Two Keys to Periodontal and Peri-Implant Treatment Success

Dental professionals play a key role in identifying periodontal and peri-implant infections in the oral cavity. Biofilm and calculus act as a trigger for pro-inflammatory response to induce a systemic effect that can result in infection and affect the overall health of the patient.¹

Fortunately, new research, technology, and products have emerged for biofilm and calculus removal—the keys to successful periodontal and peri-implant treatment—to answer this challenge.

Studies show a link to biofilm and oral systemic diseases.¹² Too often as dental professionals we view only identifying and removing calculus as our main goal for maintenance procedures. Instead, we need to think in terms of biofilm and calculus removal—two very different procedures—on every periodontal and peri-implant maintenance appointment.

Periodontal and peri-implant disease are defined as inflammatory reactions to a chronic bacterial infection that affects the tissue and bone on teeth and implants. The immune inflammatory process associated with periodontal disease leads to apical migration of the epithelial attachment and, ultimately, to loss of periodontal soft and hard tissue.

Implants have rough and porous surfaces that hold more biofilm and microbes than smooth surfaces, making removal of biofilm and calculus critical elements in peri-implantitis prevention.²
Maintenance and treatment

Ideal comprehensive maintenance for periodontal disease starts by placing an OptraGate lip and cheek retractor, which protects the patient’s lips and tissues and allows the clinician visible access to the teeth and/or implants for treatment.

OptraGate comes in three sizes: junior (pediatric), small and regular. The product is latex-free, and can be comfortably worn over long periods of time. To determine the correct size, hold the sizing guide up to the patient’s lips and follow the curve of the lips to see where they fall between the guide marks. If a patient falls between sizes, choose the larger size.

To place the retractor, grasp the thicker ring with your nondominant hand and compress it so wings form on both sides. Next, switch to the thumb and forefinger of your dominant hand and place the OptraGate in the corners of the patient’s mouth. Once the right corner is in place, insert the left corner in the patient’s mouth, then the upper and lower vestibular region. Make sure the patient’s mouth is relaxed and tabs are facing forward on the bottom (Figs. 1a–c). Have the patient close and adjust the OptraGate for comfort. Now the clinician can view the working area and have easier access to remove any biofilm or calculus that is present.

Periodontal disease treatment

Periodontal disease treatment starts with an OptraGate in place. Use a subgingival air-polisher with a specialized subgingival tip and Perio glycine powder (25 microns) to remove any biofilm present. Gently insert the tip subgingivally until resistance is felt, then move back slightly and activate the tip for five seconds per site, six sites per tooth, to effectively remove any biofilm present.

Next, debride the affected teeth using an ultrasonic (magnetostrictive or piezo) and pick three universal or Gracey curettes, followed by the Queen of Hearts hand instrument by PDT to be sure all the calculus is removed (Fig. 2).
After calculus removal is complete, use an ultrasonic on the lowest power setting to allow the water to spray and lavage the treated area to remove any debris present. Dry the area with short air blasts and apply a varnish such as Cervitec Plus, a clear antimicrobial varnish by Ivoclar Vivadent with 1 percent chlorhexidine and 1 percent thymol, to create a shield of long-lasting protection. Insert the applicator into the varnish dose unit and place varnish on each tooth surface as deep as the applicator will go to protect the at-risk areas (Figs. 3a–b).

**Peri-implant disease treatment**

Peri-implant disease treatment also starts with an OptraGate in place. Then, use a subgingival air polisher with Perio glycine powder to remove any biofilm present. The European Association for Osseointegration’s 2012 consensus paper concluded that subgingival air polishing can be a helpful addition to clinicians’ efforts to prevent peri-implant disease and can nonsurgically treat peri-implant mucositis.

The next step is to assess whether calculus or residue is present on the implants. If so, use a biocompatible titanium implant scaler such as Wingrove Implant Scalers by PDT to debride the implant or restoration (Fig. 4). Complete by using an ultrasonic on the lowest power setting to lavage the treated area and remove any debris present.

Polish the natural teeth, restorations or prostheses only with a soft-rubber cup and nonabrasive polishing paste such as Proxylane prophylactic paste by Ivoclar Vivadent. The perimucosal seal surrounding the implant is more sensitive than gingival tissue around natural teeth; therefore, it’s recommended that implant-supported restorations be polished with a pumice-free polishing paste, such as Proxylane fine paste.

Rinse after polishing, use short air blasts to dry the area, and apply Cervitec Plus varnish as deep as the applicator will go to protect the at-risk areas. Cervitec Plus varnish is biocompatible with titanium implants and prevents colonization of S. aureus on implants that can result in peri-implantitis (Figs. 3a–b and 5).

**All the tools you need**

The guidelines, tools and products are readily available to treat periodontal and peri-implant disease. According to the American College of Prosthodontists’ 2016 clinical practice guidelines for recall and maintenance of patients with tooth-borne and implant-borne dental restorations, recall needs to be provided by a dental professional at least every six months. In addition, the guidelines recommend using instruments compatible with the type and material of the implants, abutments and restorations, and powered instruments such as the glycine powder air-polishing system.

Provide your patients with optimal periodontal and peri-implant therapy, which should include an effective home-care protocol of daily biofilm removal for an overall health benefit.