COMMENTARY

Lower Anterior Crowding Correction by a Convenient Lingual Method¹

VINCENT G. KOKICH, DDS, MSD*

In this short article,¹ the authors describe a method of aligning mandibular incisors without placing brackets or wires on the labial surfaces of the teeth. This solution could apply to adult subjects who had previously had orthodontic treatment and lost their mandibular retainer, which resulted in relapse of mandibular incisor irregularity. As the authors point out, this clinical approach has some limitations. I have used this technique previously, and it does work successfully; but I would like to add some additional comments to what the authors had stated regarding the usefulness and application of this clinical approach.

First of all, readers must understand that this technique, which uses a round nickel titanium arch wire, merely tips the tooth or teeth labially or lingually. As a result, the problem of improper root position is not solved with this approach. As the incisal edge of the tooth is tipped labially (in the example shown in the article), the root apex actually tips lingually. This is an unstable position. If the bonded lingual retainer that was used in this case becomes detached, the same tooth will upright again and move to the lingual. The only method of truly correcting the crown and root position would be to use orthodontic brackets and a rectangular arch wire to provide the correct torque to the tooth root in order to place it in the appropriate position.

A second point that should be emphasized, if one uses this approach, is that the nickel titanium wire should be positioned as high toward the incisal edge as possible during the ligation and alignment phase. Nearer the cingulum, the mesiodistal contour of the lingual of a mandibular incisor is convex, and therefore, the contact of the wire is a point contact, which makes it difficult to control the rotation of the incisor. Nearer the incisal edge, the lingual surface is flat, which permits better rotational control. If one looks at the final result in this case, both mandibular lateral incisors are still rotated. This minor inadequacy could have been solved by ligating the arch wire closer to the incisal edges of the anterior teeth during the aligning process.

A problem with using a nickel titanium wire is that this wire has a preset shape, which will determine the shape of the mandibular arch form and consequently the patient's intercanine width. If the patient's initial intercanine width were less than the width of the segmental nickel titanium arch wire, this technique would inappropriately widen the intercanine width. Previous research has consistently shown that the patient's intercanine width will always recover to its original dimension or less with time. So, in a patient with a narrow anterior dental arch, a different-shaped wire should be used to avoid widening the intercanine width.

In the patient shown in the article, the maxillary teeth were aligned properly, and the overbite and overjet relationships permitted expansion of the mandibular incisor arch form without altering the maxillary tooth position. In the real world, this situation seldom exists. If the overbite was deep or the patient had limited anterior overjet, then this solution would be inappropriate unless the maxillary arch could be aligned as well during the alignment of the mandibular incisors.

^{*}Professor, University of Washington, Seattle, WA, USA and Private Practice

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Today, with the advent of clear plastic aligners, it is possible to accomplish the same treatment illustrated in this article by simply creating a series of aligners, which would gradually accomplish the same treatment result. The problem with the aligners is that they would be a more expensive alternative for the patient and would require excellent cooperation on the part of the patient to change the aligners at the appropriate times.

Finally, it should be noted that in some cases of severe malalignment or relapse of mandibular incisor irregularity in adults, it is more stable to extract the displaced mandibular incisor and close the resulting extraction space. Previous research has consistently shown that lower incisor extraction treatment has superior long-term stability of alignment compared with nonextraction therapy. However, the patient's tooth-size relationship must be favorable in order to use this latter treatment option.

REFERENCE

1. Gkantidis N, Sanoudos M. Lower anterior crowding correction by a convenient lingual method. J Esthet Restor Dent DOI 10.1111/j.1708-8240.2012.00529.x.

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