



Guided Biofilm Therapy®: The Optimal Solution for Implant Maintenance



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Implant-related diseases are generally categorized into two main types: peri-implant mucositis and peri-implantitis. There are various reasons for implant restoration, but studies have shown that implants may fail due to gum disease, especially in cases where they were placed after tooth loss due to periodontitis. Peri-implantitis, which involves bone loss, typically follows the stage of peri-implant mucositis. The symptoms of mucositis are similar to those of gingivitis in natural teeth, including

gum bleeding without the loss of connective tissue around the implant. Early treatment is crucial to restore the gums to a healthy state.

During examination, patients with mucositis may show significant subgingival plaque or foreign substances like implant cement. It is important to check for inflammation by assessing bleeding on probing (BOP) and using an explorer (ODU #11/12) for subgingival probing, ensuring no damage is caused to the gingival epithelium and the implant.



▲ <Plaque observed during subgingival probing on #47I>



▲ <Stable gingiva observed six weeks after applying AIRFLOW® on #47I>

The Importance of Early Maintenance and Self-Care Education

Removing the causes of mucositis and providing comprehensive oral hygiene education that enables patients to manage their oral health effectively is key to extending the lifespan of implants. Therefore, implants should be regularly monitored and maintained through early professional intervention, including regular dental visits, Supportive Periodontal Treatment (SPT), and personalized tooth brushing education.



▲ <Image showing gingival swelling and edema around an implant>



▲ <Image depicting the use of a Perio Brush (GC Korea) to perform TBI on swollen gingiva around an implant>

The Key to Implant Maintenance: Biofilm Removal

The core of implant maintenance lies in identifying and removing biofilm, the primary cause of implant-related complications. To do this, it is essential to assess bone loss around the implant and check for inflammation using X-rays. This should include panoramic imaging and periapical images using the parallel technique. A thorough evaluation of implant mobility, pain presence, residual cement, and the distribution of calculus is necessary. Such comprehensive examinations are vital to accurately understanding the patient's oral health status. In cases where peri-implantitis with bone loss is present, appropriate periodontal treatment and antibiotics are required to alleviate inflammation. Following this, continuous implant maintenance through customized recall intervals and oral hygiene education is critical. However, many still rely solely on Professional Teeth Cleaning (PTC), which aims to keratinize the gingival epithelium rather than thoroughly remove biofilm. Consequently, even with professional care, residual biofilm may lead to ongoing inflammation.



▲ <The state of peri-implantitis during a maintenance visit>



▲ <Improvement one week after periodontal treatment>



▲ <Stabilized gingiva two weeks after periodontal treatment around the implant>

The Importance of Early

To enhance implant maintenance, the use of AIRFLOW[®] and Guided Biofilm Therapy[®] (GBT) is becoming increasingly common in dental practices. AIRFLOW[®] Plus Powder, specifically designed for GBT, is erythritol-based and contains chlorhexidine (CHX), offering antimicrobial effects. Its fine particle size allows minimal invasive biofilm removal from hard-to-reach areas, such as between implant prosthetics and fixture threads. When used correctly, it can also be applied subgingivally.

The GBT protocol begins with assessing the patient's oral condition and risk factors. After evaluating the patient's health, biofilm is disclosed to make it visible, allowing both the patient and clinician to identify well-maintained and neglected areas. This visual feedback is used to engage in motivational counseling and education to improve oral hygiene. The disclosed biofilm and calculus are then effectively removed using AIRFLOW[®] and implant-specific scaler tips, followed by scheduling the patient's next maintenance appointment.



<AIRFLOW[®] Prophylaxis Master> <AIRFLOW[®] Plus Powder>

(Source: EMS DENTAL KOREA)



▲ <Example of GBT (Guided Biofilm Therapy) using AIRFLOW[®] MAX>

PI Max: Implant-Specific Scaling Tip

The newly introduced implant-specific scaling tip, PI Max is highly effective for removing calculus around implants. This tip is designed to be slender, like a probe, and is made from carbon-containing PEEK material. It allows gentle insertion up to 3mm subgingivally, enabling maintenance from implant prosthetics to fixtures with minimal risk of damage. This ensures a pain-free experience for patients and makes it easier for clinicians to access hard-to-reach areas around implants.



▲ <PI Max scaler tip for implants and prosthetics>

(Source: EMS DENTAL KOREA)

GBT[®]: Setting a New Standard for Implant Maintenance

GBT[®] is an optimized tool for implant maintenance that goes beyond improving oral health; it plays a critical role in ensuring lifelong oral health. Both dentists and dental hygienists should take an active interest in using these tools. Even with busy chair time schedules, it is essential to implement maintenance programs and incorporate the latest technologies, such as AIRFLOW[®] and other advanced equipment, to enhance the effectiveness of implant maintenance. Regular dental visits and personalized maintenance education are crucial for a preventive approach to patient care. Implant maintenance should be recognized not just as a treatment but as an integral part of ensuring the lifelong health of both patients and dental professionals.



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