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OrthoVOICE is mixing
things up this year

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Report: Not cleaning retainers can be harmful

By Daniel Zimmermann,
Dental Tribune International Group Editor

Orthodontic retainers are a potential source of harmful microbes if not properly cleaned, scientists in the U.K. have warned. In a series of tests conducted at the UCL Eastman Dental Institute in London, at least 50 percent of all tested retainers contained species of *Candida* and *Staphylococcus* microorganisms, including MRSA, a multidrug-resistant bacterium that can be fatal to patients with a compromised immune system.

The *Candida* yeast, found universally on human skin and in other areas, can also cause infections. Amongst other conditions, it has been associated with oral candidiasis, a condition often related to ill-fitting dentures.

Both species do not normally occur in the oral cavity.

Researchers said the high number of harmful bacteria found in retainers is most likely the result of poor cleaning, allowing microbes to build up a resistant biofilm and spread to other areas of the oral cavity.

They recommend wearers wash their hands thoroughly before and after inserting their retainers. Proper dental hygiene also helps to keep harmful bacteria from entering the mouth. **OT**

Make your choices



The city of Chicago (Photo illustration/Provided by stock.xchng)

The 2011 AAO Annual Session offers new educational and social events to add to your schedule

“Changes, Challenges, Choices” are three things you likely face on a daily basis, whether you are a clinician or a staff member. You’ll find more of all three when you head to Chicago for the AAO Annual Session, taking place May 13–17. With so many educational and social events to choose from, the challenge of even planning out a schedule might prove difficult.

To help in that cause, here are some highlights that await you.

Scientific program

This year, annual session lecture categories include such topics as craniofacial growth and tissue engi-

neering, advances in anchorage control, appropriate use and value of aligners, treatment of the complex patient, Class II and Class III treatment, esthetics and orthodontic

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AD

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A look at professionalism

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



What is the meaning of professionalism? How has it evolved? I would opine that professionalism is a set of values, behaviors and relationships underpinning the trust that the public has for doctors. Building and maintaining trust is the most important aim of professionalism. Our role must be defined by what is in the best interest of our patients as well as society. We must be capable of taking the ultimate responsibility for all decisions in situations of clinical uncertainty and complexity by drawing on our scientific knowledge and acute clinical judgment.

Our role as clinicians continues to evolve alongside concepts of professionalism. This evolution is driven by changes in the practice of dentistry in regard to skills, discoveries and technology, as well as a more multidisciplinary approach to health-care delivery. It is also responsive to society's consensus of what is expected and demanded from each of us.

Professionalism has several vital elements: (a) advocating a desire to improve what clinicians do; (b) accepting change as an asset rather than a threat; (c) using different approaches to develop and mobilize knowledge for improving care and to build formal evidence-based development; (d) accentuating the importance of working in multidisciplinary teams across organizational boundaries; (e) committing to expand the quality of patient care; (f) placing stronger emphasis on accountability; (g) recognizing the benefits of creating a diverse dynamic between patients and doctors; (h) assuming a stronger sense of responsibility for the ways in which health care works in all dimensions; and (i) endorsing excellence of the clinician's role, which is a core value of professionalism.

These basic fundamentals push us toward the gold standard of professionalism that is more than just a social construct. It is underlined by a relatively new science, complementary to the established ways of knowing what has subjugated the delivery of health care.

Quality improvement (QI) has grown in academic recognition

and clinical popularity. According to PubMed records, in 2008, there were more than 360 published articles pertaining to the key words "quality improvement." Jones (2006) indicated there was a new health foundation in the U.K. for improving faculty responsibility toward patient safety and quality of care. It was an independent charity devoted to improving the quality of health care throughout the U.K. and supporting hundreds of health-care projects.

On an international stage, the Institute for Healthcare Improvement (IHI) has pioneered improvement initiatives such as the 5 Million Lives Campaign here in the United States. IHI is now collaborating with tens of thousands of health-care organizations in countries including England, Scotland, Ghana, Malawi and South Africa. This global push for quality improvement created the momentum for this transition to the new model of professionalism presented.

Further reinforcement for this model lies in the urgent need, due to the stringent financial conditions, for improved efficiency and productivity. It is widely acknowledged that to achieve this will require clinical leadership by those who understand quality improvement. Cameron (2010) pointed out that this renewed focus on clinicians developing and actively altering the services they provide will ensure better patient care and will lead to a new facet of the compact between the public and clinicians that centers on the nature of professionalism.

This does not detract from the doctor-patient relationship but rather is intended to help patients by achieving a one-to-one interaction. The public health community has recognized the importance of influencing the environment through quality assurance for many years, but now it must be expanded as a core body of knowledge and skill for all clinicians.

The importance of quality improvement training and making it a part of everyday delivery of health care requires training commencing from the undergraduate dental school level on up. According to Friedson (1986), professional norms are adopted from role models in the workplace. Unfortunately, many senior clinicians are less familiar with the science of quality improvement and, ultimately, unprepared to teach it; this is a challenge. The transmission of knowledge relies upon the traditional gradient of senior to junior. This dissemination of knowledge regarding quality improvement as a core of the concept of professionalism may best be dispersed via formal and informal networks, online and offline. This concentration of knowledge and its application is required to extend beyond the traditional con-

cepts of professionalism to include all aspects of dentistry and dental organizations.

Health care and its changing world are complex and often intimidating to resolute professional norms. Clinicians are encouraged to become actively involved in service improvement as part of their professional identity and responsibility; commitment to improving quality in health care is no longer a choice — it is a core value of professionalism. [OT](#)

This editorial was inspired by an article from Stanton, E., Lemer, C., and Marshall, M. (2011). Journal of the Royal Society of Medicine, 104:48-49.

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OT Corrections

Ortho Tribune strives to maintain the utmost accuracy in its news and clinical reports. If you find a factual error or content that requires clarification, please report the details to Managing Editor Kristine Colker at k.colker@dental-tribune.com.



Image courtesy of Dr. Earl Broker.

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technology, among much more.

In addition, this year the program will feature the “Big Show” concept: pairing speakers who are recognized experts on the same topic.

Each pair may speak in agreement on their topic or may take opposing positions on it. Some of the expert pairs have worked together previously; others have not. Each pair will present information interactively, rather than in back-to-back presentations. Each program will feature two orthodontic experts, two podia and two perspectives on one topic.

For staff members, a separate program has been developed to address the most urgent and complex challenges facing today’s orthodontic team members, both on the business side and on the clinical side.

Exhibitors forum

The 2011 Annual Session Exhibitors Forum, held Saturday from 8 a.m.–4 p.m. and Sunday from 1–4 p.m., will feature presentations by exhibitors about their latest innovations in products and services. A non-C.E.-credit series, the day-and-a-half-long forum will include in-depth information on new offerings for orthodontic practices.

Exhibit hall

More than 300 companies will show off their newest and best products in the exhibit hall from Saturday to Tuesday, and you don’t have to skip class to go shopping. Each day, 11 a.m. to 1 p.m. has been set aside as dedicated time for clinicians to explore the exhibit hall without having to worry about classes or any other event. Each day, from noon to 2 p.m., has been set aside for staff members to do the same.

Many companies are offering discounts, launching new products or providing entertainment in their booths. (For more on what you can see in the exhibit hall, turn to Page 8.)

Go wireless

Enjoy free Wi-Fi throughout the McCormick Place convention center, where the annual session is being held, including in public spaces, meeting rooms and the exhibit hall.

The 2011 annual session mobile Internet browser is now available and accessible to anyone using a smart phone, including an iPhone. The native application for the iPhone is available via iTunes.

View session details, create your own agenda, network with other attendees, complete session evaluations, view exhibitor information and more. Any member wishing to use the mobile service, but who does not have a smart phone, will be able to rent an iPod Touch on-site at a kiosk that will also offer assistance with using the technology.

View complete instructions, or open the browser on your mobile

OT At the AAO

For plenty more information on this year’s AAO, including a look at new products and can’t-miss events, don’t miss the **Ortho Tribune Daily Edition**, available exclusively during the AAO Annual Session.

device and type: *mobile.aa02011.alliancetechn.com*. Click the “Add Bookmark” icon at the bottom left of the page. Choose the “First Time User — Click Here to Create an Account” option. When prompted, enter your annual session badge ID (confirmation) number to begin using the application and create your profile.

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alliancetechn.com.

AAO gala at the Museum of Science and Industry

Social events are a big part of the AAO. This year’s gala, taking place Monday, May 16, will include an early evening “family time” with child-friendly refreshments. Enjoy hundreds of hands-on activities, including the new “Science Storms” exhibit featuring a 40-foot tornado, a tsunami wave, an avalanche and bolts of lightning. Later in the evening, adult festivities will include musical entertainment by the band 1964.

A look at orthodontic fashion

The AAO is hosting its first fashion show from 4:30–5:30 p.m. Sunday. Travel through time from early orthodontic wear to the latest in


office attire. There will be wine and snacks at a ticketed reception before the fashion show, starting at 3:30 p.m.

Chicago tours

Even those who have visited the Windy City multiple times will find that the 2011 tours offer opportunities to experience it in new ways. Enjoy an architectural tour by boat along the Chicago River; visits to Greektown, Chinatown and Little Italy; a tour of the Frank Lloyd Wright Home and Studio; and, for cyclists, a guided Chicago bike hike (bike and helmet included) along Lake Michigan, historic neighborhoods and Lincoln Park.

Go online to *www.aaomembers.org/mtgs/2011-AAO-Annual-Session.cfm* for more information and to sign up. OT




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speakers

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Dr. Joel Berg	Pediatric
Dr. Charles Blair	CDT/Coding, Productivity
Ms. Vavi Bohbot	Implants
Dr. Lee Ann Brady	Spear Institute/Esthetics
Dr. Bobby Butler	Implants
Dr. Steve Carstensen	Sleep Bruxism
Dr. David Chan	Esthetics/Composites
Mr. Art Cole	Basic Life Support, First Aid
Mr. David Cook &	Practice Sales
Dr. Daniel Cook	
Dr. Bruce Cooper	Digital Impressions
Dr. Mark Donaldson &	Pharmacology, Anesthesia
Dr. Jason H. Goodchild	
Dr. Albert Goerig	Practice Management
Dr. Robert Gottlieb	Periodontal Therapy
Mr. Scott M. Henderson	Photography
Ms. Niki Henson	Temporaries, Infection Control
Dr. Timothy Hess	Implant Restoration
Dr. Sally Hewett	Adolescent Oral Health,
	Dental Assisting (Alginate Impressions)
Ms. CeCe Homer	Passionate Life
Dr. Joe Hong	Implant Dentistry
Dr. Ronald Hsu	Pediatric Behavior Management
Ms. Mary Johnson	Radiography
Dr. Gregory Kinzer	Spear Institute/Esthetics
	Treatment Planning
Dr. Doug Lambert	Composites
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Ms. Barb Jacobucci	Social Media
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3-D imaging: the light in the attic

By Juan-Carlos Quintero, DMD, MS

Orthodontists have always needed to predict the unpredictable, to see the crowns of the teeth in relationship to each other and to visualize the roots and how they influence tooth movement and adjacent teeth. Without enough detailed data, it feels like trying to maneuver through a dark attic filled with objects. If you don't know what is up there, you will surely bump into something.

For an orthodontist, visualization is everything — to see is to know, and to know is to avoid problems. Among my many tools for orthodontic treatment, my CBCT scanner (i-CAT®) provides that precise information that has improved my diagnostic and treatment capability.

In the following case, having three-dimensional scans averted a very serious outcome. The patient was referred by her dentist who noted two impacted canines on his 2-D panoramic X-ray (Fig. 1).

Usually, the orthodontic assumption on 95 percent of cases of bilaterally impacted maxillary canines is that both are located on the lingual or palatal, or on the facial or buccal, or on the front or behind the incisors. Of course, knowing the buccal-lingual position of the tooth is critical, both from a surgical-planning perspective and an orthodontic planning perspective.

At the diagnostic session, we captured an i-CAT scan and sent it to Anatomage for production of an "Anatomodel" that highlights the teeth, produces a digital model from the scan and segments the teeth and the roots (Fig. 2). This interactive model improves visualization.

When the teeth are segmented digitally, I can move them around for virtual treatment planning purposes. This is why we no longer take impressions for study models on any of the cases in our practice.

To my surprise, this case defied the 95 percent rule of both canines being impacted on the same side. In this case, tooth #6, the upper right canine, was actually positioned facial-buccally on top of the upper, the maxillary left lateral incisor.

Armed with the 3-D information, I was able to treatment plan this case for clear, predictable, concise movements. I simulated extractions of the premolars using the Anatomodel and was able to simulate placements of a temporary anchorage device (TAD), a microscrew that was placed in the upper right quadrant of the patient, to perform a virtual movement of the tooth.

Precise tooth movement is critical because with the teeth in this position, using traditional mechanics to force-erupt the tooth would have caused significant problems.




Fig. 1



Fig. 2

Fig. 1: Impacted canines as seen on panoramic X-ray. Fig. 2: The Anatomodel produces a digital model from the scan. (Photos/Provided by Dr. Juan-Carlos Quintero)

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I would have exposed the tooth and put a chain on it to bring it down against the archwire. However, with this treatment, the tooth would have moved slightly to the lingual on its way down and collided against the root of the lateral incisor, potentially resulting in root resorption on the lateral incisor and basically leading to the loss of this tooth later.

On a 3-D scan, it was easy to diagnose that a different plan of action was appropriate. I placed a TAD between the upper right first molar and upper right second premolar.

Understanding 3-D geometry and spatial relationships of teeth, the movements had to be instituted in two phases: the crown of the tooth had to be tipped distally away from the roots of the lateral incisor first, to allow the tooth to straighten, and after that, I would force-erupt the tooth and bring it down (Fig. 3). Moving the teeth in this manner avoided iatrogenics, collisions and damage to adjacent teeth.

Six months into treatment, we took a mini 4.8-second progress scan to evaluate root and tooth position to determine if the tooth had cleared the root of the lateral incisor, making it safe to force-erupt it into position. The tooth had moved perfectly, just as we had predicted, and it was now safe to change the vector of force and redirect the retraction of the canine. A potentially disastrous scenario was averted, and the patient achieved a safe and happy ending to orthodontic treatment (Fig. 4).

This is what makes orthodontists lose sleep at night. If I only had traditional 2-D imaging during treatment planning, I would have made an erroneous assumption in this case and probably established my mechanics thinking that the teeth were symmetrical. As a result, I would have been 100 percent wrong at least on one side, leading to incorrect diagnosis and treatment planning and probably to iatrogenic side effects.

With impacted canines, it is imperative to find out the position of the teeth in 3-D. CBCT also allows visualization of space considerations to determine whether there is enough room and, if not, how to create the space.

A panoramic radiograph, cephalometric photos are not accurate ways to measure spaces or crowding, and with models, we can see only clinical crowns, not root information. That is critical in simple or complicated cases.

Cone beam helps the orthodontist to consider the biomechanical considerations of the case — the vectors of force needed to successfully retrieve the canines into position, to calculate the directions of movement that we want to produce and determine the anchorage requirements. If we have all this data, even more complicated cases become quite simple.

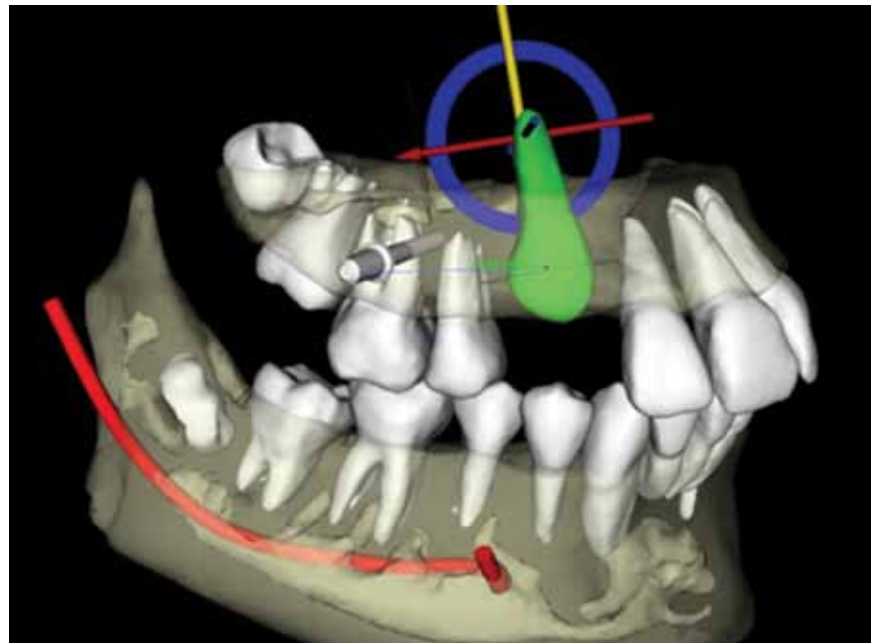


Fig. 3: Planning tooth movements virtually allows for more predictable and positive outcomes.



Fig. 4: A progress scan helps to determine if the teeth have moved into the proper position to safely continue treatment.

‘CBCT has elevated patient care in my practice to previously unattained levels. We have better and more information for diagnostic and treatment-planning sessions, and we make fewer mistakes.’

CBCT machines are not all alike. Mine allows me to control all of the variables of the 3-D image, from the field of view to exposure time, pixel size and resolution. My practice is very radiation-exposure conscious. I can capture a limited field of view, a full head or just the maxilla or mandible and control exposure time because parameters for each case differ according to the patient's needs.

It is important to educate patients

about our dedication to radiation safety. We explain to them that we are cognizant of dosimetry of radiation levels at all times and for all patients.

In orthodontics, radiation levels with 2-D radiographs can be similar or more to that of a low dose 3-D scan. The difference is that the CBCT data offers a greater wealth of information and more accurate data.

When you compare taking a traditional digital pan, a lateral and frontal cephalometric, an occlusal radiograph, an FMX or a couple of bitewings and a couple of periapicals, the patient can potentially be exposed to more radiation than taking a low dose CBCT on landscape mode.

The public watchdog for radiation safety, known as the International Commission on Radiological Protection (ICRP), recommends that we should keep diagnostic radiation exposure to less than 1,000 microsieverts per year,¹ and our i-CAT scans measure way below that threshold (only 3 percent to 7 percent of that threshold level).

CBCT has elevated patient care in my practice to previously unattained levels. We have better and more information for diagnostic and treatment-planning sessions, and we make fewer mistakes. Our new model increases patient education.

Prior to implementing our CBCT unit, we followed what most prac-

OT About the author



Dr. Juan-Carlos Quintero received his dental degree from the University of Pittsburgh in Pennsylvania and his degree in orthodontics from the University of California at San Francisco (UCSF). He also holds a master's degree in oral biology. He has served as national president of the American Association for Dental Research Student Research Group, is a faculty member at the L.D. Pankey Institute and is an attending professor at Miami Children's Hospital, Department of Pediatric Dentistry, as well as the immediate past-president of the South Florida Academy of Orthodontists (SFAO). He practices in South Miami, Fla.

OT At the AAO

For more information on the i-CAT, stop by the Imaging Sciences International booth, No. 2809.

tice management consultants recommend: condensing three appointments into one (exam, records and treatment conference). Before 3-D, we took a pan, cephalometric and photos at the same visit and made a quick decision. I felt rushed and stressed because there is a lot at stake for orthodontic patients. It felt too “sales-y.”

CBCT scans show how teeth are integrated into sinuses, jaw joints and buccal lingual dimensions of bone. I look at airways more and also differently than ever before and actually design most treatments around airway status now. It makes me slow down and treatment plan more clearly, more comprehensively and with greater confidence.

We also educate patients more and build stronger relationships with them than ever before. I no longer feel the anxiety of the dark attic. CBCT sheds light on potential obstacles and makes the orthodontic process more precise. OT

Reference

1. International Commission on Radiological Protection: Radiation protection, ICRP Publication 60, 1990.

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- The Hiring Process
- Employee Appraisals
- Addressing Collection Policies
- Effective Communication
- Creating and Managing Budgets
- The Importance of Delegation
- Motivating Staff
- Morning Meetings
- Staff Benefits

Effective Marketing That Works

- Creating a Yearly Marketing Game Plan
- Determining a Marketing Budget
- Assigning a Marketing Coordinator
- Understanding the Market Trends
- Internal Marketing
- External Marketing
- Community Marketing
- Media/Direct Marketing
- Staff Marketing

Building A Successful Schedule

- Building a Schedule for the Growth of a Practice
- The Build for Growth Formula
- Scheduling Doctor Time
- Assigning Columns and the Benefits
- Emergency Appointments and How to Handle Them
- Building Production into the Schedule
- Scheduling Deband Days
- The Importance of Morning Meeting

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About Scarlett

Scarlett Thomas is an orthodontic practice consultant who has been in the orthodontic field for over 23 years, specializing in case acceptance, team building, office management and marketing. As a speaker and practice consultant, Scarlett has an exceptional talent to inform, motivate and excite!

After implementation of her concepts into your practice, Scarlett invites you to experience not only tremendous growth and increased income but a well organized practice.



Education for a healthier future

By Chris Farrell, BDS (Sydney), founder and CEO Myofunctional Research Co.

Myofunctional Research Co. (MRC) has been developing innovative intra-oral appliances to treat the causes of malocclusion and TMJ disorder since 1989.

MRC developed these concepts of treating malocclusion into a range of appliance systems suitable for all ages of growing children. Although a significant number of clinicians

OT At the AAO

Visit Myofunctional Research Co.'s booth, No. 2715, and discover first-hand how to implement the company's new range of educational materials in combination with its orthodontic appliances.

around the world currently use these systems, many do not realize that MRC has developed more than just orthodontic appliances.



Myofunctional Research Co. makes educating patients and their parents a priority. (Photo/ Provided by Myofunctional Research Co.)

In 2009, MRC marked the launch of MRC Clinics,[®] a concept that provided the industry with a completely new way of treating myofunctional habits in growing children for better dental alignment and facial development. This concept also offered

a profitable and more cost-effective solution to the worldwide problems orthodontists and dentists faced. Nearly every child has some form of malocclusion, and traditional treatment methods of fixed braces have shown many limitations and, arguably, failure in the long term.


Our fundamental philosophy at MRC differs from other international companies as we do not only develop orthodontic appliances, we also take a strong focus on advancing knowledge through developing educational materials on the importance of correcting myofunctional habits in children as early as possible. MRC's main goal is not just straightening teeth without braces, but it is to make a lifelong positive impact on the development and health of children.

MRC has been able to achieve better health and development for patients through creating effective materials to directly educate clinicians, parents and patients. This dedication to delivering quality educational materials is a crucial part of our role as an active educational company.

The key to our approach is to educate at every level, from the growing child right through to the clinician. Providing proper education can empower clinicians to break out of the old, outdated orthodontic concepts and procedures, leading many to better and more profitable methods of delivering the right pediatric care for more children.

The AAO 2011 will allow MRC to demonstrate practical and cost-effective means of delivering advanced myofunctional correction for every child, along with showcasing our latest world-leading appliances. **OT**

AD




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ORTHO SYSTEM™ will be demonstrated live at AAO 2011 in Chicago, IL
May 14-17 Booth 1127

OT About the author

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

Part Art. Part Science. All Integrity.

Dear Customers, Colleagues and Friends,

DENTSPLY GAC operates according to a list of shared core values. We work hard to live up to them each and every day. Topping this list are **Unquestionable Integrity and Mutual Respect**. In the spirit of these two key core values, we would like to update you on the situation created by the crisis in Japan.

As you know by now, the tragedy in Japan has affected our major manufacturing partner. Thankfully we received word shortly after the earthquake and tsunami that their employees were safe. While the plant survived with minimal damage, it is located well within the evacuation zone of the damaged nuclear facility.

Since the day of the disaster, DENTSPLY GAC's focus has been on getting our customers through the supply disruption. We immediately implemented a fair share allocation plan to prevent panic buying and to ensure customers' immediate product needs are met as we move forward. We've been working on alternative suppliers in the event that supply disruptions from Japan are prolonged. And, as hard as it is, given our long term relationships with our orthodontists, our Sales Representatives have been advising customers to seek competitive suppliers as our inventories reach critical levels.

We'd also like to take a moment to set the record straight regarding certain rumors that have been circulating in the orthodontic community. First is the rumor that products shipped since the disaster are contaminated. This is not only false, but impossible as no shipments have left their facility from the moment of the earthquake. This simple fact aside, you can be sure we would scrap every bracket and wire in our warehouse before ever allowing dangerous materials to reach you and your patients.

In addition, some suppliers have been soliciting our customers by claiming to "be there to help GAC" implying some sort of cooperative arrangement. This is also untrue; we have not endorsed arrangements with anyone to supply our customers. We believe crisis has a way of revealing character. Our orthodontists value unquestioned integrity as we do, and ultimately we think they will reject those that seek to exploit this tragedy with falsehoods for personal gain.

Most often we find that extreme circumstances bring out the best in people. Long time customers have called expressing their concern and support. Several new strategic partners have insisted on going forward with DENTSPLY GAC despite being given the opportunity to exit in the wake of the situation. And in looking for alternative sources of supply, many manufacturers, including those who days earlier were strong competitors, have offered help. To all of you, while "Thank you" seems inadequate to express the way we at DENTSPLY GAC feel about your actions in this difficult time, we want you to know how much we appreciate the support we continue to receive daily. Clearly, the values of integrity and respect are shared by you as well!

We will continue to communicate with all of you openly and transparently as we work through this. As we do, it's important to us at DENTSPLY GAC, and our parent company DENTSPLY International that you know how strongly we value **Unquestionable Integrity and Mutual Respect**. It's not only how we act, it is who we are. In the end, it's why we know this period will not be the end of long standing relationships, but instead it will reaffirm why they existed in the first place.

Kindest Regards,
Your Friends, Colleagues and Business Partners at DENTSPLY GAC