



Let's Up Our IMPLANT MAINTENANCE *Game*

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IN MAY 2022, APPLE DECLARED “the end of an era of portable music devices” and discontinued the iPod.¹ This announcement gave Apple the opportunity to educate consumers on new music streaming services. Letting go of obsolete products and moving forward with more effective technology is something the dental industry might do more of.

The other day, I was covering the hygiene patient schedule at an office I had not worked in before. When you do temp work, you have no control over

IT'S TIME WE
ADD NEWER TOOLS
AND DISCARD THE
OBSOLETE

the instruments provided. My last patient before lunch had a dental implant. I asked the office what they used for the implant kit, and I was given classic old-school universal plastic instruments. Similarly, when I was a patient at my periodontist, I asked my dental hygienist what she uses on dental implants. First, she said that she uses her air polisher. Then, she pulled out plastic scalers and said, “I also use these.” And then she said, “I hate them.”

When I was in dental hygiene school in the

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60%

OF DENTAL HYGIENISTS SURVEYED IN 2020

reported using plastic instruments to treat patients with dental implants, but **less than 7%** said plastic instruments were effective.

Source: Journal of Dental Hygiene

mid-1980s, I remember learning about plastic scalers for implant maintenance. The plastic was soft and therefore would not damage the smooth titanium implant surface. Even back then, we knew that the plastic instruments were too thick and flexible to be effective in removing calculus. According to a 2020 *Journal of Dental Hygiene* survey regarding which instruments hygienists use on dental implants and their effectiveness, 60% of participants reported using plastic instruments, but less than 7% said that plastic instruments were effective when treating patients with dental implants.²

If the goal of implant maintenance is to remove biofilm, then the use of an air polisher with erythritol or glycine is ideal. The use of a rubber cup with fine silicate neutral pH polish or a safe, ultrasonic or piezo scaler made of biocompatible titanium or PEEK and set on a low-power lavage setting are also safe options to remove biofilm from dental implants.³

Around the year 2000, research demonstrated the benefits of increasing surface texture on titanium dental implants. These benefits included faster thrombocyte attachment, faster osseointegration, and fewer implant failures. As a result, the manufacturers who initially introduced smoother machined implant surfaces changed the texture to a moderately rough surface with the introduction of sandblasting and anodization.^{4,5} Studies have demonstrated plastic to be the least damaging to the moderately rough implant surface. However, residuals of that same non-biocompatible plastic were found to be left behind on the implant surface. The use of non-biocompatible plastic or unfilled resin instruments is now discouraged.⁶

We also now know the use of titanium scalers with a Rockwell hardness of 28-30 are effective in calculus removal and have been demonstrated to be safe and

biocompatible with dental implants.⁶ In my view, it's time we consider moving beyond plastic scalers.

The reality is that plastic instruments—and hard toothbrushes, for that matter—are still available for purchase because customers still buy them. Just as we see with hard toothbrushes, those who are unfamiliar still purchase the plastic scalers. When we become informed we make better decisions on what to use. However there are still manufacturers and sales teams who see these items as novel or niche products that bring in profits. And clinicians who do not treat many implant patients will order the least expensive options. Even when more appropriate instruments are purchased, the plastic instruments

are often not removed from office inventory.

Disruptive technology is exciting for product launches, but the sheer number of distributors and varying levels of knowledge regarding current clinical research on products and instruments means that it is challenging for the dental industry to leave behind products that have been shown to be ineffective. I would like to suggest to the manufacturers of both plastic instruments and hard toothbrushes that they follow Apple's example, acknowledge the obsolescence of these products, and focus instead on current, more effective implant maintenance solutions.

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