AAO heads to Philadelphia

Orthodontists to meet at 113th annual session

The American Association of Orthodontists will host its 113th annual session from May 3-7 at the Pennsylvania Convention Center in Philadelphia.

The meeting’s scientific program will span pivotal orthodontic topics including “New Technology in Tooth Movement: Fact or Fiction,” featuring Drs. David L. Turpin, Dubravko Pavlin and Anthony M. Puntillo and seven other “Point & Counterpoint” presentations.

Attendees can interact with lecturers like Dr. William R. Proffit, speaking on “Evaluating the Chance of Successful Treatment,” in the “Asking the Experts” series and learn from internationally recognized lecturers addressing 3-D imaging, enamel and roots, heredity and orthodontics, TMD, biomechanics, technology, ethics, early treatment, accelerated tooth movement, ortho/perio, etc.

*See AAO, page 12

Comparison of tooth mesiodistal angulation measurements

Between 3-D CBCT volumetric images and 2-D CBCT-derived panoramic images

By Ammar Siddiqi and Nicole Sakai, DDS
Advisor: Hongsheng Tong, DDS, PhD

One of the major goals orthodontists try to achieve with every patient is to obtain ideal angulations and positions of all teeth at the end of active treatment.

In order to accomplish this, two-dimensional (2-D) panoramic radiographs have conventionally been used to visualize both the maxillary and mandibular arches as well as root angulations. However, because of inherent flaws in panoramic imaging, three-dimensional cone-beam computed tomography (CBCT) has been recommended to provide a more accurate and less distorted image of the dentition.

Literature review

Orthodontics is a specialty of dentistry that is concerned with the study and treatment of malocclusions.

*See CBCT, page 4
Curriculum is changing for today’s instructors

By Dennis J. Tartakow, DMD, MEd, EdD, PhD, Editor in Chief

For each graduating resident, career decisions come down to determining which environment is best suited to his or her personality with regard to orthodontics. Choosing a path that coincides with one’s beliefs, philosophy, personality and lifestyle is omnipotent. There are compelling advantages to both private practice and academics, but in order to consider teaching as a career, clinical experience is certainly necessary.

For the most part, postgraduate orthodontic programs have been content with faculty members teaching in the same manner as he or she was taught (show, tell, do). However, the process of education itself is changing as well. We are moving toward an age where new academic skills such as the (a)

- See CURRICULUM, page 3
methods of teaching, (b) course process of designing and (c) modality of learning have become the new standards of the educational process. There are core areas of knowledge that teachers will be required to learn and understand. Without such basic knowledge of education and the learning process, students may remember information by rote but might never possess a broad and deep understanding of how to apply or adapt such knowledge in all situations.

In “Pedagogy of Freedom: Ethics, Democracy, and Civic Courage,” Freire (1998) emphasized that teacher preparation must consider a sense of ethics inherent in all forms of educational practice. As Freire suggested, educators should consider the best methods for serving our patients. With this in mind, the efforts of educators would best be focused on learning modalities, which are not the same for all individuals. One of the learning theorists whom educators often look to for guidance is Dr. Howard Gardner.

Gardner’s work encourages reflection upon the praxis involved for translating theory into action by considering the different learning modalities in new and creative ways. Students utilize different core methods of learning to process information, which includes: (a) visual, (b) spatial, (c) auditory, (d) tactile, (e) logical, (f) interpersonal and (g) intrapersonal modalities at an unconscious level, not necessarily in any particular order. According to Gardner (1993), most learners retain a dominant and an auxiliary learning modality throughout life. Human beings access information through all senses, but generally favor one or more processes such as visual (sight), auditory ( Hearing), kinesthetic (moving), and tactile (touch).

Recently, new and creative programs in orthodontic education have been created that address new academic skills to improve the teaching ability of orthodontic faculty members. These conferences are part of a 2012 AAOF Educational Innovation Grant.

The preservation of pedagogy in orthodontic education, the potential social justice implications, and impact on the public are directly related to: (a) education of well-trained orthodontists, (b) health-care delivery, (c) outreach programs, (d) welfare agencies and (e) public service communication. Teaching is all about the fundamentals of education. Most postgraduate orthodontic faculty members have never had any formal training in the methodology of teaching or course design. They teach what they learned from their own clinical experiences. With this in mind, it is encouraging to see the creation of a few new and novel educational programs designed for junior and mid-career orthodontic faculty members to learn such academic skills. These conferences are part of a 2012 AAOF Educational Innovation Grant.

One of the first workshops on faculty career enrichment in orthodontics (FACE) occurred in October 2012. The second FACE workshop was held on March 7 at the University of Michigan School of Dentistry. These workshops, led by recognized orthodontic teaching experts included an interactive format with topics such as: (a) principles of course design starting with the end in mind, (b) methods to encourage active learning in the classroom and clinic setting, and (c) methods for successfully incorporating technology into the classroom.

Another related program for faculty members is the James L. Vaden Educational Leadership Conference on May 3. This conference will emphasize excellence in orthodontic education, concentrating on graduate program standards. These programs will hopefully improve the education of our orthodontic faculty members and train our students to become better clinicians. Incremental changes for teaching skills is often needed if putting the student at the heart of the system is to be anything more than a hyperbole.

Improving the standards of education can lead to trying times but abhorring ignorance, I prefer to quote Aristotle (384–322 B.C.), “Education is an ornament in prosperity and a refuge in adversity.”

References
which may be a result of tooth position irregularity, disproportionate jaw relationships or both. The specialty of orthodontics has continued to evolve since its advent in the early 20th century. In the 1890s, Dr. Edward H. Angle, regarded as the “Father of Modern Orthodontics,” published his classification of malocclusion based on the occlusal relationships of the first molars (Angle, 1890).

This was a major step toward the development of orthodontics because his classification defined “normal occlusion.” He believed that if all of the teeth were properly aligned, then no deviation from an ideal occlusion would exist (Angle). His theories suggested that achieving the correct tooth position within the dental arch was critical for ideal angulation, occlusion and esthetics. With the advent of modern imaging technology and improvements in the field of orthodontics, Angle’s principles of proper alignment and positioning have become easier to apply.

Although there have been constant changes in diagnosis, treatment philosophy, mechanics and appliances, core orthodontic treatment principles have generally remained the same over time. The main treatment objectives of orthodontics include obtaining (a) proper esthetics and alignment, (b) ideal functional occlusion and (c) long-term stability. In order to achieve these goals, it is critical to have ideal angulations of all teeth in all three planes of space at the end of active treatment (Andrews, 1972). Proper mesiodistal angulations (tips) are necessary for distributing occlusal forces through tight interproximal contacts and are an important factor in maintaining a stable treatment result (McKee et al., 2001; McKee et al., 2002).

For decades, the norm in orthodontic imaging has been using 2-D panoramic radiographs to visualize the entire tooth including the root to judge the angulation of teeth. Most orthodontists use panoramic radiographs at the start, in the middle and at the end of treatment in order to judge root parallelism to reposition brackets if necessary. This imaging technique produces a single tomographic image of the facial structures that includes both the maxillary and mandibular dental arches as well as their supporting structures.

The principal advantages of panoramic radiography are the (a) broad anatomic areas, (b) relatively low patient radiation, (c) convenience, (d) ease and (e) speed of the procedure (Sakai, 2011). Additionally, panoramic radiography is recommended by the American Board of Orthodontists to assess root angulation and parallelism as part of the objective grading system for an orthodontist to become board certified.

However, the use of panoramic radiographs to check mesiodistal tooth angulation is fundamentally flawed primarily due to dimensional and angular distortions as a result of image layer (focus) discrepancy. Investigators have also attributed the inaccuracy of panoramic images to projection geometry, variable vertical and horizontal magnification factors and patient positioning errors (Bouwens, Cevidanes, Ludlow and Phillips, 2011). Part of the reason why traditional panoramic radiographs are inaccurate in capturing the angulations of teeth may be attributed to the in-orthogonal nature of the X-ray beams as the X-ray tube and the sensor move around the target, as well as the large variations in the size and shape of the dental arches (Sakai, 2011).

To overcome these problems, panoramic-like images constructed from 3-D CBCT volumetric images have been recommended. Three-dimensional CBCT images have been shown to capture the target at a 1:1 ratio with very little dimensional and angular distortions and the use of the angled root to generate the panoramic-like images can be customized to closely follow the dental arch size and shape (Sakai, 2011).

Research has also shown that linear and angular dimensions are more accurate using a CBCT-derived panoramic radiograph compared to traditional panoramic radiographs (Hutchinson, 2005).

The introduction of CBCT specifically dedicated to imaging the maxillofacial region heralds a true paradigm shift from a 2-D to a 3-D approach in data acquisition and image reconstruction. Utilizing this new technology, orthodontists can now visualize the dentition in all three planes of space. CBCT has opened up a new horizon for 3-D diagnosis and treatment planning in dentistry, particularly in orthodontics where shape, form, size and position are of critical importance.

**Purpose**

The short-term goal of this research was to prove that using CBCT is a valid method in orthodontic treatment planning and can aid in the visualization and proper alignment of roots within the dental arch. With these 3-D images, it is finally possible to see how far root apices have moved during treatment. Additionally, placing the root in the right position will facilitate and maximize tooth stability and retention resulting in better treatment outcomes.

Although there have been many studies describing the distortions in 2-D panoramic images, there has not been a study that has looked at a trend in the distortions and compared it to an ideal coordinate system such as a 3-D CBCT. An orthodontic research study was carried out at the Herman Ostrow School of Dentistry of University of Southern California (USC) from February 2012 to January 2013 to investigate this subject matter. The objective was to determine if there are differences in tooth mesiodistal angulation measurements between 2-D panoramic-like images (constructed from CBCT scans) versus measurements obtained directly from 3-D CBCT volumetric images.

**Materials and methods**

The study was conducted under chief investigator Dr. Hongsheng Tong along with a team of residents and a pre-doctoral student at the Graduate Orthodontic Department of USC. The research design aimed at recording mesiodistal angulation measurements for both the 2-D panoramic-like images as well as the 3-D CBCT scans using Dolphin imaging software. The patients of this research were a subset (59 patients) from another related USC orthodontic imaging study, which was designed to obtain the standard tip and torque values for each tooth from 76 patients with near normal occlusions. Three-dimensional images

**See CBCT, page 6**
A comprehensive program that empowers your patients and helps grow your practice

- **Improves Oral Hygiene**
  The PRO-HEALTH SYSTEM® helps ensure that orthodontic patients complete their treatment with healthy, beautiful smiles.

- **Drives Patient Compliance**
  Introducing **EMBRACE IT!** — an exciting new tool that helps patients and parents stay engaged in oral care.

- **Supports Practice Building**
  Provides online customizable referral materials to connect to the community and local dentist offices.

To learn more, contact your Crest Oral-B representative, visit dentalcare.com/ortho, or call 1.800.543.2577.
The accuracy of a CBCT volume is limited only by resolution and/or pixel size (Sakai, 2011). However, as the resolution of images is improved by (a) emerging technology, (b) new data processing software, and (c) avoidance of patient movement during scanning, more precise results will arise. This could lead to improved, exact and realistic visions of virtual three dimensions for endodontic, treatment planning and treatment outcome evaluation in orthodontics.  

References
3) Bouwens, D., Cevidanes, L., Ludlow, L., & Phillips, C. (2011). Comparison of mesiodistal angulations obtained when different variables are introduced into the study such as patients with near-normal occlusion, patients who have undergone extraction treatment, and patients with conventional panoramic radiographs (Sakai, 2011). Ultimately, the goal of future research is to use modern imaging technology to establish norms in measurements of both mesiodistal angulation (tip) and buccolingual inclination (torque) so that orthodontists have an ideal guide that can be used for accurate diagnosis and treatment planning.

About the authors
Ammar Siddiqi is a third-year dental student and pre-doctoral researcher at the Graduate Orthodontic Department at the Herman Osborn School of Dentistry of University of Southern California. He can be reached at ammar@sac.edu.

Nicole Sakai received her doctorate of DDS from the University of the Pacific School of Dentistry. She furthered her education at the University of Southern California and received her certificate in orthodontics and her masters degree in craniofacial biology. Her masters thesis focused on the comparison of root angulation between two-dimensional and three-dimensional radiographs. She is currently a practicing orthodontist in Fort Worth, Texas.
Introducing EPIC™, the latest laser innovation from BIOLASE. More than just a soft tissue laser, expand your treatments and ROI with Whitening mode or exclusive Pain Therapy mode. With the EPIC™ you can treat more patients who need operculectomies, reduction of gingival hypertrophy associated with poor oral hygiene, exposure of unerupted teeth and frenectomies, in your office. EPIC™ is the total diode, elevated.
The mobile-friendly dental practice: Why your website should be optimized for mobile-device users

By Diana P. Friedman

Forty-five percent of American adults owned a smartphone as of December 2012. As these powerful devices increasingly make their way into the pockets of your existing and potential patients, it’s a business imperative that your website deliver the experience these users expect.

A strong mobile presence helps you get in front of prospective patients at the moment they’re looking for your business. On the other hand, if your site doesn’t look good or function properly on a smartphone, it won’t take long for patients to move on to one that does.

Not sure if mobile is important to your practice? Here are three reasons you could be missing the boat — and missing easy opportunities to attract new patients to your practice.

Mobile is where your patients are
Many of your patients probably use the mobile web — 87 percent of smartphone users access the internet using their phones. Mobile web usage has exploded during the past few years, and many industry experts project that mobile internet usage will exceed desktop internet usage by 2014.

For many smartphone users, mobile has also become their preferred way to use the web: 31 percent of current mobile web users mostly go online using their phones. A Sesame Communications research case study found that a mobile website drove an average of 19 calls per month to the practice.

Mobile is how your patients research — and make — buying decisions
More people are using the mobile web to research and buy goods and services.

Ninety-two percent of smartphone users seek local information on their device, and 89 percent have taken action after looking up local content. More significantly for your practice, 52 percent of smartphone owners have used their phones to search for health information.

Without a mobile-optimized site, your practice will have a harder time driving new and repeat appointments from the mobile web. Mobile shoppers are more likely to buy something if the company’s site is optimized for mobile, and are more likely to return to a site in the future if their mobile experience is good.

Not mobile? You may be frustrating current patients … and driving away potential ones
Mobile users now expect any brand they engage with to have a mobile-optimized site. More than half of mobile users say they won’t recommend a business with a poorly-designed mobile site.

If smartphone users reach a site and see that it’s not optimized for mobile, what will they do? They might leave — 74 percent of mobile users are only willing to wait five seconds or less for a single web page to load before leaving the site. Or worse, they might visit a competitor’s site — 61 percent of customers who visit a website that isn’t mobile-friendly will leave to visit a competitor.

The bottom line is that not having a mobile-optimized site can hurt your relationships with current patients, and drive away prospective ones.

The mobile web is where many of your patients are, and where they go to find and research your practice. Optimizing your website for mobile will help you best capitalize on the mobile web as a tool for building and strengthening relationships with patients. In selecting a partner to launch your mobile site, make certain they understand on-the-go patient online behavior and leverage your existing online practice brand and social media channels to optimize the impact of your new mobile site.

References are available upon request from the publisher.

About the author
Diana P. Friedman, MBA, is president and chief executive officer of Sesame Communications. She has a 20-year success track record in leading dental innovation and marketing. Throughout her career, she has served as a recognized practice management consultant, author and speaker. She holds an MA in sociology and an MBA from Arizona State University.
Nite-Guide®
For the 5 to 7 yr. old
Worn ONLY at night!

Occlus-o-Guide®
For the 8 to 12 yr. old
Worn 1-2 hours per day!
Corrects overbite, overjet, crowding and spacing in 4 to 10 months!

Ortho-T®
For the adult dentition
Worn 1-2 hours per day!

“Editor’s note: An article featuring Ortho-Tain® appliances appears on page 16 of this journal.”

Presenting at
Booth #2301 the most efficient and cost effective techniques to straighten teeth without braces!
Educational Seminars by Dr. Bergersen, inventor

www.orthotain.com / email: orthotain@gmail.com
phone: 800-541-6612 / fax: 847-446-7606
Debt vs. success

Five steps to keep your career on track

By Robert Graham

Your journey as a dental professional begins with the hope of having the best possible outcome. Yet, once you are out of school, as many have experienced, you will encounter some forks in the road.

The forks represent decisions you will need to make that will chart your course to either success or failure. They may include questions such as, “Should I go the route of associate or owner?” “How long before I build a practice?” “How do I build the best team?” “What do I do about my debt?” “How do I stay out of debt?” “How do I organize my practice?” and “Do I work for a large group or go it alone?”

With all of the above significant and critical considerations within the life of a practice, debt stands out as the lynchpin. In most circumstances, debt is a necessary tool to gain education, purchase or build a practice and to purchase your home. However, debt is also the “tool” that may tether your freedom and limit your choices when charting your course.

Debt management is essential for a successful outcome. Here are five simple steps you can follow to help you identify the best path to follow or plan to manage your debt.

Identify your big picture vision and goals

Identifying your big picture visions and goals for you and/or your family is the most critical first step to avoid unnecessary debt.

For example, RG Advisors has a pediatric dentist client who is practicing in the Northeast. When we met, she had been out four years as an independent practice. The practice was still wading through debt, struggling to make payoffs. However, her practice was experiencing remarkable growth. This being said, she still had difficulty paying herself. The doctor and her husband outlined with clarity their big picture visions and goals. One goal that stands out is the goal of helping their three daughters with their weddings and a down payment on their first homes.

You may not think this is a reasonable goal, however, it is their goal. Turn the clock forward a few months after building their Financial Freedom Plan™, which includes their visions and goals, and their dream property became available for a down payment. In order for them to purchase the property, they would add an additional $600,000 in debt and the monthly debt service of $3,000 per month. When the doctor and her husband called for advice, my first question back was, “Are you willing to sacrifice your goal of helping your daughters in the future?” The answer was a resounding “NO!”

Your vision and goals become sounding boards, they are an objective consideration if your outcome is threatened by more debt. If you have not identified visions and goals, take time and start now.

Identify your choices

When you are considering your debt options, the decisions are mostly economical.

• What is the best rate?
• What is the best term?
• Are there any prepayment penalties and can I live with them?
• What is the debt being used for?
• Do I need it now?
• What is the monthly required payment? Can I afford the debt service?

Understand the impact of your debt

Understanding the impact of the debt will help you make good decisions. In some cases, the use of debt is needed for practice growth, purchasing a home or other large purchases. However, what is the impact? What choice should I make? With any choice you have to budget for the additional debt service each month. With that being said, using debt wisely may give you and or the practice the ability make needed purchases and more efficiently invest in your practice and or your future.

Build a debt elimination plan

A good debt elimination plan will give you a guide, to ensure that you efficiently pay off all of your debt in a timely manner. Additionally, an efficient plan, will illustrate the benefits of overpaying the required payments. When designing our debt elimination plans for our clients, we use a proprietary tool named DETool™ that organize all liabilities, required payments and their current interest rates.

For example, we recent worked on a debt elimination plan for a young general dentist from Ohio who was out of school six months. All of his debt was tied to five student loans, totaling close to $265,000. After constructing his debt elimination plan, the dentist’s strategy began with paying the high-interest balance first and overpaying required payments by $3,300 each month.

His focused effort and overpayment will save him $59,254 in interest and the debts will be forgiven.

Implement the plan

When it comes to debt forgiveness or a plan for debt elimination, implementation or taking action is the only way you will have the desired outcome. Planning is like a sports “chalk talk” by the coach. The coach will draw the best possible outcome on the board, but if the team or individual players do not execute their plans accordingly, they will NOT have the desired outcome.

If you build a debt elimination plan, find the discipline to follow each step. Remember, too much debt and not having a good payback plan may greatly reduce your freedom and choices.

In closing

The first five or so years out of school have always proven to be the most challenging years for dentist. At RG Advisors, we call this time the “Survival Phase.” This is the time where you are launching your careers. You are making choices to be independent or work for a group. This is the time most dentist are learning how to manage a team and/or run the practice. This is also the time when most dentists are concerned with making payroll or the fear of not having enough money to cover overhead.

All of the concerns above are stressed exponentially when you add debt to the equation. The more debt you have, the more pressure you will experience. In most cases, the outcome is either debt or success.

About RG Capital

RG Capital Investment Advisory Services, LLC, dba RG Advisor Group, securities offered through Capital Investment Group, Inc. Member FINRA/SIPC. Investment advisory services offered through RG Capital Investment Advisory Services, LLC, a registered investment advisor.

About the author

Robert Graham and RG Advisors have been recognized as wealth management and tax-planning specialists for dental care professionals by many industry leaders. Graham has worked with and educated thousands of dental professionals on topics such as wealth accumulation, tax efficiencies, retirement planning, asset protection and practice transitions.
When it comes to patient satisfaction and orthodontic accuracy, nothing impresses like the new iTero intraoral scanner. From the simplicity of our click-to-capture software and the comfort of our digital imaging procedure, to the time, space, and financial savings to be realized from a digitized workflow, iTero elevates your practice above the competition. Whether you’re inspired or intrigued by the latest technology, iTero is the intelligent choice. To schedule a demonstration go to www.iTero.com.
OrthoVOICE gears up for its fourth annual meeting

By Davin Bickford
OrthoVOICE board member

OrthoVOICE 2013 is all set for its fourth annual meeting, which takes place Sept. 19–21.

As our meeting continues to redefine the orthodontic meeting experience, this year a host of fresh speakers will accompany seasoned lecturers to bring a variety and dimension not found at other orthodontic meetings.

This year’s OrthoVOICE meeting will take place at Planet Hollywood in Las Vegas.

OrthoVOICE will also highlight its unique and always popular social events. These events cultivate practice-changing conversations and idea sharing in a fun and relaxed environment outside of the lecture hall.

OrthoVOICE has applied for CERP accreditation and will offer C.E. credits for all lectures at this years meeting with full registration (only $49 before July 15), allowing access to the tradeshow floor and all social activities.

OrthoVOICE is committed to developing a community of orthodontists, team members and companies who value and embrace practice-changing experiences through personal relationships, sharing of ideas and forward-focused techniques.

Orthodontics is a great profession, and OrthoVOICE has created a platform to showcase the newest products, marketing trends and treatment techniques.

Because it is not affiliated with an association or a single company, OrthoVOICE brings together the diversity of ideas and discussion found at company user meetings and the established broad appeal of a national meeting.

This year’s speakers include Dr. Katherine Vig, Dr. Neal Kravitz, Dr. Dan Bills, Dr. John Pobans, Nancy Hyman and Andrea Cook.

Speaker bios, lecture topics, full speaker lineup and registration information can be found at www.orthovoice.com.

Call (402) 932-1298 for a code to get $50 off your doctor and team registration.
ORTHOBANC

Getting Silly in Philly

BUT WE’RE SERIOUS ABOUT YOUR PAYMENTS

Don’t miss the excitement!
Join OrthoBanc at the AAO in Philly as we teach you about
Serious Practice Solutions
in an environment that will energize you.

May 4, 5, 6
11 AM, 1 PM, 3 PM

Email marketing@orthobanc.com, call 888-758-0585, or scan QR code
to reserve your space for one of our

BIG TOP CELEBRATIONS

and you will be entered into a drawing for a
$100 Gift Card that will be given away at each presentation.

ORTHOBANC.COM
888-758-0585
By Kevin Rattle
AOA sales and marketing manager

Every practice is unique and each office provides a different offering of products or treatments. The decision to choose certain treatment options is usually based on what best represents both the practice’s and the patient’s needs. Allesee Orthodontic Appliances (AOA) recognizes the luxury that each one of us enjoys in having choices. That is why we offer several aligner options for the growing express market uniquely designed to best fit your individual practice’s needs, including Clearguide Express and Simpli5.

Clearguide Express represents the increased desire to have a digital user interface with a complete approver process to allow both the orthodontist and the patients the ability to view where the final teeth positions will be. It also provides the clinician complete control over movements as they can manipulate the tooth positioning as they see fit, rather than relying on a design technician to make the movements.

Simpli5 is designed for the office that may not have the time, or want to take the time, to make corrections or approve final setups. These offices may recognize the simplicity of express cases and trust that a company such as AOA, who has been doing aligner cases for more than 12 years, can use its knowledge and experience to position teeth according to the clinician’s prescription, without the need for a viewer. Simpli5 becomes a very simple solution that can be returned to the office faster than most express systems because it does not require the additional steps of the approver process.

Each option also differs in the number of aligners available. Clearguide Express offers up to 10 per each arch, while Simpli5 offers five per arch (for cases needing three or less, we offer “Red, White and Blue”). Because Clearguide Express offers a free mid-course correction process in which the clinician uses a “Heat & Bite” to capture the patient’s treatment progress and sends it to the lab.

This step is designed to aid in the predictability of both the treatment time and objectives. AOA will evaluate the “Heat & Bite,” make any adjustments necessary to the setup and proceed with the next stage of treatment. While both Clearguide Express and Simpli5 may be dual-arch cases, each system also offers a discounted single-arch option. We have always felt that if you are only treating one arch, you should not have to pay as if you were treating both.

At the AAO
Stop by AOA booth No. 1009 to learn more about its express aligner options. You can also call (800) 262-5221 or visit www.aoalab.com.
Orthodontic Strategies for Sleep Apnea
A comprehensive airway management and sleep apnea program

Locations and Dates

<table>
<thead>
<tr>
<th>DATE</th>
<th>LOCATION</th>
<th>INSTRUCTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 14 &amp; 15</td>
<td>Newport Beach, CA</td>
<td>Dr. Louis Chmura</td>
</tr>
<tr>
<td>June 28 &amp; 29</td>
<td>Dallas, TX</td>
<td>Dr. David Paquette</td>
</tr>
<tr>
<td>July 26 &amp; 27</td>
<td>Boston, MA</td>
<td>Dr. Louis Chmura</td>
</tr>
<tr>
<td>August 9 &amp; 10</td>
<td>Chicago, IL</td>
<td>Dr. Louis Chmura</td>
</tr>
<tr>
<td>September 13 &amp; 14</td>
<td>San Francisco, CA</td>
<td>Dr. Louis Chmura</td>
</tr>
<tr>
<td>October 4 &amp; 5</td>
<td>Hasbrouck Heights, NJ</td>
<td>Dr. David Paquette</td>
</tr>
<tr>
<td>November 1 &amp; 2</td>
<td>Tampa, FL</td>
<td>Dr. David Paquette</td>
</tr>
<tr>
<td>December 6 &amp; 7</td>
<td>Las Vegas, NV</td>
<td>Dr. Louis Chmura</td>
</tr>
</tbody>
</table>

Did you know that up to 20% of adults suffer from sleep apnea?*

This course will provide you and your team with an understanding of the physiology of sleep apnea and the current diagnostic and treatment options, as well as a new orthodontic approach and its protocols. This approach is intended to provide patients with immediate relief from Obstructive Sleep Apnea, as well as changes to the airway that may address an underlying cause. This program is the first of its kind in the orthodontic industry, and includes a complete, evidence-based system to implement and grow your practice now.

“Treatment for Obstructive Sleep Apnea should be a standard of care in all orthodontic practices.”

Dr. Ron Redmond

Space is Limited. Register Today at 877.448.8606, or OrthoSleepApnea.com.

* Data on file.
Results for Nite-Guide preventive and interceptive procedure

By Earl O. Bergersen, DDS, MDS

The largest of several studies on the Nite-Guide® technique was done under the auspices of Turku University in Turku, Finland, by Keski-Nisula et al (from 2001–2008). The results of this study were reported in two peer-reviewed articles published in 2008.

Four towns in Finland were selected, with three of them as the treatment sample of 167 cohorts, and one town served as the control sample of 104 individuals. Several occlusal dimensions were measured initially at 5.1 years of age and again at the termination of the study at 8.4 years.

The most important of these dimensions were crowding of the mandible and maxilla, overbite, overjet, open-bite, mandibular length (condylion-graithion) and the need for treatment at the end of the study (as a percentage).

All of the initial measures had no statistical differences, while both groups at the termination of treatment exhibited significant differences at the 0.001 level of significance.

Mandibular crowding had a 98 percent correction from 48 percent to a 1 percent incidence. The maxillary crowding improved 82 percent from 13 percent to 2 percent while the control increased 256 percent (9 to 32 percent incidence).

Both overbite and overjet were treated optimally to 2.1 mm and 1.9 mm. Two millimeters is the ideal recommended measure at this early age (8.4 years) in order to accommodate future jaw growth (Bergersen, 1990, 1995).

Open-bite had a 98 percent correction while the control sample had a 20 percent increase. The Class II canine relation had a 98 percent correction from 57 percent to a 1 percent incidence. The need for further treatment for overbite and open-bite at the end of Nite-Guide use was 2 percent compared to 74 percent for the control sample. Mandibular crowding was 1 percent (treated) versus 47 percent (control), and maxillary crowding was 2 percent (treated) versus 32 percent (control).

The conclusion of these results at the termination of the study were expressed as “...little treatment need was left in the treatment group compared with the control group...” (Keski-Nisula et al, 2008).

In a second report from the same study (Keski-Nisula et al, 2008), the most meaningful conclusion was that the mandibular length (condylion-graithion) grew 54.2 percent greater than the control sample (11.1 mm vs. 7.2 mm) or 3.9 mm greater during a three-year period (5.1 to 8.4 years). This represents a very large orthopedic growth factor in correcting overjets and proper intercuspation and also results in little or no overjet relapse in these cases (Bergersen, unpublished research).

Ninety-three percent of 5- to 7-year-old children are candidates for this treatment procedure (Keski-Nisula et al, 2003). Ninety-three percent of children wore the appliance as directed while sleeping, while 62 percent kept the appliance in all night after one week (Methenitou et al, 1990). It was found that only one hour of passive wear each night was sufficient to obtain a successful result in overbite and overjet (Methenitou et al, 1990).

Research shows that the mean lower arch increase as a result of the incisal eruption is 3.21 mm (Lewis & Lehman, 1929, Korkhaus & Lehmann, 1931, Baume, 1950, Moorrees, 1959). The mean maximum lower arch enlargement was 5.1 mm (Lewis & Lehman, 1932, 5.5 mm, Baume, 1950, 4.6 mm). The mean maximum upper arch increase was 6.8 mm (Lewis & Lehman, 1932, 7.0 mm, Baume, 1950, 6.5 mm).

The maximum arch increase in a study of 43 individuals using the Nite-Guide technique (Methenitou et al, 1990) was 6.9 mm in the lower and 8.9 mm in the upper arch. This is a 35.3 percent increase in the mandible and 30.9 percent increase in the maxilla over the above maximum in the literature. This is the approximate mean widths of an upper lateral and central incisor respectively (G.V. Black, 1902).

PhotoMed G15 digital dental camera offers ‘frame and focus’ simplicity

The PhotoMed G15 Digital Dental Camera is specifically designed to allow you to take all of the standard clinical views with “frame and focus” simplicity. The built-in color monitor allows you to precisely frame your subject. Focus and shoot.

Proper exposure and balanced even lighting are assured. By using the camera’s built-in flash, the amount of light necessary for a proper exposure is guaranteed, and PhotoMed’s custom close-up lighting attachment redirects the light from the camera’s flash to create balanced, even lighting across the field.
Stop by booth #425 at the American Association of Orthodontists Annual Session to ask about our show special.
The outcome is simulated but the wow is genuine

iTero and Invisalign together can still impress even your most jaded clients

By Align staff

Technology is progressing so fast these days that it can be hard to still wow people. This is especially true when it comes to younger patients, who have been born and grown up knowing nothing but the connected life.

This is why the new iTero 2.9 intra-oral scanner is so impressive. Not only does it offer a set of features that will wow the most gadget-oriented orthodontist (you know who you are), but it has some unique features that will make even the hardest-to-impress-patients (we’re talking to you, teenagers) offer a begrudging, “That’s pretty cool.”

The crown jewel of the iTero 2.9 is the Invisalign Outcome Simulator, which we’ll get to shortly. But, first things first: the iTero 2.9 is the latest iteration of the intraoral scanner from Align Technology. This next generation iTero has upped the performance while shrinking the physical footprint of the entire system, including the imaging wand. Like its predecessors, the 2.9 is all about accuracy. It captures a level of detail that simply isn’t possible using a traditional impression.

If you think this accuracy is overkill, think again. A recent study suggested that up to 40 percent of all the PVS impressions taken show some type of physical deformity such as a tear, void or pull. Impressions taken with the iTero 2.9 intra-oral scanner have a remake rate of just 0.015 percent. A number that small can seem abstract, so think of it this way, that means that many practices will go a year or more without ever having to impress a patient.

Still, this kind of accuracy is now expected when it comes to digital processes. It’s once you pair up the iTero 2.9 with Invisalign treatment that the scanner will begin to wow the orthodontist. That’s because iTero is the only intra-oral imaging device that offers 100 percent inter-operability with the Invisalign procedure.

Tim Mack, Align Technology vice president and general manager of iTero says, “iTero is the only intraoral scanner that is currently certified with Invisalign. The process for validating intraoral scanning with Invisalign production is extensive. To date, only the iTero system has proven to consistently meet the requirements for providing the orthodontic full-arch scan data required for Invisalign.”

Capturing a scan for Invisalign treatment is easy. But it’s the inclusion of the Invisalign Outcome Simulator that’s really captured the imagination of the orthodontic community.

The Invisalign Outcome Simulator is a standard part of the latest generation iTero software. The chairside application is specifically designed to enhance patient acceptance by helping them visualize how their teeth will look at the end of treatment.

Simulated outcomes make it easy to show patients the benefits of Invisalign treatment, rather than just telling them. The Invisalign Outcome Simulator’s dual-view layout shows the patient’s current dentition alongside his or her final outcome.

Dr. Jonny Feldman is a second-generation orthodontist in Feldman Orthodontics (along with his father and brother) in Cheshire, Conn. He says that his family’s practice was one of the first three or four practices in the country to adopt the iTero technology in 2009. He believes so strongly in the technology that his daughter was one of the first Invisalign cases started with an iTero scanner.

“One of the historically difficult things to do with Invisalign was the PVS impression,” Feldman said. “I love iTero. Quicker turnaround for us getting the aligners. I can scan a patient, and it goes directly to Invisalign. I get my ClinCheck® back in days as opposed to a week. The turnaround time to just get my patient in aligners is greatly reduced. Now we don’t have to rely on the U.S. mail much.”

While the technology is state-of-the-art, iTero has followed the lead set forth by Apple with the revolutionary iPhone product line and opted to make the process as intuitive as possible. According to Feldman, the company has succeeded.

“It’s not a hard thing to master at all,” he said. “The software talks you through the scan process.” He says that even his more tenured assistants didn’t have much trouble integrating, the process into their skill repertoire.

When it comes to the Invisalign Outcome Simulator, it seems that both Feldman and his patients are impressed.

“It helps establish a beginning and an end,” he said. “Showing them a simulation of the end result is a powerful tool. I can say ‘I want to close a space here’ but a picture is worth a thousand words. ‘I’ll never go back to not having a scanner in my office. To me, it’s a must-have for any practice that does Invisalign. ‘The bottom line is that it’s stress-free for your patients, and it’s stress-free for your staff.’ Feldman concluded.

At the AAO
Those who would like to give the Invisalign Outcome Simulator technology a test drive and sample the iTero 2.9 intraoral scanner can do so at AAO booth No. 1601.

References
1) Review by Arrowhead Dental Lab and published in Aesthetic Dentistry, Summer 2007
2) Review by Arrowhead Dental Lab and published in Aesthetic Dentistry Summer 2007 reports the average remake rate for their iTero impressions is less than 0.05 percent. "The Remake Debate", IAT Commu-
JOIN THE MOVEMENT

H4™ Features & Benefits

- Patent pending door, slides and locks into both open and closed positions.
- Minimal mesial/distal width for increased inter-bracket span to fully express the wire.
- Smooth, round edges for patient comfort.
- Slot is passive in initial stages. When using full sized wire it will make four wall contact.
- Scribe lines for easy bracket placement.
- Large under tie-wing clearance for easy ligation.
- One piece base/bracket design for optimum pad-to-tooth fit and bond strength.
- Patent pending Treadlock™ base provides superior surface area for greater bond strength.

Visit Us At AAO Booth Number 1611

Ortho Classic’s H4 Speakers
Visit our booth to attend each speaker’s lecture

Dr. John Pobanz
Saturday May 4
11:00am - 11:30am
Sunday May 5
11:00am - 11:30am

Dr. Daniela Storino
Sunday May 5
12:30pm - 1:00pm
Monday May 6
12:30pm - 1:00pm

Dr. Tomas Castellanos
Saturday May 4
12:30pm - 1:00pm
Monday May 6
11:00am - 11:30am

FOR MORE INFORMATION CALL: 866.752.0065 OR VISIT US ONLINE: WWW.ORTHOCCLASSIC.COM
3D imaging for lower dose than a 2D panoramic is not magic...

...it’s i-CAT

The new i-CAT FLX is a reality!
This latest advancement of our award-winning technology offers a range of innovative features that deliver increased clarity, ease-of-use, and control. Now with Visual iQuity™ and QuickScan+ technologies, the power of capturing diagnostic 3D images at a lower dose than a 2D panoramic x-ray is in your hands.

Visit us in Booth #111 at the AAO to see it for yourself or go to i-CAT.com!

Available exclusively through

HENRY SCHEIN DENTAL

*Utilizing the i-CAT FLX QuickScan+ exposure protocol. Data on file.