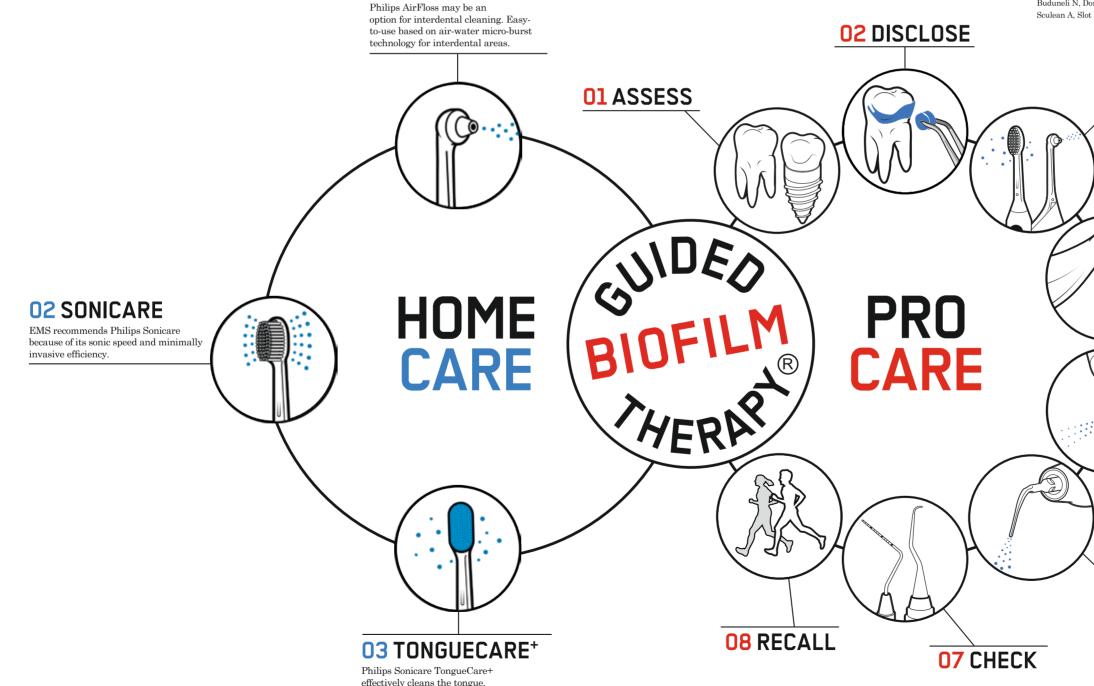
- FOCUS ON PREVENTION
- EDUCATE YOUR PATIENTS ON ORAL HYGIENE
- EMS RECOMMENDS PHILIPS SONICARE AND **INTERDENTAL BRUSHES**

**01 AIRFLOSS** 



• Show your patient the exposed biofilm and provide Oral Hygiene Instructions (OHI). Exposed biofilm motivates patients to improve their brushing technique.

\*Primary and secondary prevention of periodontal and peri-implant diseases / J Clin Periodontol. 2015 Apr;42 Suppl 16:S1-4 / Tonetti, Chapple, Jepsen, Sanz. Effect of professional mechanical plaque removal on secondary prevention of periodontitis and the complications of gingival and periodontal preventive measures / J Clin Periodontol. 2015 Apr:42 Suppl 16:S214-20 / Sanz. Räumer A. Buduneli N. Dommisch H. Farina R. Kononen E. Linden G. Meyle J. Preshaw PM. Quirynen M. Roldan S. Sanchez N Sculean A. Slot DE, Trombelli L, West N, Winkel E.

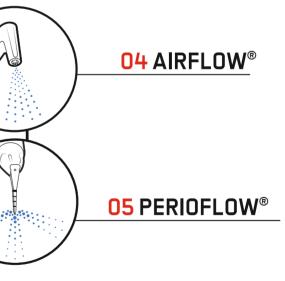




▶ The consensus of the European Federation of Periodontology (EFP)\*:

Combining home and professional care is key to preserving natural teeth and implants. EMS and Philips have integrated their respective scientific expertise to optimize oral health care.

#### **03 MOTIVATE**

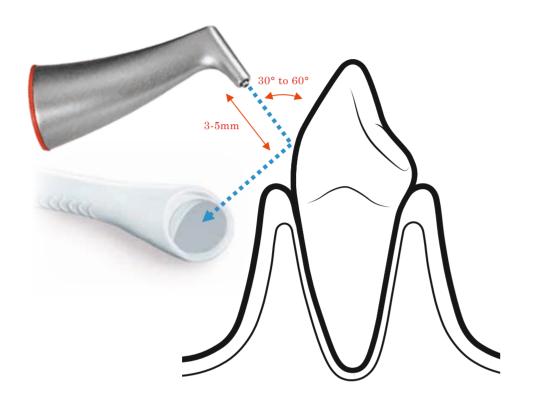


#### **06** PIEZON<sup>®</sup>

# **04 AIRFLOW®**

# **RECOMMENDED POSITION AND MOVEMENT**

Use high-speed suction cannula. We recommend ClasenUNO.



- Do not use the handpiece perpendicular to the tooth surface.
- ▶ Keep 3 to 5 mm distance.
- Direct the jet projections towards the cannula.
- ▶ Make continuous movement.

#### NO MORE COLOR = NO MORE BIOFILM

 $\bigcirc$  Stop AIRFLOW<sup>®</sup> once the color of the disclosing agent has disappeared. Minimize exposure time on dentine.

MINIMAL ABRASIVENESS = EMS POWDER + MINIMAL TIME.

#### FULL MOUTH WITH AIRFLOW® PLUS POWDER.

▲ Also safely apply AIRFLOW<sup>®</sup> PLUS Powder to the gingiva, tongue and palate.

Do not direct the AIRFLOW<sup>®</sup> output towards openings of the salivary ducts as this may cause temporary pain and redness.





Pictures: Courtesy of Prof. Magda Men

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

### **SETTINGS**



\*adjust setting up to 100% for warmer water.







FOR HARD STAINS ON ENAMEL ONLY: AFTER USING CLASSIC COMFORT POWDER ON ENAMEL, ALWAYS OLLOW WITH A BRIEF PLICATION OF PLUS

30 TO 60%

100%\*

# MINIMAL ABRASION

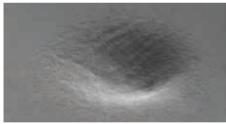
• EMS powders are much less abrasive than traditional mechanical debridement techniques such as rubber cups and handscaling. Therefore we recommend AIRFLOW® and PERIOFLOW<sup>®</sup> first, followed by PIEZON<sup>®</sup>. GBT: the minimally invasive way for Professional Mechanical Plaque Removal (PMPR).

▶ Thanks to the GBT disclosing step, coloration is an additional way of minimizing AIRFLOW<sup>®</sup> abrasion: no more color, no more biofilm ; the objective of AIRFLOW<sup>®</sup> is accomplished without affecting the integrity of dental tissues.

- A EMS devices have been designed and tested for exclusive use with EMS prophylaxis powders.
- Use only EMS powders.

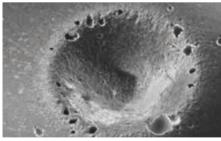


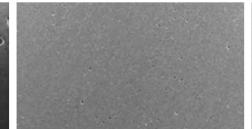
**OSSPRAY** CALCIUM SODIUM **PHOSPHOSILICATE**<sup>→1</sup>

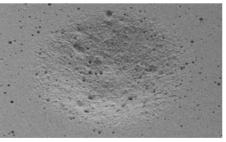












IR-FLO

**EMS SODIUM** 

**BICARBONATE**<sup>→3</sup>

EFFECT OF 5 SEC AIR POLISHING ON GLASS IONOMER

1. Barnes CM, et al. J Clin Dent 2014;25:76-87. → 2. For AIRFLOW® PLUS Powder complementary tests have been submitted to the J Clin Dent (Barnes CM, et al.). → 3. Barnes CM, et al. J Clin Dent 2014;25:76-87. The EMS sodium bicarbonate had a particle size of 65 µm. New Powder AIRFLOW® CLASSIC Comfort has 40 µm particle size, for more moothness and nationt comfort

A Beware of so-called "EMS compatible" powders in the market, which can damage the patient's tooth and the unit. See 2 cases of damaged nozzle due to the abrasion of those powders.



# THE EMS POWDER GUIDE

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

| RECOMMENDED   |                                       |                 |                                                    |                       |              |              |
|---------------|---------------------------------------|-----------------|----------------------------------------------------|-----------------------|--------------|--------------|
|               |                                       | AR-FLOW<br>PLUS | AIR-FLOW                                           | OTHER                 | EMS PO       | WDERS        |
| Name          |                                       | PLUS            | CLASSIC<br>comfort                                 | CLASSIC<br>65µm       | SOFT         | PERIO        |
| Ref           |                                       | DV-082          | DV-048/*                                           | DV-048/<br>LEM/65     | DV-071       | DV-070       |
| Flavor        |                                       | NEUTRAL         | LEMON/LEM<br>MINT/MIN<br>CHERRY/CHE<br>NEUTRAL/NEU | LEMON                 | NEUTRAL      | NEUTRAL      |
| Composition   |                                       | ERYTHRITOL      | SODIUM<br>BICARBONATE                              | SODIUM<br>BICARBONATE | GLYCINE      | GLYCINE      |
| Particle size | · · · · · · · · · · · · · · · · · · · | -14µm           | -40µm                                              | -65µm                 | ~65µm        | -25µm        |
| рН            |                                       | -7              | -8.1                                               | -8.1                  | -6           | -6           |
| •••••••       | Stains and early calcul               | us 🗸            | $\checkmark$                                       | $\checkmark$          | $\checkmark$ | $\bigcirc$   |
|               | Enamel                                | $\checkmark$    | $\checkmark$                                       | $\checkmark$          | $\checkmark$ | $\checkmark$ |
| Tooth         | Enamel white spots                    | $\checkmark$    | 0                                                  | $\bigcirc$            |              | $\checkmark$ |
|               | Dentine                               | $\checkmark$    | $\oslash$                                          | $\oslash$             | $\oslash$    | $\checkmark$ |
| Gum           | Gum                                   | $\checkmark$    | $\bigcirc$                                         | $\bigcirc$            | $\bigcirc$   | $\checkmark$ |
|               | Tongue and palate                     | $\mathcal{O}$   | $\bigcirc$                                         | $\bigcirc$            | $\oslash$    | V            |
| Restoration   | Hybrid composite                      | $\checkmark$    |                                                    | $\oslash$             | V            | V            |
|               | Glass ionomer                         | V               | $\bigcirc$                                         | $\oslash$             | $\oslash$    | V            |
| Implant       | Implant and mucositis                 | $\checkmark$    | $\oslash$                                          | $\oslash$             | $\oslash$    | $\checkmark$ |
| Onthedenties  | Brackets and appliances               |                 | 0                                                  | 0                     | 0            | 0/           |

▲ Do not direct the powder jet of AIRFLOW<sup>®</sup> CLASSIC Powder towards white spots and fillings, crown or bridgework as this could cause damage. We recommend to use PLUS Powder instead of AIRFLOW<sup>®</sup> PERIO and AIRFLOW<sup>®</sup> SOFT glycine Powders for its higher efficiency, maximum comfort and minimal abrasiveness. Low-abrasive AIRFLOW<sup>®</sup> PLUS Powder also maximizes the life of the device.



#### AIRFLOW® NOT ONLY REMOVES BIOFILM, BUT ALSO PLAQUE, STAINS AND EARLY CALCULUS.



AIRFLOW<sup>®</sup> PLUS Powder has the remarkable ability to easily reach the sulcus area and interdental spaces as well as pits and fissures.

▶ In addition to biofilm and colorations, PLUS Powder is able to remove part of the calculus. Some studies use the term "early calculus" in order to describe less resistant partly mineralized deposits.









"SO SMOOTH"

Lucie Lebreton, age 13, after her first GBT treatment with AIRFLOW<sup>®</sup> PLUS Powder commenting on the smoothness of the tooth surfaces.

### **AIRFLOW®: PERFECT FOR SENSITIVE** AREAS

### **SULCUS CLEANING**

▲ Observe the 3mm minimum distance when cleaning the sulcus area with AIRFLOW<sup>®</sup> PLUS Powder.

This safely opens up the sulcus preserving the junctional epithelial attachment.

# **AESTHETIC DENTISTRY**

- ▶ AIRFLOW<sup>®</sup> PLUS Powder is indicated for minimizing recessions on overlays and onlays.
- It is minimally invasive and removes biofilm effectively.



## **AIRFLOW® ON DENTINE**

► AIRFLOW<sup>®</sup> PLUS Powder is the minimally invasive way of removing biofilm on dentine.

► Disclosing step is mandatory for ensuring complete removal within minimal exposure time.











## THE IMPORTANCE OF DISCLOSING

- ▶ The disclosing agent guides biofilm removal.
- ▶ No more color, no more biofilm.
- ▶ The disclosing step makes AIRFLOW<sup>®</sup> biofilm removal more efficient and quicker.



# **THE URGENCY FOR AIRFLOW®**

• Orthodontic appliances increase biofilm growth in critical areas that are not accessible by daily toothbrushing and traditional prophylaxis techniques.

- They dramatically foster the risk of gum disease, tooth demineralization and caries.
- In addition, biofilm creates friction on the wires which may cause up to 50% loss of bracket force.
- Scaling technique on the appliance may scratch and weaken the bonding.
- ▶ It is imperative professionals adopt AIRFLOW<sup>®</sup>.



Rubber cups are not adapted to orthodontics.

# **AIRFLOW® PLUS POWDER SOLUTION**

- ► AIRFLOW<sup>®</sup> PLUS is the unique powder for orthodontic appliance maintenance.
- ▶ Full access to tooth, gum and appliance surfaces.
- ▶ No need to remove the wires.
- ► AIRFLOW<sup>®</sup> PLUS Powder is gentle on soft tissues.
- ▶ Does not affect the integrity of the appliance surface.









## **IS BLEEDING DURING AIRFLOW® NORMAL?**





Pictures: Courtesy of Dentist Katrin Wolff

► Yes. In case of gingivitis, bleeding will occur during AIRFLOW<sup>®</sup> treatment.

### CHILDREN LOVE GBT DENTISTS

### **NO MORE PAIN** = TREATMENT **COMPLIANCE**

- ▶ Treating children with optimum comfort favorably impacts compliance with future recall visit recommendations.
- As much as possible, perform full treatment with AIRFLOW® PLUS Powder and consider scaling as the last option.





## **AIRFLOW® AND IMPLANTS**

### **AIRFLOW® AND MUCOSITIS**

• One of the major challenges of implantology is to prevent and treat mucositis and peri-implantitis. This is achieved by combining specific home care measures and regular professional biofilm removal.

• It is always preferable to dismantle the crown before cleaning. However, many implants have been installed without taking into consideration the need for regular cleaning.



Implant cleaning

Ex-situ abutment cleaning

# **AIRFLOW® IN IMPLANT CLEANING SEQUENCE**

▶ AIRFLOW<sup>®</sup> is the first cleaning procedure recommended around implant mucosa. It is comfortable, minimally invasive and adapted to soft tissues, implants, abutments and all types of veneer with no risk of scratching.

▶ If the mucosa is deeper than 4mm, PERIOFLOW<sup>®</sup> will be necessary. If PERIOFLOW<sup>®</sup> cannot be applied or if residual calculus is present, PIEZON<sup>®</sup> with PI Instrument is recommended.











Cleaning if dismantling is not possible

# **05 PERIOFLOW®**

#### **ENSURE TISSUES ARE IN GOOD CONDITION**

▲ Do not use PERIOFLOW<sup>®</sup>:

- Immediately after any subgingival treatment.
- When profuse bleeding or suppuration is present.
- ▶ In pockets deeper than the mucogingival junction.
- On a tooth adjacent to an unhealed or recently extracted site.
- On a tooth with sign of dental fracture (Endo- Perio lesions).

#### **NO ANESTHESIA**

There is no need for anesthesia.

#### **GENTLE INSERTION**

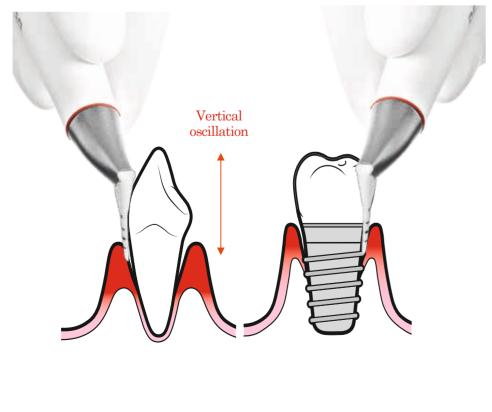
Gently insert the nozzle into the pocket. If the nozzle cannot penetrate sufficiently - do not force. Use PIEZON<sup>®</sup>.

#### **RECOMMENDED POSITION AND MOVEMENT**

 $\odot$  Use each time up to a maximum of 5 seconds.

Make continuous vertical oscillations along the pocket.

Change the nozzle after maximum 20 sites.



### **REMOVE BIOFILM IN** >4MM TO 9MM POCKETS

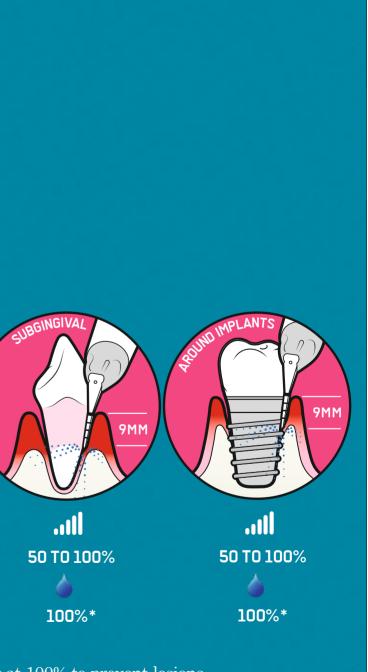
### **SETTINGS**





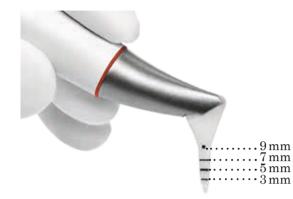






# **PERIOFLOW**®

### **PERIOFLOW® NOZZLE**





PERIOFLOW<sup>®</sup> Nozzles are flexible, thereby adapting to the pocket's natural curves.

## **PERIOFLOW® APPLICATIONS**

#### SUBGINGIVAL POCKET

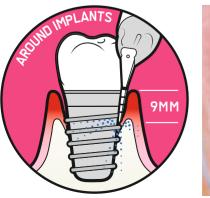
#### **ROOT FURCATION**







IMPLANT







# WHAT IS EMPHYSEMA?

• Subcutaneous emphysema occurs as a result of an abnormal introduction or presence of air or gas into tissue or tissue spaces. It has been recognized and documented as a complicating factor for any dental procedure using pressurized air. Expeditious diagnosis and management of subcutaneous emphysema are important to facilitate recovery.

#### LIMIT THE RISK

Always follow contraindications, recommendations and detailed instructions.

#### **CLINICAL SIGNS**

Crackling of mucosa upon pressure (subcutaneous crepitation). Pain and discomfort often accompanied by facial or neck swelling.

#### IN CASE OF EMPHYSEMA

 $\bigcirc$  Stay calm, there is no need to panic; symptoms will usually subside on their own. treatment.

In case of patient discomfort, communicate positively. Follow up until symptoms subside. Consult a medical doctor.

See below 3 examples of antibiotics recommended by clinicians.

#### VAN WINKELHOFF COCKTAIL.

Combination of amoxicillin 500 mg and metronidazole 400 mg. To be taken 3 times a day for 7 days.

#### AUGMENTIN 375MG TABLETS.

1 tablet contains amoxicillin trihydrate 250 mg and clavulanic acid 125 mg. Take 4 times a day for 10 days.

#### DALACIN 300MG TABLETS.

1 tablet contains 300 mg of clindamycin hydrochloride. Take 3-4 tablets a day for 5 days. If the dental professional cannot prescribe antibiotics, the patient is to be referred to a physician or hospital for the recommended medicine.



Observe patient for 30 minutes. Explain to the patient that symptoms will disappear within 24 to 48 hours. As a precautionary measure, the patient will receive prophylactic antibiotic

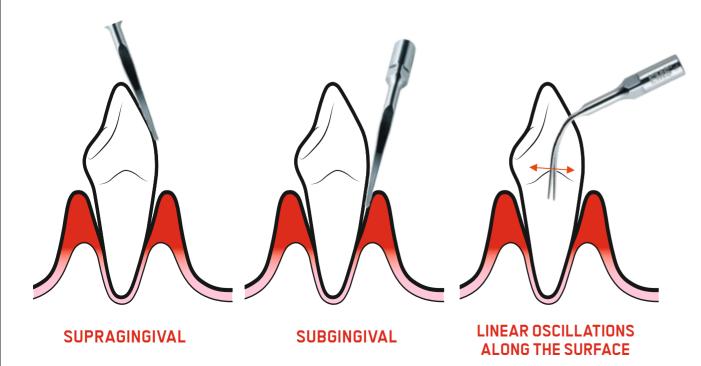
# **06 PIEZON®**



- After using AIRFLOW<sup>®</sup>, remove remaining supra- and subgingival calculus with the PIEZON<sup>®</sup> NO PAIN\* PS Instrument.
- Linear movement of the PS Instrument = no damage to tooth surfaces or soft tissues. Minimally invasive with regard to root cementum. Dynamic power setting.
- ▶ EMS PIEZON<sup>®</sup> PS (Perio Slim) Instrument delivers the best interproximal and subgingival access\*\*.

\*Throughout this document, NO PAIN applies when used in accordance with EMS instructions and/or training by the Swiss Dental Academy \*\*CRA, Clinical Research Associates, USA, Newsletter 1998.

## SUPRA-AND SUBGINGIVAL



### **PIEZON® PS INSTRUMENT** FOR 95% OF ALL CASES

# **PIEZON® PS INSTRUMENT SETTINGS**



30 TO 100%

70 TO 100%



### **DID NOT REALIZE** HAT I WAS BEING **REATED WITH PIEZON®** A. Tarasconi after his first GBT treatment with

34





PIEZON<sup>®</sup> NO PAIN PS Instrument.

### **PIEZON® PI INSTRUMENT**

# **USE ONLY EMS SWISS INSTRUMENTS!**

### **EMS PI INSTRUMENT REMOVES BIOFILM AROUND IMPLANT ABUTMENTS AND RESTORATIONS.**

VERIFY BEFORE USE THAT THE PLASTIC COATING IS NOT WORN OR DAMAGED. ► THE 120° ANGLED INSTRUMENT IS INCLUDED IN THE PERIOFLOW® APPLICATION. USE ONLY 120° ANGLED INSTRUMENT HOLDER.



Following the FDI International Dental Federation (2016) statement on "Non Compliant Dental Products", please be aware that EMS devices have been designed and tested for the exclusive use with EMS PIEZON<sup>®</sup> Instruments.

USING SO-CALLED "COMPATIBLE" INSTRUMENTS MAY HARM YOUR PATIENT AND DAMAGE THE HANDPIECE CONNECTION. DAMAGE THAT MAY RESULT FROM THE USE OF NON-ORIGINAL COMPONENTS IS NOT COVERED BY THE EMS WARRANTY.

One single EMS PIEZON<sup>®</sup> PS Instrument is designed for up to 3000 treatments. Minimal invasiveness = very limited wear. Its cost is less than EUR 0.05 per treatment\*.

\* Based on recommended EMS end-user prices.

# PIEZON<sup>®</sup> SCALING = FEW INSTRUMENTS.

 Clinicians initially used to the exclusive use of hand instruments and new to GBT and EMS PIEZON<sup>®</sup> scaling in particular, are amazed to find that few instruments are needed to cover most clinical cases.



|    |                  | ۵                 |
|----|------------------|-------------------|
| •  | 30 TO 60%        | <b>70 TO 100%</b> |
| Α  | <b>30 TO 60%</b> |                   |
|    | 30 TO 60%        |                   |
|    | 30 TO 60%        | <b>70 TO 100%</b> |
| L4 | 30 TO 60%        | <b>70 TO 100%</b> |
| L5 | 30 TO 60%        | <b>70 TO 100%</b> |





# **07** CHECK

## **FINAL CHECK**

Check for any remaining biofilm, stains and calculus. Absence of biofilm and stains in supragingival areas allows to effectively diagnose hard-tissue caries.

#### Exception:

Following the use of  $\ensuremath{\text{PIEZON}}\xspace^{\ensuremath{\mathbb{R}}}$  on recessed gum with visible dentine, briefly apply AIRFLOW<sup>®</sup> PLUS Powder in order to ensure a smooth surface.



## **CARIES DIAGNOSIS**

For a proper caries diagnosis, biofilm stains and calculus need to be removed. Cleanliness is key in order for any caries check to be effective.



ires: Courtesy of Wolfgang Gutwerk DDS

See below how biofilm may hinder caries detection.





#### DO A FINAL CHECK FOR REMAINING BIOFILM. MAKE CERTAIN CALCULUS IS FULLY REMOVED. ACCURATELY DIAGNOSE CARIES. PROTECT WITH FLUORIDE.

## **BLEEDING**

In case of gingivitis or mucositis some bleeding may occur:

- during initial probing
- ▶ during AIRFLOW<sup>®</sup> step
- during final subgingival check

# **FLUORIDE PROTECTION**

Protect teeth by applying fluoride.



# **POST-TREATMENT RECOMMENDATIONS**

Treatment cleans the teeth but also eliminates the pellicle acquired by the patient. Since the restoration by salivary proteins takes time, the teeth are left without natural protection against coloration for 1 hour.

#### **DURING 1 HOUR:**





SMOKING

NO ALCOHOL

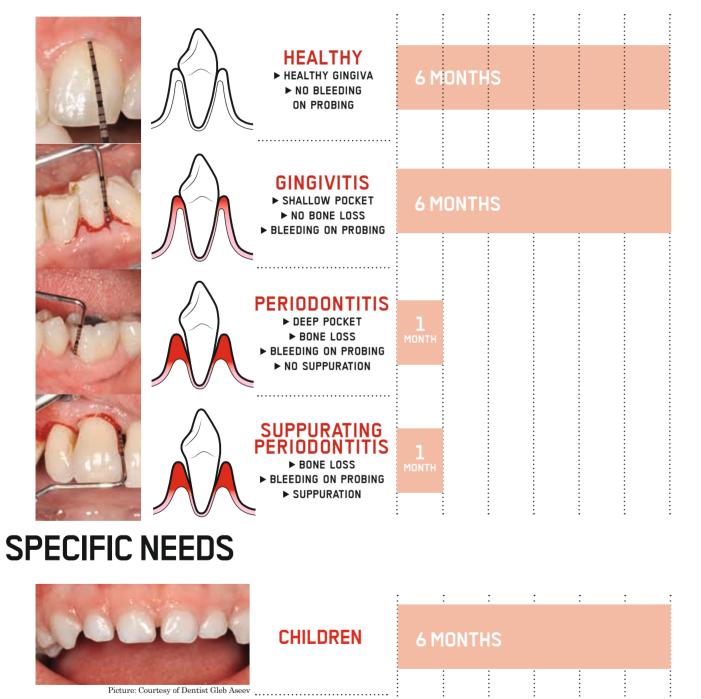




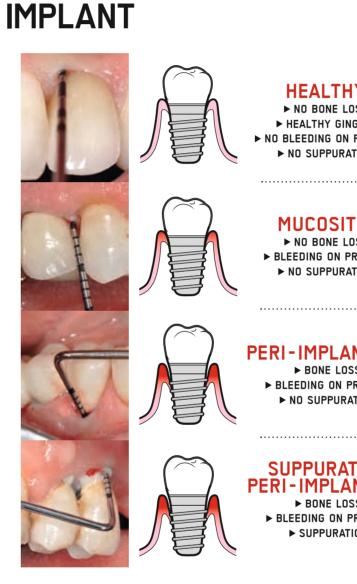
# **08** RECALL

Recall frequency is to be based on the individual patient's risk assessment. Please find below the general recommended indications.

### NATURAL TEETH



#### SCHEDULE RECALL FREQUENCY ACCORDING TO RISK ASSESSMENT. ASK YOUR PATIENT IF HE OR SHE LIKED THE TREATMENT.





#### GERIATRI

1to3MONTHS

÷

÷

**ORTHODONTICS** 



| TY<br>OSS<br>NGIVA<br>I PROBING<br>ATION                   | 6 MONTHS   |           |   |   |   |   |                  |
|------------------------------------------------------------|------------|-----------|---|---|---|---|------------------|
|                                                            |            |           |   |   |   |   | ·<br>·<br>·<br>· |
| TIS<br>Joss<br>Probing<br>Ation<br>NTITIS<br>Ss<br>Probing | 3 MONTHS   |           |   |   |   |   | ·<br>·<br>·<br>· |
|                                                            |            |           |   |   |   |   | ·<br>·<br>·<br>· |
|                                                            | 1<br>Month |           |   |   |   |   | ·<br>·<br>·<br>· |
|                                                            |            |           |   |   |   |   | ·<br>·<br>·<br>· |
| TING<br>NTITIS<br>ISS<br>PROBING<br>FION                   | 1<br>Month |           |   |   |   |   | •                |
|                                                            |            |           |   |   | : |   |                  |
| CS                                                         | 1          | :<br>10NT |   | : | : | : |                  |
|                                                            |            |           | ÷ | ÷ | ÷ | ÷ |                  |

# WHY GBT IS THE ...

▶ Dental biofilm is the main etiological factor for caries, periodontal and peri-implant infections. Periodontitis may increase the risk of systemic diseases, such as cardiovascular and respiratory disorders, 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 pioneered preventive dentistry in the 1970<sup>ies</sup> with studies and clinical protocols based on prophylaxis in "recall hours".  $\rightarrow^{1-2}$ 

► GBT follows the recommendations on Professional Mechanical Plaque Removal (PMPR) and Oral Hygiene Instructions (OHI) for Home Care issued by the European Federation of Periodontology (EFP).→<sup>3-5</sup>

"Periodontal Health for a Better Life!"

### DENTAL PROPHYLAXIS IS TRADITIONALLY **PERFORMED IN THIS ORDER:**

**1** Removing calculus with hand instruments and scalers may be painful and invasive, and scratch dental and implant surfaces.

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

With many areas not reachable, the gingiva will be affected mechanically. Dental hygienists and assistants know that traditional cleaning may be a painful experience.

For this reason, patients may not return for follow-up appointments. Now, almost fifty vears later, it is time for change.

# **GAME CHANGER**

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

**1** Before removal, biofilm is always disclosed with a dye solution. Biofilm and early calculus are easily removed with AIRFLOW<sup>®</sup> and PERIOFLOW<sup>®</sup> - supraand 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 tooth cleaning procedures.

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

▶ Since 1982 EMS has provided dental • Guided Biofilm Therapy is based on practices all over the world with clinically proven technologies invented by AIRFLOW<sup>®</sup> air polishing and PIEZON<sup>®</sup> PS EMS. It was developed in cooperation with NO PAIN piezoceramic scaling technology. highly respected and experienced periodontologists, caries specialists and dental hygienists.

▶ In 2003 EMS invented PERIOFLOW<sup>®</sup> for subgingival biofilm removal – in combination with the AIRFLOW® PERIO ► GBT is a systematic, predictable, Powder on a glycine basis.<sup>→7</sup> This was an risk-oriented and user-friendly treatment important paradigm shift in perio and adaptable to all age groups and each preventive dentistry. individual patient.

▶ In 2012 EMS added the high-tech erythritol-based AIRFLOW® PLUS Powder with a particle size of only 14 µm.

Clinical Periodontology 2011;38:820-827.  $\Rightarrow$  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.  $\Rightarrow$  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 Denta Hygiene 2016;14:15-28.  $\Rightarrow$  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.  $\Rightarrow$  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.  $\Rightarrow$  6. O'Hehir TE. How subgingival air polishing will turn dental hygiene upside down. Intervi vith 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 olishing in moderate-to-deep periodontal pockets. Journal of Periodontology 2012;83:444-452.

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 programs; caries and periodontal disease in adults. Results after 30 years of maintenance. Journal of Clinical Periodontology 2004;31:749-757.  $\rightarrow$  3. Tonetti MS, Chapple ILC, Jepsen S, Sanz M. Primary and seconda prevention of periodontal and peri-implant diseases. Journal of Clinical Periodontology 2015;42:S1-S4.  $\rightarrow$  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.  $\Rightarrow$  5. Sanz M, Bäumer A, Buduneli N, Dommisch H, Farina R, Kononen E, et al. Effect of professional m plaque removal on secondary prevention of periodontitis and the complications of gingival and periodontal preventive measures. Journal of Clinical Periodontology 2015;42:S214-S220.





▶ Guided Biofilm Therapy is truly

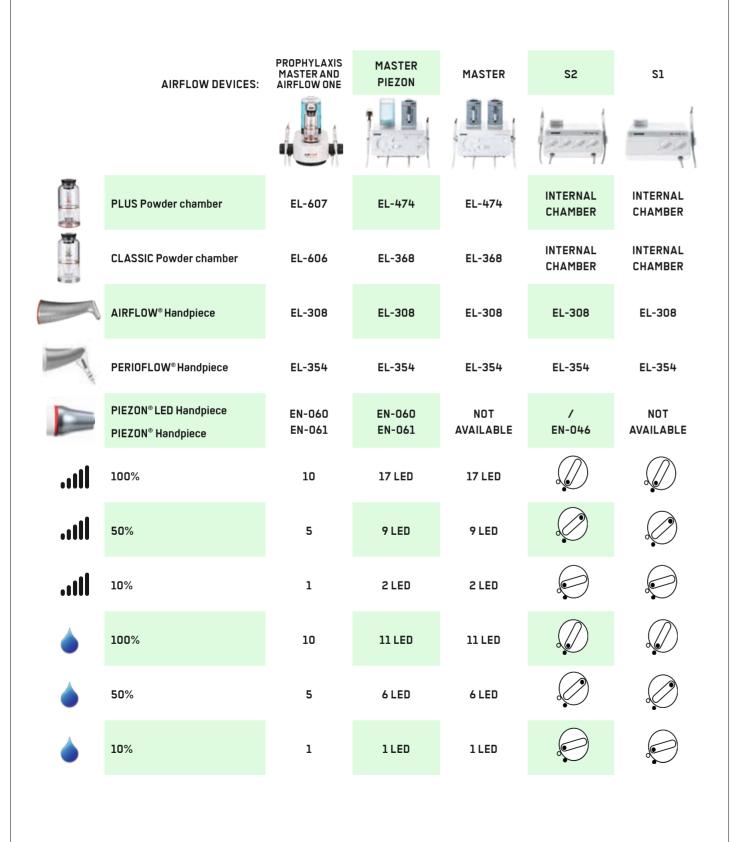
minimally invasive and reduces the need of hand and sonic/ultrasonic instrumentation. It is safe, effective and gentle to teeth and soft tissues, implants and restorations.  $\rightarrow$  <sup>1-4</sup> ▶ GBT is also very comfortable for patients and practitioners.  $\rightarrow$ <sup>5</sup> It is efficient and timesaving.  $\rightarrow^{6}$  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.

# SETTINGS

Setting recommendations of the present document apply to AIRFLOW<sup>®</sup> Prophylaxis Master and AIRFLOW<sup>®</sup> One.

The following table may help users to find corresponding settings for older EMS devices.



# **EMS WORLDWIDE**

### **HEADQUARTERS**

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#### MADRID, SPAIN EMS ELECTRO MEDICAL SYSTEMS ESPAÑA SLU

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#### MILANO, ITALY **EMS ITALIA S.R.L**

Via Faravelli 5 I-20149 Milano Tel. +39 02 3453 8111 e-mail: dental@ems-italia.it





#### CONTACT EMS

If any serious incident occurs that is directly or indirectly related to the treatment, please report it immediately to EMS and to the competent authority of your country and that of your patient's place of residence (if different).

**ADVERSE EVENT NOTIFICATION :** vigilancemailbox@ems-ch.com

#### **GENERAL SUPPORT:**

ems-dental.com/contact TSAV@ems-ch.com

SHANGHAÏ. CHINA

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# FROM THE VALLEY

# TO THE TOP

► For more than 35 years EMS has developed high-end technologies and protocols in conjunction with the world's most advanced clinicians, enabling the patients to enjoy natural teeth and implants for much longer.

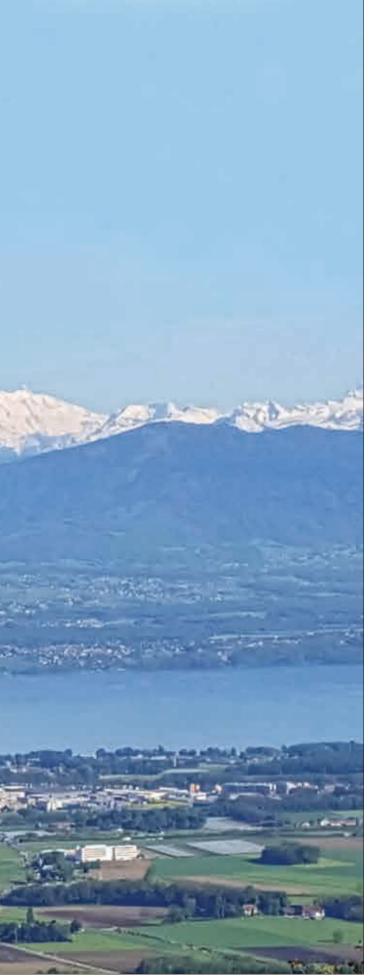
"Primum non nocere"\* and minimal invasiveness are not only a must, they are our way of life. \* "First do no harm" from the Hippocratic Oath.

MONT BLANC, 4807M

EMS RESEARCH AND MANUFACTURE CENTER NYON, SWITZERLAND

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# **GET STARTED**



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"I FEEL GOOD"