By Kristine Colker, Managing Editor

If you came to Washington, D.C., for the 110th annual session of the American Association of Orthodontists with a “things to buy” list or a “topics to learn more about” list, chances are you were in luck. With more than 300 companies showing off their products and services in the exhibit hall and four days filled with courses, hands-on workshops and even a couple live procedures, there was more than enough to keep any orthodontist or staff member busy from morning to evening.

Take the exhibit hall and the array of merchandise on display. There were all the basics — brackets, wires, retainers, digital imaging...
Has the ‘golden-age’ of orthodontics left the building?

By Dennis J. Tartakow, DMD, MED, PhD, Editor in Chief

T here once was a time when an orthodontist was required to learn how pinch-lapping bands, spot-welding brackets, bend loops, hooks and first-, second- and third-order bends in wires as well as various auxiliary appliances work. Diagnosis included drawing our own cephalometric X-rays and trimming our own diagnostic casts — putting the “plaster-on-the-table” as the saying goes.

What has happened to change history? Are we better educated with greater expertise to serve the public, or are we restrained by the many technological advancements? For those who were privileged to have known or were taught by some of the great orthodontists of the past, you know how truly special it was. We were trained to provide services to the patient without any help from specialty companies.

Today, clinicians have the luxury of sending out X-rays and casts — we don’t even have to bend wires any more with the current trends of out-of-the-box technology.

At some point, we must ask ourselves whether or not (a) technology is inhibiting or enhancing progress, (b) patients are better served or merely recipients of technology, and (c) our brains are still allowing us to function as diagnosticians or are we simply office traffic cops directing the flow of services provided in and out of the office from outside help?

The underpinnings of patient care and dignity are emphasized by the importance of delivering quality services. It may be easy imagining how failure to achieve standards of excellence might be a reflection of a culture derived from poor training and fast-lane skills; they are often traced to economics and well-embedded in personal gain rather than providing the best services for patients.

Although patients are unaware of these issues and typically impressed with having the latest or best-of-the-best, technologically advanced care, are they really better served or are we delusional? Difficulties are sometimes encountered in finding high-dependency treatment results from the so-called “advanced technological improvements.”

High-dependency treatment relates to the close proximity of observed results; low-dependency treatment occurs when accompanied by ignorance and is unrecognizable when we have no means of comparison or assessment. Issues of dignity and privacy may be compromised in order to give priority to the seriousness of the patient’s care, especially in today’s modern society.

Our decisions about patient care are often influenced by medical sales representatives rather than by our own sophisticated intelligence. It is sometimes difficult to find the accommodation appropriate to a specific patient’s needs, health and safety. The question is, “Will delusion become implanted in the legacy of orthodontists?”

Decisions to maximize efficiency can be a double-edged sword, and we must be careful about what we wish for, as modernization may become our Achilles heel.

Although the process of patient care being delivered with dignity and privacy is in a sensitive environment, these issues are not confined to the delivery of care, particularly when the decision is to provide the “best” care; it also relates to management decisions for personal gains or advantage.

There is no question that technology cannot be ignored, but neither can it stand in the way of care or progress. However, inappropriate application of standards for dignity, privacy and excellence to our patients should be aimed at avoiding gimmicks or attention-grabbers and confined to what we know in our hearts is righteous.

Suggesting that it is exceptional for an orthodontist to have an attitude problem or lack the necessary training regarding issues of patient dignity and privacy is not intended, and neither is it implied that the problem lies with teachers who have failed to acknowledge deficiencies in the fabric of the environment in which care is being offered.

However, it is incumbent upon educators not to be in denial of the structural inadequacies of technology, but rather to encourage individual thinking that is appropriate to achieve patient care with the supreme quality.

Hopefully the present “golden-age” of orthodontics does not have a tarnished halo, and care for our patients is held first and foremost in our minds as well as our hearts.
To help raise awareness of the fight against pediatric dental disease, National Children’s Oral Health Foundation: America’s Toothfairy (NCOHF) has released a public service announcement video as part of a continued effort against the No. 1 chronic childhood illness in the United States.

The video — “America’s Toothfairy: Transforming Children’s Lives” — was produced to educate the general public about the prevalence of pediatric dental disease and highlight the measures that NCOHF nonprofit affiliate health-care facilities are taking to provide underserved children nationwide with compassionate, comprehensive oral health care.

“Millions of children are suffering in silence from oral pain so severe that it impacts their ability to eat, sleep and learn on a daily basis,” said Fern Ingber, NCOHF president and CEO.

“With access to basic preventive care and simple educational tools, pediatric dental disease is completely preventable. We hope this film will create a robust public dialogue surrounding our country’s oral health epidemic and encourage increased support for nonprofit health-care centers that work tirelessly on limited resources to eliminate this disease from future generations.”

Two dental health-care professionals offer their comments in the video.

“Dental caries is still very much a disease; in fact, it is the most common chronic disease in childhood,” says Dr. J. Timothy Wright, professor and chair of pediatric dentistry at the University of North Carolina School of Medicine.

“Oral health is one of the leading causes of children not being in school.”

Dr. Rocio Quinonez, clinical associate professor at the University of North Carolina School of Dentistry, says, “We as a profession certainly share the same mission as the NCOHF, and that is to get to kids early enough so that we can not only prevent disease but change the trajectory of oral health and general health outcome.”

“America’s Toothfairy: Transforming Children’s Lives” was produced by Emulsion Arts Film Production Co. with funding from DENTSPLY International, a dedicated NCOHF underwriter.

The video may be viewed on the Ortho Tribune website’s media center, located at mediacenter.ortho-tribune.com.
successful treatment with miniscrews. Such planning includes a comprehensive anamnesis and an accurate assessment of the findings. It is essential that the treatment be thoroughly explained to the patient.

Proper hygiene must be ensured throughout the entire operation. Both the chair and the treatment process must be prepared with this in mind.

During the insertion of a miniscrew, adherence to all hygiene measures required for an invasive procedure, such as a sterile work environment and gloves, must be ensured. All instruments required for insertion must be checked for completeness, functionality and sterility.

The patient may rinse with a disinfectant solution, or a suitable disinfectant can be locally applied. The patient should then be positioned to ensure a clear view of the operational area and ergonomically facilitate insertion for the treating clinician.

Pre-operative planning
To function correctly, a miniscrew requires firm anchorage in the bone (primary stability) and the positioning of its head in the denser gingival tissue (gingiva alveolaris). The selection of the insertion site must take clinical and para-clinical findings into account (X-ray image, model), as well as the goal of the treatment and the resulting orthodontic appliance.

For interradicular insertion, a bone thickness of at least 0.5 mm around the miniscrew is required. This means that for a miniscrew with an — for many reasons — optimal diameter of 1.6 mm, the roots must be at least 2.6 mm from each other. Thus, the bone status and the longitudinal axis of the insertion site must be carefully evaluated.

Basic information regarding this is obtained by carrying out measurements on the model. It often helps to mark the vertical axis of the teeth and the progression of the mucogingival line on the model, based on the clinical and radiological findings. This will allow for an improved assessment of the spatial circumstances in combination with the X-ray image.

To assist the accurate determination of the insertion site, X-ray aids (Fig. 1) are available. Although their use facilitates the selection of the insertion site, they cannot replace other diagnostic measures.

This is because, depending on the positioning of the X-ray tube, object, film, and/or sensor, all types of X-ray devices and images may yield some optical distortion. Interpretation of images can thus
lead to false-negative or false-positive results (Figs. 2a–c).

Therefore, the placement of a miniscrew should always be based on the clinical findings. If a miniscrew is to be inserted into an area in which there is no risk of damage to roots, nerves or blood vessels (e.g. into the palate just behind the transverse line linking the two canines), the position of the screw may be freely chosen (Figs. 3a–c).

Anesthetic

During the interradicular insertion of a miniscrew, the sensitivity of the periodontal tissue of the adjoining teeth should be retained. For this reason, the following two procedures are recommended:

a) a low-dose injection of about 0.5 ml anesthetic (Figs. 4a, b); and

b) the induction of superficial anesthesia of the mucous membrane at the insertion site, for which a topical anesthetic gel is suitable (Figs. 5a, b). No general anesthetic is ever required for this procedure.

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**Checklist for insertion**

**Pre-operative planning and preparation:**
- planning documentation (X-ray, situational models);
- marking of the muco-gingival line and tooth axes on the model, determining the site of insertion; and
- sterilization of the instruments and preparation of the workstation.

**Anesthetic and assessment of the insertion site:**
- anesthetic;
- use of X-ray aids; and
- control image.

**Selection of the screw:**
- measuring of the thickness of the mucous membrane (optional);
- determination of the length; and
- determination of the type of screw.

**Transgingival penetration:**
- excision of the mucous membrane or perforation with the screw.

**Preparation of the bone site:**
- optional marking of the bone; and
- perforation of the cortical bone or deep pilot drilling, depending on the type of screw.

**Insertion of the miniscrew:**
- manually or by machine.

**Start of orthodontic measures:**
- attaching and fixing of the linking elements.

**Post-operative care:**
- notes on care and behaviour; and
- check-up dates.

**Removal of the miniscrew:**
- removal of the linking elements; and
- removal of the miniscrew.
Measuring of the thickness of the mucous membrane

A pointed sensor with an attached rubber ring is used to measure the thickness of the gingival tissue in the direction of insertion (Fig. 6). This information may be useful when determining the final length of the screw and possibly when inserting the miniscrew.

When choosing the length, the bone repository and the thickness of the mucous membrane in the direction of insertion play a role; in the retromolar section of the lower jaw and in the palate, the thickness of the mucous membrane is often more than 2 mm.

The part of the miniscrew inside the bone must be at least as long as the part outside the bone. The various dimensions must be taken into account.

The thickness of the bone in the direction of insertion determines the required length of the miniscrew:
- bone thickness greater than 10 mm: miniscrews with a length of up to 10 mm are to be used;
- bone thickness less than 10 mm and greater than 7 mm: miniscrews with a length of 8 mm or 6 mm are to be used; and
- bone thickness less than 6 mm: miniscrews cannot be used.

The following guidelines aid in selecting the length:
- in the buccal region of the upper jaw: 8 mm or 10 mm;
- in the palatinal region (depending on the region): 6, 8 or 10 mm; and
- in the lower jaw: usually 6 mm or 8 mm.

Determination of the type of thread

Self-cutting miniscrews require pre-drilling (also known as pilot drilling) appropriate to the length and diameter of the screw, as well as to the quality of the bone. A self-tapping miniscrew will find its own way into the bone and requires no pre-drilling (Figs. 7a, 7b).

Bone is more or less elastic depending on site, age and structure. However, the screw diameter, the thickness of the cortical bone and the hardness of the bone at the insertion site limit the extent to which this method can be used.

Without pre-drilling, the bone will be strongly compressed during insertion and thus suffer a related tension stress. This may result in the cracking of the bone around the insertion site.

When the screw is screwed into the bone, it is subjected to high loads. Depending on the bone quality, the resistance against insertion and the continuity of the rotational movement, high torsional forces can result.

In regions with thick cortical bone and a much looser bone structure (e.g. the upper jaw), the use of self-tapping screws is recommended. In regions where the cortical bone is thick and the bone structure is dense (e.g. the anterior lower jaw) both self-cutting and self-tapping screws may be used, in each case following perforation of the compact bone.

Transgingival penetration

The miniscrew must penetrate through gingival tissue, which must thus be perforated during insertion. Two methods are used for the perforation of the gingival tissue:
- a) excision of the gingival tissue; or
- b) direct insertion of the screw through the gingival tissue.

There are currently no published studies that investigate the effect of these two methods on post-operative problems, histological effects and/or the loss rate of miniscrew.

Preparation of the bone site

Protection of the bone is an important aspect. Insertion without pre-drilling results in tensile stress within the bone, which may lead to post-operative complications.

Particularly in the case of crestally placed screws, bone displacement may result in a severe expansion of the periosteum. The thickness of the cortical bone, especially in the lower jaw, can have a significant effect on the torque of the screw.

To ensure that the screw is not overloaded during insertion, the compact bone of the anterior lower jaw should be perforated by pre-drilling as mentioned earlier. Pre-drilling should be done at a maximum of 1,200 rpm, using a short pilot drill and water-cooling to reduce the risk of damaging the root (Figs. 8a, 8b).

Insertion of the miniscrew

The miniscrew must be removed from its sterile packaging (Fig. 9) or the work rack (Figs. 10a-d) without contamination. The thread of the screw may not be touched. The screw should be inserted at a constant rotational speed (at approximately 50 rpm) and with as uniform a torque as possible.

Manual insertion

Manufacturers supply various rubber rings to measure the thickness of the mucous membrane.
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—John Kelley, DDS, MS, Fort Worth, TX

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screwdrivers and blades in several lengths for the manual insertion of the screws.

Because of their dimensions, long blades pose the risk of attaining a very high torque during insertion. Thus, insertion must be carried out carefully to avoid breaking the miniscrew.

Torque ratchets are available for use with some systems (e.g. tomas, DENTAURUM; and LOMAS, Mondial), which provide a certain amount of control over the insertion torque.

Machine insertion

Machine insertion requires a surgical treatment unit (the torque of which can be controlled) or at least a low-rpm dual-green handpiece.

Accurate setting of the torque and the number of rotations is required; the rotation rate should not exceed 30 rpm, and the torque must be restricted to the maximum load limit of the screw. Machine insertion helps to achieve a consistent torque during insertion but means that the operator loses perception of the bone. During manual insertion, it is possible to perceive the interaction between the screw and the bone by tactile senses. Insertion by machine is shown in figures 11a–f.

Attaching the orthodontic linking elements

As no healing phase is required, load may be placed on the miniscrew immediately after insertion. The selected linking element must be prepared accordingly and attached to the head of the screw (Fig. 12). To avoid damage to the teeth to be moved, the load on the linking element should be between 0.5 and 2 N (about 50 and 200 g).

Basic post-operative care

The healing of the gingival tissue and hygiene status after insertion must be regularly reviewed during the entire time the miniscrew remains in place. The patient must be informed that any manipulation of the screw head with the fingers, tongue, lips and/or cheeks should be avoided; otherwise the screw may be prematurely lost.

Removal of the miniscrew

A miniscrew can be removed under local anaesthetic. After the linking elements have been removed, the miniscrew may be removed with the same tools used for insertion. The resulting wound requires no special care and usually heals within a short time.

Editorial note: A complete list of references is available from the publisher. This article first appeared in Dental Tribune Asia Pacific, No. 3, 2009. The next edition of Ortho Tribune will feature “Part III — Clinical examples.” All photos were provided by the authors.
The new patient experience

By Roger P. Levin, DDS

Case presentation begins with the new patient phone call. Many ortho practices don’t realize that.

When evaluating practice systems for new clients, Levin Group consultants are shocked at the number of potential patients/parents who call but never schedule. Every new patient phone call is another opportunity to provide exceptional orthodontic care, increase production and grow the practice.

How would you rate the telephone skills of your front desk team? Average, good or great? If you didn’t answer “great,” then you could be losing tens of thousands in potential production.

Most ortho practices score two out of 10 in this area but can raise their score to a nine in a matter of weeks with scripting and training.

First impressions matter!

Get the patient-practice relationship off to a great start by giving your team the verbal skills they need to impress potential patients/parents.

In the age of increased ortho shopping, parents are scrutinizing ortho practices more than ever before. When your front desk team can build value for the orthodontist and the practice, patients/parents are more likely to schedule an appointment and accept recommended treatment.

If front desk staff members sound bored or rushed on the phone, they are sending a message that they have more important things to do. Remember, every new patient/parent who calls the office must be seen as a major opportunity.

Levin Group teaches clients that scripting needs to be in place for every routine conversation, including the first phone call.

A successful new patient phone call requires scripts, power words, benefits statements and the following steps:

- Answering the phone within two rings
- Thanking the patient/parent for calling
- Asking who referred the patient
- Complimenting the referring individual
- Making the appointment
- Transferring trust by talking about the orthodontist’s expertise
- Explaining the confirmation process
- Building value for orthodontic treatment
- Answering questions about aligners and other popular options
- Creating a positive feeling and relationship with the patient/parent
- Explaining tastefully why this is the ortho office of choice
- Restating the appointment date and time
- Asking if there are any other questions that the patient/parent may have

Conclusion

The new patient call needs to be more of an interpersonal and informative experience than it is in most offices today. An effective first phone call sets the stage for a long-term practice-patient relationship that leads to increased growth, production and profitability.

To jumpstart practice growth, experience Dr. Roger Levin’s next Total Ortho Success™ Seminar being held June 17-18 in Las Vegas. Ortho Tribune readers are entitled to receive a 20 percent courtesy. To receive this courtesy, call (888) 973-0000 and mention “Ortho Tribune” or e-mail customerservice@levingroup.com with “Ortho Tribune Courtesy” in the subject line.

Dr. Roger P. Levin is chairman and chief executive officer of Levin Group, the leading orthodontic practice management firm. Levin Group provides Total Ortho Success™, the premier comprehensive consulting solution for lifetime success to orthodontists in the United States and around the world. Levin Group may be reached at (888) 973-0000 and customerservice@levingroup.com.

About the author
Scenes from the AAO

Ortho Tribune grabbed a camera and wandered the exhibit hall to see what we could find.

John Compton, left, and Jay Phelps of Cadent demonstrate the OrthoCAD system for taking digital orthodontic impressions. (Photo/Fred Michmershuizen, Online Editor)

Meeting attendees listen to a lecturer at the American Orthodontics booth. (Photo/Fred Michmershuizen, Online Editor)

Dr. Tom Pits offers a presentation on ‘Challenging Cases Made Easy’ at the Ormco booth. Pits was one of many opinion leaders sharing knowledge during the AAO meeting. (Photo/Fred Michmershuizen, Online Editor)

Dr. Steven Jay Bowman gives a mini-lecture in Dentaurum’s booth on ‘Multi-Tasking with Miniscrews.’ Dentaurum offered several mini-lectures each day, with topics ranging from TADs to chairside Class II correctors. Other speakers included Dr. Sebastian Baumgaertel, Dr. Joseph S. Petrey and Dr. Aladin Sabbagh. Many of these same speakers will also be lecturing at the upcoming TAD User Forum in Las Vegas on Nov. 6–7. For details, see tomasforum.com. (Photo/Kristine Colker, Managing Editor)

Deborah Lyle, left, and Scott Headley of Water Pik want to help you make absolutely certain that all your patients are properly cleaning between wires and brackets. (Photo/Fred Michmershuizen, Online Editor)

Orthodontic consultant and continuing education provider Carolyn Friedman talks to Brandon Dresser in ChaseHealthAdvance’s lounge during the AAO. Visitors to the booth were able to pick up a pass to the lounge and get the opportunity to talk to Friedman one-on-one. (Photo/Kristine Colker, Managing Editor)

Rohit Sachdeva, at right, chief clinical officer at SureSmile, discusses the SureSmile software with an AAO attendee. (Photo/Kristine Colker, Managing Editor)
Scrapbook

Rick Kelley of Ortho2 shows off the features of the practice management system, Edge. Edge is a highly flexible program, allowing different users to personalize it however they want. ‘It works around how the office works,’ Kelley said. (Photo/Kristine Colker, Managing Editor)

Tom Gwaltney, president and CEO of Oasys, talks about some of the company’s new products, including customized game rooms for patients. (Photo/Fred Michmershuizen, Online Editor)

These ‘Wallbusters’ were on display at the Imagination Dental Solutions booth. Pictured alongside the wall critters is Justin Acciavatti. (Photo/Fred Michmershuizen, Online Editor)

Attendees make use of the C.E. stations, where they could record the lectures they went to and print out their hours report. (Photo/Kristine Colker, Managing Editor)

Wes Wilson of Dolphin Imaging & Management Solutions shows off the mobile software as it runs on an iPad. (Photo/Fred Michmershuizen, Online Editor)

Daryl Mathius of Accutech talks about the company’s palatal expanders, the Freedom-Lock Appliance System. (Photo/Fred Michmershuizen, Online Editor)

Dr. Jack Fisher, inventor of the Fisher TAD System, talks to attendees about anchorage during a presentation at Elite Ortho. (Photo/Fred Michmershuizen, Online Editor)

Marla Merritt, director of marketing, at the OrthoBanc booth. OrthoBanc, a payment drafting and management company, handed out hot dogs and lemonade while putting on a mock political rally to help explain the benefits of working with the company. (Photo/Kristine Colker, Managing Editor)

Davin Bickford, left, and Patti Shadbolt of WildSmiles Brackets know how to make orthodontic treatment fun for kids. Their bracket designs include stars, hearts, flowers and footballs. (Photo/Fred Michmershuizen, Online Editor)

David Boegler, global account manager, at the AMD LASERS booth. The company was showing off its Picasso and Picasso Lite lasers. (Photo/Kristine Colker, Managing Editor)

Rick Kelley of Ortho2 shows off the features of the practice management system, Edge. Edge is a highly flexible program, allowing different users to personalize it however they want. ‘It works around how the office works,’ Kelley said. (Photo/Kristine Colker, Managing Editor)

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Dr. Jack Fisher, inventor of the Fisher TAD System, talks to attendees about anchorage during a presentation at Elite Ortho. (Photo/Fred Michmershuizen, Online Editor)
devices and practice management software as well as the hundreds of other products you commonly think of in association with orthodontics and the running of a practice. But there were also a lot of products you might not necessarily associate with the daily duties of your job but would still go a long way to ensuring the success of your practice.

One of these products was found at Lips Inc. (www.lipsinc.com), Jodi and Warren Levine were offering lip balm in 50 flavors, from the familiarity of peppermint and strawberry to the more exotic blueberry pomegranate and white cranberry.

But why exactly would you need lip balm for your practice? Because these lip balms come with your own customized label, essentially making them a unique business card your patients will not only carry around with them but can also use on a daily basis.

Over at PracticeGenius (www.practicegenius.com), the focus was on keeping patients happy. The company has created the industry’s first web-based marketing and communication application, and it promises to be fun and rewarding for you and your patients.

Basically, with a personalized membership card you give to them, your patients can earn points for seeing their dentist regularly, for being on time and for taking such good care of their braces they don’t need to schedule any emergency visits. Patients can earn prizes, which they can redeem online, and you can earn their loyalty.

Another way to earn loyalty, with patients or staff members or even referring dentists, could be found at Whiter Image (www.whiterimage.com), Keith Rodbell, founding partner, sold out of his Chic-Flic toGO pen the very first day.

The pen, which is a tooth whitener on one end and a lip plumper on the other, could make a memorable referral or thank you gift, recall gift, post-treatment whitening package or a standalone marketing center, and it costs much less than retail whiteners and lip plumpers.

Product launches

Because the AAO comes around only once a year, many companies use it as an opportunity to debut new products. This year, the finishing and retention stages of treatment. In development of RPM, McLaughlin set out to combine orthodontic education with the most advanced pre-adjusted appliance prescription available today, the Axess Suite, as well as with Opal Orthodontics’ VIA Wires and Opal Seal, all with the goal of long-term oral health for the patient.

MacPractice (www.macpractice.com), a developer of practice management and clinical software for Macs, iPhones and iPads, also debuted a new product — the MacPractice DDS MS (multi-specialty), which came with orthodontist-specific features.

The software features everything an orthodontist needs to run a practice, including contract billing, electronic insurance submission, charting, digital imaging and interfaces to orthodontic-specialized imaging analysis and treatment-planning software.

An additional benefit for those who share office space with a dentist of another specialty, such as a pediatric dentist, is that both clinicians can share a single database without having to have two separate programs.

Fun and games

For some AAO attendees, walking the exhibit hall offered more benefits than just checking out the newest gadgets out there or getting in some exercise; they walked away with a variety of prizes. Ortho Classic (www.orthoelastic.com) gave away a trip to Cabo San Lucas, Henry Schein (www.henryschein.com) and Dentaurum (www.dentaurum.com) gave away iPads and DENTSPLY GAC (www.gacintl.com) gave away gelato.

Imaging Sciences (www.imagingsciences.com), though, gave away the biggest prize of all: Dr. Steven Appel won an i-CAT.

As an established orthodontist, Appel said he is now ready to discover and implement new methods of treating patients.

“I am 58 years old, but I like to think that I am the old dog that can learn new tricks,” he said about the i-CAT. “This was certainly one of the tricks on my list to learn.”

Put on your thinking cap

The exhibit hall wasn’t the only place that saw a lot of action during the AAO. So did the classroom. There were a variety of new course topics, including an examination of how stem cells and tissue engineering may impact the future of orthodontics, a look at current issues surrounding oral bisphosphonates and a discussion of the issue of access to orthodontic treatment.

Other topics included the use of aligners, clinical guidelines for miniscrews, the past and future of i-CAT, though, gave away gelato.

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Other topics included the use of aligners, clinical guidelines for miniscrews, the past and future of imaging, esthetics, practice management and orthodontics for adults.

One highlight was a special risk management program that focused on common concerns at the beginning of an orthodontic career. There were also a variety of educational presentations found almost hourly on the exhibit hall floor.

Next year’s AAO will take place May 13–17 in Chicago.
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Minimalism and elegance are keys to the efficiency, strength of the products

By Kristine Colker, Managing Editor

If orthodontics had a version of a rock star, Dr. Luis Carriere of Barcelona would be one for sure. Tucked away at a table in the back of the Ortho Organizers® booth during the AAO Annual Session, discussing his Carriere® Self-Ligating Bracket System and Distalizer Appliance, Dr. Carriere was interrupted by a woman practically running over to him.

“Are you Dr. Carriere, the inventor?” she asked. “I love your products! They have changed my practice!”

She wasn’t the only one who thought so. By the time Dr. Carriere got up at the end of the discussion, there was a crowd of people gathered around, waiting to take pictures with him.

But Dr. Carriere wasn’t fazed by any of the attention. What he was focused on was the Carriere System itself.

“The start of the design of our products, our system and our treatment approach has been the patient and the respect of the patient,” Dr. Carriere said. “We tried to minimize our designs and keep them simple. By sticking to the basics, the result will be more elegant and efficient.”

The Carriere System begins with the Distalizer Appliance, which, if used at the beginning of treatment when there are no competing forces in the mouth from brackets or wires, can help orthodontists turn complex Class II cases into Class I in an average of three to four months.

The direct bond appliance attaches to the maxillary canine and first permanent molar and works by first rotating and uprighting the maxillary first molars while distalizing the posterior segment, from canine or premolar to molars, into a perfect occlusion. The appliance simultaneously produces a light, uniform force for distal molar movement and independently moves each posterior segment as a unit.

All of it comes down to physics, Dr. Carriere said.

“We are used to approaching Class II cases with appliances, but the most important thing, before we approach a case, is to look at the physics and not try to be more intelligent than it,” he said, adding that moving the teeth in blocks instead of separately allows teeth to move more naturally. “We wanted to get rid of aspects that were minimizing the efficiency.”

Once treatment with the Distalizer is completed, the next step in the process is the passive self-ligating brackets.

The brackets are simple (consisting of just the body and a archwire interface) and produce significantly less friction than conventional brackets or active self-ligating ones, which allows teeth to move more quickly and efficiently while increasing the patient’s comfort.

Another advantage, according to Dr. Carriere, is the minimalistic design.

“We have created an extremely low-profile bracket,” he said. “We put the wire closer to the surface of the tooth in order to keep better control of the torque.”

That’s especially important, Dr. Carriere said, referencing the entire Carriere System, because “without control, there is no power,” and the Carriere System is as powerful as it comes.

For more information on the Carriere System, contact Ortho Organizers at (800) 547-2000 or online at www.orthoorganizers.com or www.carrireset.com.
The Carriere® Distalizer™ Appliance:

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To learn more, call us at 888.851.0533.
Ortho Classic takes on the world, one smile at a time

By Fred Michmershuizen, Online Editor

Rolf Hagelganz has plenty to smile about. As president of Ortho Classic, a company with humble beginnings in McMinnville, Ore., he’s overseeing an expanding team of global distributors and increased penetration into the domestic market.

What’s more, he boasts, is an impressive sales growth despite these challenging economic times.

One of the company’s most successful products is the TenBrook Axis passive self-ligating system, developed by Dr. James TenBrook. The system uses a special archwire sequencing technique developed by TenBrook that employs low friction and light force to achieve healthy tooth movement with optimal control.

The system allows even complex cases to be treated quickly. A Class III case can be treated with the “TenBrook Technique” in just 14 months, Hagelganz says.

Ortho Classic also offers the TAP (Thornton Adjustable Positioner) device for the treatment of snoring and obstructive sleep apnea. The device is designed to keep a patient’s airway open during sleep.

Company beginnings

The company has roots back in the 1960s, when founder and CEO Klaus Hagelganz learned how to mold very complex metal parts that were impossible to produce with conventional methods of press and sintering.

To learn more about Ortho Classic, visit the company online, at www.orthoclassic.com.

Contact

Rolf Hagelganz smiles big at the Ortho Classic booth during the AAO. If you look closely, you can see his fixed appliances — and yes, he is being treated with the TenBrook Axis system. “I’m not just the president, I’m also a client,” Hagelganz says with a laugh. (Photo/Fred Michmershuizen, Online Editor)
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Relapse: the elephant in the room

Relapse remains the arch-nemesis of the industry, but is the answer just too hard to swallow?

By Dr. Rohan Wijey, BOrth, Grad Dip Dent (Goldflite)

In a sweeping review on the subject, incorporating 40 years’ worth of articles, Bondemark et al. (2007) found the tenor of the debate on orthodontic relapse rested with which retention regimen is most effective.

That the hot question in orthodontics today is whether bonded or removable retainers are more effective does not bode well for the future of our science. The focus of studies must shift toward what is causing the relapse and its subsequent prevention.

What does the current evidence tell us about the causes of relapse?

An expansive literature review (Blake and Bibby 1998) found factors that may affect post-treatment stability are:

- Alteration of arch form
- Periodontal and gingival tissues
- Mandibular incisor dimensions
- Continuous growth
- Third molars
- Neuromusculature

Despite these factors, there exists a common misconception that orthognathic surgery is somehow the definite answer to a skeletal discrepancy. What does the evidence suggest? Proffit et al. (2007) have amassed an impressive volume of data on the subject, involving more than 100 research articles and 2,264 patients.

They conclude that only maxillary advancement can be considered “stable,” although even in this procedure, “moderate relapse” (being “potentially clinically significant”) is expected in 20 percent of patients.

The study also labels downward movement of the maxilla and mandibular setback “problematic”; 66 percent suffered “clinically highly significant” relapse of downward maxillary movement within a year. Those who underwent mandibular setback registered similar figures, with up to 50 percent expected to record relapse.

If even surgery is no match for relapse, which of the aforementioned factors has the power to reshape and remodel bone?

“Whenever there is a struggle between muscle and bone, bone yields,” writes Graber in his seminal 1963 manifesto on the influence of muscles on malformation and malocclusion.

More recently, Chang et al. (2006) regarded muscular forces as the principal factor in relapse of mandibular setback. In his review of open-bite treatment, Shapiro (2002) suggested that high rates of instability, with or without surgery, is most likely due to “non-adaption of the tongue.”

In their review of the orthodontic influence of mandibular muscles, Pepicelli et al. (2005) corroborate it is “well accepted” that the position and function of the facial and mandibular muscles are “critical influences” on alignment and stability. These include a dysfunctional swallow and incorrect tongue posture.

Mentioning “muscle function,” however, does not immediately champion functional appliances and preclude fixed. Despite the fact that most traditional advocates of braces may completely ignore the influence of muscles, the functional appliances school is guilty of doing the same while still paying muscles lip service.

A surprisingly common misconception amongst orthodontic practitioners is that functional appliances are analogous to myofunctional appliances. They are, in fact, polar opposites, both in terms of underpinning philosophy as well as mechanism of action.

Functional appliances simply expand maxillae and posture mandibles forward without correcting soft-tissue function at all. Myofunctional appliances, conversely, directly target these underlying muscular causes.

A case in point is this 14-year-old with a large overjet, narrow arches and subsequent dental crowding. A muscular assessment shows a low tongue posture is responsible for the narrow arches and a severe reverse swallow with labio-mental action.

After six months of myofunctional appliance use and myofunctional exercises, the overjet has substantially reduced, the arches have broadened and the crowding has been eliminated. Skeletally and dentally, this is a positive, if unremarkable, result.

What is striking, though, is how the patient has eliminated her own reverse swallow habit, with the profile shot indicating the labio-mental furrow under her lower lip has also dissipated. With both the muscle function and posture having been treated, this case has a much higher chance of stability (Pepicelli et al. 2005, Ricketts et al. 1979, Bench et al. 1978) (Figs. 1a - 2d).

Although some may be deterred by the concept of a nuanced solution to a problem, arming the practitioner with all three tools will fulfill all therapeutic desires. Like any progressive science, the orthodontic industry must dissolve old antagonisms, lose its prejudices and embrace change.

By combining the skeletal effects of functional appliances, the lapsed movements of fixed appliances and the treatment of underlying causes with myofunctional appliances and therapy, we might just have the ultimate answer.

References


Contact

Dr. Rohan Wijey works for Myofunctional Research Company (MRC) on the Gold Coast, Australia. He practices myofunctional orthodontics at its clinical arm, MRC Clinics, and teaches dentists and orthodontists from around the world about early intervention and the MRC myofunctional orthodontic appliances.
Ultradent announces new partnership with Shofu

Ultradent Products and its orthodontic division, Opal Orthodontics, unveiled on April 22 its partnership with Shofu, one of the largest international dental materials and equipment manufacturers with more than 55 years of industry experience. Shofu will be the exclusive distributor of Opal Orthodontics in Japan.

Founded in 1922 by Kajo Shofu III, a Japanese entrepreneur and researcher, Shofu has a solid history with regional key opinion leaders and orthodontic specialists. Now a publicly traded company on the Tokyo Stock Exchange, Shofu has remained one of the top five companies in the Tokyo Stock Exchange, one of the top 50 industrial companies in Japan.

Through the partnership, Ultradent will be able to expand its orthodontic care solutions, announced the lat-est advancement in its SureSmile system, which leads the global orthodontic education program and as a contributor to new product development and design.

SureSmile introduces version 5.8

Updates include workflow automation and lingual capabilities

SureSmile 5.8 is the first introduction to an international audience of orthodontists at the annual SureSmile conference, is now available for commercial use. In keeping with SureSmile’s comprehensive service approach, all current customers will automatically receive the upgrade at no additional cost.

OraMetrix, a leading provider of technology-based orthodontic care solutions, announced the latest advancements in its SureSmile system, which combines 3-1 diagnostic imaging with computerized treatment plan modeling and robotic archwire customization, at its annual conference, held March 4-6, in Dallas.

Among the many new capabilities of SureSmile 5.8 software are its increased workflow automation, for even more ease-of-use for clinicians, and its lingual treatment capabilities. “We are continuously evolving SureSmile as orthodontists gain more experience in applying digital technology to patient treatment,” said Charles Abraham, CEO of OraMetrix. “We are committed to maintaining our position at the forefront of the digital revolution in orthodontics.”

2010 SureSmile conference

Seven hundred and fifty attendees from the United States, Germany, Singapore, United Kingdom and China.

Shofu will be the exclusive dis- tributor of Opal Orthodontics products in Japan. Ultradent Japan will continue with distribution for Ultra- dent’s dental products through a network of distributors in Japan.

Dr. Richard P. McLaughlin, a private consultant to Ultradent’s orthodontic division, has been an active proponent of the Shofu-Ultradent partnership.

“SureSmile is a pleasure to renew my relationship with Shofu in Japan under a new umbrella with a quality innovator of orthodontic products such as Ultradent,” said McLaughlin. “Dr. Masatada Koga, a recognized orthodontic expert, and I share a history of working in tandem to educate Shofu customers on advanced orthodontic diagnosis, treatment planning and patient care. Ultradent will add more depth with its long history of continuing education and the development of quality, innovative orthodontic products.”

McLaughlin’s passion for con- tinuous improvement of the pre-adjusted appliance is what drew him to Ultradent and to Dr. Dan Fischer, its president and founder. Last year, McLaughlin partnered with Opal Orthodontics as an advoca- te and consultant, helping to lead the global orthodontic educa- tion program and as a contributor to new product development and design.

In the first quarter of 2010, McLaughlin represented Ultradent at a continuing education course in Japan, educating more than 200 orthodontists on case studies relat-ed to the Opal Orthodontics system.

For more information on the partnership between Shofu and Ultradent Products, contact Hiroshi Kaji at ultradent.com or Masaru Miyajima of Shofu at m-miyajima@shofu.co.jp.

For more information on SureSmile, visit www.suresmile.com.
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Explore cone beam’s past, present and future

International Congress on 3-D Dental Imaging returns for fourth year

I

aging Sciences International and Gendex Dental Systems are once again hosting the fourth International Congress on 3-D Dental Imaging, which will be held in La Jolla, Calif., on June 25 and 26.

Experienced clinicians and professionals will share their vast knowledge of where 3-D was in the past, where it is today and where it’s going in the future. These leaders in education will also offer their expertise on the practical applications of this technology — how it actually works in the clinical environment.

Three-dimensional technology is already redefining outcomes across a broad spectrum of treatment options, including implants, bone grafting, oral surgery, orthodontics and endodontics. As it continues to build a reputation for facilitating efficiency, accuracy and detail in diagnosis and treatment, new applications are allowing clinicians to expand their treatment horizons and practices.

To meet the demand for education, the congress’ curriculum has been expanded yet again this year to include topics ranging from basic information to detailed clinical use and hands-on training with 3-D planning software programs.

During the two-day symposium, attendees will gain insight into the different field-of-view options for various specialties, get advice on legal issues and marketing opportunities — and get a peek into the future possibilities of cone beam.

In addition to the seminars, a variety of vendors will display supporting 3-D products, such as imaging, implant and restorative systems, as well as 3-D treatment-planning software.

Dr. John Flucke, leading dental technology expert and congress speaker, says: “3-D radiography allows clinicians a view into their patient’s anatomy that is more complete than any other traditional dental imaging modality. With all of the information captured by 3-D, it is extremely beneficial to learn all of the facts behind the technology and how it can be used to assist in treatment planning — from start to finish.”

The organizers of the congress are honored to host attendees who seek in-depth knowledge on this technology, knowledge that can place them at the forefront of their profession.

“I think we are quickly moving toward ‘the’ standard of care being CBCT scans in dental offices,” says Dr. John Graham, speaker at this year’s congress.

“The clinicians who attend the congress are looking to learn more about a technology that can help them advance patient care and that can set their practices apart. This program is where they will gain the information they need.”

This event promises to expand the knowledge of this imaging advancement and propel the industry’s implementation of the technology.

“We’ve learned from owners of 3-D radiography that they greatly benefit from integrating this groundbreaking technology,” says Henrik Roos, president of Imaging Sciences International and Gendex Dental Systems. “We are proud to be able to sponsor this comprehensive educational event that offers clinicians the opportunity to treat their patients more safely and grow their practices.”

To register

For more information or to register for the fourth International Congress on 3-D Dental Imaging, please visit www.s-cat3d.com or call (800) 205.5570.

To make reservations at Planet Hollywood, call (877) 284.9474 and use code: smoov0.

To register for OrthoVOICE, go online to www.orthovoice.com. Registration is $185 for orthodontists, $165 each for staff members and $125 for residents.

Early registration ends June 16.

To make reservations at Planet Hollywood from $129 per night, call (877) 284.9474 and use code: smoov0.
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