_c.e. article
A review of the original Combination Technique and philosophy

_events
MASO can help you ‘Chart a Course’ at its annual meeting

_industry
The age of digital orthodontics is here
Closing the digital loop
The first open CAD/CAM system for orthodontics

3Shape TRIOS® is the new ultra-fast and easy to use chair-side scanner to create accurate digital impressions in open format.

3Shape Ortho System
- Intraoral scans, impression/model scanning, open format STL
- Customizable analysis workflows
- Full treatment simulation, including virtual setups
- Virtual articulators for easy validation
- CAD design of any orthodontic appliance
- Free choice of manufacturing equipment and materials

See the full digital loop at an exhibition near you

Note: TRIOS® will be available in the US and Canada in 2012
ortho offers tips, hints and C.E. opportunities

The goal of this quarterly magazine, ortho, is twofold. First, it seeks to share practical orthodontic knowledge that can be put to use in your day-to-day practice. Second, it is a vehicle to help you chip away at your continuing education (C.E.) requirements.

The amount of new information available in the orthodontic field about new products, techniques and research data is astounding. Running a practice and seeing patients leaves little time for catching up on the latest clinical news and product information. Thus, we hope ortho will not only be a welcome respite for those rare chunks of time you can devote to leisurely reading but one that provides a practical return on your investment by providing information that you can actually put to immediate use.

In addition, we know that taking time away from the practice to pursue C.E. credits can be costly in terms of lost revenue and time. As a quarterly magazine, ortho is here to help you chisel at least four C.E. credits per year out of your already busy life.

To that end, every edition of ortho will include at least one hour of ADA CERP-certified C.E. credit in which readers can answer questions about the materials at www.dtstudyclub.com to earn this credit. Annual subscribers to the magazine ($50) need only register at the Dental Tribune Study Club website to access these C.E. quizzes free of charge. Even non-subscribers may take the C.E. quiz after registering on the DT Study Club website and paying a nominal fee.

If you are a practitioner with a penchant for words, it might also interest you to know that authors of the C.E.-accredited articles receive 15 percent of the fees collected from the non-subscribers who take the C.E. quiz online. The C.E. quiz for the articles in this edition will be available online on Sept. 17.

Dental Tribune America is part of the largest dental publishing network in the world, Dental Tribune International (DTI), which consists of 23 license partners around the globe. The DTI network publishes a variety of dental publications that are distributed in more than 90 countries. Please visit us online at www.dental-tribune.com to see the variety of publications we offer and at www.dtstudyclub.com to see the complete list of online and offline C.E. opportunities available. In the meantime, we hope you enjoy this edition of ortho, and we welcome your feedback.

Sincerely,

Torsten Oemus
Publisher
| c.e. articles |
| 06 | A review of the original Combination Technique and philosophy | Dennis J. Tartakow, DMD, ME, EdD, PhD, editor in chief, Ortho Tribune |
| 12 | How to avoid extractions when treating malocclusions | German O. Ramirez-Yañez, DDS, PhD, and Chris Farrell, BDS |

| subject |
| 20 | MASO can help you ‘Chart a Course’ at its annual meeting | Sierra Rendon, Managing Editor |
| 24 | OrthoVOICE 2012 on slate for October |

| education |
| 25 | Dr. Cristina Teixeira named chair of the department of orthodontics at NYUCD |

| research |
| 26 | Study: 20-30 percent of bib clips harbor bacteria even after disinfection |

| charity |
| 30 | ClearCorrect reaches new milestone with charitable clean water project |

| c.e. article |
| 06 | A review of the original Combination Technique and philosophy |
| 12 | How to avoid extractions when treating malocclusions |

| industry |
| 32 | Edge management, imaging, communication system from Ortho2: It’s all you really need |
| 34 | Planmeca introduces a new analysis tool for planning orthodontic treatments |
| 36 | The age of digital orthodontics is here |

| about the publisher |
| 37 | submissions |
| 38 | imprint |

| on the cover |
| Cover image/Provided by Imaging Sciences |
THE WORLD'S LEADING MYOFUNCTIONAL ORTHODONTIC SYSTEM JUST GOT BETTER

myobrace

GET RESULTS

BEFORE

AFTER

BEFORE

AFTER

BEFORE

AFTER

BEFORE

AFTER

FOR JUNIORS

FOR KIDS

FOR TEENS

FOR ADULTS

BECOME A MYOBRACE® PROVIDER

- Treat a wider range of patients.
- Increase patient flow in your practice.
- Less chair-side time required.
- Financial benefits for you and your patients.

Visit: www.myoresearch.com/courses

FIND OUT HOW AT WWW.MYORESEARCH.COM OR PHONE 1866 550 4696
A review of the original Combination Technique and philosophy

Introduction

_During the 1960s_, when the Begg lightwire and the Tweed edgewise were the mainstream techniques of orthodontic therapy, Dr. Maxwell Fogel and Dr. Jack Magill introduced their “Combination Technique” (Fogel & Magill, 1969).

The Combination Technique's philosophy was based on combining the positive and significant attributes of Begg lightwire and Tweed edgewise techniques to produce a system that corrected malocclusions quickly and easily for the orthodontist, with much less pain and a shorter period of time for the patient, while producing American Board of Orthodontics quality, standards and results.

_Outline of the Combination Technique

**Stage I: Light-wire phase (Tipping)**

1. Reduce protrusion
2. Uncrowd incisors
3. Open the bite (restore vertical dimension)
4. Class I molars and cuspids
5. Begin closing extraction spaces
6. Upright mandibular incisors
7. Cephalometric X-ray to check uprighting of the mandibular incisors

**Stage II: Bracket alignment phase (Leveling)**

1. Level and align maxillary and mandibular arches
2. Closure of extraction spaces
3. Preliminary uprighting of cuspids and bicuspids
4. Preliminary correction of rotations
5. Preliminary correction of axial positions

**Stage III: Edgewise phase (Uprighting)**

1. Detailed axial positioning of all teeth
2. Lingual root torque for labial axial inclination of the maxillary incisors
3. Root paralleling in extraction areas
4. Desired uprighting of molars
5. Artistic positioning of incisor segments
6. Complete correction of rotations
7. Residual space closure

_Retention_

Two years — indefinite

_Overview of the Combination Technique philosophy_

The Combination Technique incorporated three stages of appliance therapy:

**Stage I**

The initial stage was called the light-wire or tipping phase, employing 0.014, 0.016 and 0.018 round wires, which required approximately four to eight months to achieve desired results. This first phase employed Dr. Raymond Begg’s concept of light, continuous forces to uncrowd anterior teeth, open the bite (restore vertical dimension), reduce the protrusion, begin closing extraction spaces and uprighting mandibular incisors, all without straining the posterior anchorage unit. The Begg philosophy and mechano-therapy produced light, physiologic forces through the use of one-point contact, free-sliding, non-binding and continuously moving teeth that were connected to the archwire (Begg, 1961).

Drs. Fogel and Magill created this appliance by...
uniting the light-wire vertical insert pin (Fig. 1a) with the widely spaced twin edgewise bracket (Fig. 2b) into a single appliance unit (Fig. 1c). The joining together of these two attachments enabled the development of a system for controlled light-wire therapy in the first stage of the Combination Technique. (All figures are from Fogel and Magill’s “The Combination Technique in Orthodontic Practice.”)

During Stage I (light-wire and tipping), a single light archwire with multiple loops and hooks was snapped into the vertical insert pins to produce simple tipping of the incisors, placing them in harmony with and upright over the apical base (Fig. 2a, 2b). This included correction of overjet, overbite and jaw relationships by means of controlled anchorage through the use of differential inter- and intra-arch elastic forces.

Stage II

The second stage was the called the leveling phase, employing a multi-stranded light wire, which was later replaced by 0.014, 0.016 and 0.018 round flexible wires, ligated into the edgewise brackets, requiring approximately three to four months to achieve the desired results. This second phase included leveling and aligning maxillary and mandibular arches, closing extraction spaces, uprighting cuspids and bicuspid and correcting rotations of all teeth.

During Stage II (bracket alignment and leveling), a multi-stranded light-wire (Fig. 3a, 3b) was used to create controlled general alignment of all teeth, including leveling, correction of rotations, preliminary correction of axial positions, continued overbite correction and establishment of general arch form. Stage II prepared the brackets for the edgewise phase.

Stage III

The third stage was the called the edgewise phase, employing 0.016 x 0.016 square wires, followed by 0.017 x 0.025 rectangular wires, also ligated into the edgewise brackets and taking approximately six to 12
months to achieve results. This third phase included detailed positioning, proper uprighting and ideal axial inclinations of all teeth. The Combination Technique was excellent for treating extraction cases and difficult malocclusions, as well as being very capable of obtaining outstanding results in non-extraction cases.

During Stage III (edgewise), the rectangular archwire (Fig. 4a–4c) was used to achieve ideal arch form and detailed axial positioning of both the crowns and roots of all teeth. This included: (a) root paralleling of teeth adjacent to the extraction areas, (b) uprighting of molar teeth, (c) artistic positioning of the incisor segments, (d) continued overbite correction if necessary, (e) final closing of residual extraction spaces, and (f) lingual root torque for labial axial inclination of the maxillary incisors.

Torquing auxiliary

During the correction of many severe malocclusions, the maxillary incisors required root torque as a result of lingual crown tipping. In order to accomplish incisor root torquing, an auxiliary wire was employed similar to that used by Dr. Begg during Stage III. The torquing auxiliary (Fig. 5) was an 0.014 wire constructed with two loops in the same plane as the archwire, which when snapped into the insert pins placed the loops onto the maxillary central incisors slightly sub-gingival. After snapping the torquing auxiliary into the insert pins anteriorly (Fig. 6), it was cinched behind the molar tubes posteriorly.

This torquing auxiliary was used in addition to the main edgewise wire, which had been ligated into the horizontal slot of the widely spaced twin edgewise bracket to carry out the desired objectives of Stage III as well as providing anchorage and stability during the torquing procedure. The torquing auxiliary forces produced approximately one degree of lingual root movement per month. This was substantiated by cephalometric and visual examination.

Example of the Combination Technique in a severe malocclusion

Treatment of a Class II, Division I severe maxillary protrusion and deep overbite is shown, using maxillary first and mandibular second bicuspid extractions (Fig. 7a–7j).

Incisor coverage biteplate (Fig. 8a–8c) was required as a preliminary step as a result of the severe
deep anterior overbite. This created initial bite opening and avoided shearing of brackets, tearing of bands and occlusal interferences.

**Combination Technique mechanics**

*Stage I — Single strand light-wire stage (Figs. 9a–9c).*

The objectives of Stage I were to achieve: (a) reduction of the protrusion (edge-to-edge incisor relation), (b) bite opening (molar uprighting and incisor intrusion), (c) incisor uncrowding and (d) Class I cuspid and molar relationships.

*Stage II — Leveling with a multi-strand light-wire stage (Figs. 10a–10c).*

The objectives of Stage II were to achieve: (a) leveling and aligning of all brackets for edgewise archwire placement, (b) preliminary uprighting of cuspids and bicuspids, (c) correction of rotations and labiolingual malpositions, (d) continued bite opening, and (e) arch symmetry.

The advantages of the multiple leveling appliance when compared to the single strand wire included a longer range of action, better resistance for distortion, increased flexibility, gentler forces and less fatigue.

*Stage III — Edgewise stage (Figs. 11a–11c).*

The objectives of Stage III were to achieve: (a) a stable anchorage for Class II elastics, (b) correct axial inclinations, (c) root paralleling in extraction areas, (d) uprighting of the molars and bicuspids, (e) ideal arch form, (f) continued overbite correction and (f)
Historically, Dr. Maxwell Fogel and Dr. Jack Magill believed that the unification of the Begg light-wire and the Tweed edgewise philosophies produced an ideal milieu for (a) universal action and controlled tooth movement in all directions; (b) automatic, self-acting appliances, with a long span of action, a few adjustment periods; and (c) simple, uniform design, painless and compatible with the tissues surrounding the teeth.

According to Drs. Fogel and Magill (1972), anchorage was the focal point in successful treatment; gentle, free tipping movements of the canines in a distal direction into the extraction spaces imposed less stress on the anchor units than did bodily distal of the solidly embedded teeth. For many years, tipping movements for anchorage preservation was looked upon with great skepticism.

The widely spaced twin edgewise bracket, as suggested by Dr. Brainerd Swain in 1949, was used to solve the problem of paralleling roots when closing extraction spaces. As Dr. Cecil Steiner succinctly stated: “A single arch wire of uniform standard design and size cannot serve with equal efficiency for the various purposes necessary,” (Fogel & Magill, 1972). It follows that different types of appliance units require appropriate construction and design so that a variety of wire sizes may be used for proficient and controlled performances effecting an assortment of significant assignments.

Drs. Fogel and Magill combined the twin edgewise bracket with a vertically placed insert pin to produce a natural union as a receptacle for both pliable light-wires and rectangular wires simultaneously. The Combination Technique's single appliance receptacle offered the ability to achieve the desired treatment procedures and objectives. Their goal was to produce a technique that would correct average as well as severe malocclusions with better results in less time and with greater ease.

This original Combination Technique incorporated a system for moving teeth whereby the teeth remained in place as a result of the equilibrium that existed among the oral musculature including the lips, tongue and the muscles of mastication. Axial correction of root angulations was no longer a problem. Positioning the mandibular incisors over the basal bone enhanced anchorage potentialities and helped to achieve a more functional and stable occlusion. Any force that disrupted this equilibrium created an environment for the teeth to move. When a very light resilient wire is ligated into a crowded dentition, the wire attempts returning to the original final closure of residual spaces.

**Summary**

Historically, Dr. Maxwell Fogel and Dr. Jack Magill believed that the unification of the Begg light-wire and the Tweed edgewise philosophies produced an ideal milieu for (a) universal action and controlled tooth movement in all directions; (b) automatic, self-acting appliances, with a long span of action, a few adjustment periods; and (c) simple, uniform design, painless and compatible with the tissues surrounding the teeth.

According to Drs. Fogel and Magill (1972), anchorage was the focal point in successful treatment; gentle, free tipping movements of the canines in a distal direction into the extraction spaces imposed less stress on the anchor units than did bodily distal of the solidly embedded teeth. For many years, tipping movements for anchorage preservation was looked upon with great skepticism.

The widely spaced twin edgewise bracket, as suggested by Dr. Brainerd Swain in 1949, was used to solve the problem of paralleling roots when closing extraction spaces. As Dr. Cecil Steiner succinctly stated: “A single arch wire of uniform standard design and size cannot serve with equal efficiency for the various purposes necessary,” (Fogel & Magill, 1972). It follows that different types of appliance units require appropriate construction and design so that a variety of wire sizes may be used for proficient and controlled performances effecting an assortment of significant assignments.

Drs. Fogel and Magill combined the twin edgewise bracket with a vertically placed insert pin to produce a natural union as a receptacle for both pliable light-wires and rectangular wires simultaneously. The Combination Technique's single appliance receptacle offered the ability to achieve the desired treatment procedures and objectives. Their goal was to produce a technique that would correct average as well as severe malocclusions with better results in less time and with greater ease.

This original Combination Technique incorporated a system for moving teeth whereby the teeth remained in place as a result of the equilibrium that existed among the oral musculature including the lips, tongue and the muscles of mastication. Axial correction of root angulations was no longer a problem. Positioning the mandibular incisors over the basal bone enhanced anchorage potentialities and helped to achieve a more functional and stable occlusion. Any force that disrupted this equilibrium created an environment for the teeth to move. When a very light resilient wire is ligated into a crowded dentition, the wire attempts returning to the original
shape. If the wire is tied tightly to the teeth, forces are transmitted reciprocally between the individual teeth in the arch.

Any extraneous forces are controlled as a result of the anchorage unit.

During the late 1970s, Fogel and Magill introduced a second-generation combination bracket, which featured a double self-ligating attachment bracket to facilitate wire insertion. It was called the “Modular Self-Locking Appliance System: Variation of the Combination Technique.” The success of this bracket was hindered by the deficiencies in the metallurgy technology. The locking mechanism fatigued after several adjustments. The availability of light memory wires had not yet appeared, necessitating more frequent wire changes.

Still, the concept was sound. The Combination Technique was used well into the 1990s and was modified by many of its proponents. During the 1990s, most orthodontists employed some form of light-wire edgewise technique with pre-angled and pre-torqued brackets.

Ligatureless Edgewise brackets first appeared in the 1930s with the Russell Lock appliance (Sathler et al., 2011), which was an attempt to improve the clinical effectiveness for moving teeth while reducing the time required to ligate a wire into the brackets.

Numerous articles regarding self-ligating orthodontic brackets can be found in the literature (Self-ligating brackets, 2012), with more than 20 original patents for new self-ligating brackets; some have gone by the wayside and some have lasted the test of time. Sathler et al. (2011) provided an excellent review of the literature regarding self-ligating brackets used in orthodontics. It is interesting to note that many articles describe self-ligating brackets as either the new buzzword or as a faster and more efficient method of tooth movement in orthodontic treatment.

However, in reality the self-ligating bracket has prevailed since the 1930s. It has been more than 50 years since Dr. Raymond Begg introduced his “Light Arch Wire Technique” in the late 1950s (Begg, 1961), and Fogel and Magill introduced their Combination Technique in the late 1960s (Fogel & Magill, 1969), yet seldom are they cited in articles, reference lists or bibliographic lists for self-ligating brackets.

As John F. Kennedy (1963) so adroitly stated, “A man may die, nations may rise and fall, but an idea lives on ... we must find time to stop and thank the people who make a difference in our lives.”

References


About the author

Dennis J. Tartakow, editor in chief of the Ortho Tribune, practiced orthodontics, temporomandibular joint (TMJ) disorders and orofacial pain therapy in Palm Beach, Fla., and now resides in Marina del Rey, Calif. Tartakow is a consultant in orthodontics, TMJ disorders, orofacial pain, practice management and health-care administration. He counsels pre- and post-graduate students, orthodontists and health-care practitioners and has provided expert testimony in numerous orthodontic, TMJ and medico-legal litigation cases.

His professional accomplishments include being a diplomate of the American Board of Orthodontics; a diplomate of the American Board of Special Care Dentistry; and a certified dental editor. He is clinical associate professor and former director of the TMD section, postgraduate orthodontic department, Nova Southeastern University, College of Dental Medicine, Fort Lauderdale, Fla.; senior attending, postgraduate orthodontic section, Albert Einstein Medical Center, The Maxwell S. Fogel Department of Dental Medicine, Philadelphia; and clinical associate professor, orthodontic department, craniofacial sciences and therapeutics, University of Southern California, School of Dentistry, Los Angeles; former primary adjunct professor, the Union Institute and University, Graduate College, North Miami Beach, Fla.; and Research Council member of the J. Paul Getty Research Institute and Library, Los Angeles.
Abstract

Maxillary and mandibular expansion has been proposed to increase the arch perimeter and to avoid extractions during orthodontic treatment. Although controversy has persisted over the stability of expansion techniques, there is an increasing trend toward "non-extraction." This paper describes a novel method to produce expansion of the dental arches, and, at the same time, to treat muscular dysfunctions that may be the etiological factor of the malocclusion. The system has been developed by Myofunctional Research Co. (MRC), Queensland, Australia, as a simpler method of phase one expansion, which may produce improved stability because of simultaneous habit correction in selected cases. Two cases treated with the Farrell Bent Wire System™ (BWS™) are described, and the advantage of this method of treatment is discussed.

Introduction

Expansion of the jaws has been increasingly performed in orthodontics to achieve better occlusal and maxillary relationship and, in doing so, improving oral functions. Maxillary and mandibular expansion has been proposed since Edward Angle to avoid extractions (Dewel, 1964). This paper presents a novel method to produce dental arch development in the maxilla and the mandible, while at the same time correcting or maintaining the inter-maxillary relationship either if a sagittal and/or vertical problem exists or a Class I malocclusion with normal overjet and overbite is present at the beginning of treatment.

There is a controversy regarding the ideal time for performing the expansion. Sari and co-workers reported that rapid maxillary expansion by means of a fixed screw (eg. Hyrax) produces better results when it is performed in the early permanent dentition (Sari, 2003).

Although this statement appears to be supported by other studies (Chung; Housley, 2003; Spillane, 1995), maxillary expansion may also be successfully done in older adolescents and adults (Stuart, 2003; Iseri, 2004; Lima, 2000). In the maxilla, rapid and semi-rapid expansion produce an increase of the lower nasal and maxillary base widths, with the maxilla moving forward and downward (Chung, 2004; Sari, 2003; Iseri, 2004).

These changes in the maxilla produced by the expansion are accompanied by a spontaneous mandibular response, which increases the dental arch perimeter (Lima, 2004; McNamara, 2003) and rotates the mandible posteriorly (Sari, 2003; Chung, 2004).
Mandibular displacement is associated with an increase in facial height (Sari, 2003, Chung, 2004).

Net gain in the arch perimeter may be calculated accordingly with the expansion performed. Motoyoshi and co-workers reported that 1 mm increase in arch width results in an increase in arch perimeter of 0.37 mm (Motoyoshi, 2002). Akkaya and collaborators determined that arch perimeter gain through expansion could be predicted as 0.65 times the amount of the posterior expansion when treatment is performed with rapid maxillary expansion and 0.60 times the amount of posterior expansion when treatment is performed with semi-rapid maxillary expansion (Akkaya, 1998). This is also supported by Adkins and co-workers, who determined that arch perimeter may increase 0.7 times the expansion produced at the premolars.

Some authors (Hime, 1990; Housley, 2003) have reported an expected relapse in the amount of expansion, which appears to be the result of that pressure delivered by the cheeks on the maxillary arch and the resistance to deformation of maxillary sutures and surrounding tissues to maxillary expansion.

Nevertheless, maxillary and mandibular expansion rises up as one of the important phases of orthodontic treatment, producing arch perimeter increase and avoiding extraction of teeth. Increasing numbers of multi-banded techniques using passive self-ligating brackets have become popular, but few address the challenges of adapting the soft tissues to this new dental position. Long-term retention is the recommended solution to stability.

The aim of the current paper is to present a new method to produce maxillary and mandibular expansion and, at the same time, to treat the soft-tissue dysfunction that may be responsible for treatment relapse (Ramírez-Yañez, 2005).

Two example cases treated with the BWS Orthodontic System developed by Myofunctional Research Co. (MRC) in Australia are presented to explain the proposed treatment.

The BWS Orthodontic System

The BWS Orthodontic System discussed in this article is composed of two different appliances: the Trainer™ and the BWS. These two appliances combined may simultaneously produce arch development and treat poor myofunctional habits. The Trainer, a pre-fabricated functional appliance, has amply demonstrated an ability to relocate the mandible (Usumez, 2004) to correct improper forces pro-
duced by the muscles of the cheek and lips (Quatrelli, Ramirez-Yañez, 2005a) and to change the dimensions of the dental arches (Ramirez-Yañez, 2005b). Further research (Yagci 2011) shows that treatment using the Trainer produced a positive influence on the masticatory and peri-oral musculature. However, in those cases where more maxillary and mandibular expansion is required to avoid teeth extractions, the Trainer combined with the BWS produces higher amounts of expansion and, therefore, a higher increase in arch perimeter. It is also proposed that by utilizing the Trainer in conjunction with the arch expansion, the force of the tongue activates further alveolar changes that other techniques may not achieve because of the bulk of the appliance being located in the palate where the tongue should naturally position.

The BWS is typically composed of a lingual arch, which follows the lingual surfaces of the teeth crowns at the gingival third and ends in a loop at the inter-proximal space between the second premolar and the first molar at both sides. The distal end engages a tube (0.7 Farrell tube by MRC) welded to a cemented band on the first molars (Fig. 1). Additionally, the BWS is maintained in place, facing the gingival third of teeth’s crown, by two begg premolar brackets cemented on the first premolars with the slot directed toward gingival or by alternately composite stops bonded to the premolar or anterior dentition (Fig. 2). The wire component is 0.7 mm spring wire and is fabricated to the arch form of the starting models either by the laboratory or the orthodontist.
The simple nature of the BWS makes it possible to assemble in-house, avoiding the fees that accompany laboratory-constructed appliances.

An advantage of this system is that it does not involve using acrylic in the palatal vault. A functional appliance designed with acrylic on the palate and that is not properly built may lower the tongue, encouraging tongue thrusting and, thus, either worsening the malocclusion or producing a relapse (Fig. 3). The Trainer is a prefabricated functional appliance, which means no laboratory involvement, and the BWS can be entirely constructed “in office”. The BWS is not made of acrylic, nor does it occupy the palate. It allows the tongue to position correctly and the patient to speak normally.

The BWS is also suitable for use in the lower arch. Typical treatment tends to use only upper expansion for three to four months, after which time the wire component of the BWS is removed (the bands are kept for later use of the BWS). The i-2 Trainer (with the inner-cage that produces arch expansion) is then used to maintain the initial arch expansion gained using the BWS. Lower alignment is re-evaluated throughout this stage of i-2 Trainer use. Often, as can be demonstrated in the cases selected, lower alignment and arch form improves because of the maxillary expansion and peri-oral musculature functional improvement (Figs. 4a, 4b).

The BWS is held in place using standard ligatures placed around the BWS tube as pictured (Fig. 5).

The following two cases show the effect of the BWS Orthodontic System on arch development.

_Case No. 1_

This 10-year-old female patient consulted because of a crowded dentition involving unusually misaligned upper central incisors with a midline shift of 10 mm and with lost “c” space on the lower left side. The parents requested that the treatment be non-extraction, although they had previously been advised that future orthodontic treatment might require this option (Figs. 6a–6d). The occlusion was classified as Class I with normal slight overjet and with normal overbite. No skeletal alteration was found on cephalometric measurements, and analysis of cast models reported a lack of arch development. This case was diagnosed as a Class I malocclusion with underdevelopment of both dental arches. Midline shift was primarily as a result of the lost lower “c”
space. Soft-tissue analysis showed a mouth-open posture and hyperactive peri-oral musculature. It was considered the myofunctional habits were a contributing factor to the malocclusion and, thus, a suitable case for the BWS and Trainer combination prior to fixed appliances once the permanent dentition was fully erupted.

The plan of treatment involved a first phase with a BWS for the upper arch combined with an I-2n Trainer — “n” for no core or cage for increased flexibility and use with the BWS. The i-2n Trainer was used one hour daily plus overnight while sleeping. Monthly adjustment to the activating loops of the BWS were made in increments of 1-2 mm per month. This treatment was continued for four months, after which time the upper BWS was removed and i-2 Trainer was used to maintain the expansion achieved by the BWS.

The i-2 Trainer also encouraged the tongue to assist in maintaining the maxillary expansion without retainers. At this stage, the lower arch form and dental alignment was assessed and showed considerable improvement. It was noted the space for the lower left permanent canine had increased — an effect thought to be produced by the combination of maxillary arch expansion and correction of myofunctional habits. The midlines were also self-correcting. Space for the lower canines was ultimately achieved without a lower BWS. The case is further improved by continued use of the i-2 Trainer and the Myobrace Regular™ to exploit the eruption stage prior to treatment finalization with fixed appliances as required.

The observation of the effects and benefits of the BWS Orthodontic System are evident from this case, and the concepts are not new to orthodontics. Maxillary expansion tends to also improve the lower arch length and assists the orthodontist in achieving non-extraction outcomes with more stable results because of simultaneous correction of tongue position and retraining of the peri-oral musculature. The second phase of treatment did not require the BWS on the lower arch because arch development during the treatment period sufficiently opened the space for the lower permanent canine. The lower anterior dentition did not require the use of fixed appliances (Fig. 7a–7d). Thus, this case was treated during a 2-year period, required minimal chair side time, and a difficult extraction case was converted to a simple, non-extraction case.

**Case No. 2**

This 12-year-old female patient consulted because of very underdeveloped maxillary arch form
and ectopic erupting canines (Fig. 8a–8d). This is far from an ideal stage to be considering non-extraction treatment; however, the parent insisted that the case was attempted non-extraction. The lower anterior teeth were also considerably crowded, and it would regularly be justified in extracting the first four premolar teeth and going into upper and lower straight wire fixed appliances.

It could be argued that treating non-extraction will prolong the treatment and certainly incur greater expense on the parent. However, there is a growing demand from parents who have had extraction orthodontics in the past to avoid this approach for their children. Therefore, the BWS Orthodontic System can be a beneficial technique that the orthodontist can use in these exceptional cases.

Treatment was similar to case 1. An upper BWS was fitted and combined with the use of the i-2n Trainer initially for four months, after which time the BWS wire was removed, leaving the molar bands in place. The i-2 Trainer was introduced at this stage for a further three months to maintain the expansion prior to a second phase of treatment using the BWS and i2n Trainer for three months (as mentioned earlier in this article).

This allows the dentition to “catch up” and prevents excessive tooth mobility. It is thought that much of the expansion achieved by this system is dento-alveolar rather than sutural, as with a rapid maxillary expander and other acrylic expanders. Also, there is more development in the anterior arch form, which is an effect previously found in the research on the Trainer (Ramirez-Yañez, 2005b).

The difficulty in cases like this, requiring large amounts of expansion to achieve a non-extraction result, is a tendency to create an open bite. Although this occurs to some extent, the BWS Orthodontic System does not open the bite as much as more conventional techniques because the tongue position is favorably altered by use of the Trainer. This conjecture may require further investigation to ratify.

Once again, spontaneous alignment of the lower anterior dentition has occurred without the requirement for an additional BWS for the lower arch. This effect is not just restricted to these two cases but is a routine observation of the BWS Orthodontic System. This case also illustrates the stability achieved in the lower dentition as no retainers were used apart from night use of the Trainer. Although this patient is not at the ideal age, the pictures show that it was possible to obtain space for all permanent canines, without extractions and with good stability.

The bite opening is minimal and tends to decrease with further dental development. Although this case
Maxillary and mandibular expansion has been shown to be an excellent alternative to increase the arch perimeter.

Conclusions

Maxillary and mandibular expansion has been shown to be an excellent alternative to increase the arch perimeter and, thus, to avoid the need for extractions to properly align teeth. This paper has presented two cases treated using the BWS Orthodontic System, which involves the combination of two appliance systems: the Trainer, a pre-fabricated functional appliance, and the BWS.

Both appliances, Trainer and BWS, have to be used in order to get the results reported in this paper. The BWS Orthodontic System, as shown in these two cases and in many cases treated by the authors, is an excellent means to produce arch development in both upper and lower dental arches in a short time. The effect of the BWS Orthodontic System on arch development does not change the inter-maxillary relationship when a Class I occlusion exists at the beginning of treatment.

However, when a Class II malocclusion associated to a crowded dentition is present, the BWS Ortho-
The BWS Orthodontic System produces arch development, and at the same time, the mandibular relocation effect is produced by the Trainer (Usumez, 2004; Ramirez-Yañez, 2005a; Quadrelli, 2002), which treats the distal position of the mandible. Additionally, the BWS Orthodontic System is shown to not only improve the overjet and overbite but to maintain them when they are correct at the beginning of treatment. This system treats muscular dysfunctions, which may be the cause of crowding and malocclusion and may cause relapse after treatment is finished.

Thus, the BWS Orthodontic System may be proposed as an excellent alternative form of treatment in those cases where arch development is required to align teeth, patients want to minimize or even avoid brackets and extractions, the mandible needs to be relocated, soft-tissue dysfunction is present and treatment needs to be performed in a reasonable period of time._

References


About the authors

Chris Farrell, BDS, graduated from Sydney University in 1971 with a comprehensive knowledge of traditional orthodontics using the BEGG technique. Through clinical experience, he took an interest in TMJ/TMD disorder and, after further research, Farrell discovered that the etiology of malocclusion and TMJ disorder was myofunctional, contradicting the current views of his profession. Farrell founded Myofunctional Research Co. (MRC) in 1989 and has become the leading designer of intra-oral appliances for orthodontics, TMJ and sports mouthguards.

German O. Ramirez-Yañez, DDS, PhD, is a dentist from Colombia (South America) with more than 20 years of experience in guiding craniofacial growth and development. He is a specialist in pediatric dentistry (Mexico) and functional maxillofacial orthopedics (Mexico and Brazil) and is trained in orthodontics (Mexico). Ramirez has a master’s in oral biology and a PhD in dental sciences (Australia). He has published more than 20 articles about early orthodontic treatment and about craniofacial biology in peer-reviewed international journals.
The Middle Atlantic Society of Orthodontists (MASO) will host its annual session from Sept. 20–23 at the Hilton Baltimore on Baltimore’s inner harbor. During this time, you and your colleagues will be “Charting a Course for the Future.”

Annual session speakers include: Drs. David Sarver, Roger Levin, Neal Kravitz, Jeffrey Posnick, Normand Boucher, Jeff Behan and Chris Bentson. MASO’s staff program will include Char Eash and Tina Byrne.

At this annual session, MASO will present its Lifetime Achievement Award to Dr. David Paolini. Paolini graduated from La Salle College in Philadelphia and the University of Pittsburgh School of Dental Medicine in 1964. He received a three-year fellowship in orthodontics at the start of his sophomore year in dental school, which started him on the career path of this specialty. After completing dental school, Paolini married his wife, Caroline, and began his orthodontic training at Pitt. He received his certificate in orthodontics and his master’s in dentistry, and then entered military service, spending two years at Fort Benning, Ga.

In 1972, he established his first office in Gettysburg, Pa., and opened a satellite office in Waynesboro a year later. He retired in 2010. During his 38 years of practice, Paolini has served as president of both the Pennsylvania State and Middle Atlantic Society of Orthodontists. During his service on, and chairmanship of, the AAO’s Council on Insurance, he achieved the highlight of his AAO career when he was instrumental in establishing the current malpractice program. He served on the council for an additional five years. He has served two eight-year terms in the AAO House of Delegates and eight years on the Council on Orthodontic Practice.

Session schedule

**Thursday, Sept. 20**
- 7–11 a.m.: MASO Board Meeting (invitation only)
- 1–5:30 p.m.: Golf outing at the Country Club of Maryland
- 1–6 p.m.: Registration/exhibitor set-up

**Friday, Sept. 21**
- 7:30–8:30 a.m.: Continental breakfast in exhibit hall (complimentary)
- 7:30 a.m.–4 p.m.: Registration/exhibitor hall open
- 7:30 a.m.–4 p.m.: ABO case displays
Planmeca ProMax® 3D
Unique product family

Perfect sizes for all needs

3D X-ray • 3D photo • panoramic • cephalometric

Romexis® software completes 3D perfection

More information
www.planmeca.com

Planmeca Oy
ASENTAJANKATU 6, 00880 HELSINKI, FINLAND
TEL. +358 20 7795 500, FAX +358 20 7795 555
SALES@PLANMECA.COM
8–9:30 a.m.: Staff session, Dr. Neal Kravitz, “Developing the ‘Dream Team’: 10 Characteristics of an Elite and Irreplaceable Orthodontic Team Member”
8:30–10 a.m.: Doctor session, Dr. Roger Levin, “Create the Ideal Ortho Practice, Part One” (co-sponsored by Levin Group)
9:30–10:30 a.m.: Beverage break in exhibit hall (complimentary)
10 a.m.–noon: Staff session, Tina Byrne, “Navigating as Part of the Ortho Crew: Winning May Be As Simple As Adjusting Your Sails, Part One” (co-sponsored by Byrne Consulting Group)
10:30 a.m.–noon: Doctor session, Dr. Roger Levin, “Create the Ideal Ortho Practice, Part Two” (co-sponsored by Levin Group)
Noon–1:30 p.m.: Box lunch in exhibit hall (complimentary)
Noon–1 p.m.: MASO delegates meeting with MASO Board (invitation only)
12:15–1:30 p.m.: ABO certification information meeting
1–2 p.m.: Doctor session, Dr. Neal Kravitz, “Creating an Elite Orthodontics Office: A comprehensive review on how to increase case-starts, brand your office and develop a reputation within your community”
1:30–3 p.m.: Staff session, Tina Byrne, “Navigating as Part of the Ortho Crew: Winning May Be As Simple As Adjusting Your Sails, Part Two” (co-sponsored by Byrne Consulting Group)
2–3 p.m.: Doctor session, Dr. Normand Boucher, “Diagnosis and Management of Joint Related Malocclusion”
3–4 p.m.: Beverage break in exhibit hall (complimentary)
4–5 p.m.: MASO member/business meeting (all members welcome)
6–7 p.m.: Welcome reception in exhibit hall (complimentary; co-sponsored by Maryland State Society of Orthodontists)

Saturday, Sept. 22
6:30–7:30 a.m.: Fun run and historical walking tour of Baltimore Harbor
7:30–8:30 a.m.: Continental breakfast in exhibit hall (complimentary; sponsored by Invisalign/OrthoCAD)
7:30 a.m.–4 p.m.: Registration/exhibit hall open
7:30 a.m.–4 p.m.: ABO case displays
8–9:30 a.m.: Staff session, Char Eash, “Taking Back the Specialty — Game On! Part Two” (co-sponsored by Profit Marketing Systems)
8:15–8:30 a.m.: AAOF presentation
8:30–10 a.m.: Doctor session, Dr. David Sarver, “Goal-Oriented Treatment Planning and Technological Advancements, Part One”
9:30–10:30 a.m.: Beverage break in exhibit hall (complimentary)
10 a.m.–noon: Staff session, Char Eash, “Taking Back the Specialty — Game On! Part Two” (co-sponsored by Profit Marketing Systems)
10:30 a.m.–noon: Doctor session, Dr. David Sarver, “Goal-Oriented Treatment Planning and Technological Advancements, Part Two”
Noon–1:30 p.m.: Box lunch in exhibit hall (complimentary)
Noon–1:30 p.m.: Component roundtable discussions
Noon–1:30 p.m.: Educators luncheon (invitation only)
1:30–3 p.m.: Staff session, Char Eash, “Marketing — No Gimmicks, Just a Lesson in Building the Network from Within, Part One” (co-sponsored by Profit Marketing Systems)
1:30–3 p.m.: Doctor session, Dr. David Sarver, “Goal-Oriented Treatment Planning and Technological Advancements, Part Three”
3–3:30 p.m.: Beverage break in exhibit hall (complimentary)
3:30–4:30 p.m.: Staff session, Char Eash, “Marketing — No Gimmicks, Just a Lesson in Building the Network from Within, Part Two” (co-sponsored by Profit Marketing Systems)
3:30 p.m.–4:30 p.m.: Doctor session, Dr. Jeffrey Posnick, “Contemporary Management of Chronic Upper Airway Obstruction in a Dentofacial Deformity”
4:30–5:30 p.m.: Resident session (mandatory to receive grant), Chris Bentson, “The Process of Locating a Practice to Build, Join, Partner or Purchase” (co-sponsored by Bentson, Clark & Copple, LLC)
4:30–5:30 p.m.: Component business meetings/ Delaware, District of Columbia, Maryland
6–10 p.m.: President’s party — Geppi’s Museum of Pop Culture (Sponsored by 3M Unitek)

Sunday, Sept. 23
7–8 a.m.: MASO board meeting (invitation only)
7:30–8:30 a.m.: Continental breakfast in exhibit hall (complimentary)
7:30 a.m.–noon: Registration/exhibit hall open
7:30 a.m.–noon: ABO case displays
8:30–9:45 a.m.: Doctor session, Chris Bentson, “Benchmarking the Orthodontic Practice” (co-sponsored by Bentson, Clark & Copple)
9:45–10:30 a.m.: Beverage break in exhibit hall (complimentary)
10:30 a.m.–12:30 p.m.: Doctor/staff session, Jeff Behan, “Using the Power of Story to Grow Your Members” (co-sponsored by VisualTrust Communications)

Information/registration
Go to www.MASO.org to register or to seek out additional information.
Annual Dental Tribune Study Club

SYMPOSIA AT THE GNYDM

25th November - 28th November 2012, starting at 10:00 AM daily

brought to you by NSK

Find us in aisle #5000

Are you looking to make an impact at the GNYDM in 2012? How are you standing out from the masses? Is education part of your initiatives?

IT’S TIME TO SPONSOR EDUCATION

For sponsorship details: c.ferret@dtstudyclub.com
or call +1 (424) 744-0608

Learn from the experts:
Dr. Howard Glazer, Dr. Ron Kaminer, Dr. George Freedman, Dr. Fay Goldstep, Dr. Mike Rethman, David Evans, Dr. David Hoexter, Dr. Louis Malcmacher
Enhanced social events and a focus on presenting clinical and entrepreneurial ideas in a fresh environment have attendees and the event organizers preparing for another dynamic “social meeting” experience with the OrthoVOICE 2012, which takes place Oct. 11–13 at Paris & Bally’s Resort in Las Vegas.

Leading off with an entertaining and educational talk with Dr. Lysle Johnston, OrthoVOICE attendees are in for a wild ride of mind-stretching ideas for practice growth, according to organizers.

With a unique take on building the speaker lineup and creative social events, OrthoVOICE is set to be orthodontics’ most innovative and socially interactive meeting of the year, its organizers say.

“For OrthoVOICE, it’s about education, fun and giving back,” according to the event organizers.

Plan to attend the meeting’s second charity golf event on Thursday morning, Oct. 11. This year’s event will be held at Desert Pines Golf Club to benefit Smile for a Lifetime Foundation (S4L).

The $229 registration is open online at www.orthovoice.com and includes a donation to S4L, breakfast and lunch, round-trip transportation, green fees, carts and range balls.

To learn more about the full range of events and lectures at OrthoVOICE 2012, visit www.orthovoice.com.

Twelve C.E. credits are offered and doctor/team registration is only $399 per person, through Sept. 30. Registration is open now at www.orthovoice.com.
Dr. Cristina Teixeira named chair of the department of orthodontics at NYUCD

Dr. Cristina Teixeira, associate professor of orthodontics and of basic science and craniofacial biology, has been appointed chair of the department of orthodontics at New York University College of Dentistry (NYUCD), effective immediately. Teixeira had been serving as the interim chair of the department of orthodontics since September 2011.

The announcement was made by Dr. Charles N. Bertolami, Herman Robert Fox Dean and Dr. Richard I. Vogel, executive vice dean of New York University College of Dentistry.

“As interim chair, Dr. Teixeira has demonstrated leadership in research, teaching and patient care,” Bertolami said. “Her accomplishments include formulating a comprehensive new curriculum for the advanced education program in orthodontics and co-founding CTOR, the Consortium for Translational Orthodontic Research, at New York University. CTOR has facilitated research, development and clinical testing of new orthodontic treatments and technologies.”

“Dr. Teixeira’s appointment as chair offers profound academic recognition of a world-renowned scholar and researcher and experienced clinician who undoubtedly will lead the department of orthodontics into new areas of clinical, educational and research excellence,” said Dr. Elliott M. Moskowitz, clinical professor of orthodontics at NYUCD and former editor of The New York State Dental Journal.

Teixeira joined NYUCD in 2001 and has won NIH funding and other national and international recognition for research in bone and cartilage biology. 

In the past few years, she has received the Outstanding Research Award from the University of Pennsylvania, the Young Investigator Award at the First International Conference on the Growth Plate, the B. F. Dewell Memorial Research Award from the American Association of Orthodontics Foundation and the Young Investigator Award at Conferences in Orthodontic Advances in Science and Technology.

Teixeira has published extensively in peer-reviewed journals, served as a mentor to numerous postgraduate and predoctoral students and presented her work at national and international conferences. As a founding member of CTOR, the first consortium of its kind dedicated to translational research in the field of orthodontics, her efforts have produced two patents.

Among other accomplishments of the department of orthodontics during Teixeira’s tenure as interim chair was the formulation of a comprehensive curriculum for the new three-year advanced education program in orthodontics and the introduction of new patient care initiatives.

Teixeira is a graduate of the University of Pennsylvania, where she obtained a DMD degree, a certificate in orthodontics, a master’s in oral biology and a PhD in developmental biology.

About New York University College of Dentistry

Founded in 1865, New York University College of Dentistry is the third oldest and the largest dental school in the US, educating more than 8 percent of all dentists. NYUCD has a significant global reach and provides a level of national and international diversity among its students that is unmatched by any other dental school, according to the university.
Researchers at Tufts University School of Dental Medicine, in collaboration with researchers at the Forsyth Institute, published a study recently that found 20 to 30 percent of dental bib clips still harbor bacterial contaminants even after proper disinfection procedures.

Rubber-faced metal bib clips were found to retain more bacteria than bib clips made only of metal before disinfection. The study also found that before disinfection, bib clips used during orthodontic procedures had three times the bacterial load of those used during endodontic procedures, suggesting that the nature of dental treatment impacts the number of bacteria present on the clips. The full study, “Do Bib Clips Pose a Cross-Contamination Risk at the Dental Clinic?” is now available for download at www.duxdental.com/bibclipstudy.

The study is believed to be the first peer-reviewed study to be published on bib clip contamination. Four other research reports have found bacterial contamination on dental bib holders, including research conducted by U.S. infection control specialist Dr. John Molinari, the University of North Carolina at Chapel Hill’s School of Dentistry Oral Microbiology lab and the University of Witten/Herdecke in Germany.

“Our study included statistical analysis and, to the best of our knowledge, is the most comprehensive study to date analyzing the bacterial load on dental bib clips before and after disinfection in two specialized clinics,” said Addy Alt-Holland, MSc, PhD, assistant professor at Tufts University School of Dental Medicine and the lead researcher on the study.

“The study found that disinfecting reduced bacterial contamination by 92 percent, but some bacteria remained on several bib clips even after disinfection,” she said. “Further research is under way to identify the bacterial species in samples from both pre- and post-disinfected bib clips to determine whether or not they retain disease-causing bacteria and if they pose contamination risks.”

The study analyzed bacterial loads on bib clips from a total of 80 dental bib holders — 40 collected from Tufts University School of Dental Medicine’s endodontics clinic and another 40 collected from the school’s orthodontics clinic.

From each chain, both clips that hold the dental bib were sampled before and after practitioners disinfected the bib holder following the school’s disinfection protocol, which requires the holder to be wiped down with an EPA-approved disinfectant wipe, according to the manufacturer’s instruction. Disinfection was found to reduce bacteria on the
ALL-VERSATILE
ALL-ENCOMPASSING
ALL-EDGE

Edge Practice Management System. It’s all you really need.

Edge delivers the ideal all-comprehensive practice management, imaging, and communication software with robust features, unmatched capabilities, and integrated programs—which includes private and secure Edge Cloud Computing—all supported by a top-notch customer service team. Discover a world of efficiency, profitability, and innovation in your practice.

Above all, EDGE.

(800) 678-4644
sales@ortho2.com | www.ortho2.com

Edge, Ortho2, Practice Complete Management, and the Ortho2 logo are trademarks of Ortho Computer Systems, Inc. ©2012 Ortho Computer Systems, Inc. All rights reserved.
research bib clip contamination

‘... 20 percent of those collected from the orthodontics clinic were still contaminated with bacteria after disinfection.’

bib clips but did not completely eliminate it, leaving 20 to 30 percent of the bib clips contaminated with bacteria.

Thirty percent of the metal bib clips collected from the endodontics clinic and 25 percent of those collected from the orthodontics clinic were still contaminated with bacteria after disinfection.

Twenty-five percent of the rubber-faced metal bib clips collected from the endodontics clinic and 20 percent of those collected from the orthodontics clinic were still contaminated with bacteria after disinfection.

“The findings of the study translate into private practice,” said Gerard Kugel, DMD, MS, PhD, professor at Tufts University School of Dental Medicine and senior author on the paper. “In a busy practice, you are doing a lot of different procedures and bringing patients in and out quickly. It is time-consuming to properly clean bib clips by autoclave, and spray is not an effective way to disinfect bib clips.

“If you are using bib holders, make sure the chains and clips are being disinfected after every patient, or consider moving to using disposable bib holders,” said Kugel, associate dean for research at Tufts.

_Continuation study under way to identify bacteria strains_

A continuation study is already under way by researchers at Tufts University School of Dental Medicine and the Forsyth Institute to identify the type of bacteria present on dental bib clips before and after disinfection to help determine if there are cross-contamination risks to patients. Visit [www.duxdental.com/bibclipstudy](http://www.duxdental.com/bibclipstudy) to download a full transcript of the research paper, “Do Bib Clips Pose a Cross-Contamination Risk at the Dental Clinic?”

_About DUX Dental_

DUX Dental has been manufacturing and distributing the highest level of dental products worldwide for more than 50 years. Based in the coastal city of Oxnard, Calif., with additional manufacturing and distribution facilities in Europe, DUX Dental is home to a world-class team of innovators who produce and service a portfolio of hundreds of dental products and supplies. DUX Dental is well-known for its series of industry firsts including Zone Temporary Cement, Identic™ Alginate and Bib-ezedisposible bib holders, as well as its award-winning PeelVue+ sterilization pouches. Visit [www.duxdental.com](http://www.duxdental.com) or contact duxoffice@duxdental.com for more information about DUX Dental products._
SAVE THE DATE

Yankee Dental Congress 2013 will bring together thousands of brilliant minds to learn about the most innovative approaches, practices, and resources in dentistry.

Here is a sneak peak at a few education highlights:

- Gordon Christensen, DDS
  RESTORATIVE
- Loretta LaRoche
  PERSONAL DEVELOPMENT
- Kenneth Hargreaves, DDS
  ENDODONTICS
- Roger Levin, DDS
  PRACTICE MANAGEMENT
- Laney Kay, JD
  INFECTION CONTROL
- Cherilyn Sheets, DDS and
  Jacinthe Paquette, DDS
  RESTORATIVE/ESTHETICS

877.515.9071 • yankeedental.com

Connect with us
Facebook
Twitter
ClearCorrect, a leading manufacturer of clear aligners, recently reached a milestone in its charitable project, Phase Out. Since the launch of its first initiative with “charity: water” (phase out unsafe drinking water) on Jan. 1, ClearCorrect has raised more than $60,000, which will help about 3,000 people gain access to clean and safe drinking water.

Of the $60,000 raised so far, $36,555 has been allocated to funding the first five projects with charity water in the Democratic Republic of the Congo. The funding will help create spring protections, rainwater catchments and large-scale gravity-fed water systems that will have dozens of distribution points to serve a large population.

These projects are planned for a mix of villages, schools and clinics with a strong focus on hygiene, sanitation training and community buy-in to ensure sustainability and prevention of water-borne diseases.

“It is hard to believe that there are still people out there who don’t have safe drinking water. Phase Out is an amazing effort and an amazing project, and I’m proud to be a part of it,” said Dr. Annette Murphy, a ClearCorrect provider.

When asked how long the company intends to run the Phase Out project, Jarrett Pumphrey, Clear Correct CEO, responded, “For as long as we can make a difference.”

To see the video, please visit www.clearcorrect.com/phaseout.

About ClearCorrect

ClearCorrect works with more than 11,000 clinicians, making it a leading manufacturer of clear aligners. The company offers an affordable and doctor-friendly approach, including a phase-based system to enhance flexibility and control for clinicians. For more information, visit www.clearcorrect.com or call (888) 331-3323.
May 24th to 28th 2013
Palais des congrès de Montréal

ON LINE REGISTRATION • www.odq.qc.ca
E-MAIL • congres@odq.qc.ca

ANNUAL CONVENTION
OF THE ORDRE DES DENTISTES DU QUÉBEC
Edge management, imaging, communication system from Ortho2: It’s all you really need

_**Edge from Ortho2 delivers the ideal**_ all-encompassing practice management, imaging and communication system with robust features, unmatched capabilities and integrated programs — all supported by the industry-leading Ortho2 customer service team, the company said.

Ortho2 Edge provides secure cloud computing technology, an offsite data hosting system that replaces your onsite network servers. This feature allows you to fully access your secure web-based data infrastructure from anywhere, even tablets and smart phones. Now used by more than 100 orthodontists, Edge features innovative imaging, reminders, patient education animations and more.

Edge Imaging is one of the most robust imaging technologies available today, the company said. With an intuitive interface, comprehensive features and easy functionality, Edge Imaging can help efficiently manage all of your patient image files. It includes features such as card flow presentation, drag-and-drop layout customization, unlimited undo and redo, silhouette image alignment and much more. Edge Imaging can be used with all Ortho2 management systems, with other management systems or by itself. Premier Imaging is an optional upgrade for Edge Imaging and includes comprehensive image morphing, cephalometric analysis and Bolton Standards.

Edge Animations is a set of patient education animations for improved compliance and case presentation. Edge includes a set of patient compliance animations at no charge and an optional extended set of treatment-based animations. With Edge Animations, you have the ability to easily edit and customize videos, including surgical and 3-D animations, using annotation and audio controls. Virtually any image or movie can be included with drag-and-drop capabilities. Give patients, responsible parties and referrers access to your videos with ease through disc, e-mail or YouTube. Edge Animations is available for Edge, ViewPoint and as a standalone product.

Edge Reminders is an easy-to-use, efficient system for automating your patient reminders via phone, text and/or e-mail. Phone messages are delivered with a human voice. Patient responses automatically appear as icons in the scheduler. Edge Reminders is cost effective with a low, flat fee and no minimum monthly charge. Edge Reminders is available for Edge and ViewPoint users. Edge Portal adds online account access to appropriate information for you, your patients, responsible parties and consulting professionals from any computer, tablet or smartphone. You can view or schedule appointments, view patient information or quickly and easily access treatment chart data and much more, all from Edge Portal. Optionally, accept credit card payments that are automatically posted for you.

The Edge system also includes comprehensive features such as dynamic dashboard and widget library, smart scheduler, workflows, online forms, edge reports, electronic insurance and much more. Edge is compatible with PCs, Macs or a mixed environment and can even support multiple monitors for a power user.

One Edge user, Dr. Andy Trosien (Tracy, Calif.), says: “The Edge software system is a true revelation in orthodontic practice management software. The system features all of the imaging and communication features, financial applications and practice tools that can help any practice thrive. It’s simple to install and easy for the staff to learn, and Ortho2’s customer support is absolutely amazing. Switching to Edge was an easy decision — it’s everything I need to take my practice to the next level.”

_**About Ortho2**_

For more than 30 years, Ortho2 has designed, developed and provided all software and services exclusively to the orthodontic market. Nearly 1,700 orthodontists have discovered Ortho2’s software, effective conversion process, quality training, industry-leading support and optional equipment services. Discover the Ortho2 difference for yourself. Discover Edge. For more information, contact Ortho2 at (800) 678-4644, sales@ortho2.com, or www.ortho2.com.
Pacific Dental Conference

March 7–9, 2013 Vancouver, BC

Inspiring speakers
Fantastic networking
Unforgettable location!

- Three days of varied and contemporary continuing education sessions are offered
- Over 130 speakers and 150 open sessions and hands-on courses to choose from, as well as the Live Dentistry Stage in the Exhibit Hall
- Over 300 exhibiting companies in the spacious PDC Exhibit Hall
- Excellent Spring skiing and snowboarding on local mountains or drive the scenic Sea to Sky Highway to Whistler/Blackcomb

www.pdconf.com
Planmeca introduces a new analysis tool for planning orthodontic treatments

Planmeca introduces a new cephalometric analysis module to its Romexis software.

( Photo/Provided by Planmeca Oy)

"Planmeca Romexis" is a comprehensive software used by dental clinicians for acquiring, viewing and processing 2-D and 3-D images. Planmeca now introduces a new cephalometric analysis module to the software in order to facilitate the daily work of orthodontists around the world. The new and easy-to-use analysis tool brings valuable benefits to orthodontic planning and treatment, the company said.

A cephalometric analysis is a study of the craniofacial relationships used particularly by orthodontists for orthodontic growth analysis, diagnosis, planning, follow-up and treatment outcome evaluation. The new Planmeca Romexis Cephalometric Analysis module provides flexible and easy-to-use features for creating cephalometric analyses and composing superimpositions of 2-D cephalometric images, facial photos and images of the dental arch.

The Planmeca Romexis Cephalometric module renders routine analyses fast and easy. An analysis can be performed in minutes, and the results are displayed and shared effortlessly. During a treatment process, superimposing patient images from different time points can be used for follow-up purposes. The unique concept also offers various possibilities for customizing the analysis and software properties in order to meet the needs and requirements of each dental professional.

The cephalometric analysis module is a seamless part of the comprehensive Planmeca Romexis software. Images are captured in Planmeca Romexis, and the cephalometric analysis can be started with just one click. The mobile Planmeca iRomexis application and Planmeca’s cloud service allow for sharing images and viewing results anywhere.

“We believe that with the Planmeca Romexis Cephalometric Analysis module, we can serve our orthodontics customers better than ever,” said Helianna Puhlin-Nurminen, vice president of digital imaging and applications division at Planmeca Oy. “Using the same system for capturing cephalometric images, CBCT images, 3-D facial photos and now for creating cephalometric analyses, the customers can work more efficiently toward a better patient treatment.”

About Planmeca Oy

Planmeca Oy, established in 1971, designs and manufactures a full line of high-technology dental equipment, including dental care units, panoramic and intraoral X-ray units and digital imaging products. Planmeca Oy, the parent company of the Finnish Planmeca Group, is strongly committed to research and development. The company says it is the U.S. market leader in dental imaging and one of the world’s leading manufacturers in dental technology. Planmeca is the largest privately owned company in the field and the third largest dental equipment manufacturer in Europe. Ninety-eight percent of Planmeca’s production is exported to more than 100 countries. The group’s estimated turnover for 2012 is approximately EUR 750 million with more than 2,400 employees. Visit www.planmeca.com.
After having radically transformed dental restorations, the CAD/CAM revolution is finally reaching the orthodontic market. 3Shape, a world leader in digital dentistry, is bringing its technology and development power to the orthodontic market with a digital-age solution for orthodontic labs and clinics.

Ortho System™ brings together accurate 3-D scanning, archiving, intuitive treatment planning and analysis, efficient patient management, communication tools and appliance design — all providing streamlined workflows that increase efficiency and productivity for labs and practices, the company said.

The introduction of 3Shape’s TRIOS intra-oral scanner marks a new era for digital orthodontics. This groundbreaking technology offers a more productive, accurate and comfortable way to capture the patient’s impressions at the start of or during the orthodontic treatment, while reducing chair time compared to traditional impression taking.

Digital study models captured with the TRIOS, or with 3Shape’s R700 desktop 3D scanner, become ready for further processing and manufacturing in 3Shape’s Ortho System, thanks to tight scanner and software integration. With OrthoAnalyzer, orthodontists can perform full treatment planning and fully customized analysis protocols, using advanced 2-D and 3-D tools.

Simulation of extractions, interproximal reductions, full treatment planning with detailed movement overview and realistic virtual articulators are all possible in a user-friendly environment, the company said. Full analysis or validation protocols, such as PAR or ABQ, can also be implemented, allowing consistent and more efficient workflows. The unique insight provided by 3-D study models make the assessment of treatment results both easy and accurate.

Appliance Designer is the first complete digital toolbox dedicated to all types of orthodontic appliances. A host of intuitive and accurate tools enables users to create even the most demanding designs. Appliances such as nightguards, retainers, customized bands, splints, surgical bites, palatal expanders, bionators, Twin blocks, Herbst appliances, Planas tracks and much more can easily be created on screen and made ready for computer-driven manufacturing.

Appliance Designer’s open STL format guarantees complete freedom of choice in relation to materials and 3-D-driven equipment, such as 3-D printers or milling machines. 3Shape’s solutions also allow full integration and file preparation for the equipment chosen.

All tools and design parameters can be combined in any way, and these can be stored as reusable and unique workflows to ensure consistency and efficiency. A tight integration between the treatment planning tools in OrthoAnalyzer and the use of realistic virtual articulators allows optimal CAD design and maximum efficiency of the orthodontic treatment, the company said.

3Shape Ortho System is the only fully integrated CAD/CAM system dedicated to orthodontics, which allows full freedom of choice in terms of equipment, material and manufacturing partners — thanks to its open format. It is easy and fast to transfer digital files, and the communication tools offered by 3-D study models enable tighter cooperation between orthodontic professionals.

The applications of CAD/CAM in orthodontics offer a host of new opportunities for more efficient treatments and follow-up. The technology also enables improved communication between orthodontists, technicians and patients, higher accuracy and repeatability, better control of costs and material consumption, and increased patient comfort. Through improved consistency and efficiency in manufacturing, CAD/CAM technologies allow the orthodontic professional to concentrate his or her resources on value-adding activities.

For more information, visit www.3shape.com.
submissions

formatting requirements

Please note that all the textual elements of your submission:

- complete article
- figure captions
- literature list
- contact info (e-mail addy please)
- author bio

must be combined into one Microsoft Word document. Please do not submit multiple files for each of these items. In addition, images (tables, charts, photographs, etc.) must not be embedded in the text document.

All images must be submitted separately, and details about how to do this appear below.

If you are interested in submitting a C.E. article, please contact us for additional instructions before you make your submission.

Text length

Article lengths can vary greatly — from a mere 1,500 to 5,500 words — depending on the subject matter. Our approach is that if you need more or less words to do the topic justice, then please make the article as long or as short as necessary.

We can run an extra long article in multiple parts, but this is usually discussing a subject matter where each part can stand alone because it contains so much information. In addition, we do run multi-part series on various topics. In short, we do not want to limit you in terms of article length, so please use the word count above as a general guideline and if you have specific questions, please do not hesitate to contact us.

Text formatting

Please use single spacing and do not put extra space between paragraphs. We also ask that you forego any special formatting beyond the use of italics and boldface, and make sure that all text is left justified.

If you would like to emphasize certain words within the text, please only use italics (do not use underlining or a larger font size). Boldface should be reserved for article headlines, headers and subheads please.

Please do not "center" text on the page, add special tab stops or use underlines in your text as all of this must be removed manually before layout. If you require a special layout, please let the word processing program you are using help you to do this formatting automatically rather than doing it manually.

If you need to make a list or add footnotes or endnotes, please let the word processing program do it for you automatically.

There are menus in every program that will help you apply all sorts of special formatting.

Image requirements

Please number images consecutively by using a new number for each image. If it is imperative that certain images are grouped together, then use lowercase letters to designate the images in a group (i.e., Fig. 2a, Fig. 2b, Fig. 2c).

Insert figure references in your article wherever they are appropriate, whether that is in the middle or end of a sentence, but before the period rather than after. Our preference is to have figure references noted in the appropriate place within the text as it helps the readers to orient themselves when moving through the article. In addition, please note:

- We require images in TIF or JPEG format
- These images must be no smaller than 4 x 4 inches in size at 300 DPI
- Images should be 1 MB in size each

If you have an image that is greater than 1 MB, please do not bother "sizing it down" to meet our requirements, but send us the largest file size available. The larger the starting image is in terms of bytes, the more leeway the designer has in terms of resizing the image to fill up more space should there be room available.

Also, please remember that you should not embed the images into the body of the text document you submit. Images must be submitted separately from the textual submission.

You may submit images through a zipped file via e-mail, unzipped individual files via e-mail or post a CD containing your images directly to us (please contact us for the mailing address as this will depend upon where you will be mailing them from).

Please do not forget to send us a headshot photo of yourself that also fits the image requirements noted above so that it can be printed along with your article.

Abstracts

An abstract of your article is not required. However, if you choose to provide us with one, we will print it in a separate box.

Contact info

At the end of every article is a contact info box with contact information along with a headshot of the author.

Please note at the end of your article the exact information you would like to appear in this box and format it according to the previously mentioned standards.

A short bio (50 words or less) may precede the contact info if you provide us with the necessary text.

Questions? Comments?

Please do not hesitate to contact us for our International C.E. Magazine Author Kit or if you have other questions/comments about the article submission process:

Group Editor Robin Goodman
r.goodman@dental-tribune.com

Ortho Managing Editor Sierra Rendon
s.rendon@dental-tribune.com

Managing Editor Fred Michmershuizen
f.michmershuizen@dental-tribune.com
No Pre-Registration Fee

The Largest Dental Meeting/Exhibition/Congress in the United States

MARK YOUR CALENDAR

Scientific Meeting:
Friday - Wednesday,
November 23 - 28

Exhibit Dates:
Sunday - Wednesday,
November 25 - 28

ATTEND AT NO COST
Never a pre-registration fee at the Greater New York Dental Meeting

MORE THAN 600 EXHIBITORS
Jacob K. Javits Convention Center 11th Ave. between 34-39th Streets (Manhattan)

HEADQUARTERS HOTEL
New York Marriott Marquis Hotel

LIVE DENTISTRY ARENA - NO TUITION

LATEST DENTAL TECHNOLOGY & SCIENTIFIC ADVANCES

MORE THAN 350 SCIENTIFIC PROGRAMS
Seminars, Hands-on Workshops, Essays & Scientific Poster Sessions as well as Specialty and Auxiliary Programs

EDUCATIONAL PROGRAMS IN VARIOUS LANGUAGES

SOCIAL PROGRAMS FOR THE ENTIRE FAMILY

ENJOY NEW YORK CITY AT ITS BEST DURING THE MOST FESTIVE TIME OF THE YEAR!

FOR MORE INFORMATION:
Greater New York Dental Meeting®
570 Seventh Avenue - Suite 800
New York, NY 10018 USA
Tel: (212) 398-6922 / Fax: (212) 398-6934
E-mail: victoria@gnydm.com

Sponsored by the New York County Dental Society and the Second District Dental Society

2012
EXPAND YOUR PRACTICE
WITH THE POWER OF 3D

ortho • implant • surgical
airway • tmj • sleep

SCAN
MORE CLINICAL
AND DOSE CONTROL

PLAN
COMPREHENSIVE TREATMENT
TOOLS WITH
Tx STUDIO SOFTWARE

TREAT
INCREASED CONFIDENCE
FOR ADVANCED
PROCEDURES

Tx STUDIO
For a FREE 30-day trial of the
award-winning Tx STUDIO software,
call 800.205.3570 and select option 5

Available exclusively through
Henry Schein Dental