Journal of Dental Sciences 20 (2025) 1341–1342

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journal homepage: www.e-jds.com

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Clinical application of multibend edgewise archwire for canine de-rotation and space management

KEYWORDS
MEAW;
Orthodontic treatment;
Canine de-rotation;
Non-surgical alignment;
Malocclusion

The multibend edgewise archwire (MEAW) technique is widely utilized for complex orthodontic cases because of its simplified wire bending compared with the traditional multiloop edgewise archwire technique. This updated technique allows for efficient rotational adjustments and spatial management, providing a substantial advantage in cases requiring precise control over tooth positioning. In the present case, the MEAW technique was employed to create a distal space around the left mandibular canine, enabling a 15° de-rotation to achieve optimal alignment (Fig. 1).[1]

The mechanics of the MEAW technique enable a precise control over the occlusal forces, which facilitates the movements such as tipping, retraction, and leveling with a minimal reliance on the auxiliary appliances. This technique has demonstrated a success in treating malocclusions that require substantial rotation or alignment adjustments.[2] Studies have demonstrated the efficacy of the MEAW technique in achieving canine rotation and distal movement and in producing reliable results in other complex cases, such as anterior open-bite treatment.[3] The MEAW technique can also manage intricate spatial and rotational needs, rendering it versatile across various orthodontic scenarios; this thus supports its potential as a nonsurgical solution.[4] In the present case, the application of the MEAW technique allowed for targeted adjustments, which considerably improved the alignment of the left mandibular canine and maintained the stability of surrounding structures. The streamlined multibend design of the MEAW provided a less invasive approach to space management, thereby reducing anchorage demands and preserving the dental arch. Additionally, the application of this technique used to distalize multiple teeth is consistent with findings that nonsurgical methods can achieve efficient space creation and improved occlusal stability, even in challenging rotational cases.[5]

After a structured treatment period, the patient's left mandibular canine achieved the desired alignment, with marked improvements in both occlusal function and aesthetics. The case exemplifies the MEAW technique's utility in achieving precise, targeted outcomes, demonstrating its ability to balance simplicity and precision in contemporary orthodontics.

https://doi.org/10.1016/j.jds.2024.12.013

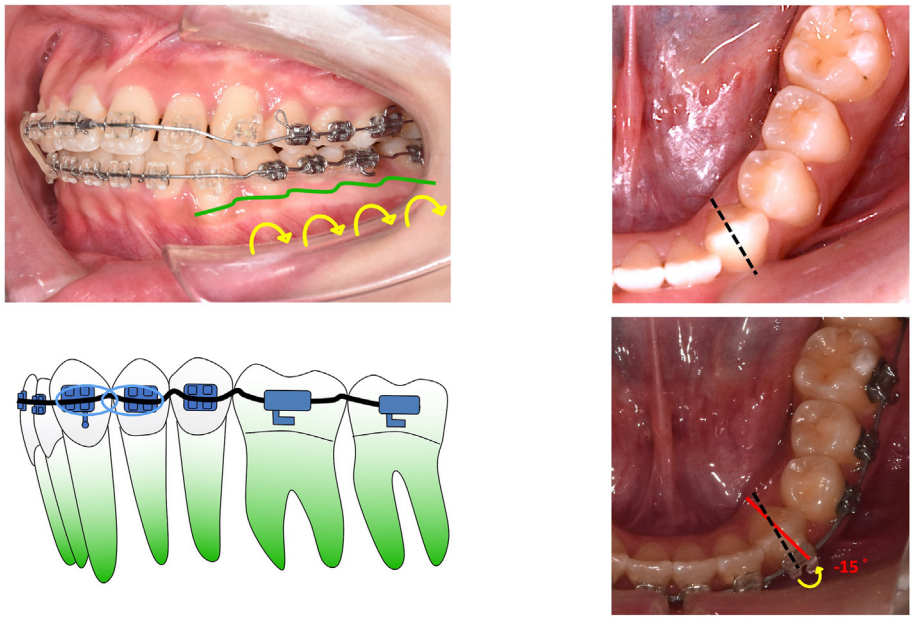

Figure 1 (A) Pre-treatment intraoral photograph. (B) MEAW technique achieved a 15-degree de-rotation of the left mandibular canine. (C) Diagram showing the use of the MEAW technique for de-rotating the left mandibular canine. (D) Post-treatment intraoral photograph.

Declaration of competing interest

The authors have no conflicts of interest to declare regarding this correspondence.

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Received 23 November 2024
Final revision received 12 December 2024
Available online 9 January 2025