What I Wish I Knew Sooner

Abstract

This Experts Corner discusses five principles that I wish I had known sooner as a younger orthodontist. I will discuss my philosophies on progress records, banding second molars, premolar extractions, conservative Phase I treatment, and the importance of humility. While I am certain these principles were taught during my residency, I did not fully understand them until I struggled in private practice. I share them in hopes that others can learn from my experiences.

Keywords: Records, second molars, extractions, Phase I

Introduction

Bill Proffit playfully said, that "No one knows more than a second-year orthodontic resident." He was alluding to the overconfidence of a new orthodontist who has yet to experience the real-word tribulations of private practice. Often, I wish that I could go back in time and speak to my younger self so that I could share the valuable experiences I eventually learned through trial and error. If only I knew then what I know now.

Principle 1: Take Frequent Progress Records

Progress records are critical for evaluating tooth impaction, root angulation and resorption, pathology, bracket placement, oral hygiene, periodontal health, and so much more. Despite their obvious importance, as a young orthodontist, I would only take initial and final records, with the occasional panoramic radiograph in between, for the vast majority of patients. This could be attributed to the hectic pace of private practice and because I insisted on taking the photographs myself. Without frequent comprehensive progress records, I did not allow myself the ability to redirect any treatments that were digressing. Unsurprisingly, my cases that had the most complications were most always the ones that were the least documented.

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I now take progress records at every third appointment or every 4–5 months. My office has designated this appointment with a separate scheduling code, "PR30," which stands for Progress Records, 30-minutes. Furthermore, each office is equipped with three extraoral light boxes and five professional cameras or one per every orthodontic technician. I do not assign a records technician, as all technicians must be able to take proper photographs and radiographs. The records are immediately uploaded on the imaging software and reviewed before the patient even leaves the office.

Progress records include complete photographs and radiographs if the X-ray machine is available. Research has shown that root resorption can be detected after 6 months of orthodontic treatment, so panoramic radiographs must be taken at least twice per year. A panoramic radiograph is also taken prior to completing Phase I treatment to confirm the safe eruption of the maxillary canines. Patients that are tracking off course will have their records printed and placed on my desk to be thoroughly reviewed the next day. Principle 1: You should expect only what you inspect.

Principle 2: The Importance of Second Molars

Second molars can dramatically affect the occlusion due to their proximity to the fulcrum of the jaw. Any vertical extrusion of the teeth, for example, is multiplied by a variable of 2–3 in the incisor region (i.e., 1 mm of second

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molar extrusion results in approximately 2–3 mm of incisor bite opening). Early in my career, unfortunately, I underestimated the importance of the second molars and would sometimes avoid bracketing them due to their high failure rate. Years later, I would have to retreat many of these patients to correct unresolved issues with these teeth.

I now bracket or band the second molars in all patients, but I prefer banding whenever possible. This is especially true with the mandibular second molars, which are subject to the highest masticatory force loading. For deep bite, low angle patients, where the mandibular second molar acts as a lever arm to extrude the mandibular first molar and premolars to the help open the occlusion, I band these teeth as early as possible.

The second molars are also an important diagnostic aid. If orthodontics is started too soon, well before the eruption of the second molars, these teeth will likely not be properly addressed during a 2-year treatment window. Furthermore, if the mandibular second molars are vertically positioned but still impacted by the third molars, premolar extractions are indicated to alleviate the posterior crowding. In the beginning of my career I focused on office collection; now, I focus on the second molars. Principle 2: Short-cuts produce only unsatisfactory outcomes.

Principle 3: Premolar Extractions are Necessary

Premolar extractions are still very much needed in orthodontic treatment. The phrase "extract for the face and not for the space," that started during the Damon-craze years of my residency, is simply erroneous. Early in my practice, I would avoid extractions because I thought that I could achieve enough space with expansion. Truthfully, I was also afraid of losing the family to another orthodontist. Many of these patients underwent unnecessary Phase I expansion or finished with severe dental protrusion and later required retreatment with premolar extractions.

I now recommend premolar extractions every day, and I am willing to lose the patient to another orthodontist if the family refuses this treatment plan. During the consultation, I review the panoramic and cephalometric radiographs with the family, often drawing on the printed radiographs right in front of the parents to highlight the crowding. Ideally, I will refer for extractions during the recall phase, months or even years before the patient is ready to begin his or her treatment, and then allow "driftodontics" to provide the head start.

Patients undergoing premolar extraction will have their first molars banded to reduce emergency visits. Space consolidation begins on a $0.016" \times 0.022"$ or $0.017" \times 0.025"$ stainless steel or reverse curve nickel-titanium wire. Consolidation of extraction spaces is achieved with a continuous elastic chain and supported with interarch elastics. Stubborn extraction spaces are closed with a second elastic chain placed on the lingual side, connected from the band cleat to a button on the canine's cingulum. I believe that my best cases are the ones that received premolar extractions. Additionally, many of my failed cases that displayed resorption or relapse would have benefited from extractions and space maintenance instead of expansion and prolonged treatment. Principle 3: Old-school is the best school.

Principle 4: Limit Phase I Treatment

Phase I interceptive treatment should be prescribed conservatively. In many offices, virtually every second or third grader entering for a consultation now leaves with a treatment plan for an expander and braces. When I started my practice, I was no different. I used to tell parents that the expander would obviate the need for extractions and that the braces would help the maxillary canines safely erupt. I would pitch to them that all of this effort would save time and energy when the patient was ready for comprehensive treatment. In actuality, some of these patients received very little benefit from Phase I, and they still required 2 years of comprehensive treatment with appliances or extractions.

I now selectively recommend Phase I treatment and prefer to solely use an appliance (i.e., expander, space maintainer, bite plate) when possible. If the patient has an anterior dental crossbite in addition to their severe transverse constriction, whip springs are then added to the expander to provide incisor alignment. Patients with moderate maxillary crowding in the absence of a crossbite are referred for extractions of their deciduous canines instead. My Phase I treatment is now streamlined and focused.

I strive to complete Phase I treatment within 12 months. The parents understand the specific goals of treatment, but I still ask them to sign a consent form titled "Phase I means Phase 2," so there is no misremembering that a separate phase with brackets will happen years later. If the patient displays severe crowding in the early mixed dentition – one indicator that I use is if the lateral incisors are approximating the deciduous first molars – then I typically prescribe serial extraction and place the patient on a recall. I am of the opinion that we may be overtreating our young patients. Principle 4: What we call interceptive is sometimes just interference.

Principle 5: The Importance of Humility

Too many orthodontists are hypercritical of one another. This behavior is likely attributed to our academic success in dental school, the browbeating method of morning case-reviews in residency, and the competition over patients in private practice. When I graduated from residency, I believed that I was smarter and better trained than the other orthodontists in my community. I judged others with a harsher eye than I judged myself. As a result of my arrogance, I failed to see all the areas where I needed to make improvements.

I now have a more realistic view of myself. I reflect more and project less. I never critique another orthodontist's work or treatment plan. If a transferring patient comes to my office, I continue their treatment at no expense to the family in order to support the previous orthodontist. I am no better and no worse than the guy up the street.

Each year, I focus on a few areas of my clinical technique that need review and improvement. One year, for example, I might focus on better leveling the Curve of Spee or achieving greater mesial-out rotation of the maxillary first molars, and another year it may be more efficiently bringing in ectopic canines. I read books, attend CE courses, and then implement the necessary office protocols to achieve these changes. I reflect and try to improve. I have no time for criticism of others, as I have so much I need to work on myself. Principle 5: Humility, not bravado, is the mark of the success.

Conclusion

These principles are not meant to be dogmatic. On the contrary, I share them for catharsis, and I hope they might help others during their professional journey. As a resident, I was confident that I knew everything until it became evident years later that I did not. Each day treating patients brings with it new lessons, and there is still so much more to learn.

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There are no conflicts of interest.