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THE EDITOR'S CORNER

Pushing the Extraction Envelope

It seems that the great extraction debate is an inherent artifact of the specialty of orthodontics. I took up the subject in JCO as recently as December 2014, when Drs. Daniel J. Rinchuse, Lauren Sigler Busch, Daniel DiBagno, and Mauro Cozzani began a comprehensive two-part Overview of the extraction literature. Although the 2014 JCO Study of Orthodontic Diagnosis and Treatment Procedures (October 2014) reported that the median percentage of patients treated with extractions has declined from 35% in 1986 (the year of our first survey) to 15% in 2014, the debate seems to linger. Having just returned from a great AAO annual session in San Francisco, I am still chuckling over comments from a couple of colleagues who claimed either to extract in all cases or to never extract. As I mentioned in December, most of us seem to agree on the seemingly obvious premise that extractions are needed in some cases and avoidable in others. The deciding factor should always be what we think will work best for the patient.

In any event, the concept of "routine extractions"—taking out four premolars in virtually every case—is long dead. Once an experienced practitioner has assessed all aspects of a patient's malocclusion, including the degree of crowding, depth of bite, Angle classification, facial and dental protrusion, and prospects for long-term stability, an appropriate extraction sequence usually becomes evident. Every doctor develops a repertoire of extraction patterns that can be relied on to work in particular types of cases. There is no need for everyone to agree on a specific extraction protocol, as long as the ultimate outcome is an entirely functional occlusion and an attractive smile, well positioned in a face that is attractive from both the frontal and profile perspectives.

What really intrigues most clinicians are the atypical extraction patterns that may be required to correct atypical malocclusions. This is where different practitioners may select totally different treatment plans. For example, neither the training program I attended nor the program in which I first served on the faculty ever considered extract-

ing a lower incisor to alleviate lower anterior crowding, but the program in which I eventually spent most of my teaching career employs that approach regularly. Yet it would be impossible to claim that any of the three programs produces better finished cases than the others in terms of function and esthetics.

This issue of JCO contains three articles involving extractions that I think any of us would find unusual. Dr. Nasib Balut disproves a "fact" I was taught in my orthodontic graduate program: that you cannot move a lower central incisor across the midline. His case report describes a complex malocclusion resulting from the removal of an odontoma in an 8-year-old boy. After evaluating several different treatment approaches, including periodontal, surgical, and orthodontic therapy, Dr. Balut chose a unique extraction pattern that many of us would not have considered. He successfully moved a lower central incisor across the midline to address a clinical need, achieving an entirely functional and esthetic result.

If more than one tooth is indicated for extraction, orthodontists almost always extract symmetrically—for example, upper first premolars and lower second premolars in a Class II malocclusion. In another interesting article, Drs. Dipti Shastri, Pradeep Tandon, and Amit Nagar present a complicated adult case that was resolved with an asymmetrical extraction pattern. For this patient, the treatment team elected to extract an upper canine and first premolar and a lower central incisor and second premolar. Their approach resulted in a successful treatment outcome within a reasonable period of time.

When atypical or asymmetrical extraction patterns are employed, we need to modify our usual treatment mechanics. Asymmetrical force application has always been a challenge—one that has been addressed with a variety of tactics, including asymmetrical headgear and skeletal anchorage. Drs. Mauro Cozzani and Daniel Rinchuse return this month, joined by Drs. Laura Mazzotta and Paolo Cozzani, to show how asymmetrical mandibular protraction can be accomplished through the creative use of conventional mechanics. Again, the outcomes are both highly functional and quite esthetic.

While the extraction debate continues to simmer, the application of atypical extraction patterns can expand our envelope of potential treatment plans. The cases presented in this issue of JCO are well worth studying. RGK