

## THE EDITOR'S CORNER

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### **Warning! This Is an Anecdote**

Orthodontists are often dismayed that even their finest treatment results can change with time; patients cannot be faulted for a reasonable expectation that their teeth, once straightened, will stay straight. Is it inevitable that straight teeth will not remain straight, whether they have been treated orthodontically or not? Is it a rule that orthodontic results will relapse and that untreated dentitions will become irregular?

There is a theory that such irregularity is due to a continuing process of mesial migration. Since irregularity is not observed in the dentitions of primitive adults, it has been postulated that interproximal wear caused by a gritty primitive diet balanced out this mesial movement. Perhaps so. It would take a temerity far greater than most of us possess to challenge the concept out of hand. Still, it is a theory and not a fact. If there is any validity to outcomes research, perhaps it ought to start here. There are adults in modern society whose teeth have not become irregular with time.

But are there instances where orthodontic results have not relapsed or otherwise become irregular with time?

I recently had a pleasant surprise. A patient whose orthodontic treatment I completed 50 years ago looked me up on the Internet and made a date to visit. What a bond is created in the course of orthodontic treatment! I might not have recognized her, or she me, but it seemed to us as though a couple of days might have passed, rather than 50 years, since last we met. In my mind's eye, I could picture her just as she was as a 12-year-old, and how her teeth started and finished treatment.

There was a certain amount of anxiety on my part about how her teeth would look. Along with everyone else, I have read Drs. Little and Riedel with concern about what I might have accomplished in an orthodontic career. Well, her occlusion was so perfect that I confess to a momentary panic that she might be wearing dentures. But she was quick to tell me how much she was aware of and appreciative of the beautiful occlusion we had wrought those many years ago. At 62, she had a beautiful smile, a comfortable, stable occlusion, and excellent oral health.

The same was true of her sister, who had visited me about 15 years ago. Perfect occlusion after 35 years. I remember these girls particularly because they came to their appointments together, and they took pains to tell me how much they enjoyed coming to my office. I thought it was me, but then they were just as enthusiastic about a great bakery down the street.

The only other patient I have seen long years out of retention is my daughter. If you happen to meet her, you will see that she, too, has a beautiful, stable occlusion 35 years after we completed her treatment. Since we do not often get to see our patients even after 10, 20, or 30 years, let alone 50, I got to wondering. Were these my only three long-term stable treatment results, or are there others, and if so, could there be a common denominator for such stability, function, and health?

Was it the orthodontist? I was certified by a good, but not extraordinary, graduate orthodontic program. I did take postgraduate courses, did attend meetings, did grade all my results according to a simple system that I published. I was a conscientious, even dogged, pursuer of the perfect result as I

saw it—sometimes, I suspect, beyond a reasonable limit. I don't think I was unusual in that regard, however.

Was it the diagnosis? I took full records on all patients, whether they were ready to start or not. It gave me a basis for deciding when to start treatment, a benchmark for follow-up, and—in an unconscious marketing strategy—a reason for patients to stay enrolled in my practice. I did make it a point to examine the right, front, and left sides of the patient. I did pay attention to arch length and form, and to safeguarding the "E" space. Most of my cases were started in the late mixed dentition.

Fifty years ago, when I treated the two sisters, I didn't own a cephalometer. Thirty-five years ago I did, but I can't say that I gained great insights from its use. It is not to my credit, but I think the most I got out of cephalometrics was documentation for my Board cases. I used a Downs analysis, but was much impressed by an acquaintance with Drs. Krogman and Sassouni, who showed that you could get three different diagnoses of the same case from three different cephalometric analyses. I wasn't smart enough to know which one was the correct one.

Was it the treatment plans? Fifty years ago, we were on the nonextraction side of planning? if it could be called "planning". Many orthodontists would never extract. Dr. Tweed was showing his 100 retreated cases and advocating extraction over expansion. Although I took Dr. Tweed's course, I was in the middle ground, extracting teeth when the arch-length discrepancy would not permit me to keep the anterior teeth within quiet lips. That was a judgment call, with no validation from any reference plane. I did not know a lot about occlusion. I was aware of CO and CR, but did not believe they had to coincide.

Was it the treatment? I would say that I advocated gentle treatment, more out of compassion than conviction. Those were the days of 2 pounds of force on headgears and jawbreaker elastics. I did not use the cervical headgears out of the box. I was constantly fiddling with the adjustment of the bows in an unintentional effort to relate the molars' center of rotation with the direction of pull. I tried to avoid or minimize Class II elastic wear. I always paid attention to correcting molar rotation. I preferred to strip small anterior irregularities rather than extract for them. One key may have been that I paid as much attention to achieving a Class I cuspid relationship as I did to the Class I molar relationship, and I never overtreated.

Was it the level of patient cooperation? I was blessed to have practiced at a time when children were less independent than they may be today, and more eager to achieve and to please their parents, their teachers, and their orthodontists. I had ways to show them how they were achieving—one as simple as marking overjet on a tongue blade. Cooperation was essential in these cases, because the force was obtained with cervical headgear. Cervical headgear has its opponents and proponents, but one thing can be said for it: Its force is directed distally. I did not observe that it closed the bite.

In the cases I have described—Class II, division 1 malocclusions with no lower irregularity, or a small amount that could be accommodated by holding back the lower molars and using the "E" space—headgear could be the only force, or at least the main force. It has famously been said, "I use headgear, but my patients don't". (Was it Hayes Nance, writing to A.V. Greenstein?)

These three girls did. In each case, the correction was accomplished with only a cervical headgear to the upper first molars, while the lower molars were held back with a lingual arch until the molar correction was completed. At that point, the patient was fully banded to finish retracting the anterior teeth (with continued headgear force) and for alignment and esthetic finishing of the arches.

If there is a paradigm for these three cases, it would be:

- All three patients were females.
- Their treatment began in the late mixed dentition.
- Their ages were 10-12 during treatment.
- They had similar, classical, full Class II, division 1 malocclusions.
- They were treated nonextraction.
- They were treated with cervical headgears to hold or move the upper molars distally.
- Their lower arches were regular and either uncrowded or minimally crowded.
- Lower arch length was maintained until teeth could be banded to straighten and align them in place as needed.
- They finished with "socked-in" occlusions, with Class I molar and Class I cuspid relationships.
- They were all extremely cooperative.
- They each treated out in less than 24 months and were retained for about two years with Hawley retainers.

The remarkable thing is not that these three cases were treated successfully in this way, but that the results remained stable after 35 to 50 years. My anecdotal report is not intended to suggest that there is, or that I had, some magic that will permit straight or straightened teeth to remain straight. Shorter-term histories than these have amply demonstrated that it has not been so in many cases.

Before orthodontists can speak scientifically about outcomes, we will have to have lifetime histories with full records. If there are cases that remain stable for a lifetime, why did they remain so, or to put it better, why did they not change? If even three cases can be presented anecdotally, does it at least suggest that there may be more? What does it say about mesial migration? More important still, are there keys to lifetime stability, at least for some malocclusions? □