

DENTSPLY SIRONA WORLD2017

The Magazine for
The Ultimate Dental Meeting

Keynote Speaker
Simon Sinek

Great leaders inspire Action

**The Endless Wonder
of Endodontics:**

An Interview With
John West DDS, MSD
p.26

The Art of the Implant:

An Interview With
Tarun Agarwal, DDS
p.41



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—Andrew Hall, DMD

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The Magazine for The Ultimate Dental Meeting

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The Wired Practice:

Demystifying the Fully Integrated Operatory

Explorers, mouth mirrors, composite placement instruments and consumables, such as cotton rolls and adhesives. These are all dental instruments, systems and technologies that aren't linked to a computer via Wi-Fi or wire, monitored by a computer or otherwise controlled by a computer in some capacity. It's difficult to imagine a digital cotton roll, but at the speed in which technology is evolving, everything is considered fair game and nothing is completely out of the question. As more dental tools and technologies become part of the digital domain, the opportunity for each component to integrate, communicate or otherwise interact with each other becomes not only more likely, but also more accepted and embraced by the dental professionals who use them to provide patients with the best dental care possible.

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Streamline, simplify and enhance

As dental practices strive to stay on top of current technologies to streamline, simplify and enhance procedures, integration is key in offering advanced, more unified services, seeing more patients and providing treatments with greater efficiency, convenience and comfort. But what does integration really mean? The basic definition of integration is the ability to take multiple, independent or divergent technologies and determine how to make them work together. For example, using a digital radiography system in conjunction with your patient management software (such as Sidexis 4), or a chairside CAD/CAM restoration system that can accept 3D cone beam scans and utilize the scans for implant placement and design.

Integration is key in offering advanced, more unified services, seeing more patients and providing treatments with greater efficiency, convenience and comfort.

Don't tell me... show me!

Simply possessing digital radiography sensors or 3D cone beam data that is compatible with software is not enough, clinicians must actively utilize the technologies together to provide the best treatment plan for the patient. Individual systems sharing data in a way that streamlines workflow and enhances patient communication increases the efficacy of a dental practice and allows for seamless integration.

It's this seamless, immediate and robust sharing of visual data with the patient that greatly improves and enlightens their understanding—and therefore acceptance—of complex treatments and procedures. Large, full-color, high definition monitors mounted to the treatment center allows the dentist to show the patient actual 3D images of their own craniofacial anatomy. The dentist can merge digital impressions within the patient's craniofacial volume to indicate, for example, how a finished implant crown will look and function in their mouth. Doing so personalizes the treatment in such a way that the patient can effectively take emotional ownership of his or her decision to proceed with the recommended treatment.

Creating your technology integration plan

One of the challenges facing the dentist today is determining if the products of one specific company meet his or her needs. To help answer that question, it is crucial to consider the following factors in the evaluation of brands and their respective products:

Compatibility: Will the various components, such as treatment planning software, imaging systems, treatment centers and chairside restoration systems, work seamlessly with both the practice management software and with each other?

Integration: Do the various technologies “play nicely together” where and when required?

Incorporation/unification: Are the various components comprising the entire system easy to add on as the needs of your practice grow? It is preferable to have “plug-and-play” simplicity, whereby each component simply recognizes, accepts and assimilates with the new component with as little user intervention and as few setup requirements as possible. Existing systems should readily recognize the presence or addition of a new system with a simple “handshake” and remain ready to go and begin use immediately.

Potential for future optimization: Is the technology designed to be readily updated and upgraded through future software releases and hardware innovations?

Support: Will there be ongoing service, support, education and training long after the sale?

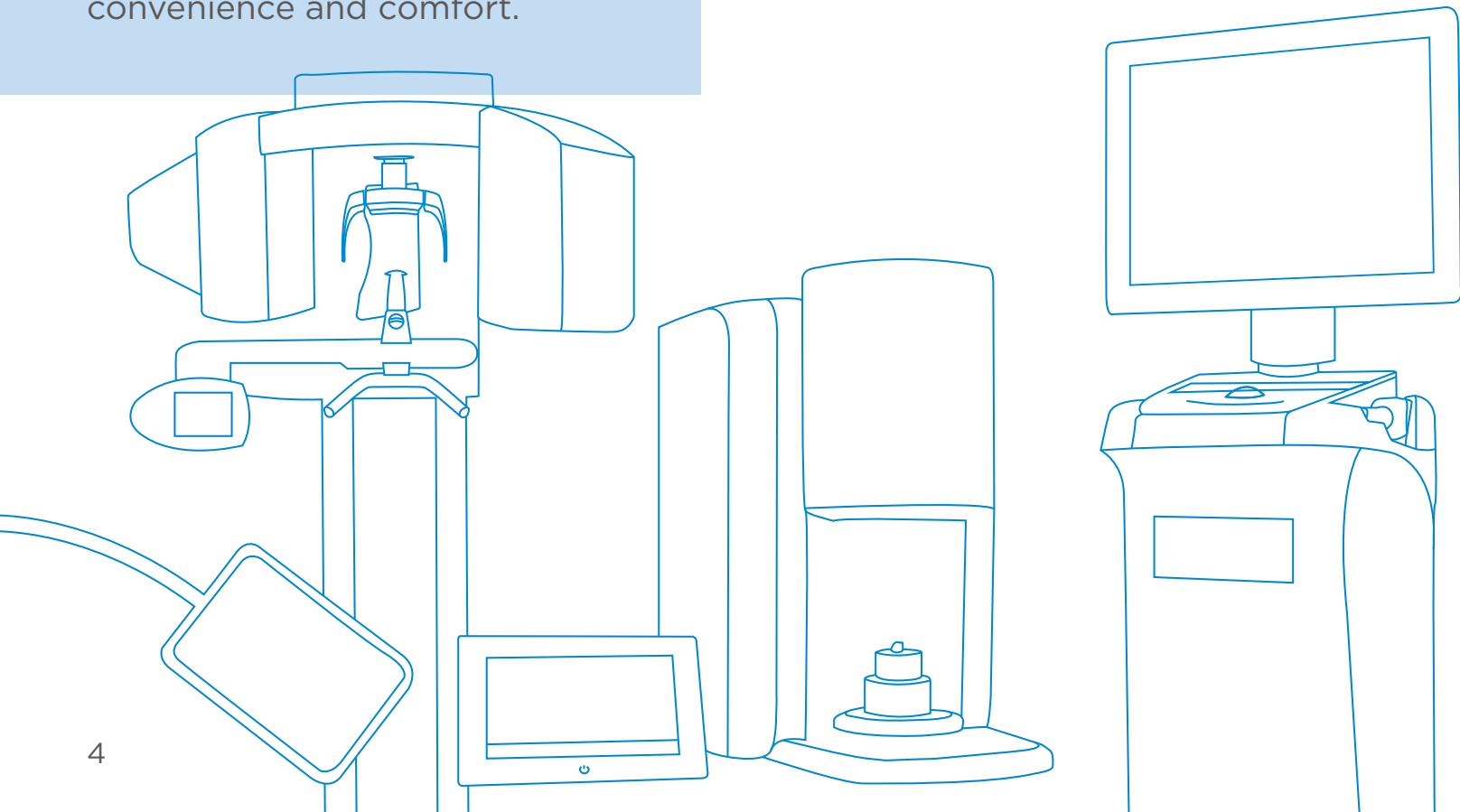
Community and culture: Is the brand or product embraced and supported by a dedicated, loyal and enthusiastic user base that has established and grown itself organically over time? Support from the manufacturer certainly is important, but having an entire community of users to lean on and ask questions or express concerns, as well as the camaraderie, encouragement and collaboration of like-minded practitioners, is priceless.

The transformation to a fully integrated digital operator does not happen overnight, nor does it have to, especially considering the associated costs. So, when should the practitioner make each equipment purchase, and how is it possible to stay current and competitive without breaking the budget? Using the digital waterfall concept, which means incorporating different levels of technology into your practice in sequential steps, is a good starting point.

The digital waterfall concept integrates new technologies into the practice by first analyzing the practice's current technology situation, identifying near-term needs and mapping out a clear pathway to long-term goals and expectations.

An effective way to outline your path toward new equipment integration is creating a treatment plan for technology investment(s), not unlike the treatment plans created for patients. It's important for practitioners to work with their dental supplier's equipment specialist to help develop practice goals and direction. What's next on the patient-services horizon: incorporating implants and endodontics into treatment offerings? If so, the treatment center must have those capabilities built in, or at the very least enables the addition of such capabilities with ease. If the practice is considering orthodontics or TMJ/sleep apnea devices, single-visit chairside CAD/CAM can play a role in the future vision of a fully integrated operator. Whatever the goal may be, it's crucial for the clinician to outline the order in which he/she wants to integrate processes, and envisioning how these systems will work together. Map out the desired accomplishments along with a timeline and stick to it. The technology treatment plan will become clear, and the fully integrated operator will be far more customized to doctor's needs and aligned with the vision.

To learn more about the integration of innovative dental technologies into your practice, be sure to participate in any of the educational tracks offered at Dentsply Sirona World 2017. From imaging systems to implantology, treatment centers to chairside CAD/CAM, proper integration is key to streamlined workflows and the continued growth and success of your practice.





CEREC® Consumables

The restorative essentials CEREC dentists appreciate

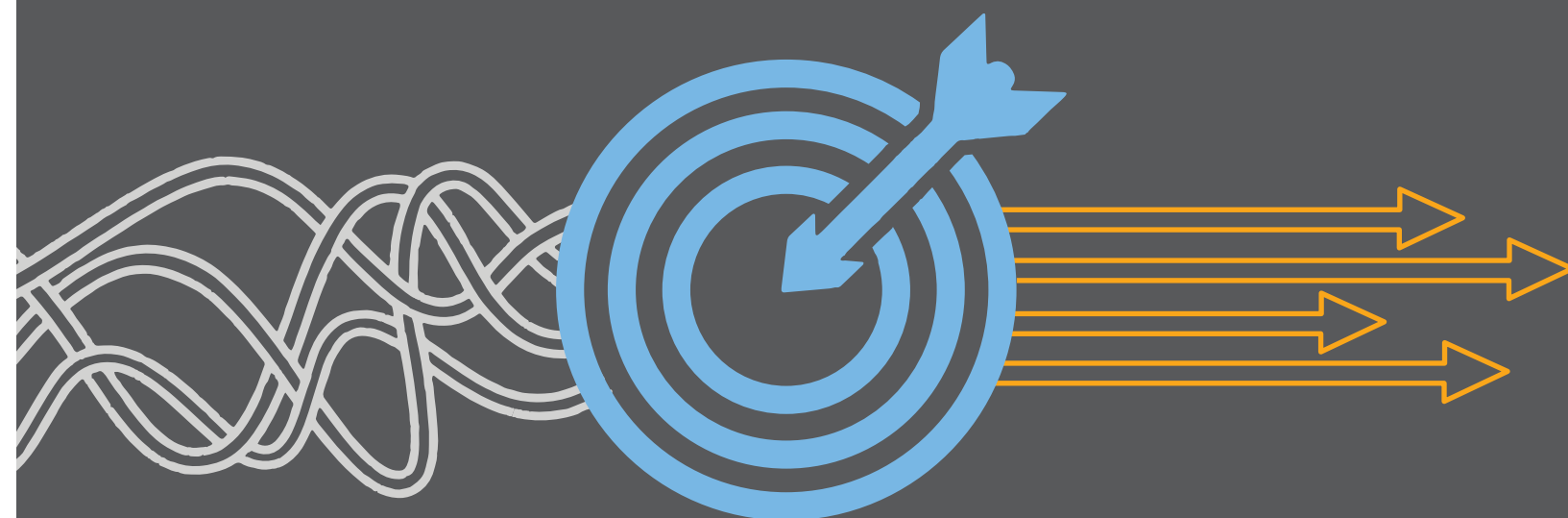
CEREC Consumables represents a complete portfolio of products developed specifically for use with chairside CAD/CAM. Available exclusively from Dentsply Sirona, each CEREC consumable product is designed to complement and enhance the strengths of the others. This results in a simple, easy-to-use system that streamlines the restoration process, getting the job done quickly, efficiently and with predictable results you can rely on, case after case.

In a Class by Itself:

The Total Practice Solution to Successful Class II Restorative Outcomes

Predictable and consistent restorative outcomes result in increased practice efficiency and success. Class II procedures account for almost half of all the direct restorations completed in one's practice. Although commonplace, Class II procedures remain one of the most intricate and involved procedures in dentistry. Given the

frequency of these restorations and the challenges faced in placing them, it's incumbent on the clinician to control as many variables as possible by utilizing a comprehensive, unified, all-inclusive system of consumable restorative products to yield optimal results for patients as well as the practice's bottom line.



Class II restorations were first introduced in 1968 and initially performed using amalgam fillings. In recent years, tooth-colored, resin-based composites have increased in popularity and became the popular choice for clinicians treating Class II cases. While composites certainly provide a more esthetically pleasing finish than amalgams, they're also predisposed to a higher rate of failure due to such issues as recurrent caries, fractures and post-operative sensitivity. Such failures not only lead to discontented patients and decreased retention, but also cost additional time and money. In an effort to work smarter, the success of placing a long-lasting and effective Class II restoration is dependent on maintaining full command over every aspect that goes into the procedure to ensure that mistakes are mitigated and long term restorative success is maximized.

Many clinicians have developed the habit of assembling their own Class II system using an assortment of products and materials from different manufacturers. While this approach can play out successfully, it can also lead to unpredictable outcomes. **By establishing an all-encompassing direct restoration system, dental professionals can confidently control every step of the process while rendering precise, predictable results each and every time.** Currently, Dentsply Sirona offers the Class II Total Practice Solution, the industry's only comprehensive direct restoration solutions systems which conglomerates all facets of Class II procedures including an

advanced sectional matrix system, optimal anesthetics, a universal bonding agent, a state-of-the-art curing light, a market-leading bulk fill flowable composite and a first class finish system which combines to produce ideal and consistent outcomes.

Many clinicians find contact creation to be the most challenging part of placing a Class II restoration. In order to create tight, accurate contacts, it's imperative to possess a robust matrix system. The Palodent® Plus Sectional Matrix System helps create accurate contacts quickly and effectively. Equipped with rings that can be easily configured for multiple restorations at once, this innovative design also possesses a wedge guard that protects adjacent teeth allowing clinicians to prepare rapidly and effectively. The use of sectional matrices combined with separation rings leads to tighter proximal contacts compared to alternative systems.

Another important variable that goes into achieving successful Class II outcomes is generating a strong adhesive bond. Although the most durable bond is etched to the enamel, over-etching dentin is one of the main causes of post-operative sensitivity. In such cases, dental professionals should strive to utilize a technique that works appropriately in every situation. Dentsply Sirona's Prime&Bond elect® Universal Dental Adhesive can be used in total-

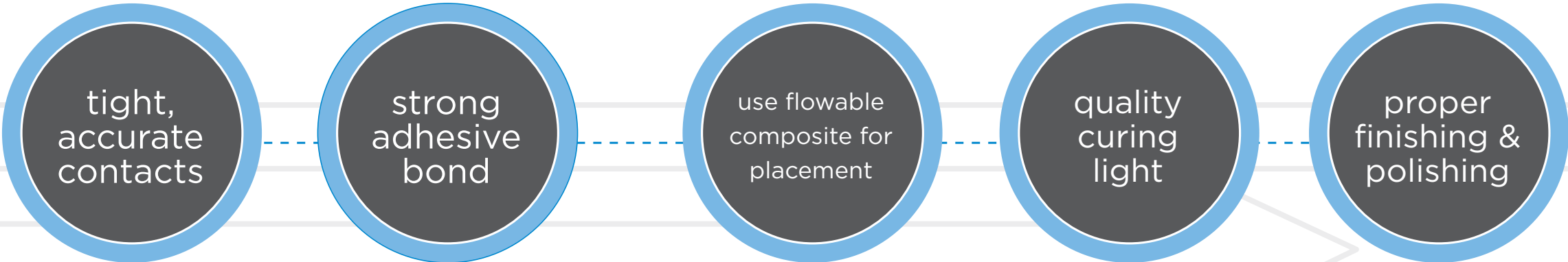
etch, self-etch and selective-etch modes to deliver the highest level of clinical versatility. The adhesive is applied to the entire preparation for 20 seconds, air dried for five seconds and light cured for 10 seconds. Prime&Bond elect Adhesive's unique chemistry produces proven high bond strength with low film thickness while eliminating post-op sensitivity.

In order to minimize the potential for polymerization shrinkage stress, sensitivity and recurrent Class II caries, materials should be placed using a flowable composite. SureFil® SDR® flow+ Bulk Fill Flowable reduces polymerization stress by up to 60 percent compared to other composites and can be placed in up to four mm increments at a time. SureFil SDR flow+ Material stands as the industry's only flowable composite that self-levels, allowing superb cavity adaptation minus any manipulation.

An essential procedural step in the placement of composites is the quality of the curing light used. The ability to light cure composite resins based on the position and orientation of the curing light is an integral part of performing consistent Class II procedures. Failure to select an adequate curing light runs the risk of running into various post-op complications that may arise from inadequate polymerization. While many curing lights deliver

Class II Total Practice Solution:

- Palodent® Plus Sectional Matrix System
- Prime&Bond elect® Universal Dental Adhesive
- SureFil® SDR® flow+ Bulk Fill Flowable
- SmartLite® Focus® Pen-Style LED Curing Light
- TPH Spectra® Universal Composite Restorative
- Enhance® Finishing System





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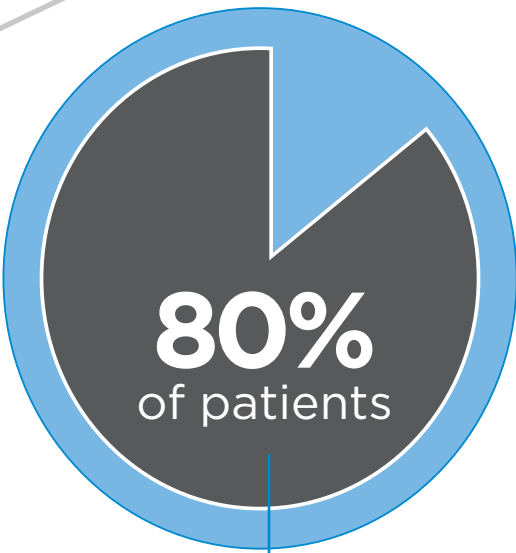
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less than the required light output to the proximal box, using the SmartLite® Focus® Pen-Style LED Curing Light from Dentsply Sirona prevents insufficient light energy by deploying a collimated light beam to deliver energy evenly throughout clinically relevant depths while remaining lightweight and seamless to operate.

Aesthetically speaking, every patient wants their restoration to appear indistinguishable. In fact, more than 80 percent of patients are reportedly aware of shade differences between restored teeth and adjacent natural teeth. With that in mind, clinicians should be cognizant of the fact that their patients are perceptive of their restorations' appearance and provide them with an undetectable restorative solution. Dentsply Sirona's TPH Spectra® Universal Composite Restorative streamlines the shading process by providing seven of the most essential tooth shades to ensure color matching confidence. This composite blends carefully designed resin and fillers to produce impeccable luster and realistic light refraction properties.

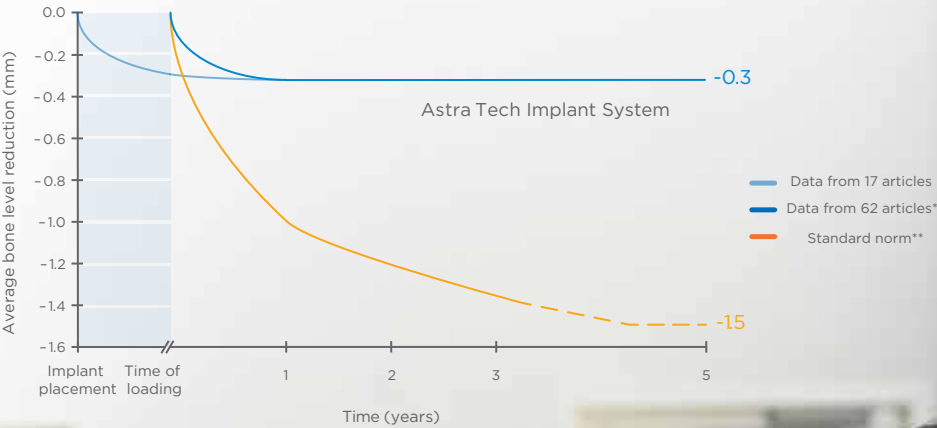
The finish of a Class II procedure can be time consuming yet remains an imperative step in the cumulative process. On average, finishing represents 14 percent of total chair time for Class II procedures. Surface irregularities left after finishing and polishing can have an adverse effect on the quality of the restoration and can lead to plaque accumulation, gingival irritation and recurrent caries. Another unique feature of working with a unified Class II system is working with a component like Dentsply Sirona's Enhance® Finishing System, which achieves both halfway and final finishing in a single step. Enhance Finishers permit clinicians to apply pressure for initial contouring before allaying pressure for final smoothing and polishing.



are reportedly aware of shade differences between restored teeth and adjacent natural teeth.

Overall, using a unified Class II System attenuates the likelihood of unpredictable outcomes and potentially unsatisfied patients by placing consistent, long-lasting and esthetically pleasing direct composite restorations. Because placing Class II solutions plays such a pivotal role in maintaining an efficient, productive and profitable practice, combining all aspects and controlling all variables of this intricate procedure will help ensure optimal practice success while maximizing patient satisfaction. Clinicians can discover how to properly integrate the Class II Total Practice Solution into their practice by attending Dentsply Sirona World 2017.

Marginal bone maintenance with Astra Tech Implant System



* Astra Tech Implant System level based on data from 62 articles (published in English, peer-reviewed journals) presenting radiological data on study cohorts of no less than 10 patients receiving standard surgical procedures and followed for minimum 1 year after loading. Literature search September 2014.

** Standard norm (less than 1 mm bone loss during the first year of loading and less than 0.2 mm annually thereafter, to level out at approximately -1.5 mm after 5 years of loading) according to: Albrektsson T. et al., Int J Oral Maxillofac Implants 1986;1(1):11-25, Albrektsson T. and Zarb GA., Int J Prosthodont 1993;6(2):95-105, Roos J. et al., Int J Oral Maxillofac Implants 1997;12(4):504-514.

Astra Tech Implant System®

Outperforming with sound science

Evidence confirms biological sustainability

Achieving beautiful, natural-looking esthetics for your implant patients requires biological sustainability—the harmony of marginal bone and surrounding soft tissue over time. This harmony exists when all the elements of an implant system work in unison: design features, surface treatment and abutment connection.

Numerous studies demonstrate that marginal bone around OsseoSpeed implants is maintained well above the standard norm—even after 5 years in function.*



THIS IS NOT A DRILL:

The Evolution of Preventive Dentistry Techniques and Associated Oral Care Products

The dental prophylaxis, or “prophy” appointment, is at the heart of preventive dentistry. Often referred to as the “six-month cleaning,” this 30 to 60-minute procedure is the optimal way for dental professionals to sit chairside with patients, provide a comprehensive cleaning of the teeth and evaluate the state of their oral health.

Prophylaxis within the operatory is performed for many reasons, including removal of tartar, detection of gingivitis and periodontal disease and for the identification of underlying health issues, such as diabetes and high blood pressure.

Prophy appointments have existed—in some form or another—since the inception of the dental profession, and continue to take place as a preventive course-of-action against the oral diseases that unobtrusively manifest when no one's looking. With that said, one primary difference between dentistry of the past and present is that dental professionals are now more focused on preventing what *could be*, as opposed to treating what *is*. For instance, years ago, a patient with dental caries would wait until he or she felt a sense of discomfort before seeing a dentist, whereas today, the goal is to detect decay before it begins to affect the patient.

From the evolution of the treatment center—the “hub” of prevention—to advancements in materials, technologies and techniques, preventive dentistry remains at the foundation of the field. Currently, in 2017, not only do we have an abundance of clinical research on our side, we also have an assortment of tools and methodologies that assist dental professionals in providing the best possible preventive care to patients.

Fluoride

What could perhaps be the longest-lived preventive tactic is the use of fluoride. Recognized as an agent to aid in dental caries prevention, the mineral, in conjunction with the historic community water fluoridation movement, proved to be a great example of what can happen when research leads to scientific evidence. As a 20th century discovery, fluoride therapy can be considered a significant public health and preventive success.¹

Starting in the 1930s, an array of epidemiological studies called “the 21-Cities Study” revealed that drinking water “naturally” containing fluoride demonstrated a lesser incidence of caries among members of the community.¹ This breakthrough helped pave the way for the production of fluoride enriched household products (e.g. toothpastes and mouth rinses) and professional grade treatments, such as Nupro® White Varnish.

Prophy paste

Prophylaxis polishing paste, more commonly known as “prophy paste,” is the most typically administered clinical therapy during preventive visits. Throughout the years, prophy paste has reinvented itself time after time.

The polishing paste, initially sold in bulk, met its first major change around four decades ago when manufacturers began to bundle it in commercially prepared, individual unit doses. The rationale behind the switch was simple: this new fashion of packaging allowed for dispersion without fear of contamination, and helped dental professionals determine how much paste would be needed for each patient case.²

As far as prophy paste itself, the formula has also evolved in terms of taste and therapeutic ingredients. Today, Nupro®

Prophy Paste, for instance, is offered in a wide range of fun flavors. Gone are the days of choosing between mint and bubblegum; patients now have the option to pick their prophy in orange, cherry blast, strawberry vanilla swirl or even piña colada. In addition, contemporary prophy pastes contain new additives, such as calcium sodium phosphosilicate and various types of fluoride.²

Regardless of its progression, prophy paste has stayed the same in that its fundamental purpose is to strengthen enamel and reduce dental hypersensitivity.

Dental sealants

When experts in the field were just beginning to understand dental caries and how to best prevent them, scientific studies revealed that pit and fissure surfaces were the most

As a 20th century discovery, **fluoride therapy** can be considered a significant public health and preventive success.

Cavitron Touch® Ultrasonic Scaling Systems

Effortless rotation is now within reach.

Introducing Cavitron Touch® with Steri-Mate® 360—a reimagined unit that offers unprecedented¹ comfort and control throughout every procedure, featuring:

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- An innovative touchscreen interface for ease of use

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¹ New technology compared to current Cavitron systems
² Steri-Mate® 360 available on G139 Integrated unit only

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Did you know?
Cavitron Ultrasonic
Scaling Technology
can be integrated into
a dental delivery unit.

susceptible to developing decay. Knowing that fluoride would not provide the utmost protection—as it is better suited for the flat areas of the teeth—dental sealants were created.¹

Until the 1990s, clinicians had a rather passive approach to adopting sealants due to disbelief, the fear of sealing over caries and an overall partiality to restorative treatment with amalgam restorations.¹ However, after a while, statistics indicated that the nation's dental professionals were slowly but surely starting to incorporate sealants into their preventive treatment routines.

As we look down the road, it seems as though the push for dental sealants will only become stronger. Considering the recommendations from the American Dental Association

(ADA) and development of clinically proven sealants, such as Seal & Protect® Protective Sealant, it is safe to say that the preventive technique is here to stay and will only continue to grow in acceptance and application.

Tomorrow's preventive dentistry

Evolution within preventive dentistry has brought the industry to a pinnacle of extraordinary achievement. With exciting advancements continuously being made to the aforementioned, conventional clinical therapies, dental professionals should also look forward to emerging technologies that are completely different than any practice they have ever known.

Antimicrobial peptides, immunizations and probiotics are just three of the potential therapies that will help to facilitate the mission of preventive dentistry. Although not yet implemented, each one is presently in clinical trial stage and may have a place within the dental operatory sooner than we think.

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2. Barnes C. The evolution of prophylactic paste. *Dimens Dental Hyg.* 2011;9(3):50.



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THE VENETIAN & THE PALAZZO HOTEL, LAS VEGAS
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**Learn more about the evolution of
preventive dentistry and today's
leading products and technologies
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World 2017.**

2017 Dentsply Sirona World
KEYNOTE SPEAKER

Simon Sinek is an unshakable optimist. He believes in a bright future and our ability to build it together.

Simon Sinek

Described as “a visionary thinker with a rare intellect,” Sinek teaches leaders and organizations how to inspire people. With a bold goal to help build a world in which the vast majority of people go home every day feeling fulfilled by their work, Sinek is leading a movement to inspire people to do the things that inspire them.

A marketing giant, trained ethnographer, TED Talks star and author of “Together is Better,” Sinek has held a lifelong curiosity for why people and organizations do the things they do. Fascinated by the leaders and companies that make the greatest impact in the world, those with the capacity to inspire, he has discovered some remarkable patterns of how they think, act and communicate. He has devoted his life to sharing his thinking in order to help other leaders and organizations inspire action.

Through widely acclaimed appearances on TED Talks, Sinek delivers encouraging discourse that focuses on corporate culture and the importance of powerful leadership that propels professionals to perform with purpose. “How Great Leaders Inspire Action,” one of Sinek’s presentations and the third most-watched TED Talks episode, is a prime example of his brilliance as a progressive thinker and vehement optimist. Sinek’s unconventional and innovative views on business and leadership have attracted international attention and have earned him invitations to meet with an array of leaders and organizations, including Disney, JetBlue, MARS, SAP, KPMG, Pfizer, NBC, government agencies and entrepreneurs. Sinek has also had the honor of sharing his ideas at the United Nations, the United States Congress and with the senior leadership of the United States Air Force, Marine Corps, Army and Navy, as well as Special Forces agencies.

The second annual Ultimate Dental Meeting will carry on the tradition of educational excellence paired with enamoring entertainment. This year’s three-day event will offer 11 educational tracks, exciting general sessions and breakout sessions, lively social activities and more celebrity entertainment.

Sinek shares his optimism with all who will listen. Don’t miss the opportunity to hear what Simon has to say—and discover your own personal “Why Statement”—
only at Dentsply Sirona World 2017 in Las Vegas.

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Educational SPEAKERS

Dentsply Sirona World aims to further the learning process for dental professionals by providing attendees with the finest group of educational and motivational speakers ever assembled at a continuing education event.

The chief purpose of Dentsply Sirona World: The Ultimate Dental Meeting is to provide the highest caliber of education. Though attendees will leave Dentsply Sirona World better informed of the latest advancements and ideas in the ever-changing landscape of dentistry, we hope attendees have fun and forge unforgettable memories in the process.

Dentsply Sirona has enlisted some of the most entertaining, insightful and inspirational thought leaders in the industry to speak at this all-encompassing congregation of like-minded visionaries, only a few of whom are listed here. Stay tuned for more announcements at dentsplysironaworld.com!

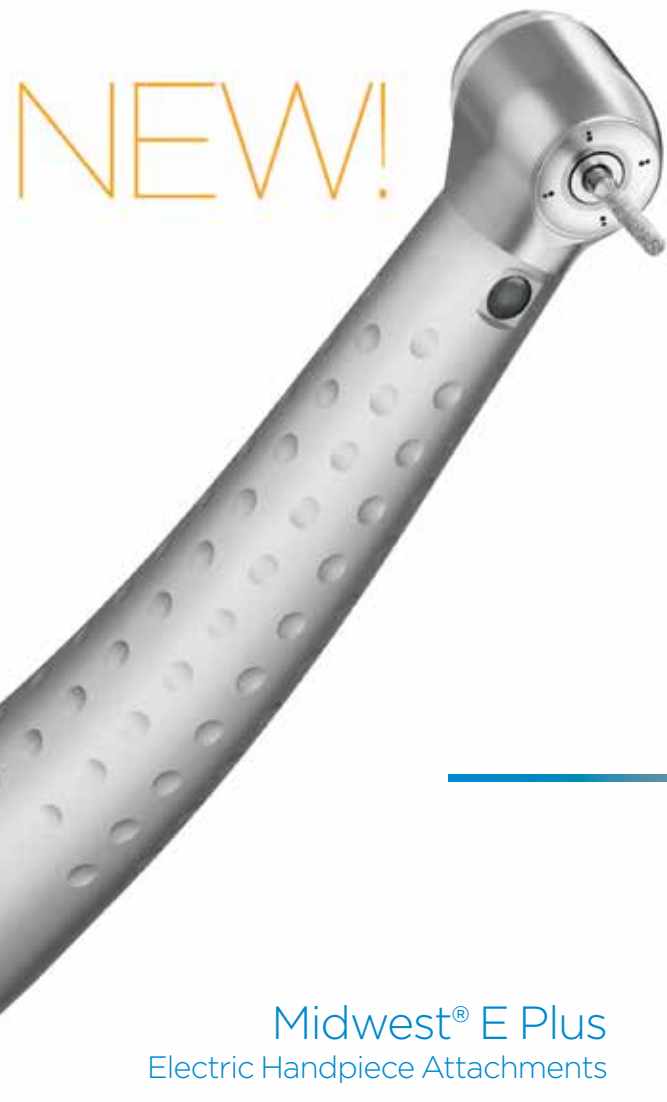


EDUCATIONAL SPEAKERS LINEUP

In addition to our host, Dr. Michael DiTolla, DDS, other clinical KOLs announced to speak at Dentsply

Sirona World include Frank Spear, DDS, MSD; Clifford Ruddle, DDS, FACD, FICD; Alan Atlas, DMD; Sameer Puri, DDS; Hootan Shahidi; Jay Reznick, DMD, MD; Shannon Richkowski, RDH; Scott Benjamin, DDS; and Michael Skramstad, DDS. These are only a handful of the impactful speakers Dentsply Sirona has confirmed. More names will be released in the coming weeks!





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Smaller head eases access

Titanium sheath reduces weight

Ceramic head bearings extend durability (1:5 version)



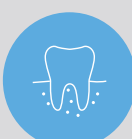
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booth at [Dentsply Sirona World](#) in Vegas!

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The 11 tracks offered at Dentsply Sirona World are:

 Business and Practice Management	 CEREC®	 Endodontics
 Imaging	 Implantology	 Office Design
 Orthodontics	 Periodontics and Hygiene	 Prosthetics and Lab
 Restorative	 Special Markets and Topics	

Pricing:

Attendee	Doctor	Staff, spouse or guest	Dental technician	Government, military	Mentors, trainers, SSA	Partners	Industry, additional booth staff
General Admission	Super Early Bird \$1,495	\$895 Buy 2 Get 1 Free!	\$895 Buy 2 Get 1 Free!	\$1,495 Free VIP Upgrade	\$1,395 Free VIP Upgrade	\$1,495 Free VIP Upgrade	\$895
	Regular \$1,995	\$1,195	\$1,195	\$1,495	\$1,995	\$1,995	\$1,195
VIP	Super Early Bird \$1,995	\$1,395 Buy 2 Get 1 Free!	\$1,395 Buy 2 Get 1 Free!	VIP Included in General Admission	VIP Included in General Admission	VIP Included in General Admission	\$1,395
	Regular \$2,495	\$1,695	\$1,695	VIP Included in General Admission	\$2,495	\$2,495	\$1,695

For more on everything Dentsply Sirona World, head over to
dentsplysironaworld.com.

An Examination of Orthodontics-

Past, Present and a Look to the Future

In 1841, Joachim Lefoulon, who utilized an elastic gold archwire to treat crowding, would coin the term "orthodontia."

1700

1800

Although orthodontics is thought to be one of the "newer" dental specialties, the practice has been around for thousands of years, with each passing era developing innovative techniques and appliances, aiding in the evolution of orthodontia to its current state. While orthodontic braces weren't invented until the early 1880s, human fascination with preserving a straight, attractive smile predates even the Roman Empire. Perhaps no other area of the dental realm has seen as much progression as orthodontics. In just the past 20 years alone, breakthroughs in technology have shaped the way clinicians approach straightening teeth to optimal function and appearance.

The American Association of Orthodontists notes that archaeologists uncovered ancient Egyptian mummies dating back to 1600 B.C. with cords made from animal intestines, fittingly called catgut, wrapped along their teeth in a similar way modern orthodontists place braces in a patient's mouth.

This antiquated technique is believed to be the earliest endeavor in striving to preserve a perfect smile by applying pressure to misaligned teeth. Centuries later, the Etruscans, early predecessors of the Romans, implemented orthodontic appliances with the advent of the first known dental bridges. Crafted from solid gold, this mouth-guard like device was positioned in the mouth of the deceased to preserve spacing. These early practices suggest the emphasis of ensuring people possessed an aesthetically pleasing smile even in the afterlife.

History also reveals that Roman medical writer Aulus Cornelius Celsus made the inaugural attempt to complete an orthodontic procedure on a live body - he hypothesized that by moving misaligned teeth with steady finger pressure, one could realign the mouth. Celsus noted that by steadily applying force, the teeth slowly moved into proper positioning.

In the 18th century, Orthodontia and dentistry in general were greatly influenced by two French clinicians, Pierre Fauchard and Etienne Bourdet. In 1728, Pierre Fauchard, known as the father of dentistry, published "Le Chirurgien Dentiste" which translates into "the surgeon dentist." This book revolutionized the way dentistry was practiced and was influential for its chapter on orthodontics, that introduced a new concept for straightening teeth, known as the Bandeau. Shaped like a horseshoe, this metal device expanded the natural arch of the mouth and

prevented misalignment. Almost 30 years later, Etienne Bourdet wrote in his book, "The Dentist's Art," a groundbreaking theory that proposed, for the first time, the removal of premolars from the back of the mouth to prevent overcrowding. Bourdet also presented scientific evidence that proved jaw growth and proposed ideas for improving Fauchard's Bandeau device.

Orthodontia and dentistry in general were greatly influenced by two French clinicians, Pierre Fauchard and Etienne Bourdet.

The turn of the 19th century would see the birth of modern orthodontics. In 1819, Christophe-François Delabarre created the first wire crib, a precursor to the current dental brace which utilized a half circle connected by wire strings placed directly on the teeth to keep them symmetrical. Over two decades later, Dr. Andrew Maynard would improve on Delabarre's wire crib by adding elastics to the system to enhance jaw alignment while E.J. Tucker would further upgrade the system, making it more comfortable for patients. Additionally, in 1841, Joachim Lefoulon, who utilized an elastic gold archwire to treat crowding, would coin the term "orthodontia."

1900

At the start of the 1900s, the term “braces” was first used, however, these early devices paled in comparison to modern orthodontic tools. Dentists wrapped bands around each individual tooth before connecting them with an adjustable wire used to exert pressure. At the time, there was no uniform standard in terms of what type of material dentists used; copper, zinc, wood, ivory, silver and gold were all administered by clinicians, and which material patients received depended largely upon affordability, availability of materials in the area and the dentist’s own personal preference. Gold stood as the preferred choice of most dentists given the material’s flexibility when heated and ability to seamlessly mold around teeth; however, gold was very expensive and would often palliate under body temperature. Silver became a cheaper alternative, but lacked the pliability of gold, yet remained a better alternative to more difficult-to-use materials such as wood and ivory.

Orthodontic evolution would remain relatively stagnant up until the 1970s, when clinicians began to implement dental adhesives to attach brackets to the teeth. The introduction of stainless steel during this decade was also pivotal in orthodontic development as it yielded a cheaper alternative to silver and gold while proving easier for dentists to manipulate in the mouth. As these advances took effect, patients saw a decrease in the length of time in which they were required to wear braces. While orthodontists conveyed the functional need for wearing braces, it remained aesthetically unappealing. The popular term “metal mouth” was often used to label those with the orthodontic appliances, and so began the attempt to make braces more aesthetically pleasing.

2000

Clear braces were conceptualized in the 70s but their potential would not be fully recognized and executed until almost the new millennium. In 1997, two Stanford University graduates would, with the aid of 3D technology, invent clear aligners that were designed to represent the different stages necessary to shift teeth into correct alignment. Instead of wearing clunky and sometimes cumbersome braces, these transparent retainers provided the same results while going almost completely unnoticed in the person’s mouth. A prime example of this game-changing advancement is Dentsply Sirona’s MTM® Clear•Aligner, which is CEREC®-designed to go virtually undetected in a person’s mouth. Each aligner is custom fabricated per the doctor’s treatment plan to progressively move teeth into their ideal position.

2017

The rise of CEREC technology has had a sweeping effect on the application of orthodontic diagnosis and treatments. Digital data allow swift coordination with external Clear Aligner providers such as Invisalign®, ClearCorrect™ and Stratasys so that the final treatment proposal is now available faster than ever. CEREC orthodontic capabilities allow clinicians to complete a digital impression quickly and accurately, and come equipped with an intuitive platform. This technology guides professionals seamlessly through the process, rendering precise results, a more efficient workflow and satisfied patients who reap the benefits of such a current advancement. Dental professionals can learn more about integrating a new, streamlined digital orthodontics workflow that enhances clinical treatment planning and case acceptance by attending Dentsply Sirona World 2017.

Today, orthodontics continues to expand in terms of the effectiveness of procedures and the various devices used to render the coveted ideal smile. In addition to clear brackets, the emergence of digital dentistry reveals a far clearer picture of a patient’s symptoms and diagnosis, while orthodontic titanium miniscrews have delivered a more secure, fixed anchor point to eliminate

Dentsply Sirona’s industry leading line of self-ligating brackets, In-Ovation®, enables clinicians to maintain a precise control through choosing the degree of engagement between the bracket and the wire to produce an optimal finish.



Today, orthodontics continues to expand in terms of the effectiveness of procedures and the various devices used to render the coveted ideal smile.

unwanted movement of the molars. Perhaps one of the most profound changes in the orthodontic space has emerged in the form of self-ligating braces. Conventional twin brackets harness elastic ligatures or steel wires to deploy pressure to the bracket while moving into place with the arch wire’s guidance. Although effective, traditional ligating systems cause significant friction resulting in increased patient discomfort and a prolonged healing period. Self-ligating brackets utilize a slide mechanism that opens a slot where the wire is free to glide inside. This approach has allayed crowding with the use of palatal expanders and reduced the need for extractions while making the treatment period far more pleasant for the patient. Dentsply Sirona’s industry leading line of self-ligating brackets, In-Ovation®, enables clinicians to maintain precise control through choosing the degree of engagement between the bracket and the wire to produce an optimal finish.

Overall, the future of orthodontics is bright and promising. Tweaks and discoveries spanning thousands of years have brought the field to its current status, with more room to grow. The next revolutionary product or technology might come from the same people famous for putting man on the moon. NASA recently discovered a heat-activated, nickel-titanium metal that can be constructed into a small wire to greatly improve tooth structure within the mouth. This metal, if successful, could eliminate the need for multiple orthodontic visits to realign teeth. Whatever the future holds, it’s safe to assume that the human desire to achieve straight, beautiful teeth will never end, and from ancient Roman scribes to modern-day practitioners, the goal of orthodontia will continue to be creating a smile that contains the perfect blend of functionality and appearance.



Two and three-dimensional digital imagery has produced an accurate endodontic diagnosis, optimal treatment planning and clear communication to the ultimate benefactor: *our patient.*

The Endless Wonder of Endodontics: An Interview with **John West,** DDS, MSD

Q In the field of endodontics, you are considered a clinical visionary. How did you know that you wanted a career as an endodontist? What started it all?

A When I was in dental school, the most challenging clinical discipline was endodontics. The reason was and still is simple: when we were being taught operative dentistry, periodontics, prosthetics, oral surgery and orthodontics, we could see what we were doing. The procedure was right in front of us and we could see and do simultaneously. Endodontics was different. We could not directly see what we were doing. For example, we had to take a radiograph of the endodontic file that was placed into the access cavity of the root canal system in order to identify its vertical position in relationship to the end of the root. Since there were limited X-ray machines in our dental school, we had to wait, in what seemed like endlessly long lines, to take a radiographic image to see if we had determined the proper file length. The endodontic teeth were buried in Plaster of Paris and the precise length of the root canal was a mystery for the novice endodontic student! After taking the image, we then had to wait in those same long lines just to assemble into a small darkroom to develop the X-ray. Learning a new skill of “doing without seeing” incited pure fear.

Though scary, I actually found this new skill to be exciting and I often felt a sense of wonder and adventure in the process. As students were lined up impatiently waiting to go into the darkroom

to uncover their results, I thought of it as a riddle. Having to use “intuitive feeling,” which I like to call a sixth sense, was a mixture of skill and sense that I have always enjoyed.

So, what started it all? Endodontics created wonder. That same wonder is even more present for me today and has sustained my joy and satisfaction throughout my career.

Q As you know, the dental industry has really been evolving digitally in the last few years. What would you say is technology’s most significant impact on the endodontic space?

A The greatest technological shift in endodontics is the capacity to see inside the root canal system both directly and indirectly. As noted above, endodontics is different than other dental disciplines in one unique and extraordinary way: we “do it in the dark.” That is to say, endodontics is the only clinical treatment where we do not “see” and “do” at the same time. This was true until the lights were turned on by new technologies. Although we cannot yet see exactly what we are doing directly and simultaneously, technology has given us direct feedback on our endodontic treatment performance. The most effective technologies include the operating microscope, Tooth Atlas (ehuman.com), digital imaging, apex locators, gold medal endodontic shaping technology and 3D CBCT technology, like the Galileos.



The microscope combined with digital radiography has allowed the endodontic team to see where endodontics could never see before. For the endodontic clinician the lights have literally been turned on! Pictured are Dr. Jason West, The Center For Endodontics, Tacoma, WA, with clinical assistant, treating an endodontic patient while all three actually enjoying the experience of saving the patient's maxillary molar.

Q Let's discuss digital radiography for a minute; how has it made the clinician's job easier?

A Digital radiography allows the clinician to see bigger, better, more immediately and more precisely. Seeing is the key, and digital radiography has truly helped "turn on the light bulb" for clinicians performing endodontics.

Q In respect to the general practitioner and specialist relationship, how is technology used to promote collaboration, and in turn, how does that collaboration help to ensure that patients receive the best possible treatment?

A Accessibility, the ability to share high-resolution digital files, collaboration and consistency, and speed of treatment all help to improve the patient experience. Digital radiography reduces wait time and encourages efficient exchange of information, which results in exact diagnosis, better interdisciplinary treatment planning and more predictable outcomes.

Q Please talk about the standard evaluation for patients who are in need of a root canal. Is there a checklist for signs and symptoms?

A Yes: listen (to patient), duplicate (symptoms), test (to prove), diagnose and treat.

Q While we are on the subject of root canals, what filing system(s) do you find most efficient for cleaning and shaping the canal?

A I am biased toward ProTaper® Gold and WaveOne® Gold. Along with endodontic visionaries and clinical masters Dr. Cliff Ruddle and professor Pierre Machtou, I helped invent Progressive (Pro) Taper out of necessity and DENTSPLY did the rest! The ProTaper brand is and has been the most popular shaping system among dental schools and dentists for more than a decade because it is so much more than a file. ProTaper is a way of thinking, an attitude and a way of being. Both ProTaper and WaveOne concepts are not about how inexpensively endodontics can be performed, but how well endodontics can be performed.

Q Last year at SIROWORLD 2016: The Ultimate Dental Meeting, you spoke to attendees about redefining the endodontic experience. What did you enjoy most about being a part of the year's biggest dental meeting?

A Connecting with up-and-coming endodontic game changers, meeting international colleagues, networking and learning about what's working in emerging markets. However, it was really all about the people and their visions for better dentistry.

Q SIROWORLD was spectacular for many reasons, one being that there were educational tracks for each dental specialty. In addition to your lecture, what was another big moment for endodontics?

A In endodontics, we have tunnel vision. We look through the microscope at one tooth and one canal, and yet, the tooth or canal can be the weakest link to treatment success. The intentional integration of endodontics into interdisciplinary dentistry was a huge positive outcome of SIROWORLD. The meeting's atmosphere was palpable, and in the end, the ultimate benefactors were our patients.

ProTaper has been the highest standard of root canal shaping for over a decade. Significant technological developments in ProTaper Gold and WaveOne Gold make these highly flexible and yet robustly precision machined instruments the #1 choice of master endodontic clinicians worldwide.



The intentional integration of endodontics into interdisciplinary dentistry was a huge positive outcome of SIROWORLD.

Q You are a man who wears many hats: author, educator and above all, a VIP clinician. Which hat do you like to wear most often?

A That's like asking which one of my children I like best! Everything I have ever done is related to me delivering the best endodontic treatment possible. It's all interrelated—you can't pick just one. Remaining involved as an active practicing clinician with my two partners and sons, Jason and Jordan, is certainly a high point of my career. In addition, presentations, teaching, meeting the next generation of clinicians and collaborating with peers and companies like Dentsply Sirona is incredibly rewarding, too.

Q Fast forward five or 10 years... What is in store for the future of endodontics?

A One thing we know for sure is that we don't know for sure. Can we predict the future? The answer, of course, is a resounding no! There are, however, noteworthy trends that are evolving.

The purpose of endodontics is to prevent or heal lesions of endodontic origin. For a hundred years, the protocol has called for clean, shape and pack the root canal system. This classic "endodontic triangle," as it has been referred to, is a good roadmap to answer your question. In regard to the "future of endodontics," if any one of the three points experiences a technological shift, it will influence or potentially even eliminate one or two of the others.

In truth, what we are doing now to save endodontically diseased teeth will someday be a footnote in endodontic history. With that said, the endodontist of the future will need curricula that respond to a changing marketplace by creating a cohort of practitioners who are prepared for the new world of endodontics.



Full-Contour Zirconia Crown:

Preparation and Cementation in Two Hours With the CEREC® SpeedFire Furnace

By Jonathan Ford, DMD

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Introduction

The following case report describes how a full-contour zirconia crown can be prepared and cemented in less than two hours with the CEREC AC with Omnicam, CEREC MC XL Practice Lab and the CEREC SpeedFire furnace.

I purchased my complete CEREC system in June 2016, including the SpeedFire. In 2012, I explored the idea of purchasing a CEREC unit. I was satisfied with the accuracy of the Omnicam and the CEREC software; however, I didn't purchase the system at the time due to the lack of material options available. I wanted a system that could essentially create a restoration for anywhere in the mouth in a single visit using zirconia. With the introduction of the SpeedFire furnace, I jumped on board with CEREC. I was able to provide strength in the posterior with zirconia and esthetics in the anterior with e.max® and Empress®. Since June 2016, I have completed 158 cases with CEREC of which 69 were full-contour zirconia (43 percent).

Case Description/Discussion

A 65-year-old male patient reported to the office for his routine six-month recall appointment. The patient had an unremarkable health history and was taking only a statin drug for high cholesterol. He showed no dental decay over the past few years, but had several large silver amalgam fillings that had recently cracked and/or cusps that had broken off within the last few years along with traditional porcelain fused to high noble crowns placed. (See the lower right quadrant on Fig. 2.)

The patient's checkup radiograph series did not show any signs of decay; however, upon visual exam a large crack was seen running buccal lingually across an existing MOL amalgam on tooth #2 (See Fig. 1.) The tooth was asymptomatic, but vital. Different treatment options were discussed with the patient.

One possible treatment solution was a very large MODL onlay, or full coverage restoration out of e.max or a similar material. Since the tooth being restored was a second molar, isolation would have

been less than ideal for cementation. The tooth was also very large and had plenty of retention, so a full coverage restoration with traditional cementation was deemed the best option. For esthetic reasons, the patient did not want a full gold crown, so I explained the benefits of a full-contour zirconia crown. After discussing all of the possible treatment options and the patient's desired results, it was ultimately decided to do a full-contour zirconia crown, as zirconia was without question the best material to provide the strength and esthetics required for this case.

The patient is an HR executive at a large company headquartered in our area and travels frequently. Before his office visit, he had not heard of single-visit restorations, so he was ecstatic for several reasons. Firstly, the case was diagnosed and completed in late December 2016, so he was able to fully utilize his 2016 insurance benefits. Secondly, because he constantly travels to different factory locations, he disliked the idea of having a temporary unnecessarily while traveling. Lastly, he could complete the treatment in only one visit, allowing him to focus his time and energy elsewhere during the busy holiday season.

CEREC version 4.4.4 was used in conjunction with the CEREC AC with Omnicam to provide the patient a single-visit zirconia crown restoration. The patient was anesthetized and the tooth was prepared with a chamfer margin. A double cord technique was used. The #2 cord was removed and the tooth was scanned with the Omnicam (See Fig. 4), and the #00 cord remained in place until final cementation. The zirconia crown was designed and dry milled using the CEREC MC XL Practice Lab in 19 minutes. This particular crown was very large and did not fit into the CEREC Zirconia mono L block, so a CEREC Zirconia A2 medi block was used. After the dry mill process was complete and the sprue was removed, the crown was placed in the SpeedFire furnace and baked with a peak temperature of 3,000 degrees F for 17 minutes. Upon cooling, the crown was polished with the Meisinger zirconia polishing kit. The crown was tried in and minimal adjustments were needed. (See Figs. 5, 6 and 7.) One bitewing was taken to ensure proper fitting margins (Fig. 8). The crown was then cleaned with Ivoclean on the intaglio surface and cemented.



Fig. 1. Pre-op intraoral picture of #2 showing large existing amalgam restoration with crack running buccal lingually across the restoration.



Fig. 2. Pre-op BW radiograph.
Fig. 3. Pre-op PA radiograph.



Fig. 4. Prep picture showing 1mm chamfer circumferential margin.



Fig. 5. Occlusal view of full zirconia crown after initial adjustments and polish.
Fig. 6. Intaglio surface of full zirconia crown.



Fig. 7. Intraoral picture of crown seated.



Fig. 8. Post-op bitewing radiograph.



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Conclusion

Patients absolutely love the ability to have a crown fabricated and placed in one visit. CEREC® technology and single-visit dentistry have alleviated many fears about impressions and decreased the number of patients willing to accept temporary crowns as a treatment option. The patients who had avoided or declined single-visit treatment in the past have now begun accepting treatment after learning about the convenience and various benefits of single-visit solutions, including the interactive features of the system, and the stability and longevity of the results. I have even heard some patients describe their dental visit as “fun” and “really cool.” Patients are offering positive Yelp and Google reviews, and are capturing videos and pictures of the milling process to post on social media. Many patients are telling their friends, neighbors and co-workers about the services we offer, which continues to help the practice flourish.

My staff loves the entire process—sometimes for selfish reasons. They laugh and joke about the dissipating need to set up rooms for “seats or cements” or to follow up with the lab about the status of our cases. Personally, I can’t imagine reverting back to how I practiced dentistry prior to welcoming CEREC and single-visit dentistry into my routine.

The patients who had avoided or declined single-visit treatment in the past have now begun accepting treatment after learning about the convenience and various benefits of single-visit solutions.

The information provided by the CEREC software is astounding; it offers data about occlusal reduction, minimal thickness of the restoration, undercuts, margins—the list is endless. The magnitude in which CEREC’s digital technology changed how I practice dentistry should be an eye-opener, as it once was to me, to any practitioner without this technology.

The ability to prepare, design, dry mill and fire a full-contour zirconia restoration in less than two hours is a great addition to the services we, as dentists, provide to our patients. CAD/CAM dentistry is making great leaps forward and shortening the lists of procedures sent to the lab.



Jonathan Ford, DMD, is a general dentist at Ford Dental Group in Huntington Beach, California. He graduated from the University of Pennsylvania, School of Dental Medicine in 2007. He served as a Board of Director for The Dentists Service Company in 2015. He currently serves on a council for the California Dental Association and is a board member of the Orange County Dental Society. You can reach him by email at drjonathan@forddentalgroup.com.

Dr. Ford is passionate about educating the community and other doctors about dental health. He has given the grand rounds lecture at Long Beach Memorial Medical Center, which stressed the importance of oral health, and he spoke on behalf of the California Dental Association at the CADP convention. Dr. Ford has served as president of the Huntington Beach Kiwanis and volunteered his time doing dental clinics at orphanages in Les Cayes, Haiti. He is an active member of the American Dental Association, California Dental Association and Orange County Dental Society.

To learn more about Dr. Ford and his practice, please visit www.FordDentalGroup.com

The Patient Demand

for Advanced Dental Technology



The evolution of dental technology is progressing faster than ever. New advances offer dental professionals unprecedented clinical benefits for a number of procedures. However, the true value of advanced dental technology lies in how patients perceive practices that use leading technology compared to those that don't.

Practitioners who don't incorporate the latest treatment techniques and technologies into their practice are missing many new patient opportunities and risk losing current patients to tech-friendly, progressive practices.

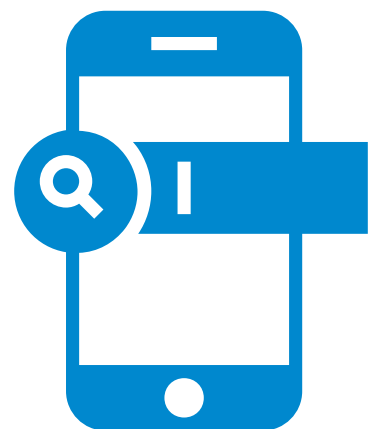
The growing demand

Patients command the best treatment options available to them and throughout the past few years, patients have developed a serious desire for practices using state-of-the-art technology. Examining the results from "What Dental Patients Want," a 2016 study done by 1-800-DENTIST®, provides some very significant insights. A primary discovery of the growing demand for innovative dental technology emphasizes the significant shift in patient perception from the previous survey that was conducted only a few years earlier in 2013. In the previous iteration of "What Dental Patients Want," the use of technology barely made the top 10 most important factors for patients selecting a dentist, now it stands as the fourth most influential aspect, ranking

even higher than the practice having convenient office hours or taking immediate appointments.

This demand is even larger among certain groups of surveyed patients: 45 percent of people between the ages of 45-54 and with household incomes of \$50K to \$100K said their choice of practice is based on its use of advanced technology, and many patients aged 25-54 indicated that they would search for a new practice if their current dentist didn't offer advanced treatment options.¹

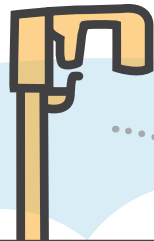
Many patients aged 25-45 indicated that they would search for a new practice if their current dentist didn't offer advanced treatment options.¹



REFERENCES:

¹ http://www.dds1800.com/whitepapers/What_Dental_Patients_Want/

Benefits from the patient's angle



Research has found that 97% of all consumers research local business online² and dental practices are no exception, making it very likely that a patient's first impression and interaction with your practice will be online.

It's clear that patients want advanced technologies to play a major role in their treatments, but what aspects of these technologies make them essential to patients? Climbing inside the mind of an average dental patient and understanding what they want when they visit the dentist can show why advanced technology is so highly valued.

Many patients are forced to use limited vacation days and miss work in order for scheduled office visits. Busy juggling obligations at work and home, patients are searching for the most convenient yet reliable dental treatments possible. Patients also hope to be educated and understand why a specific procedure is advised by the practitioner. Without a clinical background and clear explanations, patients can become concerned and question whether undergoing the recommended procedure is truly necessary. Additionally, patients care about aesthetics and expect their teeth to look as natural as possible after treatment. With such desires in mind, certain technologies clearly offer patients a higher level of convenience, aesthetics and treatment understanding.

CAD/CAM technology such as CEREC®, offers patients an incredible degree of convenience through single-visit dentistry capabilities. Explaining to a patient in need of a restoration that treatment can be accomplished in one office visit can immediately make one practice more appealing choice than a less technologically advanced practice requiring two or three visits to accomplish the same results. CEREC also easily satisfies patients looking for improved aesthetics by avoiding the use of metals in favor of lifelike porcelain materials customized to match the natural shade of patients' teeth.

The use of advanced 3D imaging technology, such as using Orthophos SL 3D in conjunction with Sidexis 4 Software, allow for detailed 3D images of the patient's mouth, providing an enhanced ability to both diagnose and educate patients on the specific problems and treatments needed. This process is further streamlined when using a Dentsply Sirona Treatment Center like the Intego or Teneo, that fully integrates with 3D imaging equipment, allowing for easier display of relevant case

information for both doctor and patient.

The phrase "show, don't tell", reiterates the idea that seeing is believing: providing patients with a 3D visual of their mouth while also verbally communicating the issues at hand enhances patients' confidence in treatment recommendations as being vital to their oral health.

Ultimately the integration of leading technologies into the practice fosters a deeper

connection between patients and practitioners than practices lacking such technologies. Offering superior convenience, aesthetics and treatment education demonstrates the level of deep-rooted passion many dental professionals maintain for the betterment of their patients, making regular checkups and necessary treatments something practitioners look forward to. It's this connection that keeps regular patients from switching practices and makes first time visitors regular patients.

Get the word out

Research has found that 97 percent of all consumers research local business online² and dental practices are no exception, making it very likely that a patient's first impression and interaction with your practice will be online.

With this in mind, it's vital to make sure the practice's website and social media profiles prominently feature the technology offered.

There are multiple ways to accomplish this like including the appropriate benefits near the practice's service listings,

or regularly posting about specific benefits on Facebook and Twitter.

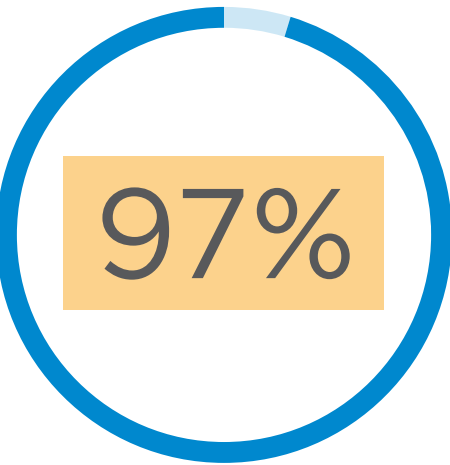
While the importance of online interactions shouldn't be underestimated, the majority of key, influential moments between patients and dental professionals occur offline. If a new patient calls a dental practice inquiring about a particular service, whoever is responsible for such calls should possess the proper training to effectively communicate the procedures offered, the technologies used and the benefits for that patient. Additionally, it is recommended that clinicians speak with some existing patients and ask them

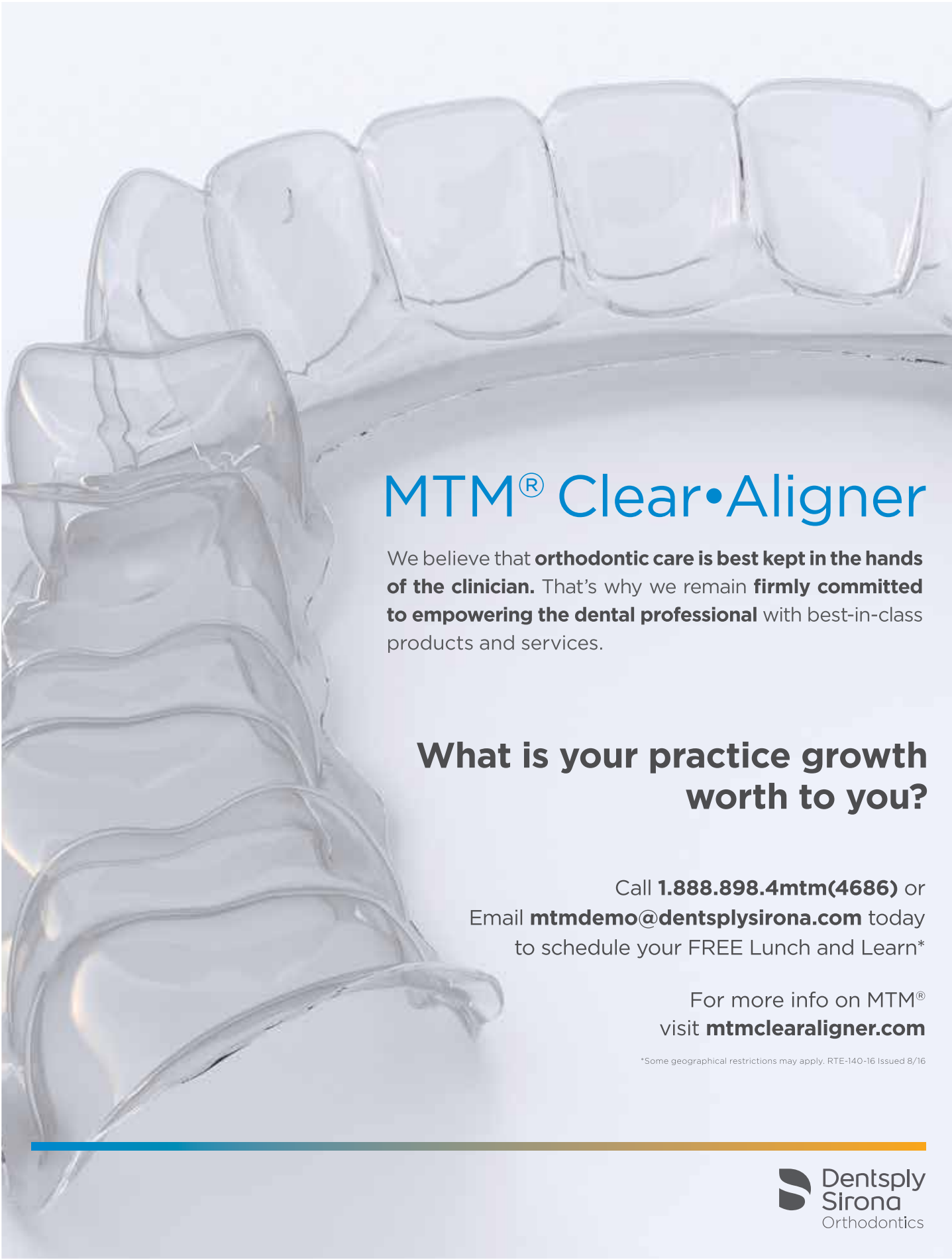
to tell their friends and family members who may be searching for a dentist about their own positive experiences, as this is an excellent way to share with other potential patients the technologies offered at the practice and the prowess of the entire office staff.

Using advanced technology and assuring that patients are aware of and understand the benefits of such technologies is essential for the dental practice.

To learn about the latest innovations in dental technology and the best approaches for marketing a dental practice, register for Dentsply Sirona World 2017 today at www.dentsplysironaworld.com.

² <http://www.business2community.com/social-media/103-compelling-social-media-marketing-statistics-2013-2014-0679246#SYoyB55vZzO6s6O8.97>





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The Art of the Implant

An Interview with
Tarun Agarwal, DDS

Implantology is constantly shifting
and evolving as digital dentistry
continues its profound emergence.

While some clinicians may feel a bit of reluctance to expand their skills and begin placing implants, Dr. Tarun Agarwal, one of the industry's foremost key opinion leaders in the implant field, assures dental professionals that some initial apprehension is normal, and the benefits of mastering the art of placing an ideal implant are endless and now easier than ever with the use of digital aids. Dr. Agarwal speaks about his own experiences in placing implants, provides advice to first-timers and predicts a bright future for implantology with the advancement of digital tools.

Q: In the implantology space, you're known as one of the industry's most knowledgeable clinicians. Did anything in particular spark your desire to excel in the area of implants?

Dr. Agarwal: I began placing implants almost by necessity. My patients were not moving forward with treatments due to the complexities involved with going to multiple offices and the added expenses of having to do that. I wanted to grow my practice and adding implant services within my office would make it easier for a patient to say yes. So really, it was from that need and my desire to do something beyond just fillings and crowns that prompted me to learn about implantology.

Q: Not only does your knowledge of implants stand out, you're also extremely passionate about the field. What's your favorite part about placing implants?

Dr. Agarwal: It's a procedure that people choose to do. When you have a cavity, you don't necessarily choose to have a filling done, you're almost forced to. The truth is, you can live without a missing tooth but implant patients choose not to, so to a certain degree it's an elective procedure. From that perspective, implant patients are a bit more appreciative and engaged in the procedure and you truly have an impact on their function. From a professional standpoint, I enjoy that implant dentistry is constantly evolving and enables me to enhance my clinical expertise.

Q: What are the most important clinical aspects that go into placing an ideal implant, and what tools and technologies do you recommend to help ensure successful case outcomes?

Dr. Agarwal: Clinically, knowing what your skill level is and understanding the complexities and risks associated with the case is crucial for success. I believe that choosing cases that lend themselves to being successful and fit within my skillset are the most important aspects in achieving ideal results. From a tools and technology perspective, 3D Imaging is a critical component required to attain great confidence and results.

"My advice would be to **find a great mentor** that you can work with, and who can hold your hand so to speak at the start."

Q: The paradigm of the dental industry has changed as digital technology continues its powerful emergence. How has the digital shift aided you in placing implants?

Dr. Agarwal: I would go backwards from that, and say that the digital shift is what allowed me to place implants in the first place. Prior to the digital shift I was too afraid to place implants due to the surgical complexity of not knowing what's going to occur. Digital technology allows me to know in advance with sound predictability what cases are right for me to take on. I would say that digital technology has aided me in expanding the type of implants I can place, but without its emergence, I would have never been able to place my initial implant.

Q: Given how intricate a process it can be, what advice would you give a clinician who wants to begin placing implants but feels apprehension?

Dr. Agarwal: Firstly, the fear and apprehension a new implant clinician feels is completely normal because you're doing something you weren't trained to do, are relatively unfamiliar with, and on top of that, doing something that is not easy. My advice would be to find a great mentor that you can work with, and who can hold your hand so to speak at the start. Whether that mentor is a local specialist, or a general dentist with knowledge of placing implants, one must seek the guidance of someone with experience in implantology. Secondly, any clinician looking to begin placing implants must be willing to consistently and continuously learn to expand their skill capabilities, and invest in the latest technologies and techniques to master their craft.

Q: As a follow up to the previous question, what are some initial challenges a clinician placing their first implant might face, and how would you recommend they best prepare to handle those challenges?

Dr. Agarwal: The initial challenge is doing something that you are absolutely unfamiliar with and understanding that you're going to be afraid. I would say to them to recall their dental school days when they performed their first filling, crown or root canal and how fearful they were at the time, yet after years of commitment and repetition, how commonplace those procedures are for them now. I would tell them to use that same approach towards this new area and dedicate themselves to becoming great at placing implants. To handle some initial challenges, I would recommend working with a surgeon or another dentist when placing their first implant or even attend a training program in a foreign country. All these aspects go into assisting a clinician in overcoming their fears and challenges.

Q: How do technologies such as CEREC®, 3D Cone Beam and Surgical Guides fit into the implantology equation? And, compared with conventional implant techniques, such as sending impressions to a lab for abutment and crown fabrication, how much time does the "CEREC, 3D Cone Beam and Surgical Guide" workflow save the practitioner and patient?

Dr. Agarwal: All these technologies make procedures more predictable, less invasive for patients and are far less time consuming. By integrating all these innovations into our workflows, we've been able to cut implant dentistry down to only two or three visits. That's less time the patient has to spend in the chair, and because everything is done with digital technology within the practice it cuts down outside expenses and increases the bottom line.

Q: How do you speak to a patient about implants? How has digital technology helped you to communicate with patients during diagnosis, case acceptance and treatment planning?

Dr. Agarwal: The beauty of it is you almost don't have to speak to patients about implants anymore. You can now let the visual aid of 3D imaging do most of the talking. Oftentimes, clinicians are uncomfortable talking to patients because we don't have a "prop." I always look at 3D imaging as my prop. Thanks to digital technology, I'm able to show my patients exactly what their situation looks like and can create that wow factor for them. Certainly, we still have to communicate with our patients, but the digital emergence enables us to talk less and show more, which I think enhances their experience.

Q: Looking ahead—as more and more practices become digitally integrated and as the expansion of digital dental technology continues, in five or 10 years, how do you see the implant landscape being further shaped by digital innovations?

Dr. Agarwal: I think in the future implant dentistry will totally become an internal procedure in the sense that for single-tooth implant dentistry it'll shift toward a general-dentist driven procedure and will completely shift to the level of being 100 percent technology driven with surgical guides and CAD/CAM restorations. I also envision better two-way communication between general dentists and specialists in handling more complex cases. In the future, we'll begin to see fewer visits, less time the patient has to spend and general dentists placing the majority of one-to-two unit implant cases.

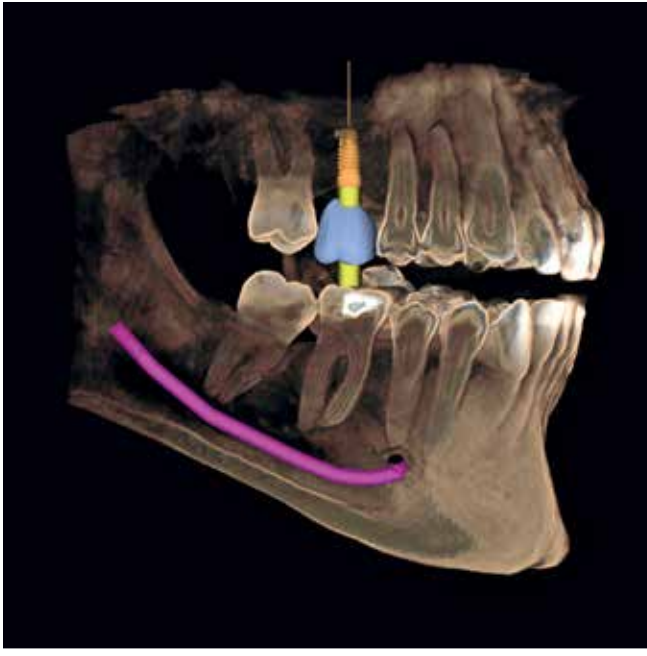
"Thanks to digital technology, I'm able to show my patients exactly what their situation looks like and can create that wow factor for them."

Q: What breakout speeches from Dr. Tarun Agarwal do we have to look forward to at Dentsply Sirona World 2017?

Dr. Agarwal: I'll be speaking on digitizing sleep apnea and how to integrate sleep apnea into your practice utilizing a digital workflow, how to add implantology to your practice and create a more efficient implant workflow, as well as delving into some more complex cases and how using CAD/CAM creates more predictable results.

Q: Dentsply Sirona World 2017 promises to be a memorable dental extravaganza. Which clinician/opinion leader or breakout session are you most looking forward to hearing from or attending?

Dr. Agarwal: It's hard for me to narrow it down to just one being that there are so many great speakers and sessions to look forward to at every Dentsply Sirona event. I'm confident that Dentsply Sirona World 2017, as always, will enlist a group of the finest minds in dental as well as the most compelling breakouts which will cover a broad spectrum of topics and ideas.



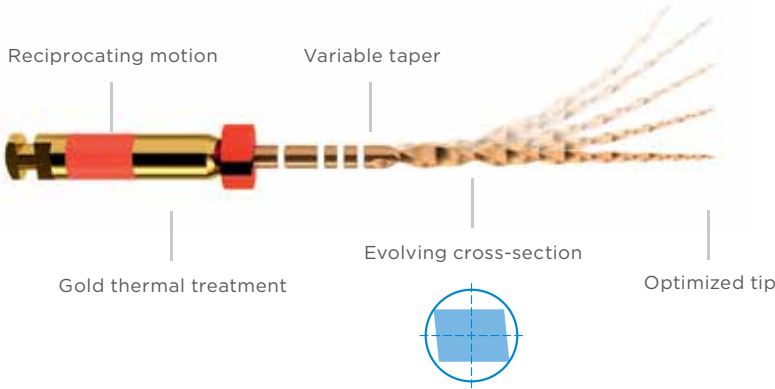
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