

Correction of Anterior Crossbite Using Occlusal Build-Ups

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Many methods have been used to correct anterior crossbites,¹⁻⁶ including palatal expanders and removable, fixed, and orthopedic appliances.⁷⁻¹³ When an anterior crossbite needs to be corrected in the deciduous dentition, however, the clinician may be reluctant to begin treatment because of the uncertainty of cooperation and the chance that the permanent teeth might also erupt in crossbite.

This article introduces a simple, inexpensive method of correcting an anterior crossbite without orthodontic appliances. We have found it works consistently well in young patients.

Procedure

The occlusal surfaces of the mandibular second deciduous or first permanent molars are built up with glass ionomer cement.^{*14,15} No etching is needed. The clinician can easily equilibrate the two cement ramps after bonding so that the molars occlude evenly. We ask the patient to bite down lightly before the cement has completely polymerized, however, so that minimal occlusal adjust-

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ments are required.

If the glass ionomer wears down during treatment, more cement can easily be added. Patients and parents are advised that if one of the build-ups comes off, they should schedule an appointment to replace it. Patients are also instructed to avoid chewing sticky foods and to brush and floss as usual. They get used to chewing with the cement build-ups surprisingly quickly.

Patients should be seen on a regular basis, every five or six weeks. Once the crossbite has been corrected, the cement is removed. Although the molars to which the cement was bonded may become intruded, this situation will correct itself within two to three months (Fig. 1).



Fig. 1 A. Molar intrusion seen after removal of glass ionomer cement build-ups. B. Spontaneous correction in three months.



Fig. 3 Case 1. Glass ionomer cement bonded to occlusal surfaces of lower second deciduous molars.



Case 1

A 7-year-old female presented with the upper four deciduous incisors in crossbite (Fig. 2). Glass ionomer cement was added to the occlusal surfaces of the mandibular second deciduous molars (Fig. 3). Two months later, with the crossbite corrected, the cement was removed (Fig. 4). The patient's profile also improved significantly.

Case 2

A 10-year-old male presented with the upper central incisors in crossbite (Fig. 5). The lower first permanent molars were built up with glass ionomer cement (Fig. 6). Three months later, the crossbite was resolved (Fig. 7). The upper lateral incisors erupted in a normal relationship to the lower arch, while the lower anterior crowding resolved itself



Fig. 5 Case 2. 10-year-old male patient with upper central incisors in crossbite before treatment.



Fig. 6 Case 2. Glass ionomer cement bonded to occlusal surfaces of lower first permanent molars.



Fig. 7 Case 2. Correction of crossbite in three months.

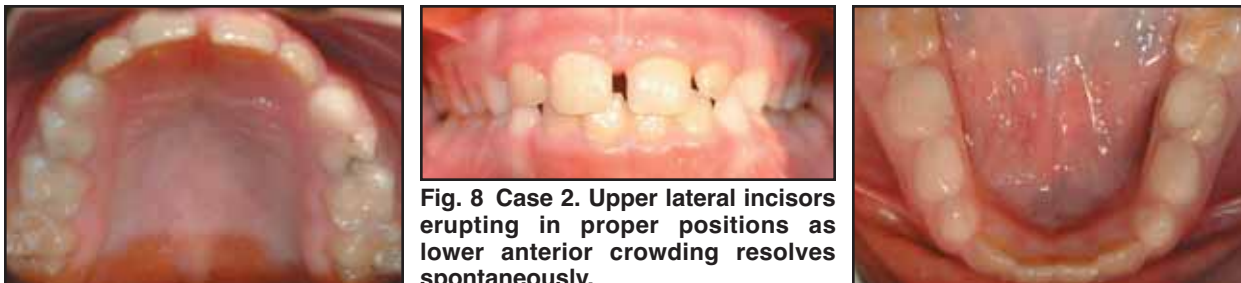


Fig. 8 Case 2. Upper lateral incisors erupting in proper positions as lower anterior crowding resolves spontaneously.

as the occlusion was unlocked (Fig. 8).

Case 3

A 7-year-old male presented with a crossbite of the upper left central incisor and gingival recession of the lower left central incisor (Fig. 9). Two months after a glass ionomer build-up of the lower molars, the crossbite was resolved, and the periodontal condition of the lower incisor had improved significantly (Fig. 10). Three months later, the gingival contours of the lower incisor were almost normal (Fig. 11).

Discussion

According to Balters, the equilibrium between the tongue and the circumoral muscles is responsible for the shape of the arches and intercuspation.¹⁶ In the technique shown above, this equilibrium is interrupted by the occlusal build-up, so that the unopposed force of the tongue helps move the teeth in anterior crossbite into their normal positions. Because these teeth are lingual to their antagonists, their movement is not hindered by the lips. The movement occurs rapidly enough that there are no side effects on the rest of the occlusion or the TMJ.



Fig. 9 Case 3. 7-year-old male patient with crossbite of upper left central incisor and gingival recession of lower left central incisor before treatment.



Fig. 10 Case 3. Correction of crossbite in two months.

Progress can be monitored easily, and no special patient cooperation is needed. Therefore, the clinician can confidently begin treatment early enough to gain space for upper and lower arch development, resolve any periodontal problems, and encourage normal skeletal growth.

We have successfully treated more than 40 patients with this method, moving both deciduous and permanent teeth out of crossbite. In a case of anterior crossbite with a skeletal component, however, more comprehensive orthopedic treatment should be considered.

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Fig. 11 Case 3. Further improvement in periodontal condition of lower left central incisor three months later.

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