

→ Individually tailored operating protocol
in non-surgical periodontal therapy



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INDIVIDUALLY TAILORED OPERATING PROTOCOL IN NON-SURGICAL PERIODONTAL THERAPY

It is equally important the individually tailored management of NSPT (NON-SURGICAL PERIODONTAL THERAPY) treatments, choosing technologies which permit effective and minimally invasive periodontal debridement that is more comfortable for the patient and easier for the professional. This can be done by selecting safe and ergonomic instruments when managing treatment. *Combi touch* technology, used in the case report described below, offers a valid approach to NSPT. The *Combi touch* combines a multifunctional piezoelectric scaling tool with an air-polisher to provide a complete supragingival and subgingival prophylaxis treatment. The ultrasound unit, thanks to its "SOFT MODE", allows for ultra-gentle scaling, while also guaranteeing optimal performance with prosthetics and restorative treatments. The air-polishing unit allows for the use of two types of powder (sodium bicarbonate or glycine), depending on the desired treatment type. The greatest advantage is the ability to manage the use of both powders on the same patient with a simple click (Fig. 1). Furthermore, it is not necessary to change the air-polishing hand-piece. Instead, simply insert any one of the 3 available spray nozzles based on the desired clinical application.

Device maintenance is fast and simple, thanks to containers that can be removed without having to switch off the device, and an exclusive anti-clogging system for the powder. What's more, it can either be hooked up to the office's regular water system or used with a 500-ml external bottle.

CASE REPORT

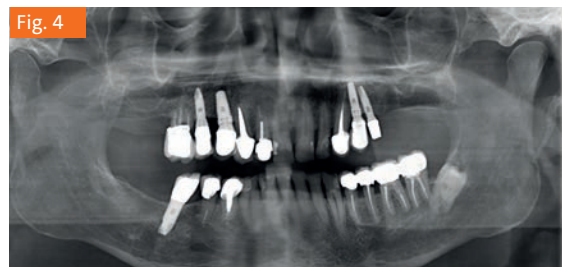
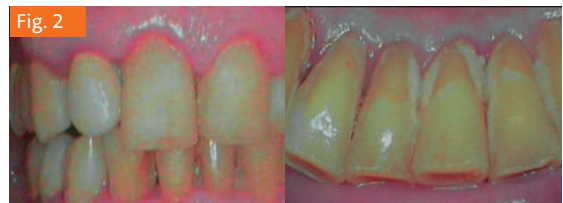
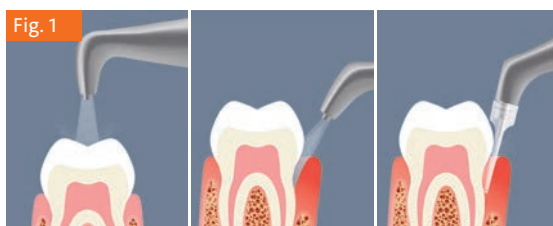
Let us examine the case of a male patient, 67 years of age, in apparent good systemic health, complaining of a feeling of gingival discomfort and unpleasant breath. Clinical observation involving the use of a video camera reveals the presence of bacterial biofilm and tartar in the interproximal spaces (Fig. 2). Patient's records show that, years ago, he underwent an implant-prosthetic rehabilitation and

Fig. 1: The air-polishing unit allows the use of three different nozzles according to the desired treatment.

Fig. 2: Clinical observation using a video camera.

Fig. 3: Initial situation.

Fig. 4: X-ray test.



that, as a result of a high level of bone resorption and the presence of infections, a decision had been taken to extract a number of dental components and replace them with implants (in areas 1.4 – 1.5 – 2.4 – 2.5 – 4.6.).

A physical examination revealed the presence of evident redness around the majority of the necks of the teeth, with a large quantity of bacterial

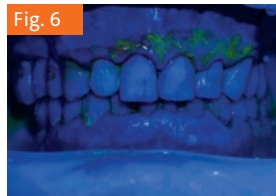
biofilm, chiefly along the interproximal surfaces (Fig. 3). Although no signs of abrasion were visible on the tooth surfaces, signs of wear were however evident along the incisal edge of components 4.3 - 4.2 - 4.1 - 3.1 - 3.2 - 3.3, with loss of verticality and of canine guidance, as well as excessive lateral excursion.

X-ray results (Fig. 4) revealed horizontal bone resorption across all 4 quadrants, with the anterior areas, top and bottom, being the most affected. With the exception of the third quadrant, the molars and premolars had been extracted and replaced with implants. This led us to the hypothesis that, since the accumulation of plaque and tartar always begins at the lingual/palatal level of the molars, the periodontal damage and resulting bone resorption had probably reached such high levels that the previous operator had been forced to adopt that type of rehabilitative strategy.

NSPT

In order to provide a broader operative field and greater patient comfort, a lip and cheek retractor was used.

A tongue cleaner was inserted (Fig. 5) in the saliva ejector tube. After having cleaned the surface



of the tongue, the plaque index was measured using a fluorescein disclosing agent (Fig. 6).

At this point, the *Combi touch* (Fig. 7) device was used to perform clinical deplaquing.

Glycine powder was used with the 120° spray nozzle for deplaquing of the posterior area. The angle of this spray nozzle makes it possible to perform effective deplaquing, even in cases when the operator is faced with difficulties arising from unusual anatomical structure of the soft tissues, odd tooth positions, or the presence of prosthetic components in areas that are difficult to access.

In order to remove particularly stubborn dental pigmentation, a 90° spray nozzle was mounted on the same handpiece, this time using sodium bicarbonate powder, which is particularly effective for the removal of such pigmentation (Fig. 8) and for the decontamination of occlusal surfaces, thanks to a special jet that protects gingival tissue.



Fig. 5: A tongue cleaner was inserted in the saliva ejector tube.

Fig. 6: Plaque index measurement using a fluorescein disclosing agent.

Fig. 7: Use of *Combi touch* to perform the clinical deplaquing of posterior areas with glycine powder and 120° spray nozzle.

Fig. 8: In order to remove particularly stubborn dental pigmentations, a 90° spray nozzle was mounted on the same handpiece, this time using sodium bicarbonate powder.

Fig. 9: Thanks to the combined *Combi touch* technology, the operator can then move on to gentle scaling with the use of the S1 insert in "SOFT MODE".

While air-polishing was underway, an instrument was used which made it possible to eject the saliva and the particles of bicarbonate or glycine, avoiding the dispersion of infected aerosol droplets. The patient was very happy with the *Combi touch* system, thanks in part to the fact it has a system for heating the water to body temperature, thus ensuring maximum comfort during use.

It is important to perform deplaquing before probing, in order to prevent bacterial transmigration between sites. If there are exposed root surfaces, deplaquing is performed using glycine powder, which is biocompatible, finely micronized and can be used on delicate gingival tissue. Sodium bicarbonate powder, on the other hand, is reserved for the most stubborn acquired discolourations. When using, keep the device in constant motion at a distance of 4-5 mm from the tooth surface.

Thanks to *Combi touch* technology, which combines air-polishing and ultrasound technology in

a single device, the operator can then move on to gentle scaling with the use of the S1 insert (Mectron S.p.a., Italy) in "SOFT MODE" (Fig. 9), which reduces the insert's oscillation amplitude, rendering its motion compatible with even the most sensitive of patients.

Fig. 10: Thanks to the periodontal probing it is possible to identify > 5 mm pockets in various sites.



Fig. 11: Decontamination of periodontal pocket > 5 mm with the use of perio nozzle and disposable sterile subgingival perio tip.



Fig. 12: At-home oral hygiene using an interdental brush to clean hard-to-reach interproximal spaces effectively and with very little trauma.

Fig. 13: For an effective plaque control, it is recommended a toothbrush suitable to any structural and anatomical needs.

Fig. 14: A check-up performed 2 weeks later showed significant improvement of clinical indices.

Fig. 15: Final result.

The next step following deplaquing is periodontal probing (Fig. 10), in order to identify > 5 mm pockets in various sites. These sites are then decontaminated using the 120° perio nozzle, on which the disposable sterile subgingival tip has been manually mounted, making it possible to enter the periodontal pocket in a minimally invasive fashion. The tip is made to be soft, flexible and anatomically adaptable to the pocket. It is used only with glycine powder, using small movements inside the pocket to decontaminate the site (Fig. 11).

AT-HOME ORAL HYGIENE

The proper manner of using at-home oral hygiene instruments was demonstrated to the patient. He will need to use an interdental brush (Fig. 12), which is used in place of dental floss to clean hard-to-reach interproximal spaces effectively and with very little trauma. For effective plaque control, he was recommended a toothbrush suitable to his structural and anatomical needs, in order to provide effective cleaning under and along the gum line and in his interdental spaces (Fig. 13). For chemical plaque control, it was recommended to use a mouthwash containing



0.06% CHX + 0.05% CPC and GUM Paroex Gel twice a day. A check-up performed 2 weeks later showed significant improvement of clinical indices (Fig. 14). The patient, satisfied and motivated by the professional advice received, understood the importance of following the at-home operating protocols. Patient was scheduled for regular follow-ups every 3 months.

CONCLUSIONS

Combi *touch* technology made it possible for the operator to decontaminate the oral cavity in an effective manner (Fig. 15), due to availability of spray nozzles with different angles (90° or 120°), which could be used as needed, with the advantage of being able to work in an ergonomic fashion, easily reaching all necessary sites while always using the proper fulcrums, or finger rest positions, and without putting a strain on the carpal tunnel.

The greatest advantage for the operator, therefore, is that the technology in question provides a complete set of tools for effective, fast and minimally invasive NSPT, even in periodontal pockets deeper than 5 mm.

