TECHNIQUE CLINIC

Direct Bonding of Maxillary Central Incisors

Maxillary central incisors often become slightly rotated mesiolabially, even when the brackets appear to be well positioned and fully engaged (Fig. 1A). The problem is even more common with miniaturized or single-wing brackets such as SPEED.* Undercorrection of incisor rotations can make the teeth more prone to relapse.[1]

Cause

When bonding maxillary anterior brackets, the clinician is usually seated at the 10-to-12-o'clock position, looking down at the buccal aspect of the central incisors and using a mouth mirror to view the incisal edges. With the eye focusing on the incisor's mesial and distal labio-incisal corners, the bracket is positioned on what appears to be the midline of the tooth.

This is where the anatomy of the central incisor causes a bonding error. The tooth surface is often slightly wider from one contact point to the other than along the incisal edge, with the excess width located more distally.[2] Therefore, when a bracket is centered on the incisal edge, it is actually a bit too far mesial.

*Registered trademark of Strite Industries Ltd., 298 Shepherd Ave., Cambridge, Ontario, N3C 1V1 Canada.
**Registered trademark of GAC International, Inc., 185 Oval Drive, Central Islip, NY 11722.

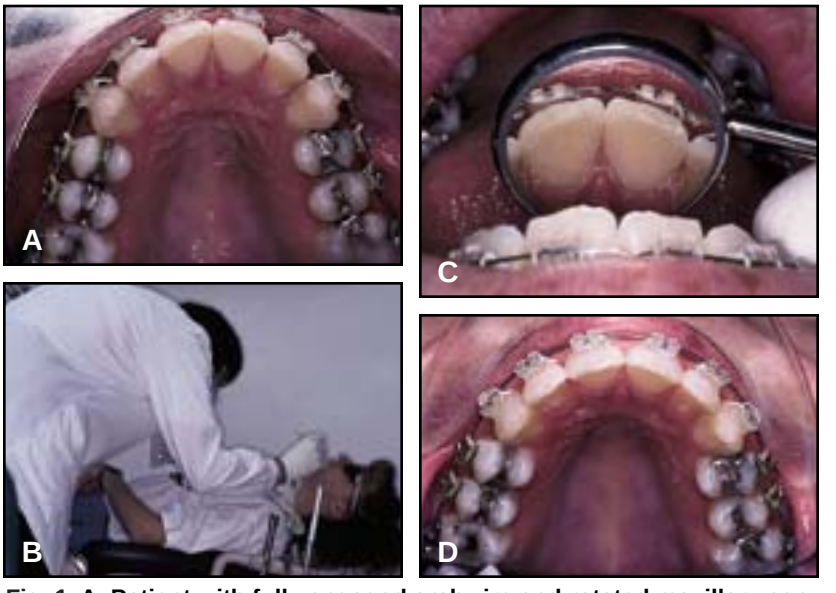

Fig. 1 A. Patient with fully engaged archwire and rotated maxillary central incisors. B. Clinician viewing incisor brackets from 5-o'clock position during rebonding. C. New brackets tied in with .020" × .020" Bioforce archwire. D. Improved alignment after five weeks.**

Solution

The easiest way we have found to detect this error is to change the angle from which the brackets are viewed. Once the brackets have been placed, but before the adhesive is cured, the clinician needs to move to either the 4-to-5-o'clock or the 7-to-8-o'clock position. When the patient's head is tipped back slightly, the clinician then has an occlusal view of the bracket placement (Fig. 1B).

From this angle, the central incisors' actual width becomes apparent. The brackets usually need to be moved slightly distally to compensate (Fig. 1C,D).

REFERENCES

1. Zachrisson, B.U.: Important aspects of long-term stability, J. Clin. Orthod. 31:562- 583, 1997.
2. Wheeler, R.C.: *The Permanent Maxillary Incisor in Dental Anatomy, Physiology and Occlusion,* W.B. Saunders Co., Philadelphia, 1974, pp. 135-154.

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