Clinical Tip for Simultaneously Uprighting and Rotating Lower Molars

When a lower first molar is missing, the second molar usually tips into the space and may incline lingually. If the treatment plan is to move the right second and third molars mesially to close a missing first molar space, a rotation of the third molar complicates bonding procedures and mechanics application. This article describes an effective method for simultaneously uprighting and rotating molars utilizing a bonded button and the elastic properties of a resilient archwire.

A patient presented with mesiolingual inclination of the lower right second molar (*LR7*) and a 90˚ distal-in (*clockwise*) rotation of a lower right third molar (*LR8*) (*Fig. 1*). The treatment plan was to level, align, and close space via mesial movement of both molars. The malocclusion was complicated by a 4mm marginal ridge discrepancy with the LR8 locked under the distal height of curvature of the LR7. A clinical tip for uprighting the LR7 is to position the bracket mesial down (*clockwise*) rotation (*Fig. 2*), and bond a button on the buccal aspect of the LR8. An archwire through both molar tubes passes over the occlusal surface of the LR8, because it is intruded relative to the LR7 (*Fig. 3*). The preferred position for the archwire is gingival to a button on the buccal aspect of LR8, which is designed to apply uprighting loads (*root forward moments*) on both molars (*Fig. 4*). A power chain is attached to the hook on the LR8, passing gingival to the button, and extending to the hook on the LR5. These mechanics simultaneously rotate the LR8 and upright both molars.

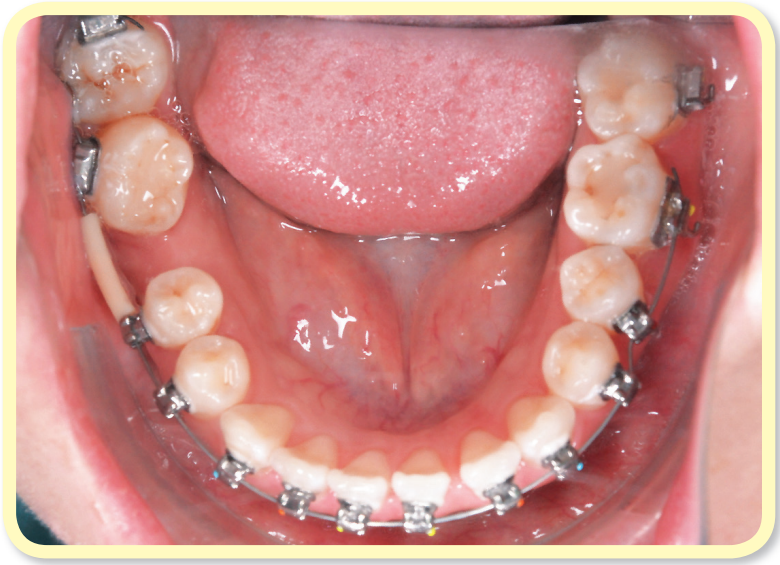

Fig. 1:
The patient has a mesially tilted LR7 that is tipped into the missing LR6 site. A distally rotated LR8 complicates the mechanics for alignment and mesial movement of both molars.

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This case demonstrates the importance of carefully analyzing archwire placement. The application of a strategic button to retain the resilient archwire on the buccal aspect (*mesial surface*) of the rotated third molar results in consistent mechanics to efficiently address the multiple objectives required to resolve the complex malocclusion described.

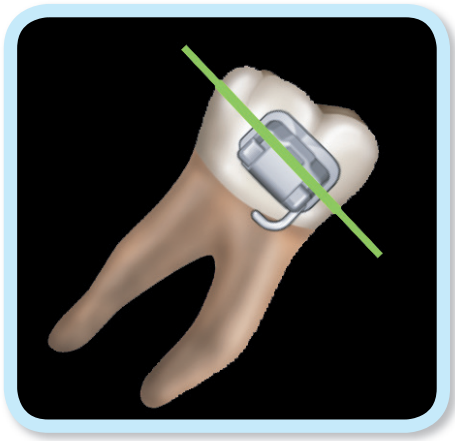

Fig. 2:
A tip for uprighting a mesially inclined molar is to bond the bracket in a more clockwise orientation.

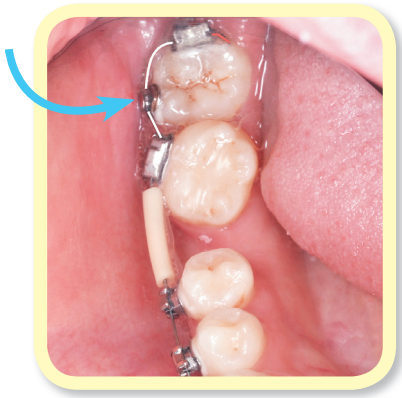

Fig. 4:
A button is bonded on the mesial surface of the rotated LR8 to redirect the archwire to simultaneously rotate the LR8 and upright both molars. See text for details.

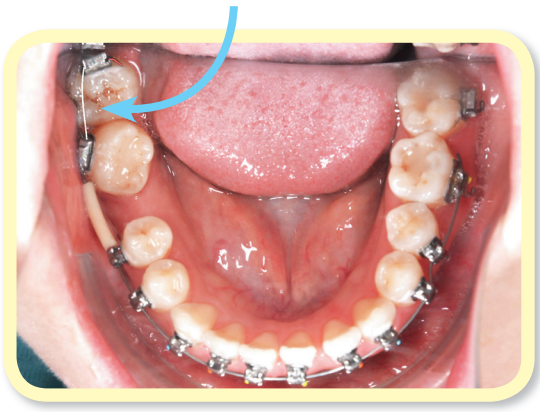

Fig. 3:
A resilient wire through both right molar tubes passes over the occlusal surface of the LR8, which is ineffective mechanics for uprighting either molar. See text for details.

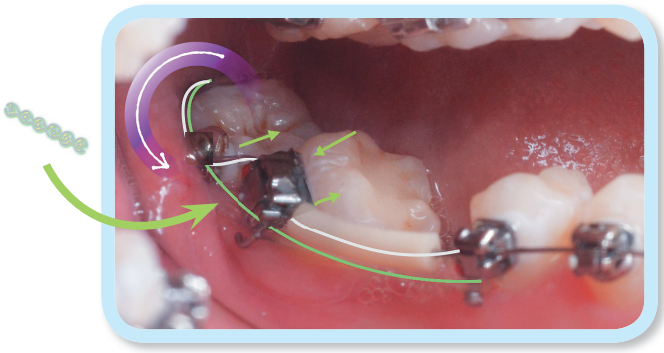

Fig. 5:
The deflected arch wire generates a distal out rotation on the LR8, and a root mesial moments on both molars. A power chain is attached from the third molar, passing under the button, and extending to the the second premolar assists the rotation of the LR8. See text for details.