

AOA appliances, etc.

ALLESEE ORTHODONTIC APPLIANCES/PRO LAB

VOLUME 6, NUMBER 1, 2002

THINKING APPLIANCES

In this issue, Dr. Anthony DeLuke from Niagara Falls, New York, presents his update on the Bonded RPE. This simple design with ease of insertion and removal should prove interesting to offices that are looking for an alternative to banded expansion appliances.

Dr. Alvaro Figueroa from Chicago, Illinois, and Rush Memorial Hospital shares his design for a Rigid External Distraction Splint used in conjunction with a Halo System. The results have been truly remarkable.

We are also featuring our usual updates on future events that AOA/Pro will be attending. In particular, please take time to review the changes to the Hilgers/Tracey Expander and Molar Distalizing Appliance.

We hope you'll find this issue interesting. If you have any questions or comments, call me or our technical team at (800) 262-5221. We look forward to seeing you at the upcoming meetings.



David Allesee, General Manager
AOA/Pro Laboratory



Dr. DeLuke completed his dental training and orthodontic residency at State University of New York at Buffalo. He has been published and produced educational videotapes. Dr. DeLuke holds a US patent on a "screening" measurement technique that detects facial growth dysplasia and a number of patents pending, including the DeLuke Contoured Expander. He has maintained his private orthodontic practice in Niagara Falls, New York, for 21 years. His office was featured in The Japanese Journal of Orthodontic Practice. He also founded DeLuke Dental Solutions, an education and appliance design company specializing in consulting, client-site tutorial and ancillary services.

SIMPLIFIED PALATAL EXPANSION

Anthony G. DeLuke, DDS
Niagara Falls, New York

Palatal sutural expansion is the first treatment objective in an increasing number of orthodontic treatment plans. The need for expansion is obvious in patients with posterior crossbite. Patients being prepared for mandibular advancement and patients with equal maxillary and mandibular transverse deficiency are also candidates for expansion.

Simplified palatal expansion dramatically reduces chair time, requiring only three 20-minute appointments using a patent-pending new appliance design called the DeLuke Contoured Expander (DCE). Its design features and simple techniques allow assistants to complete clinical procedures with minimal supervision. With this new design, band inventories can be reduced dramatically or eliminated.



Figure 1. With the versatility of the DCE, many different types of patient-specific expansion screws can be used.

The DCE is appropriate for patients in mixed or permanent dentition and can be fabricated with many types of expansion screws and springs (Figure 1). I have found reliable expansion progress using the Forestadent® screw. The DCE incorporates a special thermoformed plastic to create thin contour caps that are carefully molded to completely cover the lingual, occlusal and buccal surfaces of the anchor teeth (Figures 2a & 2b). The DCE is a frameless design that allows the technician to finely trim the contour caps along the gingival margin, eliminating plaque buildup and gingivitis. The lab technician microetches the inner surface of the appliance to provide retention for the resin-modified glass ionomer cement. Cementation of the DCE requires no etching or sealing of the anchor teeth. The flex characteristic of the contour caps facilitates comfortable removal.

CLINICAL PROCEDURES

Appointment #1 (20 minutes)

Upper Arch Impression – Take an upper arch alginate impression, pour it in orthodontic stone and send it to the lab for fabrication of the DCE.



Figures 2a & 2b. The DCE contour caps completely cover the lingual, occlusal and buccal surfaces.

continued on following page

continued from preceding page

Appointment #2 (20 minutes) – (2 weeks after Appointment #1)



Figure 3. Applying glass ionomer cement into the anatomical caps of the expander.



Figure 4. Removal technique is easily accomplished by assistants and is very comfortable.

Appliance Insertion – Have the patient brush with only water to remove any food or plaque. No other preparation or isolation of teeth is required. With a sealant brush, paint a thin coating of resin-modified glass ionomer cement into the microetched contour caps of the appliance (Figure 3). The intimate fit of the caps allows only a small amount of cement. Place the expander on the anchor teeth and hold for three minutes until the cement is set. The caps will completely cover the tooth enamel, preventing decalcification. This method of appliance delivery is very comfortable for patients and a major timesaver.

Patient/Parent Instruction – Give complete verbal and written instructions to the patient/parent, advising them to turn the expansion screw the traditional rate of one full turn per day. We have the patient activate the screw a specific number of turns appropriate for the screw size (42 turns for an 11 mm screw). The patient ceases activations after completion of turns. The patient is reappointed for appliance removal 13 weeks after initial insertion. This schedule provides seven weeks of active expansion followed by a six-week stabilization period. We advise the patient to use Listerine daily to reduce bacteria.

Appointment #3 (20 minutes) – (13 weeks after Appointment #2)

Appliance Removal – Using Hamilton pliers, gently lift the buccal portion of the cap to break the seal on each tooth (Figure 4). The DCE caps flex easily, allowing assistants to remove this appliance. Access at the gingival margin of the buccal surface and the ideal flex characteristics of the DCE caps provide easy removal with less patient discomfort than traditional banded or bonded palatal expanders.

After expansion is completed, we fit all patients with a short-term thermoplastic swallow-training appliance.* With 15-minute swallow-

training exercise sessions during the day for a few weeks followed by night wear for a few weeks, this appliance maintains arch width and restores the natural position of the tongue against the palate. If the front teeth of the patient with mixed dentition are aligned, I follow with a Phase I retainer. For patients with permanent dentition, I continue with full braces.

CONCLUSION

The American Association of Orthodontists' recommendation that all children have an orthodontic checkup by the age of seven has had a strong influence on early treatment planning and private practice. The DCE and *simplified palatal expansion* are suitable for patients of any age. However, younger children particularly appreciate the simplicity of insertion and removal.

I have used the Contoured Expander exclusively for over a year. This simple, predictable expansion appliance eliminates separators, band fitting and extra appointments. Patients, parents and staff enjoy its efficiency.

CASE



Before: Patient showing deficient transverse maxillary width.



After: The DCE accomplished superior parallel-root sutural expansion.

* Patent pending. For more information on the swallow-training appliance, call DeLuke Dental Solutions at (800) DELUKE 1. For more information on the DeLuke Contoured Expander, call AOA/Pro at (800) 262-5221.



Figure 1a. Side view of the Rigid External Distraction (RED II) System.

RIGID EXTERNAL DISTRACTION INTRAORAL SPLINT

Distraction osteogenesis is becoming an essential treatment modality for patients with craniomaxillofacial anomalies. With the introduction and evolution of rigid external distraction devices such as the

Rigid External Distraction (RED II) System (Figures 1a & 1b), we have seen much success in treatment of patients with not only severe maxillary hypoplasia associated with cleft palate but also complex craniofa-



Figure 1b. Front view.

cial anomalies. Today orthodontists and maxillofacial oral surgeons are teaming up to effectively treat patients with maxillary and midface skeletal hypoplasia using the principles of distraction osteogenesis.

With the Rigid External Distraction System, the necessary traction is applied to the maxilla through the dentition with an intraoral splint. To fabricate this splint, fit orthodontic bands with buccal attachments and .051 headgear tubes on the patient to either the second primary molars (children under 6 years) or first permanent molars. Take alginate or compound impressions of the maxillary arch with the

RIGID EXTERNAL DISTRACTION INTRAORAL SPLINT *continued*

bands on the teeth. (In cases where the patient lacks sufficient molar anchorage, bone plates can be added and shaped to the alveolar process with screws.) After taking the impression, transfer the bands from the teeth to the impression and seat correctly. Pour the impression with dental stone and send to the lab for fabrication.



Figures 2a & 2b. Hooks can be tied into the square tubes with steel ligatures or heavy elastics.

On the working model, the lab will make the splint with .045 stainless steel orthodontic wire. If the patient doesn't have orthodontic brackets, the lab will bend the labial and palatal wires in close contact with most

of the maxillary teeth. If the patient has orthodontic brackets, the lab will bend the labial wire outward and gingivally to clear the appliances. For added rigidity, a transpalatal bar and connecting wires can be incorporated into the design of the splint. In cases where width is required, an expansion screw can be added. (When AOA/Pro laboratory fabricates the splint, all connections are routinely reinforced with laser welding prior to brazing.)

The external hooks, which are designed with a heavy square wire, fit into square tubes laser welded to the anterior arc of the labial wire.



Figure 3. Removable external hook.

The design allows for easy removal and adjustment to accommodate the patient's lip drape and the distance needed for optimal ligation to the external crossbar member of the Rigid External Distraction System. The hooks can be tied into the square tubes with steel ligatures or heavy elastics (Figures 2a & 2b). Several sizes of external hooks are available for customized fitting or refitting as the patient responds to the extraoral traction forces, eliminating extensive hook adjustments and potential alloy fatigue.

A major advantage of the removable external hooks (Figure 3) is that they can be inserted and adjusted after the patient is out of the operating room and more alert, avoiding problems associated with the recovery process immediately after surgery.

If you or the maxillofacial oral surgeon on your interdisciplinary team have questions or would like to discuss this service in detail, call Dennis Post or John Fuller at the AOA/Pro laboratory in Sturtevant, Wisconsin, at (800) 262-5221.

Acknowledgements: Codevelopers John W. Poley, M.D. and Alvaro A. Figueroa, D.D.S., M.S.; and manufacturer KLS-Martin L.P.

CASE

BEFORE



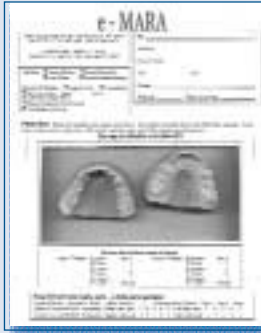
AFTER



AOA/PRO OFFERS SOLUTIONS IN PHILADELPHIA AT BOOTH 1837

e-MARA

Whether your practice is across town or an ocean away, there are probably times when you need a Class II correction appliance ASAP. Now AOA/Pro can fabricate and ship your patient's MARA on the same or next day. Using our e-MARA prescription template, you simply make a 1:1 photocopy of your patient's models and either fax it or scan the photocopy and e-mail it. There are registrations embedded in the template that allow our staff to calibrate the image to ensure accuracy. We'll fabricate the MARA as prescribed and return it to your office. The e-MARA reduces turnaround time while getting your patient's MARA into your hands quickly.



The QCM Retainer is the Aesthetic Solution



"The inconspicuous QCM retainer is the perfect choice for patients who care about aesthetics. It's also superior from a functional standpoint of view because it comes in contact with the surface of the dental arch and can be refitted by simply reheating it."

— Dr. Kyoto Takemoto, DDS

Labial/Lingual Indirect Bonding

The success of today's advanced bracket and wire technology can be measured by the accuracy of the initial placement. AOA/Pro offers indirect bonding using the latest products and techniques to make this method of bracket delivery a practical solution for today's orthodontic practice. Labial brackets are placed according to your prescription or other popular methods. They are returned with custom bases or adhesive ready. Ask about our never-before pricing on 5-5 labial setups. Our lingual service includes the CLASS, TARG and Fillion methods of bracket placement.

Indirect Bonding Training Classes

Would you like to do your own indirect bonding setups? AOA/Pro now offers clinical and lab indirect bonding training classes for orthodontists and/or staff. Stop by our booth in Philadelphia to discuss this unique training program.



Visit our lab pros at the AAO in Philadelphia to see their latest advancements in orthodontic laboratory applications and services. It's an excellent opportunity to meet David Allesee, Max Hall, Paula Allen-Noble, Liz Henrich and others on the AOA/Pro team. For information, call us at (800) 262-5221.



Where in the World are Max & Paula



Max and Paula are always delighted to meet with you and your staff whenever possible. They are also available for presentations on a variety of laboratory and clinical topics for study club, alumni and society meetings. Give them a call to discuss a presentation or contact your Ormco representative to schedule a time to meet while they are visiting your area.

<p>May</p> <p>1-2 Dr. Mario Paz (Max & Paula) LINGUAL COURSE Marina Del Rey, CA</p> <p>2-3 Dr. R. Romano (Max) LINGUAL TECHNIQUE</p> <p>4-7 AAO, Philadelphia, PA (Max)</p> <p>4 AAO - MARA (Paula) Limited Attendance Clinic</p> <p>4 AAO - HERBST (Paula) Limited Attendance Clinic</p>	<p>5 AAO - CLOSE ENCOUNTERS WITH ADVANCED HERBST DESIGNS & ASSOCIATED CLINICAL MECHANICS (Paula)</p> <p>6 AAO - CLOSE ENCOUNTERS & TROUBLESHOOTING THE HERBST APPLIANCE (Paula)</p> <p>June</p> <p>3 PCSO (Paula) Northern Component Meeting CLOSE ENCOUNTERS WITH CLASS II CORRECTORS - HERBST & MARA San Francisco, CA</p>	<p>14-15 Dr. Dwight Damon (Max & Paula) IN-OFFICE HANDS-ON Spokane, WA</p> <p>21-22 Dr. Terry Dischinger (Max & Paula) IN-OFFICE HANDS-ON HERBST/DAMON 2 COURSE Lake Oswego, OR</p> <p>July</p> <p>19-21 Dr. Keith Black (Max & Paula) PROGRESSIVE CONCEPTS ANNUAL MEETING Myrtle Beach, SC</p>
---	---	--

AOA/PRO CUSTOMER SERVICE LINE (800) 262-5221



P.O. Box 725
Sturtevant, WI 53177
(800) 262-5221
or (262) 886-1050
www.ormco.com/aoa

PRESORTED
FIRST CLASS
US POSTAGE
PAID
ANAHEIM, CA
PERMIT NO. 514

RED, WHITE AND BLUE INVISIBLE ACTIVE RETAINER SYSTEM

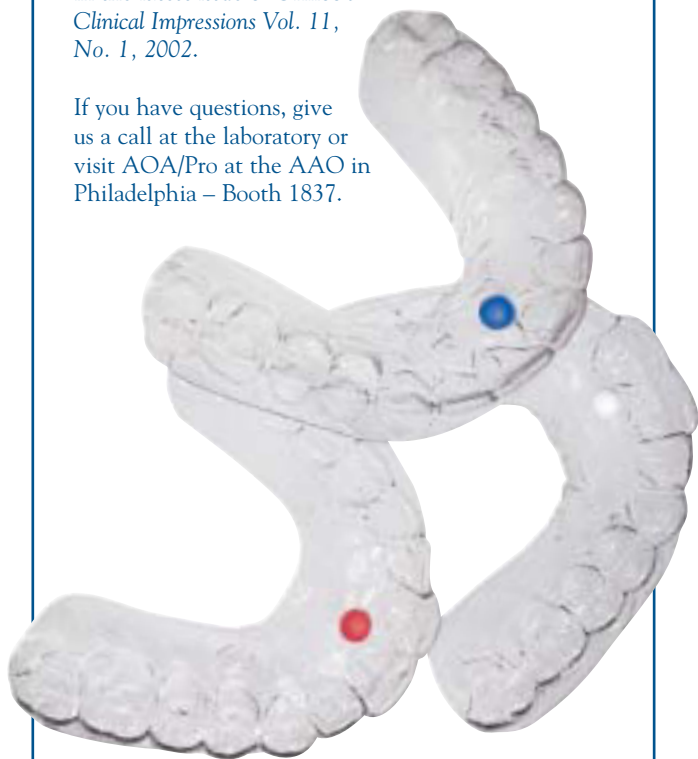
FOR MINIMAL/INTERMEDIATE ANTERIOR TOOTH ALIGNMENT

“Hi doc. My son Jimmy’s teeth are looking great! You know, I was wondering, I really don’t want braces, but could you do something with my anterior teeth? This space bothers me as well as this sort of rotated lateral on the left side.”

An opportunity has just presented itself... And AOA/Pro has a solution for you to offer those adult cases that seem to be just outside the normal range of removable tooth-aligning appliances or those patients who simply want the most aesthetic system possible to correct minor to intermediate anterior tooth irregularities. That solution is the Red, White and Blue System.

To find out more about the Red, White and Blue System and what it can do for your practice, we proudly refer you to Dr. Randy Moles’ article in the latest issue of Ormco’s *Clinical Impressions Vol. 11, No. 1, 2002.*

If you have questions, give us a call at the laboratory or visit AOA/Pro at the AAO in Philadelphia – Booth 1837.

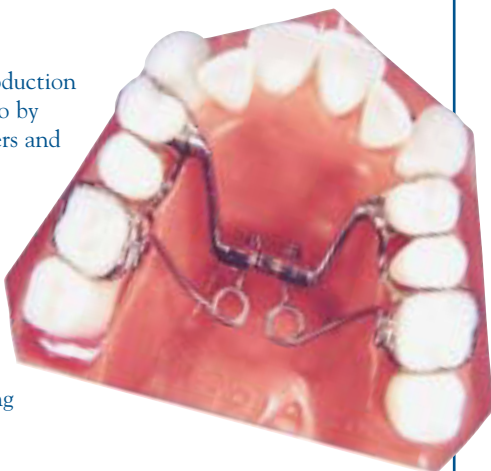


Dennis Post, production manager at the Wisconsin laboratory (800-262-5221), and Liz Henrich, manager of the Connecticut laboratory (800-826-2224), will welcome any questions you may have concerning AOA/Pro’s Red, White and Blue System.

HILGERS/TRACEY MDA EXPANDER

THE MINI-DISTALIZING APPLIANCE MDA UPDATE SPRING 2002

Since its introduction over a year ago by Drs. Jim Hilgers and Steve Tracey, the MDA Expander has rapidly become a favorite request in our family of mini-distalizing appliances.



The MDA Expander is a small, clean expansion appliance that has the power to distalize molars and is designed with the comfort and size advantages of the revolutionary Compact RPE. The .032 Preformed TMA® Pendulum Springs deliver constant force over treatment time for dependable molar distalization, and the Compact RPE can expand up to 11 mm.

In the original expander design, the question was how to hold the TMA Springs in place until after expansion. With this design, the solution is to use a stainless steel ligature to tie back the springs until you decide to release them.

As always, a better solution was sought and now AOA/Pro offers a modified version of the MDA Expander that incorporates a locking wire soldered from the appliance at the bicuspid bands to the molar bands. Once you've expanded the arch, simply cut off the locking wires and the molars are free to distalize.

WHAT TO SEND TO AOA/PRO

An upper model in either stone or orthodontic plaster.
Bands seated on both the first bicuspid (or first deciduous molars) and first molars.

WHAT YOU WILL RECEIVE FROM AOA/PRO

We will return the construction models and the appliance with the lingual sheaths attached to the first molars and the TMA Springs activated and tied to the RPE screw legs.