

CARRIERE® MOTION™ APPLIANCE

A Comparison with Forsus™

	<i>Motion Appliance</i>	<i>Forsus Fatigue Resistant Device E22 Module</i>
Profile		
Class II	Yes	Yes
Number of Components Needed per Patient Case	Two: one right and one left per patient	Many components: springs, right and left modules, left push rod, right push rod, and universal split crimps
Band Requirements	No bands required when using a clear plastic aligner or TAD as source of anchorage.	Molar bands required
Buccal Tube Requirements	Any buccal tube can be used. When using a plastic aligner, a direct bond buccal tube can be used with the lower lingual arch option. Any direct bond buccal tube or direct bond button can be used when using the plastic aligner as anchorage.	Doctor must select an occlusal headgear tube.
Fatigue Failure	No built-in mechanism that can fatigue.	Appliance is made of a built-in mechanism, composed of many small parts, that can fatigue or break over time.
Archwire Requirements	None, as appliance is used prior to brackets and wires.	Requires .017" x .025" or .019" x .025" archwire, depending on slot size.
Method of Archwire Attachment	Not applicable	Wraps loosely around the archwire and is braced by the cuspid bracket, providing risk of debonding the cuspid bracket.
Patient Comfort: Mandibular Movement	Allows full lateral, mandibular movement. No changes are needed when patient eats.	Sufficient lateral, mandibular movement. If patient opens his/her mouth too widely, it may separate or loosen a molar band.
Patient Comfort: Tissue Interaction	Extremely comfortable: Appliance is very smooth and extremely low profile.	The large, exposed coil spring can chafe the cheek and gather debris. Springs may also be compressed creating some trauma.
Aesthetic Aspect on Patient	Appliance is barely noticeable once in place, making it highly accepted.	Bulky, making it visible on the patient when smiling or talking.
Hygiene	Food does not get trapped and the patient is still able to brush and floss normally with the appliance bonded.	Food gets trapped in the open coil strong assembly design requiring the patient to take necessary steps to clean out the appliance.
Activation and Reactivation	Only Class II elastics needed for activation.	Reactivation is required to maintain force levels and facilitate continued advancement.
Staff Training Required	Orthodontic staff can be quickly trained over on placement of the appliance.	System requires extensive, detailed training; a course is recommended.
Patient Compliance	Extremely high, because the appliance is used before bracketing, when patients are eager to start their treatment.	Not required
Appliance Requirement	Can be used in cases that will be treated with a fixed appliance or clear aligner system – no limitations.	Can only be used for patients treated with fixed appliances.
Overall Treatment Time	Reduces overall treatment time by 3 to 6 months.	Does not affect the overall treatment time.
Clinical Efficiency 1	At the beginning of treatment, appliance transforms a Class II case into a Class I case making the overall case easier to treat.	Some efficiency due to the lack of patient compliance.
Clinical Efficiency 2	If needed, rotation and uprighting of the maxillary 1 st molars occur automatically until they reach the correct position, without requiring intervention. Built-in stop prevents over rotation and over-uprighting.	If rotation of the molars are needed, other mechanics need to be performed.
Installation Time	6-7 minutes*	12-15 minutes*
Removal Time	2-3 minutes*	4-5 minutes*

* Time based on average clinical experience. Time may vary per clinician.

SHIFTING THE WAY YOU THINK ABOUT ORTHODONTICS

Tooth Movement that the *Motion Appliance* Fosters

The *Motion Appliance* is designed to cultivate cuspid and buccal segment distalization that precludes such undesired side effects (Figure 2a-d) as well as offer technique simplicity and ease of delivery. It is based on the innovative biomechanical concept of "free but controlled" tooth positioning.

The primary biomechanical objectives for the *Motion Appliance* are to:

- Provide controlled rotational movement of the maxillary first molar around its palatal root.
- Upright the maxillary first molar.
- Create a uniform biomimetic force to obtain univectorial dental displacement.
- Distalize the maxillary posterior segment (cuspid to molar) as a unit while controlling for unwanted torquing and tipping.
- Require only a light force to be activated yet be completely passive when traction is not being employed.
- Respect periodontal structures.
- Establish a Class I Platform from which the clinician can finish the case simply and efficiently using the finishing appliance of choice.

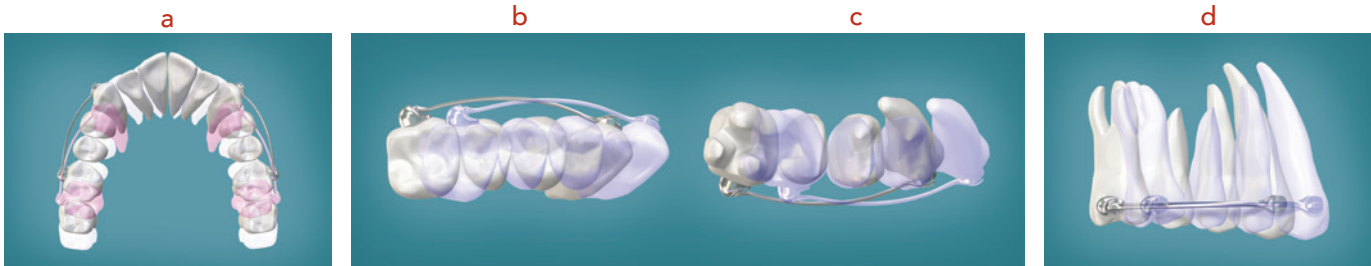


Figure 2a-d

The *Motion Appliance* translates the maxillary cuspid and buccal segment as a unit after derotating and uprighting the maxillary 1st molar, providing a platform for the cuspid and buccal segment to occlude in Class I.

Published Articles on the *Motion Appliance*:

A New Class II Distalizer by Dr. Luis Carriere, Journal of Clinical Orthodontics, April 2004

Carriere Distalizer and Invisalign® Combo for Class II Treatment by Dr. Clark Colville, Clinical Tips & Techniques, August 2012

Class II Correction with the Invisalign System Using the Carriere Distalizer Correction Appliance by Drs. Julia Haubrich, Iris Neumann, Werner Schupp, Journal of Clinical Orthodontics, 2010

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