Retention Strategies: A Pilgrim's Progress

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When I began my professional pilgrimage more than three decades ago, Hawleys were the most commonly used retainers in both arches. Soon after, mandibular banded 3-3s or 4-4s became popular, and when orthodontists began to bond teeth, bonded mandibular 3-3s became quite common. I later tried using bonded maxillary lingual retainers, but they broke too often for me to rely on them routinely.

One of the most significant retention strategies I have used was introduced by Sheridan in this journal: the thermoformed Essix* retainer, which permits the clinician to incorporate small but important dental movements into the retainer design.[1] The Essix has proven versatile and effective, and I have prescribed it often.

Like all removable retainers, the Essix has one major defect—its permissibility. Sheridan stated his philosophy as follows: "When retention commences, my work is over. Given the circumstances, I have done my best, and now it is up to the patient to maintain the final result. I am the creator, not the guarantor, of the finished orthodontic product. I recognize my patients' right to discontinue retention, but they, not I, must live with and accept responsibility for their actions. I am, of course, disappointed when the results of my best efforts collapse, but this is not a problem unique to orthodontics among health-care professionals. I will not, and should not, assume any responsibility for the aftermath of non-retention."[2]

This sounded more than reasonable to me, because taking responsibility for retention ad infinitum had become less and less appealing. I had noticed that the patients who vexed me the most during active treatment were the ones who returned most frequently with broken 3-3s, expecting me to recement them without charge, since they were *my permanent retainers*. So it was not difficult for me to become an enthusiastic supporter of Sheridan's doctrine. Patients and their parents were finally going to have to share some of the accountability for the treatment result.

My assistants and I carefully explained this new approach to parents and patients, and all of them seemed to understand what we were saying. The retainers had to be worn as directed, and any deviation from the prescribed regimen carried the risk of relapse, which would be the responsibility of the patient.

Unfortunately, as Thomas Huxley once said, "The tragedy of science is the slaying of a beautiful hypothesis by an ugly fact." The ugly fact in my newly appropriated retention theory was that patients and parents still refused to take the responsibility for post-treatment consequences. Patients still returned with relapsed teeth that were clearly the result of not wearing or losing the appliances, and parents continued to defend their children's innocence with statements such as: "Oh, yes, he has worn those retainers faithfully, but they just haven't held the teeth straight." "I don't think that one tooth was ever straightened completely." "It is impossible for her to wear those things all the time."

Some parents, understanding the futility of enlisting the cooperation of their offspring in

*Trademark of Raintree Essix, Inc., 1069 S. Jeff Davis Parkway, New Orleans, LA 70125.

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endeavors such as orthodontic treatment or retention, ask specifically for fixed retention. They admit that the fault lies with their children, but they want a strategy that protects their investment rather than jeopardizes it. I have come to see that this position is not unreasonable.

Current Retention Regimen

I have recently developed an alternative retention plan that will satisfy patients and parents while meeting my own professional needs. I continue to use the molar-to-molar Essix retainer for the maxillary arch (Fig. 1). To promote better compliance, I now give each patient a complimentary syringe of tooth-bleaching gel to inject into the new retainer (Fig. 2).[3] A single syringe is not that expensive; if patients want more, we sell them additional supplies.

I instruct patients to use the gel about four hours per day (see the article by Sheridan and Armbruster in this issue for more specific instructions). When they receive the positive reinforcement of whiter teeth, they are more likely to use the retainers enthusiastically (Fig. 3). I am simply trying to make retainer wear attractive for them.

For the mandibular arch, I have designed what I call a combination ("combi") retainer: a 3-3 bonded .030" wire with the ends microetched to enhance adhesion. An Essix splint is thermoformed over the wire, used as a matrix for direct-

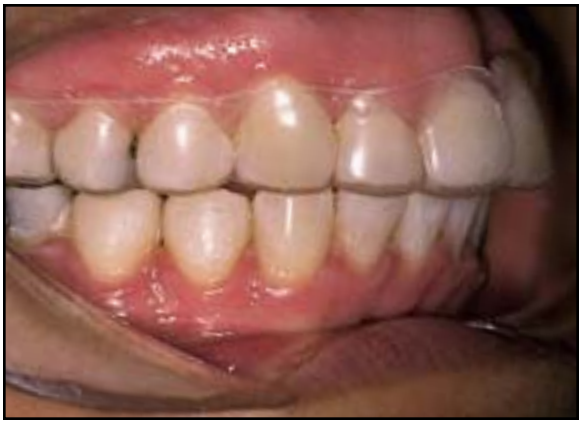

Fig. 1 Molar-to-molar maxillary Essix retainer.

Fig. 2 Tooth-whitening gel added to maxillary Essix retainer.

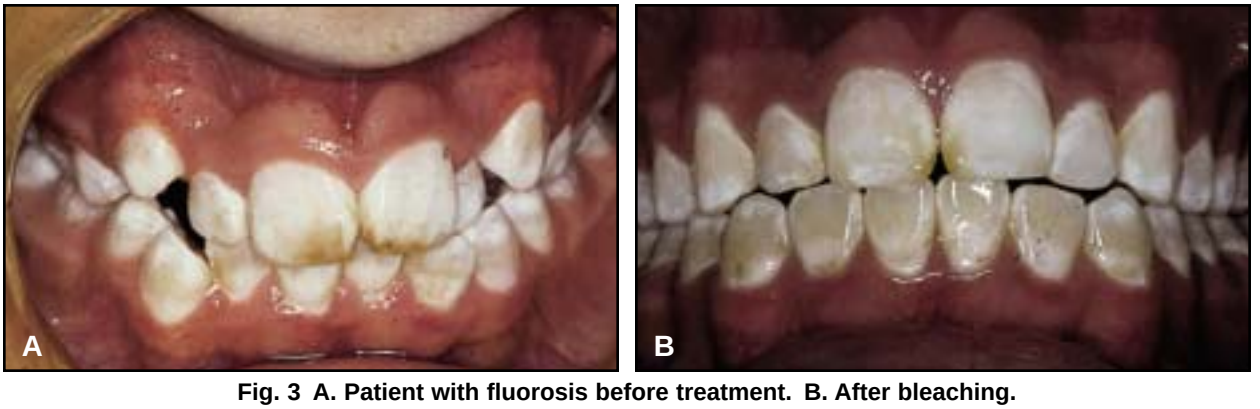

Fig. 3 A. Patient with fluorosis before treatment. B. After bleaching.

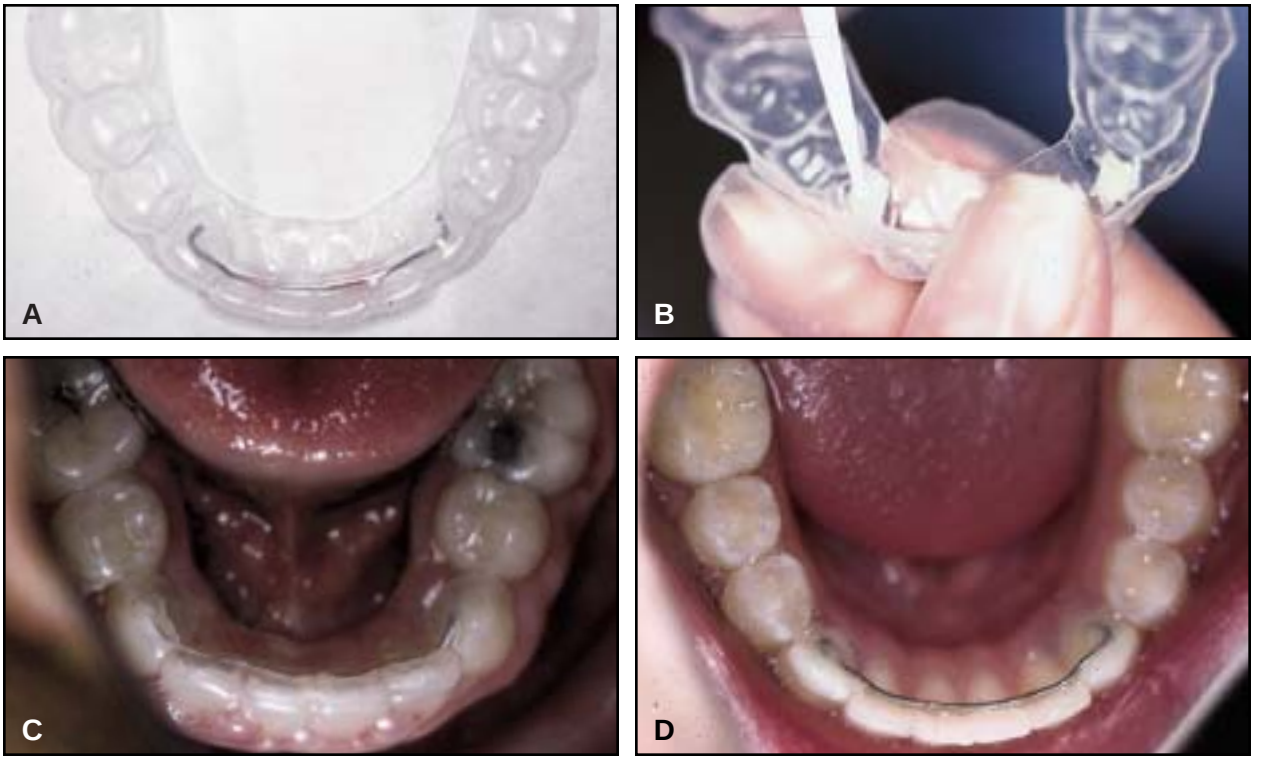

Fig. 4 A. Essix bonding matrix thermoformed over mandibular 3-3 .030" retainer wire. (Ends of wire are microetched to enhance adhesion.) B. Light-cured adhesive added to ends of wire. C. Matrix placed on mandibular arch. D. Bonded 3-3 retainer after removal of Essix matrix.**

bonding the retainer only to the cuspids, and then removed (Fig. 4).

I explain to the patient and parent that this simple wire will retain teeth quite well, but that it is only a matter of time before someone, somewhere, somehow, breaks the wire's bond to the teeth. Usually it will be a hygienist or dentist during a routine cleaning. If they want to continue using the 3-3, I will charge them a modest fee to reattach it. If they do not want to pay an additional fee, they can use the removable Essix as an alternative nighttime retainer. The mandibular Essix is an insurance policy that provides uninterrupted retention without added cost.

**Ultra Band Lok, trademark of Reliance Orthodontic Products, P.O. Box 678, Itasca, IL 60143.

Conclusion

So far this strategy seems to work well for everyone. The parents receive better protection for their investments, the patients have retainers they don't mind using, and the doctor isn't being asked to remedy the destructive behavior of others without compensation. In such a dynamic profession, I expect to find further improvements along my retention pilgrimage. For now, however, I will continue to use the maxillary Essix and the mandibular combi as my principal retainers.

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