

RESPONSIBLE RESTORATIVE DENTISTRY: Creating sustainable protocols for implants

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More than three million dental implants are placed annually in the United States.¹ Dental hygienists are tasked with helping patients understand how to best preserve their implants and optimize their longevity.

Therefore, we need to consider the type of hand instruments we use for debridement, the air-polishing devices and powders we use supra- and subgingivally, the home care products that support a balanced pH, key risk factors for implant failure, and how to best assess patients. Restorative dentistry has advanced tremendously over the last five years, and our success in maintaining implants is dependent on using the best solutions available.

Biofilm: The villain of the mouth

As a self-proclaimed saliva nerd, I love incorporating salivary testing into my patients' preventive appointments. With more than 700 different bacteria in the oral microbiome, it plays a critical role in the oral and systemic health of patients.

There's been a shift in mindset, from a focus on calculus removal to biofilm removal. Of course, removing both is important, but the evidence shows the true pathogenicity comes from the biofilm. High plaque scores in patients are linked to both peri-implant mucositis and peri-implantitis, ranging from 24% to 65% of patients.²⁻⁶ We must educate patients to achieve biofilm removal around technique-sensitive areas such as implant restorations,

especially the All-on-4s where plaque can easily reside.

Chairside debridement

I remember the first time I attempted to debride a titanium implant with a plastic instrument. It's as though my hygiene school instructor was standing over me whispering, "Gentle pressure," but no matter what I did with that plastic instrument, I wasn't eliminating the biofilm. Not only that, but plastic instruments can leave plastic debris that firmly attaches to the surface, melts into the threads, and compromises the longevity of the implant.⁷

Since that revelation, I've been implementing a titanium scaler for titanium implants, like the titanium implant scaler from HuFriedyGroup, or their Plasteel scaler, which is a high-grade, unfilled resin that causes the least amount of alteration to implant abutment surfaces.

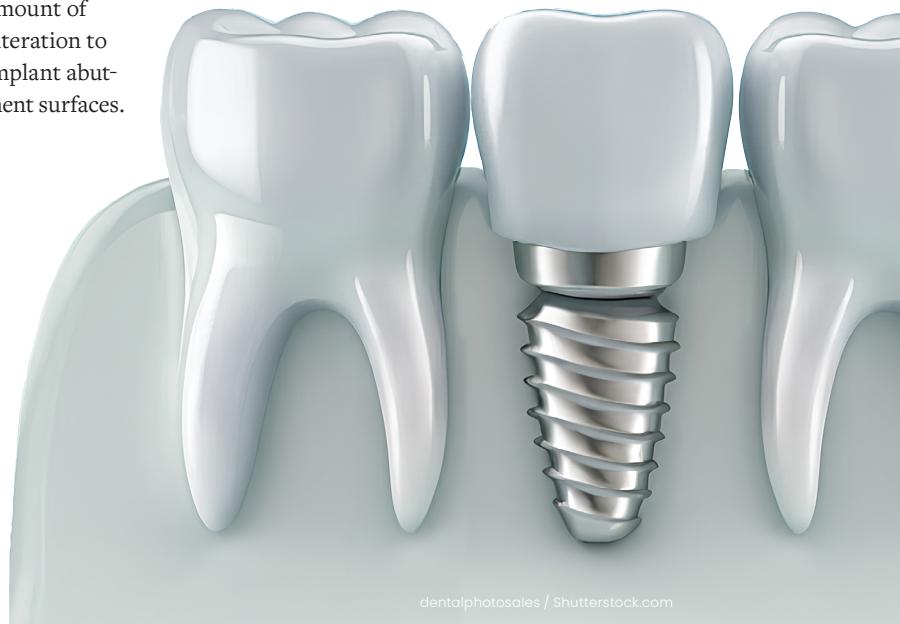
The most effective way to clean implants

There's a better way: subgingival air polishing around implants can be completed safely with a glycine powder or an erythritol powder. In vitro tests on titanium surfaces found that just a five-second GPAP application reduced biofilm load by 94%, an 8.5-fold reduction compared to untreated controls.⁸

Studies show bacterial populations such as *Porphyromonas gingivalis* are reduced for up to 90 days after treatment!⁸ The best part is that I don't struggle to remove the sticky biofilm from around implant-retained dentures, and patients are more comfortable. I have more time to educate about home care, and the delivery mechanism allows for warm water and the glycine to be used at the same time for optimal patient experience and bacterial decontamination.

PWR Pair technology

I've been implementing air-polishing devices since 2011, testing tabletop units and an air polishing handpiece. When most of us hear "air polisher," we think of a device that feels like sand shooting at the tissue—uncomfortable, salty, and messy! However, the new age of air polishing has shifted from



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stain removal only to a biofilm removal approach. The unique offerings of the PWR Pair allow the unit to have constant air flowing through the air polishing side, which prevents clogging.

Additionally, the water warms as you use the unit, which creates a much better patient experience as I gently debride the mature plaque on the lingual of No. 31 and the distal buccal of No. 15. The device has two chambers that allow the clinician to choose what powders to use and then easily switch between them, creating the ultimate clinician autonomy!

There's no survey requirement, extensive maintenance fee, or specific steps that you need to follow. You're in the driver's seat to choose the best, safest, and most effective for each patient.

Responsible dentistry

If patients don't understand the role of biofilm in the long-term outcomes

of their hard and soft tissue oral diseases, compliance will be an issue. Therefore, responsible dentistry begins with educating patients on the state of their disease level and then implementing the best technology to meet the optimal outcome.

The technology we use to remove hard and soft tissue deposits can transform the patient experience, soft tissue outcomes, and long-term success of dental implants. Air polishing is integral to that experience and outcome, and I believe that all dental hygienists should be implementing it into their regular restorative maintenance routine. **RDH**

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