

Versatile Twin-block design for noncompliance class II correction

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Abstract

Compliance for removable Twin-block appliance wear is one of the most common problems for successful functional correction. This article describes a simple but versatile semi-fixed Twin-block design that ensures full-time wear of the appliance with provision of possible modifications in different clinical situations.

Key words: Class II, noncompliance, Twin Block

INTRODUCTION

Twin-block appliance developed by Clark^[1] is one of the most commonly used functional appliances in contemporary orthodontic practice. For success with this removable functional appliance, much patient cooperation is required. In noncompliant patients fixing the Twin-block for some period has been suggested.^[1] But, since controlled trimming is not possible, the appliance has to be removed and continued as a removable appliance. In addition, other fixed Twin-block designs require complicated laboratory procedures.^[2]

To overcome these problems, the authors have developed a simple and effective semi-fixed Twin-block appliance.

STEPS IN FABRICATION OF SEMI-FIXED TWIN BLOCK

1. Both maxillary permanent molars are banded. Lingual sheaths are welded vertically on buccal and lingual aspects with their long axis parallel to each other [Figure 1a]
2. Pick-up impression of the maxillary arch is made, and the molar bands are transferred in the impression. Working cast is prepared
3. Bite registration is done in a conventional manner and working casts along with wax bite are mounted on hinge articulator
4. A 20-gauge hard stainless steel wire is used to make double backs such that it fits the lingual sheath. The two ends of the double back should be opposite to each other [Figure 1b]. Such double backs are made for

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Figure 1: (a) Molar bands with vertical lingual sheath (b) double back (c) maxillary block (d) mandibular block

each sheath. The lengths of the double backs should be such that free ends are close to the occlusal surface

5. The maxillary block is prepared as per standard Twin-block design with inclined planes at about 70° to the occlusal plane. The free ends of the double backs placed in the vertical sheaths are incorporated into the acrylic blocks [Figure 1c]
6. Lower block is prepared in a conventional manner either with delta clasp or simple acrylic splint carrying the blocks can be prepared and directly cemented to mandibular anterior teeth if required [Figure 1d]. A thick gauge wire can be added to reinforce this segment
7. Maxillary molar bands with blocks and lower blocks are cemented [Figure 2a and b]
8. When trimming is required maxillary acrylic blocks with double backs are removed from bands and trimmed
9. After completion of active phase same maxillary bands with lingual sheaths are used for making fixed inclined plane [Figure 2c]
10. Retention phase is continued till occlusal settling is complete [Figure 2d].

ADVANTAGES

1. Easy to fabricate with no special attachments or laboratory procedures



Figure 2: (a) Pretreatment (b) semi-fixed Twin-block (c) fixed inclined plane (d) posttreatment

2. Less patient dependency and whenever required, ease of placing anterior brackets reduces treatment time significantly
3. Better patient acceptance, since palatal mucosa is completely acrylic free
4. Maxillary blocks can be easily removed and trimmed for selective eruption of mandibular molars in class II deep bite cases. This is not possible in other designs of fixed Twin blocks
5. In retention phase, appliance can be easily converted into fixed inclined plane
6. Similar design in class III cases for reverse Twin block can also be made

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Conflicts of interest

There are no conflicts of interest.

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