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Tricks of the trade

Quadhelix for easy derotation of molars

Clinical relevance: Adjustments to the MIA removable quadhelix demonstrate how to derotate an upper right first molar.
Orthodontic Update 2024; 17: 123–124

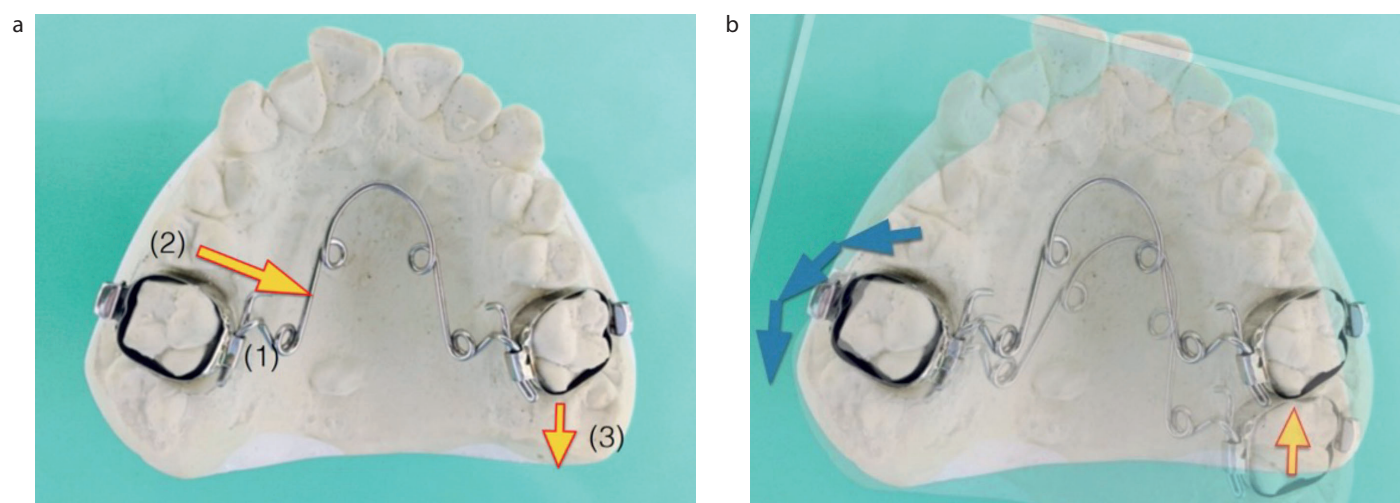


Figure 1. (a) To initiate derotation, while firmly gripping wire at (1) with Adams pliers, push on wirework (2) to move UL6 band distally (3) by one full molar tooth width. **(b)** Moving band forward by a tooth width will place a derotation force on UR6.

Rotated first molars are a common problem, affecting upper molars in half of Class II and III orthodontic patients.¹ Effective correction of molar rotations can lead to gain of arch space, which is important both in non-extraction cases,^{2,3} and in extraction cases where anchorage is at a premium. Derotating molars provides a

clinical conundrum, and there are many options available to clinicians to achieve this movement.

Previously described techniques to overcome this problem include compound palatal arches⁴ and transpalatal arches,⁵ which are reputedly for bilateral molar derotation. Other suggestions have included constructing complex archwires using

cantilever mechanics⁶ or building a horseshoe molar derotator.⁷ Both of these techniques have proved to work; however, they may add to treatment times and cause unnecessary stress to the operator, as they require somewhat complicated wirebending techniques that may be unfamiliar to the treating clinicians.

Derotation technique

Adjustments to the mobile intra-oral arch removable quadhelix (Figure 1) demonstrate how to derotate an upper right first molar. A clinical case illustrates how these adjustments can be used to derotate both molars simultaneously

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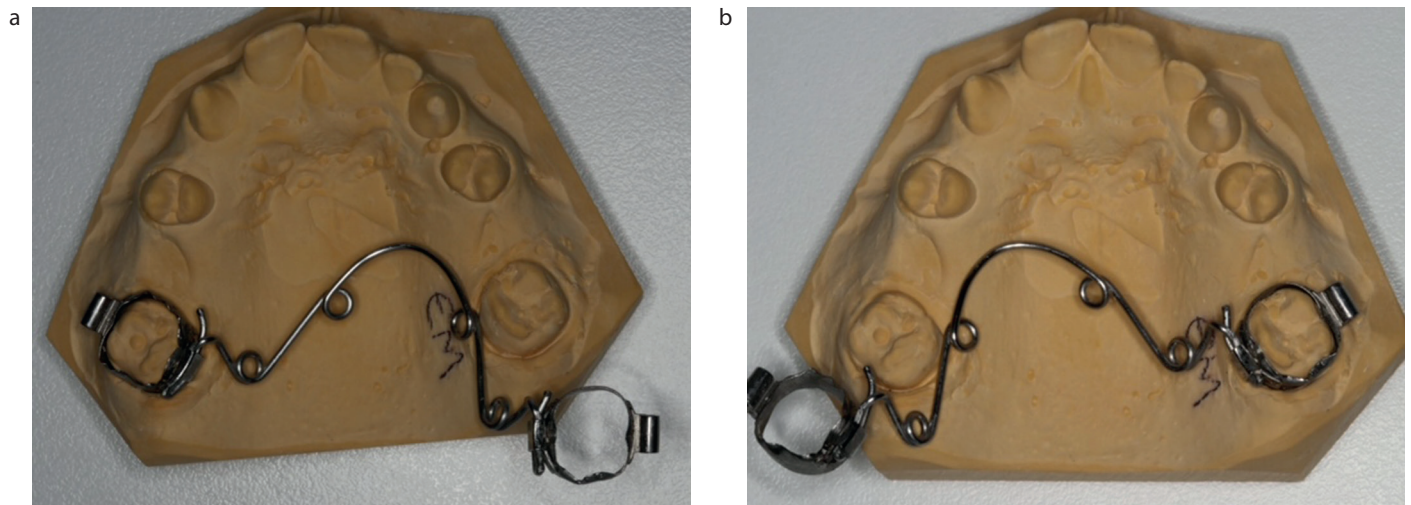


Figure 2. (a) Derotation adjustment made for the UR6. (b) The adjustment is then repeated on the opposite side of the arch to derotate UL6.

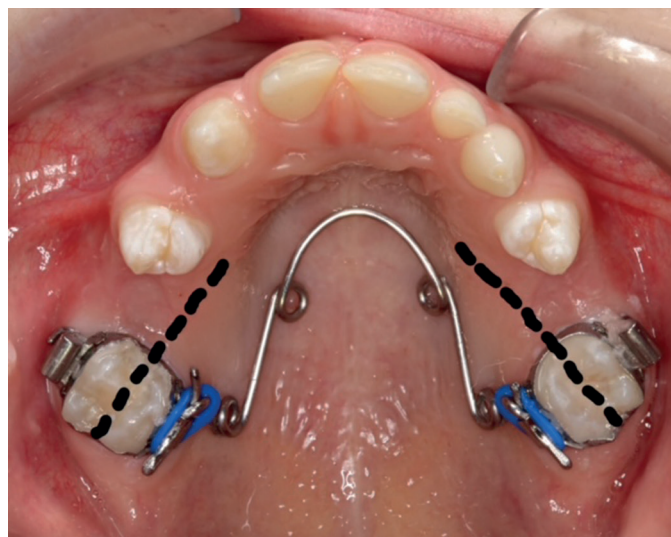


Figure 3. Both upper first permanent molars have rotated mesially around their palatal root.

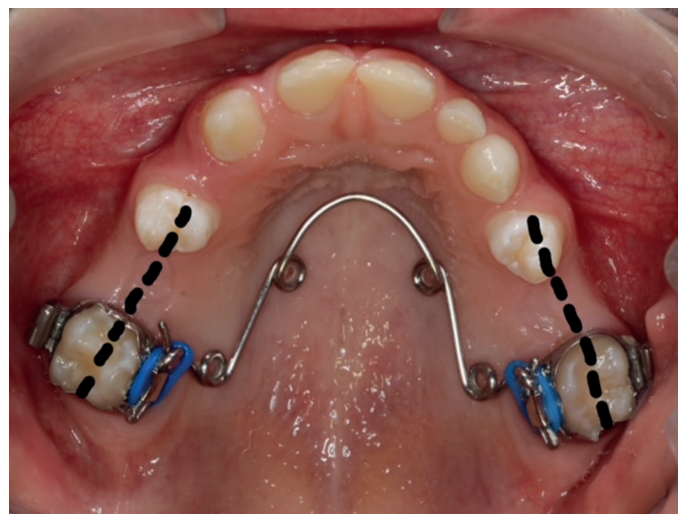


Figure 4. Four months after placement of the quadhelix, the molars are at the correct rotational position within the upper arch and useful space has been gained.

(Figure 2). Figures 3 and 4 demonstrate what can be achieved with a correctly adjusted quadhelix, in just a few short months.

Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no conflict of interest.
 Informed Consent: Informed consent was obtained from all individual participants included in the article.

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**CPD ANSWERS
 APRIL 2024**

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| 1. B | 5. B |
| 2. B | 6. A |
| 3. D | 7. C |
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