

The Mandibular Anterior Repositioning Appliance

“The MARA is a functional appliance because it postures the patient’s lower jaw in a forward direction, and normally promotes growth in the same direction.”

Appliance Design

The MARA appliance was a joint creation in 1991 by Dr. Douglas Toll of Germany and Dr. Jim Eckhart from California. The MARA was similar to the Herbst appliance, but low in bulk, easily tolerated by patient’s and has reduced breakage issues.

As demand for the MARA has increased over the years, the appliance has been modified, simplifying an already simple alternative to the Herbst. The appliance now comes in a variety of designs enhancing patient comfort and advancement capabilities as well as accommodating expansion in the upper and/or lower arches.

As the orthodontist becomes comfortable in their command of the appliance, the simplicity of design becomes more appreciated because there is little to master.

Benefits of the MARA

- The patient’s profile immediately looks better after the appliance has been inserted.
- Class II malocclusions are treated more efficiently, making treatment much easier on the orthodontist, staff, patients and parents.
- The MARA gives an immediate distal movement to the upper first molars and a simultaneous mesial to buccal rotation. (At the appropriate time, these movements will need to be stopped.)
- Stainless steel crowns are easy to fit and have more retention than bands.
- There are no removable parts, so cooperation is not an issue and treatment time is more predictable.
- Breakage is minimal and hygiene is not a problem.
- Orthodontic appliances can be worn in conjunction with the MARA.

Appliance Usage

The MARA appliance is mostly used in the late mixed dentition stage of development and all the way through advanced adulthood. Adults are apparently capable of remodeling of the fossa and reshaping of the condyle, but this predictability is not yet certain.

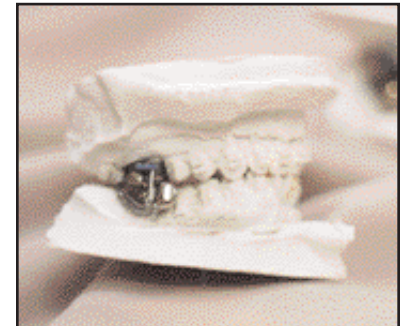
It is a little more difficult to use the MARA in the early mixed dentition because there is insufficient room in the cheek area, although some successful Class II treatments have been reported using primary first molars as anchorage.

Indications for MARA

- The upper jaw is in good position and you want to advance the mandible.
- It is desirable to inhibit maxillary anterior growth and produce an increase in mandibular length.
- You want to recapture a prolapsed disc.
- Adult cases, when lower jaw surgery is not an option, needing a good compromise Class II correction. While the result is mostly dental, some mesial migration of the fossa may occur.

Mechanics of the MARA

The MARA appliance addresses non-compliance concerns because it is permanently attached to the teeth for the duration of treatment. When the patient tries to bite in Class II, the fixed lower arms interfere with closing, allowing them to only close in Class I. The patient is forced to bite forward in front of the upper (elbow) and is guided by the appliance to habitually hold the jaw in a Class I relationship. Patients normally adjust to this change within a week.



Lab Requirements

Impressions should be poured in hard ortho stone. The models must be free of any voids or distortions. The work models will be hand articulated into the advanced position, usually a Class I, edge-to-edge. Mark advancement guidelines on the models in pencil extending from upper to lower arch. Also mark midlines. Johns Dental will use these lines to mount the models to the clinician’s prescription.

Note: A wax construction bite helps if there is much interocclusal space between the molars when the mandible is protruded.



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