

# Bite Raiser Treatment With Class II, Division 2 Malocclusion

[en Espanol](#)

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It is a common belief that the mandible is placed posteriorly in Class II, division 2 malocclusions. The morphologic characteristics of this type of malocclusion demonstrate a retroclination of upper incisors in combination with a deep bite. It is assumed, when the retroclined upper incisors and deep bite are corrected, the mandible will spontaneously move forward and thereby simplify the orthodontic correction of the distal occlusion.<sup>1</sup> Otto<sup>2</sup> noted that the patients who are brachiocephalic with a deep bite can only be treated by protrusion and intrusion of lower incisors. Ricketts<sup>3</sup> advocates that the only principle in the treatment of deep bite cases is intrusion/protrusion of incisors, especially mandibular incisors. Demirhanoglu et. al.<sup>4</sup> reported that there is a correlation between the reducing the interincisal angle and opening the deep bite. They also investigated molar extrusion but not the correlation of the rolling in of the molars in relation to bite opening.

Lower incisors brackets are frequently sheared off by biting forces in deep bite cases with minimal overjet.<sup>5</sup> Bite opening procedures are usually instituted early in treatment, both to maximize patient cooperation and to allow antero-posterior tooth movements that might otherwise be hindered by the deep bite. If one were to wait until significant bite opening occurred, before bonding the lower arch, many months of potential progress could be lost.

In many cases, orthodontists select removable bite planes. Successful treatment depends on full-time wear of the bite plane. Unfortunately, a significant number of patients do not fully cooperate and appliances are often worn only part-time or are lost or broken while out of the mouth.<sup>6, 7</sup> Failure to delineate removable appliance wear schedules leads to slower treatment responses or none at all.<sup>8</sup> Removable appliances can also produce mucosal trauma and have hygiene problems. Bonding of restorative materials onto the occlusal surfaces of posterior teeth can be performed as an alternative. Application of these materials is an appropriate method for bite opening, however the bonding strength of these materials may be insufficient to resist the occlusal forces due to the absence of any cavity preparation. Also, this method could not ensure proper oral hygiene, since these materials could not be sufficiently cleaned after being applied.

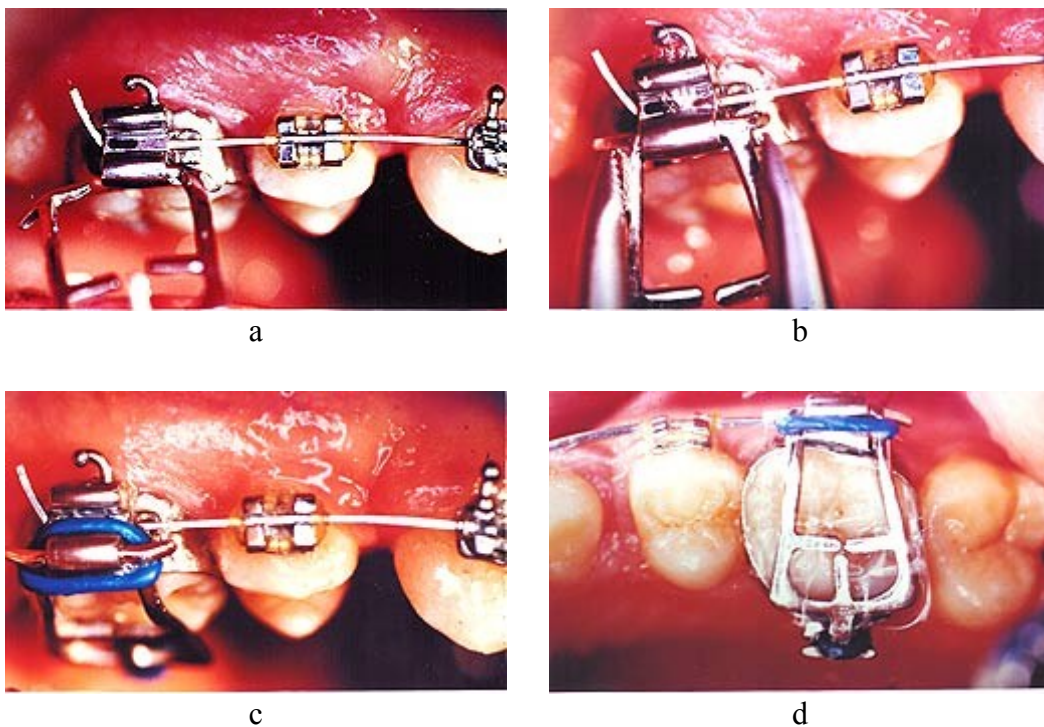
The following portion of the article describes opening deep bites with a fixed auxiliary; Guray bite raiser\*. This fixed appliance eliminates the need for cooperation, laboratory work and restorative materials. Although, being a fixed appliance, there is no need to cement or bond it.

## Technique

Clinical application of the bite raiser takes a few minutes of chair time.

1. Insert the raiser into the headgear tube (Fig. 1 a, b),
2. Tie the proximal wings (Fig. 1 c),
3. Twist it over the molar tube and tie the T spur to your palatal button (Fig. 1d)
4. When the palatal tie is cut, the bite raiser hinges on the molar and that allows for checking of the occlusion. In patients that need more vertical opening, you can bend the T spur to the opposite side and easily increase the bite opening.
5. Place .016 NiTi archwires in both dental arches,
6. Within 3 to 5 weeks of initial bracket placement, the bite should be opened enough to prevent the lower incisors brackets from any shearing forces.

Fig.1



### Case Report

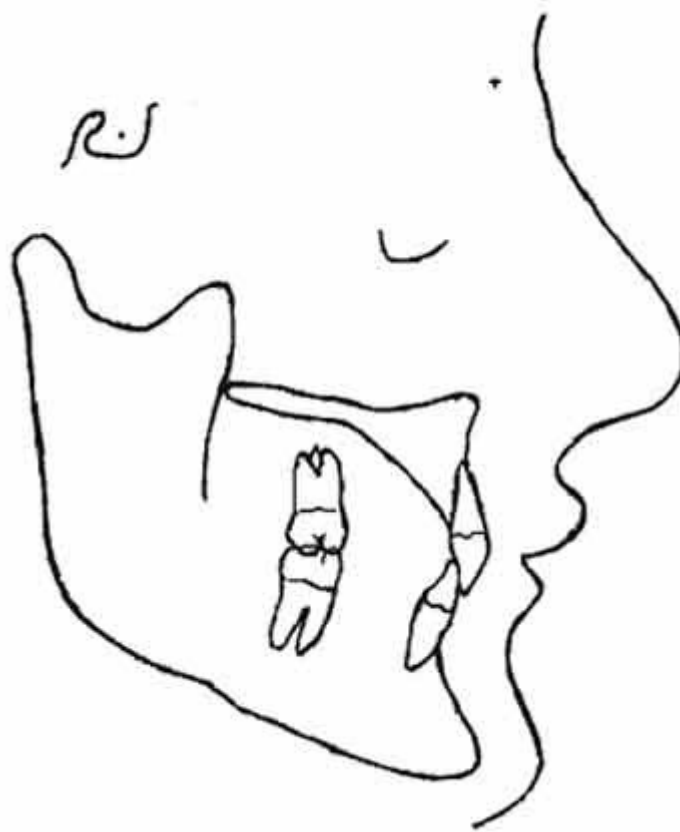
A 15-year-old female presented with a Class II, division 2 incisor relationship (Fig. 2) on a Class II skeletal base (Fig.3). The lower central incisors were trapped behind the upper central incisors which also forced them backwards. There was an overbite of 4-5mm.

Fig.2



Fifteen year old female with Class II division 2 and a Class II skeletal pattern.

Fig. 3



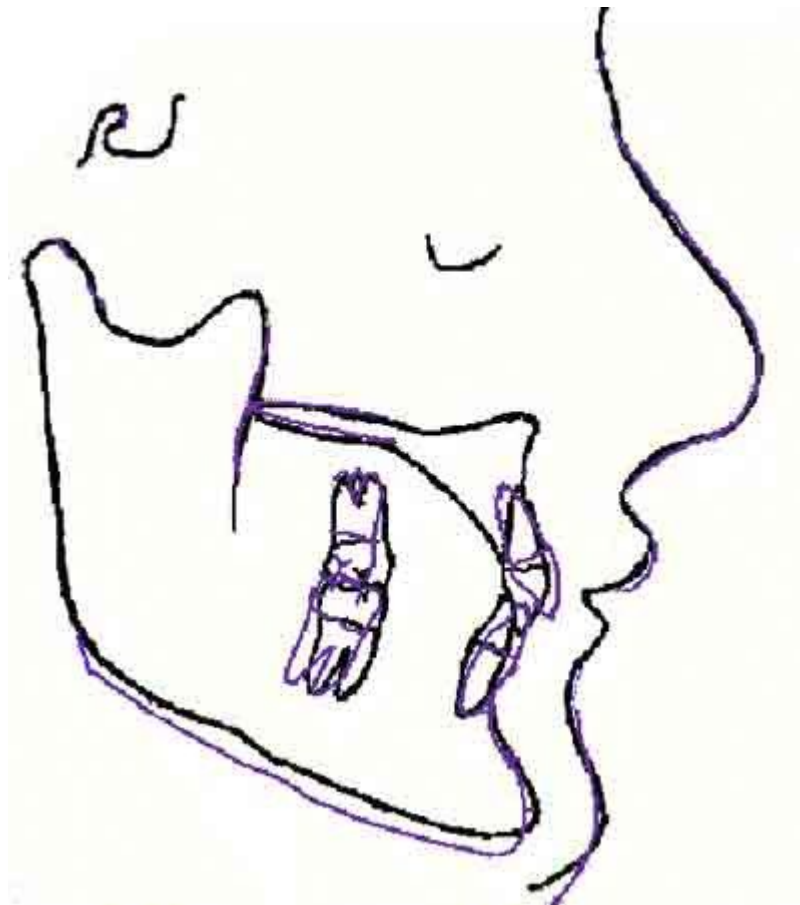
Bite raisers were placed on both first molars to permit opening of the deep bite. This made it easy to bond the lower arch in the same appointment. . Seven weeks later the case became a Class II, division 1 malocclusion (Fig. 4 and Fig. 5).

Fig. 4





Fig. 5



Cephalometric changes after 7 weeks of bite raiser treatment are shown below. A significant reduction; from  $157.2^{\circ}$  to  $128.6^{\circ}$  occurred in the interincisal angle (Table 1)

**TABLE 1**

**CEPHALOMETRIC ANALYSIS**

	Initial	Final	Norm
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SNA	77.6°	78.3°	82.0°
SNB	76.5°	76.0°	80.0°
ANB	1.1°	2.3°	2.0°
Mx 1 - NA	3.4 mm	5.8 mm	4.0 mm
Mx 1 - NA Angle	5.7°	24.9°	22.0°
Md 1 - NB	2.2 mm	5.2 mm	4.0 mm
Md 1 - NB Angle	15.9°	24.2°	25.0°
PO - NB	8.6 mm	7.2 mm	1.0 mm
Occlusal Plane -SN	23.4°	22.2°	14.0°
GO -GN - SN	28.8°	31.3°	32.0°
Interincisal Angle	157.2°	128.6°	130°
FMA	17.0°	21.9°	25.0°
FMIA	72.3°	61.3°	65.0°
IMPA	90.6°	96.9°	90.0°
Maxillary Convexity	-3.3 mm	-1.2 mm	0.9 mm

## Conclusion

This treatment procedure has proven to be simple, with less chair time and no need for laboratory work. It does not depend on patient cooperation, nor does it interfere with oral hygiene. Because of its short-term use, the bite raiser appears to have no adverse effects on maxillary molar positions. The bite raiser simplifies the orthodontic correction of the Class II, division 2. The simultaneous bonding of the lower arch facilitates bite opening.

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