

Appliances, etc.

VOLUME 4, NUMBER 1, 2000

Thinking Appliances...

We take great pride in announcing the merger of the two finest orthodontic laboratories in our profession - AOA and Professional Positioners. Both companies have long been recognized for their leadership in our industry. Together, AOA/Pro will be the most dynamic laboratory serving the orthodontic community.

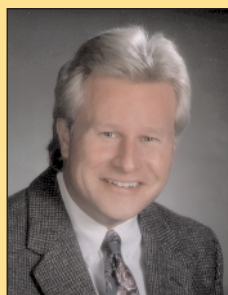
The reason this merger fundamentally makes sense is that it supports both laboratories in their dedication to be better at every level. Better at achieving the best turnaround time in the industry, better at consistently delivering the highest quality appliance possible and better at being at the leading edge of new technologies to better serve our customers.

Without a doubt, the greatest benefit of the merger is reflected in the strength of our combined management and technical staff. No other orthodontic laboratory can claim the years of overall experience at virtually every level of operation. From a technical standpoint, AOA/Pro will field the finest team of experts assembled under one banner. Our team understands appliance fabrication and appreciates the fact that each doctor may require a customized appliance design. Additionally, this unique level of expertise will allow us to continue development of proprietary appliance technologies such as the MARA and Distal Jet, as well as continuing refinements to Herbst appliance designs and a myriad of fixed and removable orthodontic appliances.

As cofounders of AOA, Max Hall, our National Sales Manager, and I will remain in our current positions for the newly merged AOA/Pro. Paula Allen-Noble will continue as Clinical Liaison, John Fuller as Project Manager, John Dobson and Dennis Post as Production Managers of their respective departments and Patti Dodge as Manager of Customer Service. Sandy Ivanoski will serve as our Human Resource Manager and Tom Pella as the Financial Manager for AOA/Pro.

AOA and Professional Positioners will continue to operate under separate facilities until June 2000. Please contact AOA at 800-262-5221 and Pro at 800-742-6640 should you have questions regarding our merger.

David Allesee, General Manager
AOA/Pro Laboratory



Tooth Positioners STILL THE BEST FINISHING APPLIANCE

by Jerry R. Clark, DDS, PA



Having practiced orthodontics for almost 25 years, it has been my privilege to create thousands of beautiful smiles. But, in my opinion, the true test of my orthodontic skills is in my ability to produce not only a beautiful smile but also the very best occlusal relationship for each and every patient I treat. Even with wonderful new advances in orthodontic treatment and great appliances like the Herbst,* MARA, Pendulum, Distal Jet, and new brackets and temperature-sensitive wires, the finishing appliance used in our practice has remained virtually the same for 25 years – the gnathological tooth positioner.

Why use tooth positioners?

When I began my orthodontic career in 1975, I mounted every comprehensive case I completed just prior to the removal of appliances. As hard as I tried to meticulously complete every case to a perfect occlusal relationship, much to my dismay, there were always occlusal interferences present. It was at that time I realized if I was going to provide the finest treatment for each and every patient I treated, I would need an additional step – a finishing appliance – which would help to refine the occlusion once the orthodontic appliances were removed.

How are cases finished?

The procedure required to finish cases in our practice is relatively simple. The final wires used are .018 archwires with soldered spurs, and up-and-down elastics are placed in the buccal segments to “sock in” the occlusion. We use this technique for a number of reasons. First, I have found that if the elastics are attached to hooks on the brackets, the roots of the teeth tend to be forced to the buccal, thus producing too much root torque. Second, with the elastics attached to the wire, the teeth are free to settle in more quickly (if the elastics are worn conscientiously by the patient – I’m sure that’s never a problem in your practice!). We also take a panoramic radiograph prior to placing the archwires to check for root parallelism, and compensating bends are placed in the archwire to ensure we obtain the desired root and crown alignment. Rotated teeth are tied in with steel ligatures, as are offsets, to correct discrepancies in marginal ridge heights. We use the checklist included in this article to make sure every detail in finishing the case has been checked and double-checked.

What does the laboratory need to make a gnathological positioner?

Once the desired occlusion has been achieved, we are ready to take the impressions for the gnathological tooth positioner. One additional benefit of using the up-and-down elastics is that it makes the teeth loose,

* Herbst is a registered trademark of Dentaaurum.

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so they will respond better to the forces placed on them by the positioner once it has been inserted. Upper and lower archwires are removed to ensure that the best possible impression is obtained. Impressions are taken, a centric relation wax bite is obtained, and a facebow transfer is made. The models are later poured and then mounted on an articulator using the centric relation bite registration. The casts are then removed from the articulator and sent to AOA (Allesee Orthodontic Appliances) so the positioner can be constructed. The consistent quality of the positioners and great customer service that we receive are the main reasons we have chosen to work with this company. There are a variety of colors and positioner materials available, and the patients enjoy selecting a color that matches their personality. Anything from clear to a rainbow of colors is available – kids love to be creative in selecting the design of their positioner.

What is the next step?

Prior to the removal of their appliances (at the facebow appointment), we have begun explaining to the patient that the braces will soon be removed and what the next step in their treatment process will be – the tooth positioner. We explain what it's designed to do, show them various styles, let them make color selection, and prepare them to wear their next orthodontic appliance. We treat the appliance removal as a celebration – all brackets and bands are completely removed, the teeth are thoroughly cleaned and polished, and gifts are given to the patient to commemorate this important occasion.

What instructions are given to the patient for wearing their positioner?

Instructions for wearing the tooth positioner are quite simple – 24 hours a day for the next week. Impossible, you might think. Not really. We want fantastic wear for a short period of time. Therefore, we have devised the letter attached to this article, which has been incredibly helpful in getting even the noncompliant patients to wear their positioner. With the teeth already being loose, it is amazing how well everything falls into place with short duration/full-time positioner wear. Additionally, this appliance helps to condition the gingival tissues and closes posterior band spaces.

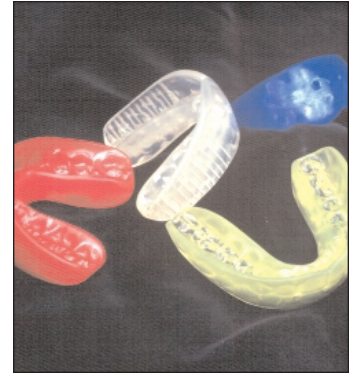
What about retainers?

Our long-term retention appliances are still retainers. After one week of constant positioner wear, the patient returns and impressions are obtained for retainers. At this time we are using an upper heat-molded clear retainer and a lower modified-spring retainer. The patient is told that these retainers, if worn properly, will keep their upper and lower teeth straight. However, in order to maintain the proper biting relationship, we would like them to wear their positioner one hour each day. Our complete protocol for the wearing of retention devices is also included in this article.

Do positioners really work?

Several years ago, during a particularly hot July in North Carolina, we inserted a positioner in a very compliant patient. The next week, when she returned to have impressions taken for her retainers, she was in complete crossbite on the right side. I knew the case had been completed properly, so something had happened. We later learned that the positioner had been exposed to extreme heat and had become distorted. We returned the set-up to the laboratory and a new positioner was constructed. Sure enough, after wearing the new positioner for another week, the crossbite was corrected and the occlusion was great.

There are probably a lot of things I could do without and still continue to provide excellent orthodontic care for my patients, but the tooth positioner is not one of them. I am totally convinced that



if you are committed to providing the very finest treatment available today, the tooth positioner is a necessity.

Dr. Clark has maintained a full-time orthodontic practice in Greensboro, North Carolina, since obtaining his masters degree in orthodontics from St. Louis University in 1975. He is also CEO of Orthodontic Management Group (800-621-4664) a consulting firm dedicated to providing comprehensive and highly valued consulting and management services to independent orthodontic practices.

CONGRATULATIONS!

The **first phase** of your orthodontic treatment is complete! We are now entering the **second phase**, which is equally as important.

It is important for you to remember that –

Your Teeth Can Still Move!

We will continue to monitor your teeth for at least two years – at no additional charge.

Follow the instructions below, exactly, for your retainer wear:

- | | |
|----------------------------------|---|
| 1st Week | • Wear your positioner 24 hrs/day |
| Until you receive your retainers | • Wear your positioner 4 hrs/day and while sleeping |
| 1st Year | • Wear your positioner 1 hr/day • Wear your retainers 23 hrs/day |
| 2nd Year | • Wear your positioner 1 hr/day • Wear your retainers while sleeping |
| Ongoing* | • Wear your retainers while sleeping |

* Even with excellent cooperation, your teeth can still move. We strongly urge you to continue nighttime retainer wear indefinitely.

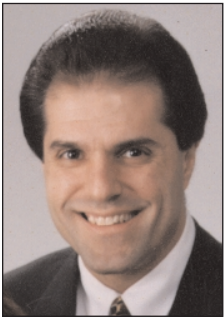
Please call immediately should anything happen to your retainers (lost, broken, stolen). Your teeth will move quickly if your retainers are not worn properly.

The first set of retainers is included in your treatment fee.

A charge of \$75 - \$150 will be incurred to replace lost or broken retainers. If the teeth move and braces are again required, the fee can be much more.

Good luck! If you ever have any questions about your final phase of treatment, please call. We are always happy to see you. And remember – **Smile!**

Mandibular Arch Developer (MAD Appliance)



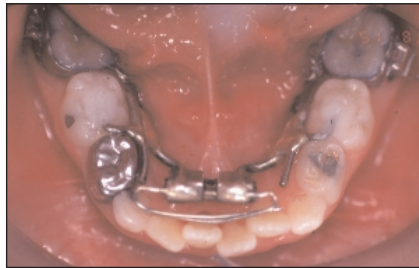
by George A. Souris,
DDS, MSD

For years now, I have been heavily involved with early interceptive orthodontic treatment. In this nonextraction environment of arch expansion, one of the pressing issues for my office has been mandibular expansion and arch development. Although numerous fixed appliances exist for maxillary molar distalization and expansion, the same can't be said for the mandible. Over the years, I have utilized numerous appliances, including lip bumpers and removable expanders, with fairly good success but have seen several drawbacks, including complaints about esthetics, patient discomfort, and lack of patient compliance.

The mandibular arch developer (MAD appliance) is a lingual appliance designed to gain maximum expansion and molar distalization with minimal patient compliance, discomfort, and obtrusive appearance. The design of the MAD appliance is based on a combination of effective molar distalization with a double helix system and arch expansion with a screw placed lingual to the anteriors. The appliance is bonded to the arch preferably at the tooth mesial to the first molar (deciduous second molar or second bicuspid). The vertical helix is designed to distalize molars bodily and the horizontal helix offers rotational control despite lingual force application. The result is controlled distal molar movement without tipping or rotation and consistent arch expansion with high patient acceptance and comfort.

The MAD appliance can be used for both early interceptive care as well as adolescent treatment with full fixed appliances.

Before



Early Interceptive Treatment

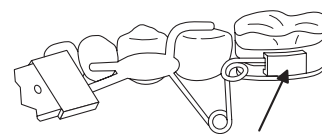
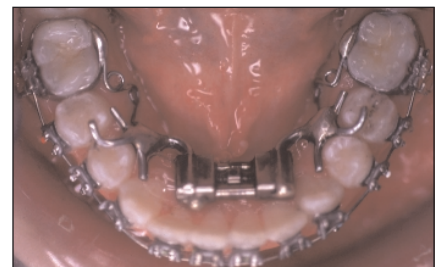
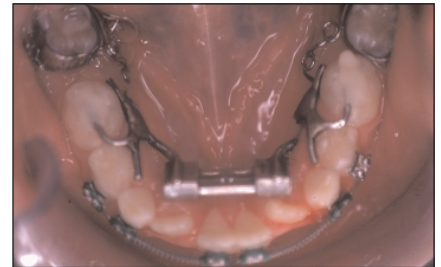
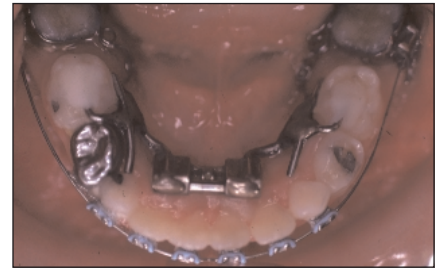


Early Interceptive Treatment

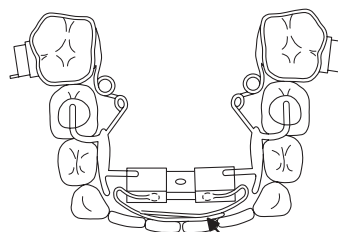


Adolescent Treatment

After



Sheather version of appliance
to allow for easier placement



Optional arms to
push incisors forward

Clinical Advantages

- Quick and effective mandibular arch expansion
- Controlled molar distalization without rotation or tipping
- Opening of occlusion with bonding material resulting in easier expansion of both arches and separation of mandible for growth stimulation
- Ease of placement due to lingual sheaths
- Low maintenance with few, if any, adjustments necessary
- Shorter treatment time
- Allows for bracket placement during expansion
- No re-cementing of molar bands following appliance removal
- Fewer emergencies and lost or broken appliances

Where in the World are Paula & Max?

April 2000

- 10 (Max): University of Missouri, Residency to Retirement, Kansas City, MO
- 14 (Paula): Dr. Terry Dischinger, Mid Atlantic Orthodontic Society, Wilmington, DE
- 29 (M&P): AOA/Pro Booth #134 at the American Association of Orthodontist Meeting, Chicago, IL
- 29 (Paula): AAO Morning session Limited attendance Clinic: Entry/Intermediate Herbst (9:00 am)
AAO Afternoon session Limited attendance Clinic: Advanced Herbst (1:00pm)
- 30 (Paula): AAO Doctor Roundtable: MARA: A Reliable Alternative to the Herbst (7:30am)

May 2000

- 1 (Max): AAO Staff Roundtable: MARA vs Herbst #31 (7:30am)
- 1 (Paula): AAO Staff Round Table: Clinical Management of Complex Herbst Designs (3:30pm)
- 2 (Paula): AAO Staff General Session Presentation (9:00am) Clinical Management of Herbst Appliances Incorporating Expansion, Space Closure, Space Opening and Intrusion Mechanics.
- 4 (M&P): Dr. Dwight Damon: Ultra-Efficient, Super-Treatment, Ormco CI Live! Chicago, IL
- 5 (M&P): Dr. Terry Dischinger: Ultra-Efficient, Super-Treatment, Ormco CI Live! Chicago, IL
- 19 (Paula): Dr. Terry Dischinger, Hands-On Herbst Course, Lake Oswego, OR
- 23 (Paula): Clinical Management of Herbst, Tidewater Study Club, Norfolk, VA

June 2000

- 16 (Paula): Dr. Joe Mayes: Lean Thinking Orthodontics, Maine Orthodontic Society, Rockport, ME
- 22 (M&P): Dr. Larry Hutta & Dr. Joe Mayes: Improving Efficiency and Predictability with the Herbst: hands-on course in Dr. Hutta's office, Worthington, OH

July 2000

- 21 (Max): Dr. Joe Mayes: Charlene White Progressive Concepts Annual Session, Myrtle Beach, SC
- 27 (Max): G.O.R.P University of Michigan, Ann Arbor, Michigan

September 2000

- 1 (Paula): Dr. Terry Dischinger, Full Face Orthopedics, Kentucky Orthodontic Association, Louisville, KY
- 20 (Paula): Dr. Jim Eckhart: The MARA, lecture and typodont course, Medical College of New Jersey Orthodontic Alumni Meeting
- 21 (M&P): Southern Association of Orthodontists, Boca Raton, FL

Max and Paula are always delighted to meet with you and your staff whenever possible. Give them a call or contact your Ormco representative to schedule a time to meet while they are visiting your area.

AAO Chicago **BOOTH 134**

Join the AOA/Pro team and the clinicians who have blazed the trail in defining hyperefficient orthodontics. Our theatre forum will cover a broad spectrum of technology and treatment advances utilizing highly proficient, predictable and noncompliance approaches to orthodontic treatment.

Saturday, April 29

1:00pm - 1:30pm THE MARA – Adult Patients and the MARA
Dr. Jim Eckhart, Manhattan Beach, CA

3:00pm - 3:30pm THE MARA – The Dynamic Duo: How they changed my practice! The MARA in combination with the Damon Self-ligating System
Dr. David Carter, Augusta, GA

Sunday, April 30

10:00am - 10:30am LINGUAL ORTHODONTICS – The ELOS and D.A.L.I. System: Accuracy Through Technology
Dr. Didier Fillion & Romain Fillion, Paris, France

12:00pm - 12:30pm THE MARA – Conversion to the MARA: The learning curve and the results
A scientific study based on 70 patients treated with the MARA
Drs. Eugene Simon & H. Andre Haerian, Sylvania, OH

1:00pm - 1:30pm THE PENGUIN PENDULUM – Why this Design is More Effective than Conventional Pendulums
Dr. Joe Mayes, Lubbock, TX

2:00pm - 2:30pm DISTAL JET – Modifications of the Distal Jet
Dr. Jay Bowman, Portage, MI

Monday, May 1

10:00am - 10:30am THE HERBST – Space-Closing Herbst: Incorporating mini-screws into the design for timely and predictable results
Dr. Terry Dischinger, Lake Oswego, OR

12:00pm - 12:30pm THE MARA – Conversion to the MARA: The learning curve and the results
A scientific study based on 70 patients treated with the MARA
Drs. Eugene Simon & H. Andre Haerian, Sylvania, OH

1:00pm - 1:30pm DISTAL JET – Modifications of the Distal Jet
Dr. Jay Bowman, Portage, MI

3:00pm - 3:30pm THE MARA – Adult Patients and the MARA
Dr. Jim Eckhart, Manhattan Beach, CA

Tuesday, May 2

10:00pm - 10:30pm THE MARA – The Dynamic Duo: How they changed my practice!
The MARA in Combination with the Damon Self-ligating System
Dr. David Carter, Augusta, GA

12:00pm - 12:30pm DISTAL JET – Modifications of the Distal Jet
Dr. Jay Bowman, Portage, MI

AOA/PRO CUSTOMER SERVICE LINE
800-262-5221

Cutting to the Chase



by Harold R. Connelly DMD

In 1987 I started using the Crown Herbst appliance with various modifications in the treatment of my patients presenting with skeletal Class II malocclusions. Recently in certain instances I have been using the MARA as an alternate choice. Due to the increasing popularity of fixed crown-borne orthodontic appliances, many of my colleagues have called with questions concerning the fit and removal of the crowns.

First, I explain that I prefer to fit crowns on the patient's teeth and send them along with the work model to the laboratory for appliance fabrication. And secondly, that I don't fit the crowns, my staff does. The first time one of my clinical staff looks at a crown, they wonder, "How in the world am I going to deal with this?" After 2 to 3 patients, their insecurity disappears and fitting crowns becomes second nature. My staff has found that by starting with a size 5 or 6 crown they can usually seat the appropriate crown by the second try. Should the crown require trimming, a pair of crown and bridge scissors along with a Dremel handpiece with a Carborundum egg-shaped burr is all the equipment needed.

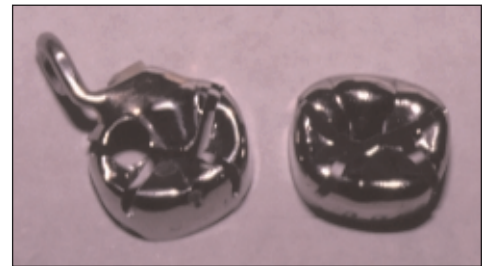
When delivering crown-borne appliances, we recommend using a glass ionomer cement. We prefer Fugii 1, butOrmco Protech Gold™ is also an excellent product for these appliances. We also recommend that the inside of the crowns be sandblasted prior to cementation. If using a commercial laboratory, request that they do this for you. Sandblasting helps make crown removal and clean-up easier because during the removal process, more of the cement will stick to the crown than to

the tooth. As suggested by Jim Eckhart in his MARA literature, I have recently started placing vent holes in the top of the crowns. I feel the heavier body glass ionomer cements need occlusal venting, which permits the cement to overflow out of the gingival margin.

Since I am uncomfortable using a crown-removing plier against the cusp of a molar, I prefer to use a cutting technique. I would prefer a scratch in the surface of the tooth that can be polished out rather than take the chance of placing a fracture in the enamel; which under certain circumstances could occur when using a crown removal plier.

A 699 crosscut fissure burr handled "gingerly" or an 1171 non-crosscut rounded tip burr may be used for a more "aggressive" approach when cutting crowns. We generally start with the maxillary molars by cutting across the occlusal in an "X" pattern over the cusps and onto the wall of the crown to the line angles mesial buccal, distal buccal, mesial lingual and distal lingual. Since you may have to cut below the gingival margin, make your final cut down the mesial lingual of the molar. The lower molar crowns are also cut in the "X" pattern. A scaler is then used to pry the crown up and off the occlusal surface and a posterior band remover to finish the removal process. Use a Cavitron and/or an 1171 burr to remove any remaining cement from the teeth.

We have treated more than 1500 patients using Herbst or MARA appliances and have never had damage occur to the tooth surfaces under the crowns.



— **AOA/PRO CUSTOMER SERVICE LINE – 800-262-5221** —

WEBSITE – www.ormco.com/aoaapps.html



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