

## TECHNIQUE CLINIC

### A Quick and Inexpensive Means of Treating Mild Lower Anterior Spacing

**T**his article describes a simple, quick, and cost-effective technique for closing mild lower anterior spacing.

#### Procedure

1. Isolate and etch the facial and buccal surfaces of the lower central incisors and first premolars.
2. Using a light-cured adhesive, bond ceramic brackets\* with posts for elastic placement directly to the lower first premolars. Position the posted brackets on the mesial contours of the premolars to minimize unwanted rotations, tilting them slightly to the mesial to make elastic placement easier.
3. Place light-cured composite buttons on the incisal third of the lower central incisors to keep the elastic from slipping over the incisal edges during swallowing.
4. Attach a light, 3.5oz,  $\frac{5}{16}$ " elastic between the lower first premolar brackets, below the composite buttons. A stronger elastic may cause unwanted rotation of the premolars.
5. Instruct the patient to change the elastic no more than two or three times a day. More frequent activation may also result in undesirable premolar rotation.

\*Inspire ICE, trademark ofOrmco/"A" Company, 1717 W. Collins Ave., Orange, CA 92867.

6. One week later, if space consolidation is complete, bond a fixed lingual retainer, incorporating the teeth distal to the spacing. Debond the ceramic brackets.

#### Case Report

A 23-year-old female pre-

sented with spacing mesial and distal to the lower right canine and distal to the lower left canine (A). The patient was referred by her prosthodontist because veneers had been planned on the maxillary lateral incisors and canines to address her tooth-size discrepancy.

The patient did not want to wear full-arch fixed appliances and expressed some concern over waiting for a removable appliance to be delivered. Therefore, her lower spaces were closed immediately using the technique described above (B). After one week, all spaces were consolidated without any rotation of the premolars.



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Prior to debonding, an everStick Ortho\*\* fiber-reinforced composite lingual retainer was placed from lower first premolar to first premolar (C). The strength, malleability, and tackiness of the fiber-reinforced composite allows direct intraoral adaptation and thus immediate retainer placement.<sup>1,2</sup> The lingual surface of each tooth was first pumiced and etched, and a thin layer of FlowTain\*\*\* was applied to each surface. While one end of the everStick Ortho was held with light finger pressure, a G&H Stick Stepper† was used to gently press and contour the fiber resin against the lingual tooth anatomy, tucking the free end down. (If the fiber accidentally sticks to the instrument, it can be lightly dabbed with adhesive sealant.) An additional layer of FlowTain adhesive was then applied over the retainer on each tooth and cured.

### Discussion

In growing children, anterior spaces represent a favorable, transitory stage of development and typically close spontaneously upon canine eruption. In adults, however, the persistence

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†G&H Wire, P.O. Box 248, Greenwood, IN 46142.

of spaces can be attributed to numerous etiologic factors, including a low, hypertrophic frenum; tongue pressure or thrusting; and abnormalities of tooth size, shape, or position.<sup>3</sup>

Anterior spacing is one of the primary reasons for adults to seek esthetic treatment.<sup>4</sup> A multidisciplinary approach involving periodontics, orthodontics, and prosthodontics is often indicated.<sup>4</sup> Ironically, if a diastema is small enough, interproximal space may need to be created to allow placement of a composite or laminate veneer.

Retention of the orthodontic space closure is critical, especially in the presence of a low, hypertrophic frenum or tongue pressure.<sup>5-7</sup> Elastic fibers within the periodontium are capable of causing relapse for as long as two years after active orthodontic treatment.<sup>7,8</sup> The extent of the spacing before treatment and the occurrence of diastemas among family members are statistically significant factors in determining the probability of relapse.<sup>9</sup> Fixed upper and lower retention with overlay removable appliances during the first two years of retention has been advocated as the most reliable method, but does not guarantee permanent stability.<sup>5</sup>

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