

# Revolutionising preventive

## care with GBT



**Celso da Costa<sup>1</sup>**  
explains  
why and  
how

Guided Biofilm Therapy (GBT) is transforming dental practices and patient outcomes worldwide.

**G**uided Biofilm Therapy (GBT) is an evidence-based, indication-orientated, systematic, modular prevention for prophylaxis and a therapy protocol for all dental applications.

The approach employs treatment strategies tailored to each patient's specific diagnosis and risk assessment to ensure the best outcomes. The treatment is administered in a minimally invasive manner, prioritising patient comfort, safety, and efficiency.

Additionally, the therapy encompasses guidance on oral hygiene, patient education, and motivation to preserve natural teeth and implants for the longest possible duration.

GBT follows a simple, eight-step protocol, with each step supported by a robust evidence base:

1. Assess – probe and screen every clinical case
2. Disclose – make biofilm visible
3. Motivate – raise awareness and teach
4. AirFlow – remove biofilm, stains and early calculus
5. PerioFlow – remove biofilm in >4 to 9 mm pockets
6. Piezon No Pain – remove remaining calculus
7. Check – make your patient smile
8. Recall – a healthy patient equals a happy patient.

### In the beginning

The story of GBT starts in the 1970s, when pioneers Axelsson and Lindhe made

significant contributions to dental prophylaxis by introducing the idea that bacterial plaque (biofilm) plays a crucial role in the development of caries and periodontal disease.

As implants have become more popular over the years, there has been a corresponding rise in the incidence of peri-mucositis and peri-implantitis.

Additionally, both research and clinical practice have shown that biofilm can be effectively removed. Modern approaches to addressing the underlying causes through biofilm management, utilising cutting-edge technologies, are increasingly supported by robust evidence.

### The evidence base

The 1975 study by Axelsson and Lindhe aimed to determine the impact of fluoride in conjunction with meticulous plaque control on preventing caries.<sup>1</sup> Over ten months, participants received 18 prophylactic treatments involving detailed tooth brushing instructions and professional plaque removal.

The researchers concluded that combining at-home oral hygiene with professional cleaning effectively maintained high oral hygiene standards and minimised new carious lesions. Notably, no significant difference in the development of new carious tooth surfaces per year was observed between groups using fluoridated products and those that did not.

In 1981, Axelsson and Lindhe further explored oral hygiene, examining preventive

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measures in a group of adults over six years.<sup>2</sup> Participants maintained good oral hygiene, demonstrated by the absence of disease progression in the test group, while traditional care in the control group did not prevent disease progression.

By 1991, Axelsson, Lindhe, and Nyström had extended their research to a 15-year longitudinal study on the effects of preventive measures based on plaque control and fluoride use, finding a low incidence of caries and minimal periodontal tissue loss among participants.<sup>3</sup>

In 2004, the trio reported on the 30-year-long study, showing minimal tooth loss, primarily due to root fractures, and very few from periodontitis or caries.<sup>4</sup> The study confirmed that consistent professional cleaning and effective at-home care could prevent both the initial occurrence and recurrence of some oral diseases.

### Learning in the 2020s

This body of evidence, highlighting the benefits of removing plaque bacteria (biofilm) on oral health, along with additional research into the efficacy of plaque disclosure and air flow, has contributed to EMS's development of GBT.<sup>5,6,7,8</sup>

Research is ongoing to expand the evidence base, particularly focusing on GBT. In 2021, following a randomised controlled trial by Shrivastava and colleagues that investigated dental biofilm management with GBT, it was concluded that GBT effectively removes biofilm around both teeth and implants.<sup>9</sup>

In 2022, Vouros and colleagues determined that biofilm removal using erythritol AirFlow and ultrasonic piezo-electric instruments, methods integral to GBT, is as effective as traditional scaling and root planing (SRP).<sup>10</sup> Additionally, GBT was found to require less treatment time and was perceived more favourably by patients compared to the conventional approach.

### Patient preference

Indeed, one of the strongest endorsements of GBT's effectiveness comes from a global survey of over 278,000 patients.<sup>11</sup> This survey found a remarkable level of satisfaction, with 94% of participants preferring GBT to traditional dental cleaning methods. Similarly, 94% of respondents would recommend GBT to their friends and family.

This high level of satisfaction is attributed not just to superior clinical results but also to the overall treatment experience. Patients have particularly appreciated the thoroughness of the cleaning, the pain-free

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procedure, and the efficient time management during their appointments.

These positive experiences play a vital role in encouraging regular dental visits, which are crucial for maintaining oral health and preventing dental diseases.

### Everyone's a winner

For dental professionals, adopting GBT provides dual benefits:

1. Delivering exceptional dental care
2. Enhancing the reputation of their practice.

The strong patient preference for GBT, evidenced by comprehensive surveys, confirms its effectiveness and appeal. Implementing GBT can greatly enhance a practice's success by promoting patient loyalty and attracting new patients via recommendations.

For both patients and dental professionals, GBT represents a promising avenue towards a healthier, brighter future in dental care, envisioning a world where excellent oral health is not just an aspiration, but a reality for everyone.

For more information on what EMS has to offer dental professionals in the UK, visit [www.ems-dental.com](http://www.ems-dental.com).

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