

Implant maintenance care solution

By Dr Olivier Carcuac, Sweden

Proper monitoring and maintenance are essential to ensure the durability and health of a dental implant. The long-term success of implants is fundamentally dependent upon both the patient's maintenance of effective home care and on the dental team's administration of professional prophylaxis procedures in the dental office.

Implant maintenance care programme

Proper monitoring and maintenance are essential to ensure the durability and health of a dental implant. Following the completion of the surgical and prosthetic procedures in implant therapy, it is imperative to inform the patient about how to carry out self-performed infection control procedures.

The long-term success of implants is fundamentally dependent upon both the patient's maintenance of effective home care and on the dental team's administration of professional prophylaxis procedures in the dental office¹⁰.

Professional infection control procedures are necessary to achieve long-term success of our implant treatments⁶ and include the removal of hard and soft bacterial deposits on implant and suprastructure components with scalers.

Great care and caution should be practiced when cleaning the dental implant and the instruments to be used should ideally be capable of removing efficiently the bacterial deposits without altering the implant surface, the implant components and the surrounding tissues⁷⁻¹².



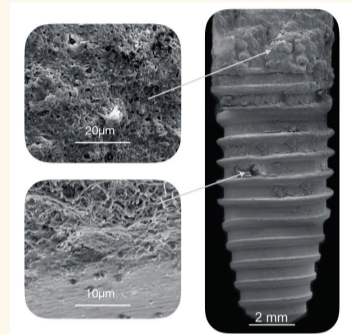
In this context, it is imperative to highlight that deep instrumentation, such as "subgingival debridement" that normally is performed around teeth, is not recommended in non-surgical treatment of peri-implant disease. The reason for this difference in strategy is related to the geometry of the implant device with its threaded part and other obstacles to access. The risk of causing injury to the inflamed tissues when performing "blind" instrumentation must be emphasized.

Debridement of implant surfaces

Hand curettes of different materials have been proposed as instruments for removing bacterial deposits of

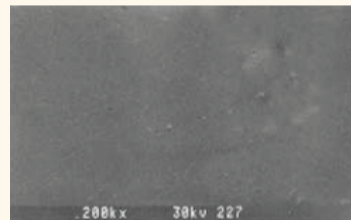
the supra- and subgingival peri-implant areas.

Among these instruments, plastic, carbon fiber, stainless-steel and titanium curettes are included. Some studies have been performed to evaluate these different materials regarding to their cleaning efficacy and potential of alteration of the implant surface and prosthetic component, which could affect its biocompatibility, biofilm formation and therefore the implant longevity^{3,4,8}.

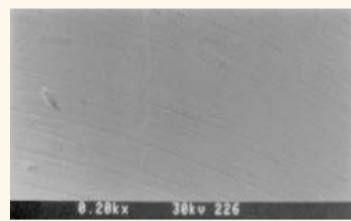


Effects of hand instruments on the implant surface

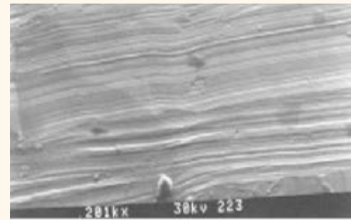
SEM investigation of instrumented titanium implant surface shows significantly less scratching caused by titanium curettes compared to other commonly used metal curettes and sonic insert⁹.



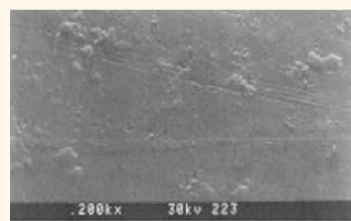
Control: untreated implant surface



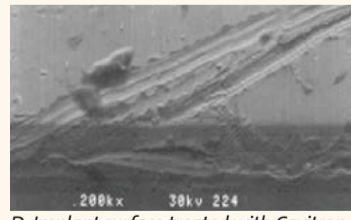
A: Implant surface treated with Titanium curette



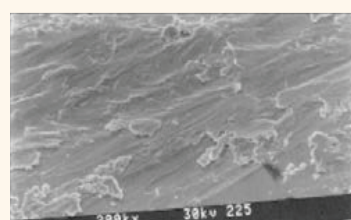
B: Implant surface treated with stainless-steel curette



C: Implant surface treated with plastic curette



D: Implant surface treated with Cavitron ultrasonic scaler with universal insert

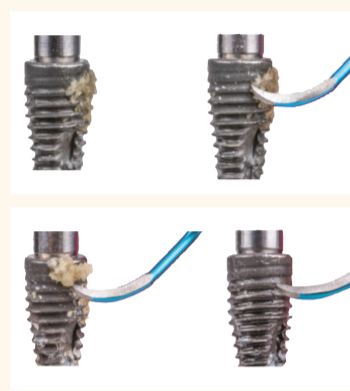


E: Implant surface treated with Denso sonic scaler with universal tip

Benefit of the titanium implant scalers

- Efficient removal of the bacterial deposits^{11,13}.
- Gentle on titanium implant surfaces.
- Unlike plastic scalers, titanium scalers don't leave contaminants on the treated implant surface⁸.

To avoid alteration or scratching of the implant's surface, the practitioner should use very light pressure, approximately 30 grams, during maintenance scaling procedures.



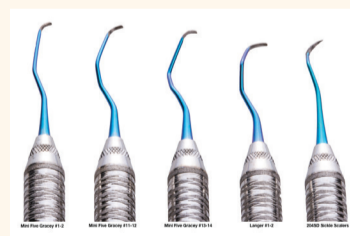
Hu-Friedy titanium implant scaler & curettes

The new Hu-Friedy Titanium Implant Scalers are expertly designed and manufactured for implant maintenance, debridement, biofilm removal and can be used both supra- and sub-gingival.

- **Improved visual acuity and enhanced contrast** to the abutment surfaces with Hu-Friedy's signature teal-colored anodized titanium
- **Optimized sharpness** with cutting edges that are finely honed and sharpened post anodization process
- **Made from the same titanium alloy** as implants and abutments, the working ends are gentler on these delicate surfaces than stainless steel.
- **Increased instrument value** with the ability to be sharpened at any time.

The new line of Titanium Implant Scalers proposes a range of titanium curettes with different shape and profile in order to address all kind of clinical situation.

The Titanium Implant Scalers kit includes:



When should Hu-Friedy implant scaler and curettes be used?

During Maintenance



During the maintenance visit, all surfaces that can accumulate deposits and harbor bacteria are cleaned, scaled and polished thoroughly. These surfaces include the prosthetic suprastructure, the prosthetic abut-

ment-to-implant collar connection and sometimes implant body.

Attention and care are required from the clinician during instrumentation and cleaning of these surfaces in order to prevent any damage of the delicate peri-implant biological seal. Upon insertion of the instrument, the blade will be placed close against the abutment and then opened past the deposit. With a light pressure, a vertical, horizontal, semi-circular or oblique stroke will then be applied to remove all hard and soft bacterial plaque and calculus from the abutment or implant, the surface can be polished with rubber cups to prevent additional plaque accumulation¹⁴.

During non-surgical treatment of peri-implant mucositis and initial peri-implantitis



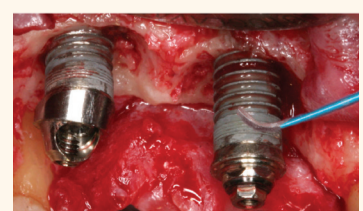
All subjects who present any signs of peri-implant disease should be thoroughly informed about the disorder and instructed on how to carry out self-performed infection control.

Whether the disease is mucositis or peri-implantitis, the initial phase of therapy must always include professional infection control procedures. The main objective is to remove peri-implant biofilm and calculus with scalers, without altering the implant surface, with the goal of re-establishing a healthy peri-implant mucosa⁵.


The treatment of peri-implantitis requires often but not always surgery. The purpose of surgical therapy is to provide access for debridement and decontamination of the implant surface^{1,2}.

Whenever possible, the suprastructures are removed to facilitate the accessibility around the diseased implants.

During surgical treatment of peri-implantitis



Following local anesthesia, full-thickness flaps are elevated on the buccal

and lingual aspects of affected implants. Inflamed tissue is removed, and titanium-implant curettes are used to remove hard deposits on implants. The implant surfaces are then decontaminated with saline for 2 min. Osseous recontouring is performed when indicated, and flaps are adjusted and closed with single interrupted sutures¹. 

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Editorial note:

A list of references can be obtained from the publisher.

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