

## READER'S FORUM

Soungjun Yoon, Dong-Yul Lee, Seok-Ki Jung

**Influence of changing various parameters in miniscrew-assisted rapid palatal expansion: A three-dimensional finite element analysis.**

- *Korean J Orthod* 2019;49:150-160

**Q. The authors' efforts to find Influence of changing various parameters in miniscrew-assisted rapid palatal expansion were appreciated. For better understanding, I would like to ask following question. The center of the expander was positioned between the second premolar and the first molar. Was there a special reason for choosing this location?**

Questioned by

Seo-Rin Jeong

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**A.** We thank our readers for the interest. Most rapid palatal expanders (RPEs) work by obtaining fixation from the premolar and molar teeth for ease of suture expansion.<sup>1</sup> This is because it is the central part of the maxillary suture and provides a relatively strong fixation. Therefore, in this study, the corresponding location was used, and in order to see the difference by location, the case where the RPE was located at the top and the case where it was located at the bottom were compared.

Replied by

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Ji-Yea Lee, Sung-Kwon Choi, Tae-Hoon Kwon, Kyung-Hwa Kang, Sang-Cheol Kim

**Three-dimensional analysis of tooth movement in Class II malocclusion treatment using arch wire with continuous tip-back bends and intermaxillary elastics.**

- *Korean J Orthod* 2019;49:349-359

**Q.** This article showed the effect of Class II elastics with multiloop edgewise arch wire (MEAW) clearly. Because fabrication of MEAW is time-consuming, MEAW alternatives were introduced.<sup>1-5</sup> Authors explained that preliminary study showed no significant difference between MEAW and titanium molybdenum alloy (TMA) arch wire in their treatment effects. However, TMA has much higher load-deflection rate than MEAW loop.<sup>1</sup> Nickel titanium (NiTi) also can be used as a MEAW alternative.<sup>2,3</sup> NiTi has load-deflection rate closer to the MEAW loop,<sup>1</sup> but its anterior section is too soft compared to that of the MEAW, requiring additional heat treatment at the anterior section of NiTi. Recently, use of gummetal having lower load-deflection rate than TMA was introduced as another MEAW alternative.<sup>4,5</sup> Can these

**alternatives be applied similar to MEAW? Is there any difference between the MEAW and its alternatives?**

Questioned by

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**A.** Because MEAW has difficulty in oral hygiene management and its fabrication, we have used preformed TMA ideal arch wire with a compensating curve, that can be also bent if needed, as an alternative to MEAW in our clinic, although it has a higher load-deflection rate than MEAW,<sup>1</sup> and we were able to obtain satisfactory treatment results, not to be different to those of MEAW.

Meanwhile, the purpose of this study was to investigate the tooth movement ‘pattern’, not the ‘effectiveness’ of movement, when patients are treated with arch wire containing tip-back bends (MEAW or TMA arch wire) that were clinically used in our clinic. And it can be considered that the difference in the degree of force or the mode of application according to the load-deflection rate of arch wire would not significantly affect the results of this study. Also, if gummetal or NiTi arch wire<sup>6</sup> is used with tip-back bends, it is thought that similar treatment results could be obtained as reported in this study.

Replied by

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