Retention or Relapse—Is There a Better Way?

Relapse of corrected rotations and alignment has been a thorn in the side of orthodontists and patients for as long as such corrections have been made. It has been a disappointment that excellent corrections have been diminished by reappearance of one or all of the original imperfections. What may have been made perfect has been reestablished as imperfect. The more minor the malocclusion, the greater the implication of the relapse, and, sometimes, a questioning of whether it was worthwhile undertaking the treatment in the first place. In some instances, it has been decided not to treat the case for fear of relapse of a prominent component of the malocclusion.

To avoid a capricious deterioration of a well-executed correction, to protect an orthodontist’s reputation and his feelings about his self-worth and the worthiness of his work, and to satisfy the patient’s needs and desires in undertaking the treatment, most orthodontists have resorted to retention devices on virtually 100 percent of completed orthodontic cases. Discontinuation of these devices has either been unplanned, or based on some arbitrary time schedule to provide a certain maintenance period after which Nature would prevail, or by loss of retainer or loss of interest on the part of the patient. Many relapsed cases have been retreated, only to relapse again.

If correction of irregularity was the incentive for treatment, it is illogical to wind up with a similar irregularity after the expenditure of considerable time and money. There is an understandable feeling of guilt on the part of the orthodontist, as well as frustration and failure. On the patient’s part is a feeling that the treatment was inadequate, or a waste of time and money, or a feeling of guilt that they did not wear their retainer or that there is something wrong with them.

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This is a variation of "the operation was successful, but the patient died". We have the means to make perfect corrections, but, at least as far as rotations and alignment are concerned, those corrections have imperfect stability. Varying percentages of the correction may be lost in a significant percentage of treated cases, even following years of retention. Is there a better way?

Evidence has appeared in our literature that supracrestal fiberotomy is an effective procedure in reducing relapses of rotation and alignment to a significant extent. In cases that also have a tooth size discrepancy, reproximation is an additional effective procedure. References include Edwards (Proceedings of the Foundation for Orthodontic Research, 1978), Boese (Angle Orthodontist, April and July 1980), and Ahrens, Shapira, and Kuflinec (AJO, July 1981). The reduction in relapse reported is so great that one might think these procedures would be routine in orthodontic practice. Yet, while a great many orthodontists resort to reproximation, it seems that only about 5 percent use supracrestal fiberotomy.

There may be numerous causes of relapse in addition to the influences of supracrestal fibers and tooth size discrepancies, and it should be emphasized that supracrestal fiberotomy and reproximation are no cures for incorrect diagnosis or for poor, inadequate, or incomplete treatment. It should also be clear that reproximation is not a substitute for supracrestal fiberotomy.

For that portion of relapse that can be attributed to distortions of the supracrestal fibers, retention could be reduced to almost zero if a proper supracrestal fiberotomy were performed. Since retention seems to be to a great extent concerned with controlling this source of relapse, and since the fibers do not seem to reorganize themselves in an appropriate way, one must conclude that orthodontists are spending a great deal of time on an expedient procedure that, at best, may mask a problem for which there is a better solution.

More is being learned about the biology of connective tissue, and it is conceivable that there will one day be chemical controls for rotation and alignment relapse. Until that day, supracrestal fiberotomy appears to be an effective procedure, and one that is simple and accepted by patients when it is properly explained and performed. As all the authors have said, supracrestal fiberotomy is not a panacea, but its contribution to stability is such that it should be considered for any well-treated case in which there has been significant rotation or labiolingual movement in the course of the correction.

Supracrestal fiberotomy should not be performed without careful study of the procedure. More than one operation has been advocated, but the common denominator is a concern for the integrity of the gingival attachment. There is also a recommendation that the procedure should be avoided in the presence of plaque and inflammation, and areas with thin attached gingiva such as the midlabial areas of lower incisors and cuspids.

One final word—orthodontics must be concerned with its public image. That image is not being enhanced by frequent relapse and long, indefinite, or permanent retention. While we may not throw away our retainers, we can at least stop retaining a factor that can be eliminated. The resulting improved stability and patient relations will be a huge step forward for the individual orthodontist and for the specialty.
Fiberotomy, following orthodontic correction of rotations.

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