



A pseudo-Class III malocclusion is commonly associated with a protrusive shift of the mandible caused by an anterior dental crossbite. Jain and colleagues published a technique in JCO to correct such a malocclusion using a functional resin turbo bonded to the mandibular incisors.¹ Last month, Vatarugegrid described a removable acrylic inclined plane that could be used to move a maxillary central incisor out of crossbite.² This month's Pearl presents a vacuum-formed alternative that may be easier to make in-office. Consider employing it by itself or in conjunction with fixed upper appliances.

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An Esthetic Removable Inclined Plane

Despite the demonstrated efficacy of fixed inclined biteplanes in the treatment of anterior dental crossbite,^{1,3} these devices present several disadvantages related to oral hygiene, speech, and discomfort in mastication.⁴ We have developed a removable inclined plane that uses a full dental arch as anchorage. The resulting reciprocal forces on the opposing arch can be used to correct an anterior crossbite during Phase I treatment.

Technique

This technique is demonstrated in a 6½-year-old female in the mixed dentition who presented with the chief complaint of an anterior crossbite (A). After isolating the plaster cast of the anchorage arch (the lower arch in this case), form a biteplane in the crossbite-affected region by building up light-cured composite at a 45° angle to the long axes of the teeth (B). Heat and vacuumform a 1.5mm polyethylene terephthalate glycol foil over





the cast (C). Remove the foil from the cast, and cut it to the cervical length of the teeth. Smooth out any sharp edges with a trimming wheel.

Instruct the patient to wear the appliance full-time, removing it only during meals and brushing. The biteplane generates a premature contact in the crossbite region, opening the bite and facilitating upper incisor proclination (D). The device may need some adjustment to avoid interfering with tooth eruption. It should take only two to 15 days to correct the incisor relationship; this patient required four days (E).

The ability to maintain proper oral hygiene is a primary advantage of this device, in addition to its differential anchorage and clinical effectiveness. It can also be used to minimize tooth movement in a selected region—for example, to maintain the initial position of an extremely compensated tooth, to protect teeth with periodontal disorders, or to reduce stress on a tooth during the early stages of rhizogenesis.

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