

Versatile Implant Assisted Bite Blocks

Vishwanath Patil¹, Charu Deshmukh², Abhishek Bansal³ and Manjunath Gola⁴

¹Department of Orthodontics, HKE Institute of Dental Sciences, Gulbarga-585102, India

²Department of Orthodontics, Vasanth Dada Patil Dental College, Sangli-416306, India

³Department of Orthodontics, Vaidik Dental College and Research Center, Nani Daman-396210, India

⁴Department of Orthodontics, Al-Badar Dental College and Hospital, Gulbarga, India

Corresponding author: Abhishek Bansal, Department of Orthodontics, Vaidik Dental College and Research Center, Nani Daman-396210, India, Tel: +919726779249; Email: ashi142002@yahoo.co.in

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Abstract

Intrusion of posteriors is a major area of concern for the seasoned orthodontists especially for correction of open bite in hyper divergent growth pattern cases. Performing intrusion of molars tests the skills of even the most experienced orthodontists. To aid in the same, we have designed "Versatile Implant Assisted Intrusion Bite Blocks with Implant Positioning Guide."

Keywords: Molar intrusion; Implant positioning guide; Intrusion; Long face syndrome; Open bite

Introduction

Intrusion of posteriors for correction of open bite, specially that in Long face syndrome patients is preferred treatment, which tests the skills of even seasoned orthodontists. To achieve this, we have designed "Versatile Implant Assisted Intrusion Bite Blocks with Implant Positioning Guide."

Appliance Construction

It consists of two acrylic bite blocks connected with two rigid palatal arches (1 mm SS wire) (**Figure 1A**). Dumb-bell shaped hooks are extended interdentally on buccal as well as palatal side, which aids in positioning the implant guide (**Figures 1B and 1C**) and later serves as site for force application with different vectors as indicated in patient (**Figure 1D**).

The implant guide is fabricated using round 0.018 stainless steel wire (A.J.WILCOCK). It has three helices of 3 mm diameter with a predetermined length of wire which can be secured in the dumb-bell hooks embedded in acrylic (**Figures 1B and 1C**). With this assembly in situ, a radiograph is taken to decide the appropriate site and corresponding helix for implant placement (**Figure 1E**) which then is used as a guide for implant insertion.

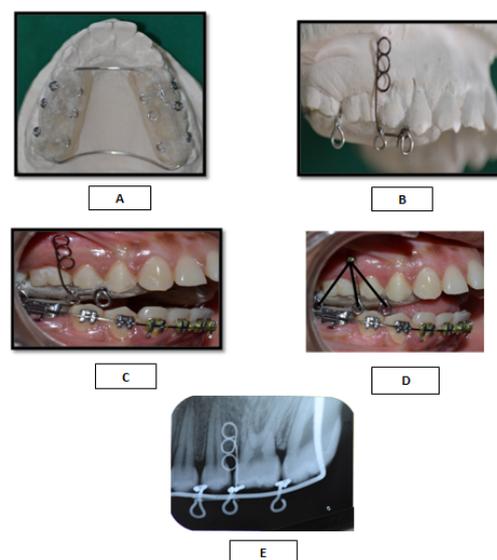


Figure 1: Description of appliance.

A - Occlusal view of appliance showing palatal bars and dumb-bell hooks.

B - Implant Positioning Guide with Appliance in place on cast.

C - Implant Positioning Guide with Appliance placed in Patient's mouth.

D - Various vectors of line of force depending on hook used as site of engagement of elastics.

E - IOPA with appliance and implant guide in place to decide the site of implant placement.

Versatility of the Appliance

Early active intrusion of posteriors can be initiated even without any fixed appliance bonded in the arch.

Implant assisted Intrusion can be achieved from buccal as well as palatal aspects.

Bite block prevents the reactionary forces e.g. Buccal flaring when the force is applied only from buccal aspect.

Vector of force application can be varied by engaging elastics to suitable hooks (**Figure 1D**).

Ease of attachment of implant guide without disturbing the existing appliance.

The use of this appliance in our department is the testimony of its usefulness. The photos of an open bite case treated using this appliance is added proof of its use (**Figures 2–5**).



Figure 2: Pre-treatment intra oral photographs.



Figure 3: Intra oral photographs of appliance in place with implant positioning guide.



Figure 4: Intrusion forces applied from implants using elastics.



Figure 5: Post intrusion occlusion.