



TECHNICAL GUIDE

MARA Mandibular Anterior Repositioning Appliance



Description:

The MARA Appliance is constructed with oversized stainless steel crowns on the upper and lower first permanent molars. The appliance consists of “Elbows” which insert into tubes on the maxillary crowns and “Arms” which protrude from the mandibular crowns in a buccal direction. The “Elbows and Arms” are positioned so that when the patient attempts to occlude, the mandible must posture forward or the “Elbows and Arms” will interfere. The standard design of the appliance includes a maxillary transpalatal wire and a mandibular lingual arch. Expansion components may be added on either or both the upper and lower appliances. The stainless steel crowns aid in controlling vertical (skeletal) opening that may occur as a result of treatment. In a deep bite or counterclockwise growth case the tops of the crowns may be removed to limit intrusion of the molar teeth. The MARA appliance is best used for patients 12 years of age or older.

Indications for use of MARA Appliance:

- Overjet.
- Class II growth pattern.
- Patients with TMD.

Contraindications for use of MARA Appliance:

- Class III growth pattern.
- The majority of patients younger than age 12.
- Cases where severe crowding has not yet been addressed.



Alternate Appliances:

- Bionator or Orthopedic Corrector.
- Cantilever Bite Jumper.
- Clark or Mahony Twin Block Appliance.
- Ric-a-nator.
- Twin Force Bite Corrector.



Clinical Procedures:

1. Complete maxillary and mandibular alginate impressions. Obtain a wax bite at normal bite relation. Place separators mesial and distal to the maxillary and mandibular first permanent molars.
2. Pour models with lab stone. Mark the models with indelible pen or pencil to the desired advancement position.
3. Send case to lab with a completed **Orthodontic Technologies** laboratory prescription form. Indicate the amount of initial advancement desired on the prescription form.
4. Remove separators. Trial fit the appliance, adjust as needed, and prepare for cementing in place.
5. Give instructions to the patient and parent on wear, care, and adjustment procedures.

Delivery Suggestions:

Any brackets in place on the second bicuspid will most likely need to be removed. A glass ionomer cement is normally used to cement the MARA appliance. Many practitioners prefer to use a separator such as Chap Stick on the occlusal aspects of the teeth prior to cementation to facilitate cleanup at the end of treatment. Crown removal holes of approximately 4mm in diameter may be placed on the mesial/buccal/occlusal of the lower crowns, and on the mesial/lingual/occlusal of the upper crowns. A mesial/lingual horizontal slit, halfway from the gingival margin to the occlusal of the crown may also be placed on the upper crowns for facilitation of removal.

Adjustment suggestions:

The MARA Appliance is delivered to the treating clinician with a “Torquing Key” and a selection of “Advancement Shims”. The “Torquing Key” should be used to make sure that the “Elbows” do not impinge on the buccal gingival tissue or excessively protrude into the cheek. The “Elbows” should be secured into the maxillary buccal tubes with a ligature tie and separating elastic.

The initial advancement of the mandible should normally be no more than approximately 3mm. After an initial period of approximately three months the mandible may be further advanced by replacing the “Advancement Shims” with longer or additional shims for further advancement of the mandible. Each subsequent advancement of the mandible should be no more than approximately 3mm.

Length of treatment time, and results expected:

Nine months to 1 year of MARA wear is minimal, however, depending on the age, growth stage of the patient and the severity of the Class II occlusion, more treatment time may be required. At the end of MARA Appliance therapy a holding appliance such as a Phase II Twin Block or a Ric-a-nator may be needed to stabilize the results while the dentition is detailed with brackets and archwires.

Soft tissue responses to the appliance:

Wax should be provided to the patient to use over the buccal hardware until the tissue becomes accustomed to the irritation. Due to the amount of clearance required in the buccal vestibule to prevent ulceration, the appliance is not recommended for most patients under 12 years of age.

The profile should immediately appear more pleasing upon insertion of the MARA appliance, although it may take several days before the musculature appears relaxed and unstrained.

Removal Suggestions:

To facilitate ease of removal, utilize the occlusal holes and horizontal slit placed at the delivery of the appliance. A crown removing plier should be used to free the appliance from the dentition. Remove excess cement and clean up as usual.

Bibliography

Rondeau, Brock, D.D.S., I.B.O. “Mara Appliance”. *The Functional Orthodontist*, Summer 2002