

A Functional Maxillary Wraparound Retainer

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Hawley-type retainers with Adams clasps or labial wires crossing the occlusion can create interferences that may lead to bruxism or disc displacement¹⁻³ (Fig. 1). On the other hand, if a wraparound retainer is fabricated without cross-over clasps, it is difficult to adapt the round wire closely enough to the anterior dentition to provide adequate mechanical retention, especially in patients with shallow palatal vaults, flat palatal rugae, or palatal tori.

A modified maxillary wraparound retainer, as described in this article, solves both problems.

Retainer Fabrication

The modified retainer has an anterior segment made of ribbon wire, which maintains bet-

*Flatbow wire, Lancer Orthodontics, Inc., 253 Pawnee St., San Marcos, CA 92069.

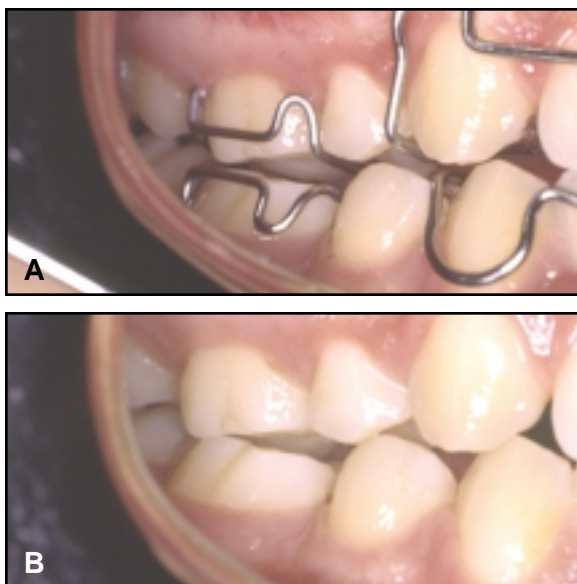


Fig. 1 A. Finished case with appropriate intercuspsion and Hawley retainers. B. Loss of molar intercuspsion due to wires crossing occlusion.

ter contact with the incisors, and posterior segments made of round wire,* which is easier to activate (Fig. 2). Acrylic labial shields connect the segments, allowing each to be activated independently.

To construct the labial shields, a line is drawn connecting the most prominent labial surfaces of the posterior teeth on the working cast (Fig. 3). This area and the gingival tissues are then blocked out with wax (Fig. 4). The posterior wire segments are affixed to the cast, and the posterior omega loops are covered with wax to keep them free for activation (Fig. 5). The shields not only improve mechanical retention, but also provide an extrusive force against the posterior teeth to optimize molar intercuspsion.



Fig. 2 Modified wraparound retainer with anterior ribbon wire segment and posterior round wire segments, connected by acrylic labial shields.



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For vertical control in dolichofacial patients, the labial shields should be extended to the occlusal surfaces of the bicuspids and molars.

Ball clasps on the palatal wires between the

cusps and first bicuspids improve the retention of the acrylic plate without crossing the occlusion (Fig. 6). The palatal acrylic can be extended over the lingual surfaces of the upper incisors to



Fig. 3 Line connecting most prominent labial surfaces of posterior teeth on cast.



Fig. 4 Pencil line and gingival tissues blocked out with wax.

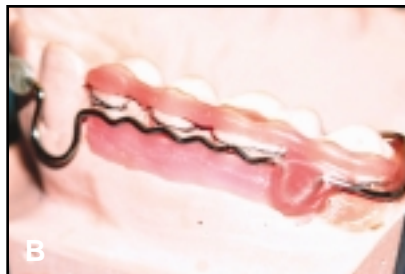


Fig. 5 A. Posterior segment affixed to cast. B. Posterior omega loop covered with wax. C. Omega loop free of acrylic, allowing its activation.

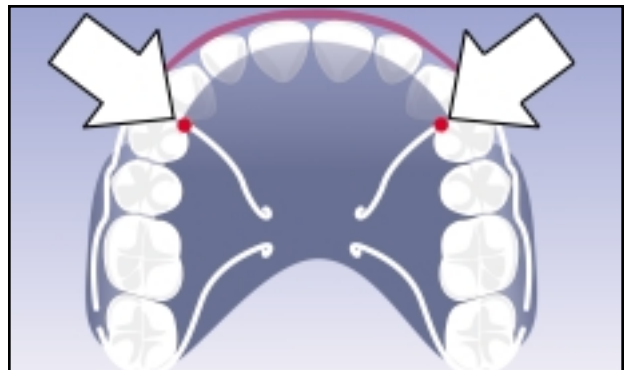


Fig. 6 Ball clasps between cusps and first bicuspids improve retention without crossing occlusion.

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Fig. 7 A. QCM anterior wire on cast. B. QCM wire heated with hair dryer. C. QCM wire adapted to anterior teeth.

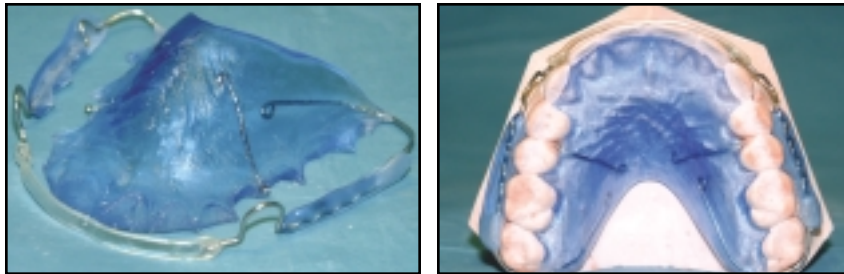


Fig. 8 Finished wraparound retainers with QCM anterior segments.

provide better anterior guidance and eliminate eccentric interferences while lingual veneers are fabricated by the laboratory, if indicated.²

The anterior segment can also be made from QCM wire,** which is adapted by heat to the plaster cast and readapted in the mouth at subsequent appointments (Fig. 7). This clear, flat wire offers better formability and esthetics than the metal ribbon wire (Fig. 8).

Conclusion

Advantages of the wraparound retainer with a QCM anterior segment include:

- Excellent patient acceptance.
- Transverse and sagittal retention of all maxillary teeth (Fig. 9).
- Independent activation of the anterior and posterior segments.
- An extrusive component for better molar intercuspation.
- Lack of interference with the occlusion.
- Repositioning for anterior guidance if needed.

The only time the retainer should not be used is when the second molars are erupting, because the posterior wires will be difficult to adapt to these areas.

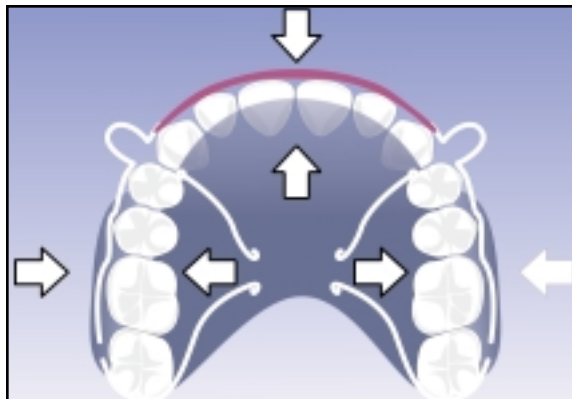


Fig. 9 Modified retainer provides transverse and sagittal retention of all maxillary teeth between acrylic palatal plate, QCM anterior wire, and acrylic labial shields.

REFERENCES

1. Echarri, P.: *Lingual Orthodontics: Complete Technique, Step by Step*, Nexus, Barcelona, Spain, 2002, pp. 364-367.
2. Echarri, P.: Carillas linguales de porcelana como retención permanente en casos de la mordida profunda, *Ortod. Clin.* 1:3-13, 1998.
3. Wyatt, W.E.: Preventing adverse effects on the temporomandibular joint through orthodontic treatment, *Am. J. Orthod.* 91:493-499, 1987.

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