During my career in dentistry, I have seen patients successfully maintain their restorations for more than 40 years. Other patients have needed replacement or repair in less than 5 years. Why is there such a tremendous range? Obviously, the lifespan of a restoration has a strong correlation to its original fabrication quality. But professional dental oral maintenance plus home care by the patient can greatly influence the lifespan of restorations as well. This article addresses the basic elements of a successful hygiene maintenance program, including the patient’s home care regimen and the role of the dental hygienist and dentist.

**Pretreatment**

An effective program of oral care must be established before restoring teeth, so the patient’s soft tissue health is in the best possible condition before initiating restorative treatment. Failure to provide the patient with an appropriate pattern of home hygiene routines will surely result in eventual problems, postoperatively. Therefore, patient education should consist of an understanding of the patient’s role in the success of the restorations, as well as commitment to professional maintenance visits. A thorough home care regimen must be explained, understood, and agreed upon before initiating restorative therapy. Otherwise, whatever esthetic restorations you are planning are certain to be compromised with much less than normal life expectancy. The authors believe the patient should be taught the concepts and importance of brushing, flossing, dentrifice selection, and use of an electronic plaque removal instrument for home care.

**Professional dental oral maintenance plus patient home care can greatly influence the lifespan of restorations.**

**Post-Treatment Visit**

Once the patient’s final treatment is complete, a post-treatment visit is essential for two primary purposes: first, to check that all excess cement has been removed, that all margins are smooth, and that all interproximal areas are easily reached by floss; and second, to make certain the soft tissue has properly healed. If not, the patient must schedule additional post-operative visits. Patients may need site-specific home care instructions, or a rough area may need to be smoothed by the dentist. These areas should be noted and carefully monitored to ensure healing and a return to optimal tissue health.

**Use of The Intraoral Camera**

Another important part of the postoperative visit should be final photographs and an intraoral camera tour of the mouth. The dentist’s final photographs and the intraoral examination serve as a tissue and tooth restoration baseline for future successful maintenance of the patient’s esthetic dentistry. For example, the dental hygienist should use an intraoral camera to effectively show the patient the fine details of new restorations. Because patients cannot see the lingual aspect and especially interproximal margins, the intraoral camera enables an enlarged view of the area so patients can truly see and understand the need to floss and to brush the often neglected “tongue side” of their teeth. Intraoral images can effectively show patients where they may be leaving plaque or accumulating stain. A hand mirror simply does not allow the patient to focus on the inflammation present. When you enlarge the specific site to a full 15”-to-21” video image, it is extremely effective for the patient to clearly see the inflammation caused by undisturbed plaque.

**Radiographs**

After restorative therapy, radiographs should be taken based on each patient’s specific needs or clinical complaints. If a patient reports that an area has become sensitive, it could be caused from cement wash-out or decay, so it would be advisable to take a bitewing x-ray of the area to assess the cause of discomfort and treat it accordingly.

Digital radiography may be the treatment of choice for this, because it uses far less radiation than traditional radiography, it is easy to use, and gives an immediate visual result. Detecting and eliminating small problems at the postoperative visit (such as excessive cement) can help to avoid larger problems later, such as recurrent decay or tissue inflammation.

Traditionally, four horizontal bitewing x-rays of posterior teeth are taken annually. However, three vertical bitewing x-rays of the anterior teeth are helpful for monitoring a patient’s anterior restorations, whether they consist of composite resin bonding, porcelain laminate veneers, or crowns. A series of seven (four posterior and three anterior) vertical bitewing x-rays provides a

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Dr. Goldstein also serves as adjunct professor of restorative dentistry at the University of Texas Health Science Center, adjunct clinical professor of prosthodontics at the Henry M. Goldman School of Dental Medicine, Boston University, and visiting professor of oral and maxillofacial imaging and continuing education at the University of Southern California School of Dentistry. Dr. Goldstein is the author of Change Your Smile and Esthetics in Dentistry.

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**Guest Coauthor**

Kimberly J. Nimmons, RDH

Kimberly J. Nimmons is both a certified dental assistant and registered dental hygienist. For the past 17 years, she has worked in both capacities in Dr. Ronald Goldstein’s group practice in Atlanta, Georgia.
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better view of interproximal areas for possible decay detection and to check for bone loss. Finally, a full-mouth radiograph series should also be taken every 2 to 5 years, depending on your patients’ needs.

**Reinforce Techniques**

After seeing their new smiles, some patients tend to become obsessive about oral hygiene care. This desire to protect their investment can be a unique window of opportunity for the hygienist to teach proper oral hygiene. Many of these patients can become keenly interested and highly motivated to become experts at oral care. Conversely, this new obsession with oral hygiene, along with an improper brushing technique or use of the wrong products, may cause tissue damage, recession, or root surface abrasion at restoration margins. Therefore, the postoperative hygiene visit is a perfect opportunity to thoroughly review and reinforce homecare techniques and products. Patients really should be able to demonstrate to the hygienist that they have mastered the technique for thorough plaque removal and understand the recommended products.

**Oral Care Products**

The hygienist in an esthetics-oriented dental practice should always recommend oral care products that are compatible with esthetic restorative materials. For instance, the toothpaste should be nonabrasive, contain fluoride, and work well on a mechanical toothbrush. Rembrandt® (Den-Mat Corporation) is one example of a nonabrasive toothpaste specifically formulated for use with esthetic restorative materials. Mouth rinses should be mild and nonstaining with antibacterial properties.
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tal floss is also helpful, as it contains a silica coating that gently polishes away interproximal stain accumulations.

Although there are several effective electronic toothbrushes, we normally recommend the use of a site-specific instrument to be used at least once during a 24-hour period. The Rota-dent® (Pro-Dentec®) plaque removal instrument is an excellent tool to ensure thorough daily plaque removal and correct application of medications such as fluoride (Figures 1 and 2). The Rota-dent® is a site-specific patented microfil-
mament instrument that is less abra-
sive than traditional bristle brush-
es. Patients with esthetic restora-
tions should be cautioned about the potential of sonic devices, which could cause loosening of cement or bonded materials. Also, the vibration effect of a sonic brush decreases some patients’ tactile sense, and they may be less likely to achieve proper bristle placement and therefore fail to eliminate plaque from around restoration margins. Therefore, patients who enjoy using a sonic brush should be encouraged to follow their brushing with disclosing tablets to make certain they have not left any undisturbed plaque. Patients who choose to continue using a manual toothbrush should be instructed in the gentle sulcular technique using only a soft brush.

The benefits of fluoride use are well documented and almost universally accepted in the dental profession, but its application becomes even more important for a patient with esthetic restorations. Daily fluoride supplementation is advisable to help prevent recurrent decay at margins and in maintain-
ing tissue health. A prescription fluoride for home use should be easy to apply and pleasant-tasting to help ensure patient compliance. A fluoride gel that incorporates a nonabrasive dentifrice, such as Pro-Dentex® (Pro-Dentec®), fur-
ther increases patient use, as patients can clean their teeth and apply the fluoride in one easy step. A 1.1% neutral sodium fluoride is the ideal product for an esthetic patient’s home use. It provides the benefit of fluoride without the risk of etching ceramic restorations or increased stain associated with other types of fluoride.

It is preferable to dispense fluorides at hygiene visits, so your patient’s use of fluoride can be closely monitored and docu-
mented, and ongoing patient education can be accomplished. A fluoride treatment or “loading dose” at the first postoperative visit and at subsequent hygiene appointments replaces the fluo-
ride removed during routine pol-
ishing and further reinforces fluoride use to the patient.

Another important aspect of oral home care is to warn the patient about the possible harm of breath mints, hard candies, and throat lozenges. Patients should be made aware of the car-

togenic producing effect of long-
term sugar exposure, which could decrease the life expectan-
ty of their restorations. Excellent daily plaque removal, use of the proper products, and an understand-
ing of caries prevention through diet can aid a patient in achieving the longest possible life from esthetic dental treatment.

ONGOING CARE

After the postoperative visit, a recare hygiene visit should be scheduled for a later date, so the hygienist can continue to review all recommended home care techniques, dispense products as needed, and maintain the recom-

mended recare frequency, in addition to the normal scaling and any other therapy required.

Restoration margins should be carefully inspected with an explorer at each hygiene appointment. One simple tech-
nique to check margins is the use of a small surgical suction tip (Figure 3). The suction dries the tooth and gently pulls the tissue back just enough to give a direct view of the margin. The use of magnifying glasses (Designs for Vision, Inc. or Orascoptic Research®) can also greatly enhance your ability to see any marginal discrepancy.

The air polishing instrument (Cavitron® Prophy-Jet, DENTSPLY® Professional) is a valuable ad-

In Practice continued
David A. Garber emphasizes that it should not be used on teeth that have esthetic restorations, as it can cause aggressive ditching at the restoration/tooth interface. Therefore, your hygienist should be warned against the use of a Prophy Jet or similar device on any esthetic restoration, but particularly ceramic surfaces.

As an alternative, one product that is particularly beneficial in an esthetic practice is 3M ESPE’s Clinpro™ polishing paste with a “unique perlite abrasive.” The polishing particle starts out coarse to achieve stain removal, but breaks down during the polishing process to a fine paste. The result is a highly polished surface with no damage to teeth or esthetic materials.

Only by continuous monitoring and education in oral care by the hygienist can we hope to ensure long life of patients’ esthetic restorations. While standard prophylaxis visits are prescribed 2 or 4 times a year, a patient with extensive esthetic restorations may be advised to schedule even more frequent hygiene visits.

**Other Aids**

The dental world has never been lacking for new products to help our patients in their quest for better home hygiene. Whether you feel your patient requires the use of plastic or wood interdental stimulators, a home irrigator system, tongue scrapers, or any number of extra aids, is always an individual matter. If there is anything we have learned over our 60+ combined years of practice, it is that there is no one regimen that will satisfy 100% of patients. Only by being flexible, listening to our patients, and even letting them experience different home therapies can we arrive at the best method of protecting and giving longer life to esthetic restorations.

While oral health is always the focus of routine hygiene visits, for a patient with esthetic restorations, special emphasis and clinical techniques are essential to helping them maintain their esthetic dental restorations. And, although the quality of the treatment certainly enters into the formula for both esthetic and functional life, the key ingredient is the partnership of ongoing dual maintenance between the patient and his/her dental team.

The information in this article will appear in greater depth as part of a chapter on maintaining esthetic restorations in *Volume III of Esthetics in Dentistry*, authored by Ronald E. Goldstein, DDS, and published by B. C. Decker (to be available in 2003).