

Not wellness, but medicine

GBT[®] as effective prevention in everyday practice

A paper by Dr. Klaus-Dieter Bastendorf and Dr. Ann-Kathrin Arp

SCIENTIFIC PAPER /// Some 2,500 years ago, Hippocrates already knew that prevention is more important than curative therapy. Currently, Benz (2021) stated that prevention is the most effective dental treatment we have developed in 150 years of scientific dentistry¹. It is doubtful whether the often cited paradigm shift away from restoration to prevention² has really taken place. The following paper discusses the standing of prevention in contemporary dentistry and positions systematic prophylaxis-guided biofilm therapy within the prevention landscape. In this paper, the authors devote themselves separately to different aspects.

According to a recent survey by the INSA opinion research institute (2019), less than half (41 percent) of respondents had their teeth professionally cleaned by a dentist in the last twelve months.³ A forsa survey (2019) came to somewhat better results: three out of five German citizens attend professional dental cleaning at least once a year.⁴ How can this discrepancy between the dentists' knowledge of prevention and its implementation in everyday practice be explained? Are the systematic preventive flow protocols offered for prevention out of date? Or is it because a paradigm shift must also take place at the economic level in parallel to the professional paradigm shift?

Professional paradigm shift

(Dr. Klaus-Dieter Bastendorf)

If prevention is to be successfully integrated into everyday practice, a new systematic prevention protocol based on the state of the art in science and technical progress is required.

Scientific progress:

Biofilm is the biological challenge

Today, the "Ecological plaque hypothesis according to Marsh"⁵ is accepted worldwide as the etiology of the most important oral diseases. According to this hypothesis, vital sub- and supragingival dysbiotic biofilm is the main cause of the most important oral diseases (caries, gingivitis, periodontitis, peri-implant mucositis, peri-implantitis).

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References



An ecological (change in environmental conditions) shift from symbiosis to dysbiosis takes place in the biofilm. This shift leads to a disturbance of homeostasis. Dental diseases are the result of inflammatory host response to microbial biofilm. As we know the cause of most oral diseases, there can only be one objective for dentistry: to preserve lifelong oral health. This objective can be achieved by combining home and professional individual oral hygiene measures.⁶

Technical progress: aids for biofilm management

Basically, we distinguish between domestic and professional biofilm management. We have chemical and mechanical aids available for both home as well as professional biofilm management. Professional tooth cleaning (PTC) or better put, "Professional Mechanical Plaque Removal" (PMPR), is a central component of systematic prevention. Mechanical professional biofilm management can be performed with hand instruments (HI) such as scalers and curettes (HI), with mechanical aids such as sonic scalers (AS) and ultrasonic scalers (US), as well as with air-powder-water jet devices (Air-Polishing/AIR-FLOWING®) (Fig. 1) and with "Rubber Cup Polishing" (RCP). The terms Air-Polishing (AP) and AIR-FLOWING® (AF) are often used synonymously, but they differ considerably and must be distinguished from each other: both work according to the same principle of powder-water-jet technology. AIR-FLOWING® is a technically, physically and chemically coordinated system (AIRFLOW Prophylaxis Master, AIRFLOW MAX, PERIOFLOW handpiece, minimally invasive erythritol-based AIRFLOW PLUS powder), which is the only device that operates with a constant and regulated powder flow rate and laminar flow.

The same objectives apply to all the aids used: effective and targeted removal of biofilm, modification of biofilm, effective and targeted removal of dental calculus, substance protection, patient comfort and practitioner comfort.

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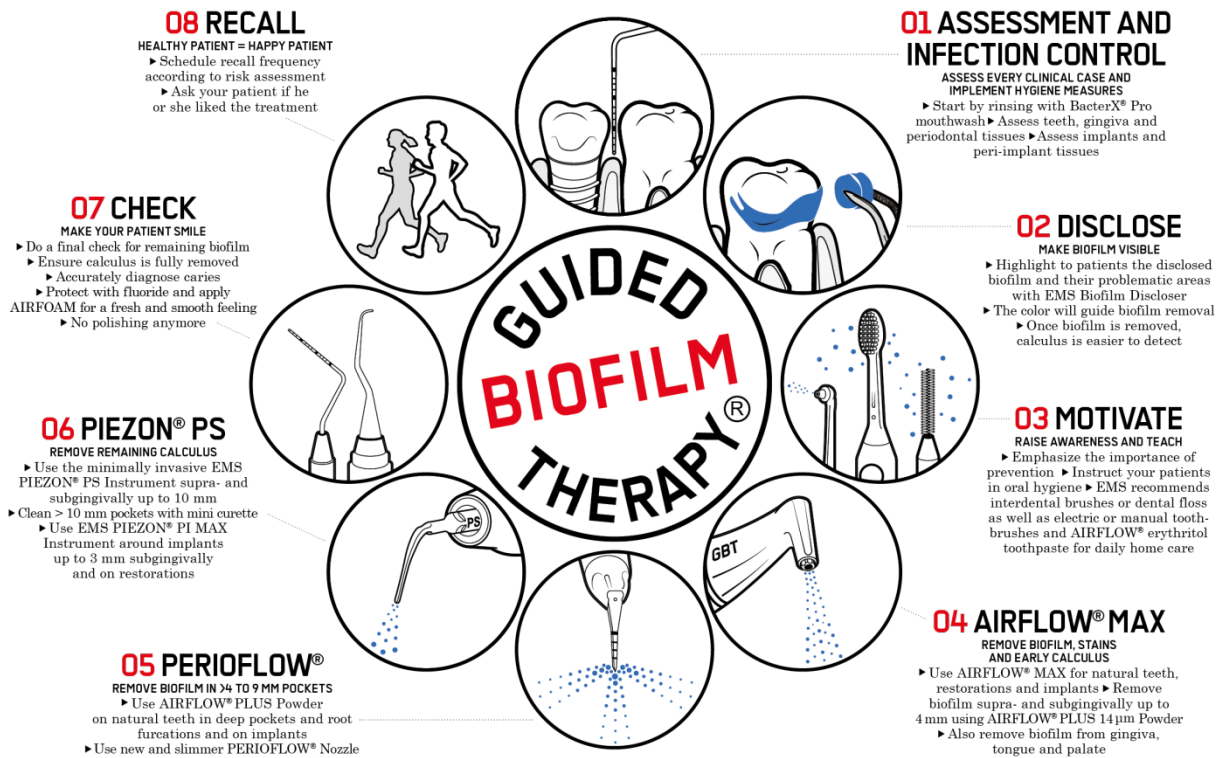


◀ FIGURE 1:

AIRFLOW® Propylhlaxis Master – the Swiss Original.

EMS Electro Medical Systems GmbH
Information on the company





▲ FIGURE 2: The eight steps of the GBT protocol for prevention with a system.

The comparison of the aids according to the objectives listed above shows that AIR-FLOWING® is superior to all other aids in effective supragingival and subgingival targeted biofilm removal.⁷⁻¹² Recent work shows that it is possible to modify biofilm and restore symbiosis with AIR-FLOWING® and piezoceramic ultrasound (Piezon No Pain®/PS).^{13, 14} Dental calculus can be removed more specifically, more effectively with piezoceramic ultrasound than with hand instruments.¹⁵⁻¹⁷ AIR-FLOWING® and modern ultrasound systems are also superior to hand instruments in terms of substance protection,¹⁸⁻²¹ practitioner²² and patient comfort²³⁻²⁸.

Systematic prevention - Guided Biofilm Therapy®

To meet today's requirements, the EMS company, in cooperation with practitioners and universities, has developed the Guided Biofilm Therapy® (GBT®) prevention protocol, which encompasses scientific knowledge and technical progress. GBT® is a systematic, modular, risk-oriented, evidence-based, individualized prevention and treatment protocol which is universal (applicable to all oral and general health cases, including complex ones) and applicable to all age groups.

DENTAL HEALTH IS NOT A MATTER OF COURSE, BUT IS THE RESULT OF INTERACTION BETWEEN THE PATIENT AND THE PRACTITIONER OR THEIR TEAM.

GBT® describes modern, systematic prevention in eight modular sub-steps (Fig. 2). GBT is strictly oriented towards modern medicine (P 4.0/E): "Preventive, Predictive, Personalized, Participative", the "E" stands for ethics, as it is more ethical to earn money with the health of patients than with their diseases.

Economical paradigm shift

(Dr. Ann-Kathrin Arp)

From a professional point of view, the future of dentistry belongs to prevention. Prevention is also becoming more and more popular in the public, it is a trend, it is "in" to be fit and healthy. Prevention promotes the image of dental practices that provide causal needs-based individual preventive therapy in a professional and results-oriented manner. In addition, it is an ideal tool for patient acquisition and patient loyalty. If preventive services are provided economically, they reduce the dentist's entrepreneurial risks and can form the basis for the economic future of the practice, as they make the practice more independent of arbitrary legislation. It is therefore all the more difficult to understand why not all dental practices offer individual, needs-oriented, systematic prevention as a service with a concept. One explanation can only be found in the fact that dentists have not learned to run their practice according to business management rules either in their university or in their postgraduate education and training.

A health care system that funds disease and not health

A look at the distribution of expenditure for dental treatment in 2021 (KZBV [Federal Medical Association], 2022) supports this thesis. The share of costs for therapeutic measures covered by health insurance is more than 95 percent. The fact that preventive services for prophylaxis – except for the very young patients – are exclusively in the domain of the GOZ (Dentists' Fee Schedule) speaks for a health care system that finances illness and not health.

Thus, it is also obvious that a large part of the turnover in the dental practice is generated by prosthetic and conservative-surgical services. One of the main arguments why a focus on preventive dentistry does not occur is the alleged unwillingness of patients to contribute to payment. However, the unwillingness of patients to contribute to payment alone cannot be the main point of criticism of the paradigm shift toward prevention.

Preventive services for children (early screening and individual prevention services), which are fully covered by the statutory health insurance funds, are also only utilized up to a maximum of 75 percent. The rate is even lower for children under the age of five.

Dental health is not a matter of course

This means that the economics of prevention faces a major challenge: dental health is not a matter of course, but is the result of interaction between the patient and the practitioner or their team. This objective can only be achieved if the patient is willing to contribute to this effort. If the patient does not perceive the benefit, it becomes difficult to involve them in a preventive treatment concept. Therefore, the first hurdle is communication with the patient, and the second step is economic attractiveness. This is where prevention economy begins, and the practitioner is challenged not only as a dentist, but primarily as an entrepreneur.

GBT®: Not wellness, but necessary medicine

Presenting the benefits to the patient through education provides a good and easy entry point for communication. The guiding principle should be: systematic prevention GBT® is not a wellness treatment and much more than perfect tooth cleaning, GBT® is a medically necessary, preventive and therapeutic dental measure. Providing care at eye level reflects the added value for patients and their oral health. In doing so, the patient's interests are the focus of the individual, painless treatment by the trained staff.

Prevention utilization is not a given. This requires a prevention concept which can address the individual needs of each patient: for example, a pregnant woman will need different prevention than a 70-year-old woman with significant dentures or a patient with periodontal disease. If this individual tooth preservation therapy is offered and communicated to the patient, then each patient has their own individual reason for prevention and can be integrated into the concept.

Conclusion

No later than the publication of the work of Axelsson and Lindhe, as early as 1981, there has been no question that systematic prevention (GBT®) is professionally at the focus of dentistry. New evidence on links between oral medicine, general health, and quality of life, has brought the importance of systematic oral prevention into even sharper focus.

For more information on GBT please go to:

www.ems-dental.com/de/guided-biofilm-therapy

Online

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This paper is an abbreviated version – for
the long version please go here:

