Temporary Bite Opening with Güray Bite Raiser™

Dr. Enis Güray*
Int. Dt. Yaman Güray**

Ortho Technology, Inc. White Paper Report
Dr. Enis Güray is a published author, inventor, professor, orthodontist, and member of the Turkish Orthodontic Society, Société Française d’Orthopédie Dento-faciale, European Orthodontic Society, and the World Federation of Orthodontists.

Born in Istanbul, Turkey in 1958, Dr. Güray attended Saint Joseph French College from 1970-1977, then the University of Hacettepe, Faculty of Dentistry, Ankara (5 year curriculum) from 1977 – 1982. He was a DDS, Instructor from 1982-1986 at the Department of Orthodontics, University of Hacettepe (4 year program) then went on to obtain his PhD in 1986 for University of Hacettepe Thesis: *The Effects of Nasal Obstruction to Dento-facial Structures*. Dr. Güray has held a private practice while at the same time being a clinical instructor and lecturer at the University of Selçuk, Department of Orthodontics, Konya and later the University of Çukurova, Department of Orthodontics, Adana. He is the inventor of the Güray Instant Bite Raiser, EZ Space Maintainer®, and EZ Slider™.

Dr. Enis Güray
enisg@orthotechnology.com

What is the Need for a Bite Opener?

Orthodontists often need to open the bite in the beginning stages of treatment to avoid traumatic occlusion caused by bracket interferences, cross bites, or other impediments to tooth movement.

What’s Wrong With Current Devices?

Many devices have been utilized for this purpose, including anterior or posterior bite splints, bonded lingual bite planes or Bite Turbos®, Bite-Builder®, and bonded occlusal composite resin build-ups (1,2, 3).

All of these devices have some limitations. Bite splints require impressions, laboratory procedures, and additional appointments for insertion and monitoring. Removable plates also require full patient cooperation (4).

Bonded lingual biteplanes are not adjustable and can be difficult to remove. Composite resin build-ups require additional chair time and may cause undesired occlusal enamel wear if filled resins are used (5). In addition, the composite may become worn down and ineffective due to bruxism, requiring additional chair time to restore it to the appropriate height (1). Fine proposed bonding lingual brackets to the maxillary central incisors, but recommended limiting this technique to Class I or Class II, division 2 cases with minimal overjet (6). Furthermore, the lingual brackets can be as fragile as the mandibular facial brackets they are designed to protect.

Introduction of the Güray Bite Raiser™

In 1999, Güray introduced a new type of bite-opening appliance, the temporary bite raiser (7). This was made of .040” stainless steel wire that was adapted to the occlusal surface of the maxillary first molar. At the time of its introduction, the principal drawback of the appliance was the time necessary to fabricate it at chair side. However, a prefabricated version of Güray’s device*** has been introduced. It has been found very effective under most conditions when molar bands with headgear tubes are used (1, 8, 9, 10, 11).
The Güray Bite Raiser™ is designed to be inserted into the headgear tube and then hinged into place over the occlusal surface of the maxillary first molar. It is tied with a stainless steel ligature to the headgear tube from its vestibular wings. Güray Bite Raisers™ are manufactured in two sizes, 0.8mm thickness for children and 1.0mm thickness for adults, which can accommodate most bite-opening requirements (Pictures 1-6). It has been found that bilateral placement balances the posterior occlusion more effectively and comfortably for the patient.

Advantages of the Güray Bite Raiser™ Found Through Case Studies

Doruk and his co-workers reported its usage on Class II, Division 2 cases and concluded that the Güray Bite Raiser™ 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. Thanks to its short-term usage, the bite raisers appear to have no adverse effects on maxillary molar positions. The Güray Bite Raiser™ simplifies the orthodontic correction of the Class II, Division 2, deep-bite cases with the simultaneous bonding of the lower arch (8).

Gökalp and Uslu reported its usage on Class III cases and concluded that the temporary usage of the Güray Bite Raiser™ allowed simultaneous fixed appliance treatment and overbite reduction. Patient was treated to an ideal result, with full occlusion and a harmonious facial profile with the help of the Güray Bite Raiser™ (9).

Ceen’s study reported several advantages of the Güray Bite Raiser™ over existing techniques (1):

- It can be placed or removed easily and quickly without patient discomfort or the need for special instruments.
- The patient's bite relationship can be assessed as often as necessary by removing the ligature and hinging the device to check the occlusion.
- No laboratory procedures are required.
- Patient acceptance has been comparable to that of other bite-opening appliances.
- The stainless steel appliance is adjustable and designed for use with either occlusally or gingivally placed headgear tubes.

The major disadvantage of the Güray Bite Raiser™ is that it may not allow headgear or auxiliary wires to be placed simultaneously (1). However, again thanks to its short-term usage, the clinician can perform the headgear therapy after eliminating the bite problem.

In addition to its advantages, the Bite Raisers could be used successfully in lingual technique for temporary bite opening (10).

W. Alexander’s review about the bite opening appliances reports that the Güray Bite Raiser™ works very well in opening the occlusion in patients with Class II deep-bite. He also found it very effective for the correction of anterior cross-bites (11).
Application of the Güray Bite Raiser™

**Picture 1:** Insert the proximal wings of the Bite Raiser into the headgear tube and tie the proximal wings to the headgear tube with a stainless steel ligature followed with an elastomeric separator.

**Picture 2:** Overlay the Bite Raiser onto the molar occlusal surface and tie the "T" spur to the palatal button or lingual cleat with an elastomeric separator.

**Pictures 3 (a-d):** Lateral frontal and the occlusal initial views of the patient with left upper lateral cross-bite.
Pictures 4 (a-d): Bite is temporarily raised to provide an unobstructed movement for the lateral incisor.
Pictures 5 (a-d): Cross-bite is corrected.

Conclusion

Because of its short-term usage, Güray Bite Raiser™ appears to have no adverse effects on maxillary molar positions. Long-term wear might produce some molar intrusion, which could be reversed with appropriate wire bending during the course of treatment (7).

REFERENCES:


*Dr.Güray (Assoc.Prof.) is a lecturer and clinical instructor in the Department of Orthodontics, Erciyes University, Kayseri and in the private practice of orthodontics at Cinnah Cad. No:37/3 Cankaya Ankara, Turkey.

**Int. Dt. Yaman Güray is a dental student at the Ankara University, Ankara, Turkey.

***Ortho Technology, Inc., Tampa, Florida, USA.

US Patent No. 6,726,473 B1 and EP 1 217 965 B1

© 2012 Ortho Technology, Inc. Güray Bite Raiser is a trademark of Ortho Technology.