

## READER'S FORUM

Ki Beom Kim, Renee E. Doyle, Eustáquio A. Araújo, Rolf G. Behrent, Donald R. Oliver, Guilherme Thiesen

**Long-term stability of maxillary and mandibular arch dimensions when using rapid palatal expansion and edgewise mechanotherapy in growing patients.**

- *Korean J Orthod* 2019;49:89-96

I appreciate the authors' work to investigate the long-term stability of maxillary and mandibular arch dimensions when using rapid palatal expansion and edgewise mechanotherapy in growing patients. This article would be valuable especially to the orthodontists who are interested in nonextraction maxillary constriction cases. For better understanding not only of mine but also of other readers, I would like to ask some questions.

The results presented in this study would be worthy to reassure clinicians as well as researchers.

**Q1. As you expanding maxilla with rapid palatal expansion in your article, it is obvious that maxillary and mandibular arch width dimensions are increasing. In your results, mandibular canine width was also increased. Although it is treated with followed edgewise mechanotherapy, mandibular canine width is almost maintained postretention period. How do you suppose this phenomenon?**

**Q2. When using Haas-type rapid palatal expansion, you suggested average of 3 months retention period. I guess that it is not so long period in 3 months retention. Is it somewhat different Hass-type**

**palatal expansion from any other palatal expansion treatment such as bonded type or banded type palatal expansion?**

*Questioned by*

Seung-Youp Lee

*Department of Orthodontics, School of Dentistry, Chonbuk National University, Jeonju, Korea*

We thank the reader for the interest on our article, "Long-term stability of maxillary and mandibular arch dimensions when using rapid palatal expansion and edgewise mechanotherapy in growing patients," published in the March 2019 issue of the Korean Journal of Orthodontics.<sup>1</sup>

**A1.** Regarding the mandibular post-retention stability, our results showed that most arch widths decreased significantly over the post-retention period, including the mandibular intercanine measurements. These occlusal changes were also described by previous studies that evaluated both untreated individuals and patients treated with palatal expansion and fixed mechanotherapy.<sup>2-5</sup> As pointed by the reader, the mandibular canine width "is almost maintained" in the post-retention period. But the mandibular canine widths were slightly reduced ( $-0.57 \pm 0.65$  mm and  $-0.42 \pm 0.75$  mm, at the centroid and lingual levels respectively; Table 1 from the article).<sup>1</sup> However, this reduction is much less than the reduction presented by untreated individuals, as we reported by applying z scores statistical analysis (Table 2 from the article).<sup>1</sup> And that is probably why the reader described that the mandibular canine width "is almost maintained". It is suggested in the literature<sup>6-8</sup> that a significant

maxillary palatal expansion may increase the stability of nonextraction approaches in the mandibular arch. However, we don't have a good answer yet.

**A2.** These patients were treated by Dr. Andrew J. Haas. The primary objective of expansion for these patients was to correct a dental crossbite, and his protocol was to retain 3 months.<sup>9</sup> Regarding the last question, we cannot make further comment about different expansion appliances since our study only evaluated the Haas-type palatal expander.

*Replied by*

Ki Beom Kim<sup>a</sup>, Renee E. Doyle<sup>b</sup>, Eustáquio A. Araújo<sup>a</sup>, Rolf G. Behrents<sup>a</sup>, Donald R. Oliver<sup>a</sup>, Guilherme Thiesen<sup>a,c</sup>

<sup>a</sup>Department of Orthodontics, Saint Louis University, St Louis, MO, USA

<sup>b</sup>Private Practice, Columbia, IL, USA

<sup>c</sup>Private Practice, Florianopolis, SC, Brazil

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